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for the Massachusetts Bay Transportation Authority

MBTA Systemwide Passenger Survey

Bus Rapid Transit 2005 and 2006

SILVER LINE



MBTA Systemwide Passenger Survey

BUS RAPID TRANSIT
Silver Line Washington Street, 2005
Silver Line Waterfront, 2006

Prepared for

MBTA Planning and Development
Joseph M. Cosgrove, Director

Project Manager

Thomas J. Humphrey

Project Principal

Elizabeth M. Moore

Primary Author

Thomas J. Humphrey

Data Analysts

Thomas J. Humphrey
Steven P. Andrews
Mariya A. Maslova
Mary McShane

Graphics

Ken Dumas

Cover Design

Kim Noonan

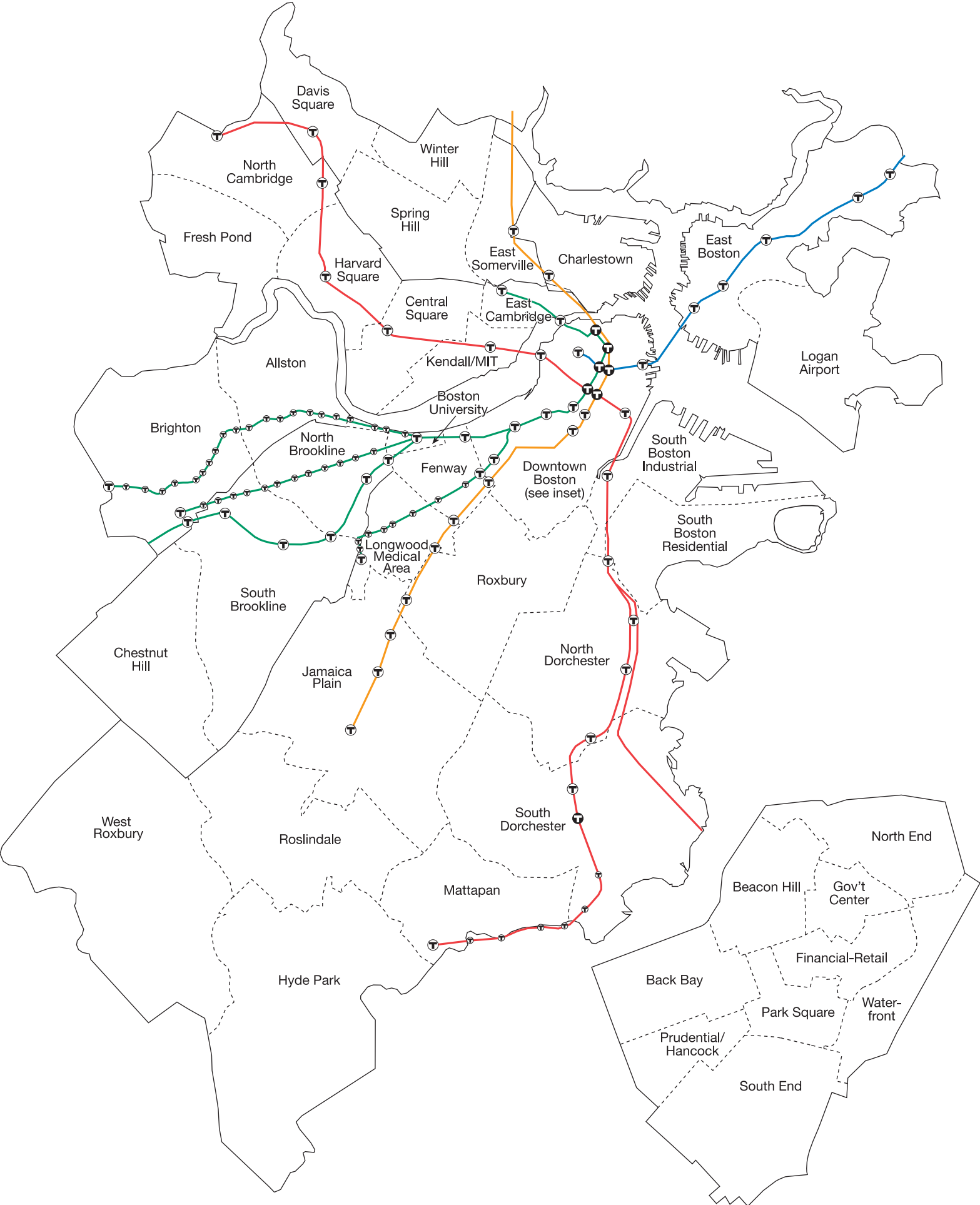
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Neighborhood Boundaries



ABSTRACT

This Silver Line report belongs to a multivolume set of reports on the findings of a systemwide survey of Massachusetts Bay Transportation Authority riders that was conducted for the MBTA by the Central Transportation Planning Staff (CTPS). The purpose of the systemwide survey was to gather data that are not easily obtained through any other means. The data are used to update the regional travel-demand model that is routinely used by the Boston Region Metropolitan Planning Organization (MPO); they are also available for use by other entities, public and private, as well as interested individuals.

With the exception of bus rapid transit, all modes operated by the MBTA were surveyed in 2008–09. These include bus (including trackless trolley), heavy rail (the Blue, Red, and Orange Lines), light rail (the Green Line and the Mattapan High-Speed Line), commuter rail, and boat. The bus rapid transit passenger survey was conducted in 2005 and 2006 for the Silver Line Washington Street and Silver Line Waterfront services, respectively. The results of those surveys were originally reported in technical memoranda to the MBTA. In the interest of presenting survey results for all MBTA modes in this set of systemwide survey reports, those memoranda were combined to create this Silver Line report.

This report comprises two chapters: one for Silver Line Washington Street service and one for Silver Line Waterfront service. In each chapter, data tables and summary text present information about Silver Line travel, including why trips are made, how riders made their trips before the Silver Line service was available, how they pay their fares, how they get to and from the service, and where they are coming from and going to. Information is also provided on the demographics of Silver Line riders, their automobile ownership, and how they perceive the quality of Silver Line service.

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Silver Line Washington Street

1.1 INTRODUCTION

Service on the Washington Street section of the MBTA's Silver Line bus rapid transit system began in July 2002. Since then, CTPS has conducted several all-day passenger counts on the route. In June 2003 and again in May 2005, CTPS conducted on-board surveys of Silver Line Washington Street passengers.

Following the strategies of previous surveys on the MBTA's rapid transit and bus systems, survey forms were distributed on trips in both directions between 6:00 AM and 3:30 PM. Analysis of passenger counts and surveys indicates that the majority of riders using MBTA services on a given day make round-trips, and that most of them make at least one leg of the round-trip prior to 3:30 PM. Therefore, the distribution strategy was to make survey forms available to most riders on their initial trips and minimize the number of riders offered more than one survey form during the day.

The questions on the Silver Line survey forms were similar to those on surveys of other MBTA modes (a copy of the survey form is provided in Appendix A). The survey results were entered in computerized databases, from which they can be summarized in a variety of standard reports, or in customized reports on request. The results of the 2003 survey were presented in a memorandum dated February 10, 2004. The results of the 2005 survey are presented in Sections 1.1 through 1.11 below, along with comparisons with findings of the 2003 survey. For purposes of discussion, the results are grouped in the same way as they are in the attached standard-format tables, but some of the findings are based on examination of the data at finer levels of detail than appear in these tables. Section 1.2 provides a general description of the Silver Line as it was configured when the surveys were conducted. Section 1.3 describes the methods used to expand the survey results to match passenger count totals.

1.2 SILVER LINE WASHINGTON STREET DESCRIPTION

In both 2003 and 2005, Silver Line Washington Street service ran between Dudley Square in Roxbury and Temple Place (near Downtown Crossing) in downtown Boston. Most of the route followed Washington Street, but at the inner end, there was a one-way loop from Washington Street, to Temple Place,

Tremont Street, and then Stuart Street to go back to Washington Street. There were 13 stops, of which 10 were on the two-way segment and three on the one-way loop. Chinatown was served only inbound and Boylston Street was served only outbound. Temple Place, as the inner terminal, was where trips officially changed from inbound to outbound.

In the survey databases, all trips ending at Boylston Station were classified as inbound even though Boylston was the first outbound stop. Trips starting at Chinatown but continuing around the loop to points beyond Boylston were classified as outbound.

The alignment of the Silver Line Washington Street route is generally the same as that of former bus Route 49, which was discontinued when Silver Line service began. The main differences are that Route 49 made a longer one-way loop in downtown Boston, with the southbound section to the east instead of to the west of Washington Street, and that Route 49 made more stops along the route.

1.3 SURVEY WEIGHTING METHOD

The survey distribution strategy in both 2003 and 2005 was designed to make survey forms available to all passengers riding the Silver Line during the hours covered, but as in previous survey efforts, not all passengers who were offered forms took them, and not all who took them filled them out. The counts taken around the same time as the 2005 survey distribution showed that about 8,770 passengers boarded the Silver Line between 6:00 AM and 3:30 PM on a composite weekday. The survey effort yielded 1,052 forms that were sufficiently complete to include in the database, equivalent to a 12.0% sample. (The 2003 survey yielded 850 forms from 8,775 passengers, or a 9.7% sample.)

As in the case of other MBTA surveys, the actual responses to the Silver Line surveys were factored up to the typical ridership total during the survey span. If a uniform expansion factor had been used for the 2005 survey, all of the results would have been multiplied by 8.33. However, a more detailed analysis of the returns showed that, as in past surveys, response rates varied by time of day and by length of trip. Passengers making longer trips have more time to fill out forms and return them to on-board collectors than passengers making shorter trips. In addition, passengers making repetitive trips during peak hours are somewhat more inclined to complete surveys than are passengers making discretionary trips in off-peak hours.

To account for differences in response rates, the method used to calculate expansion factors for both of the Silver Line Washington Street surveys was similar to that used for the 1994 rapid transit survey. The surveys were first subdivided into inbound and outbound trips. Next, these were further divided based on three time intervals during which trips departed their terminals: 6:00 to 8:29 AM, 8:30 to 11:59 AM, and noon to 3:30 PM. (Surveys indicating boarding times before 6:00 AM were included in the first interval, and forms

indicating boarding times after 3:30 PM were included in the third interval.) This resulted in a total of six subgroups, each defined by a direction (inbound or outbound) and a time interval. Within each subgroup, an iterative process was used to weight survey forms so that the expanded boarding and alighting totals at each stop would equal as nearly as possible the spring passenger counts for the survey year in the same time interval.

In cases where there were no survey responses for boardings or for alightings at a stop where the counts showed activity, composite factors for two or three consecutive stops in the same neighborhood were used. For example, the first two inbound stops after Dudley Square are Melnea Cass Boulevard and Lenox Street. In the time interval 6:00 to 8:29 AM, the 2003 passenger counts showed 10 inbound alightings at Melnea Cass Boulevard and 32 at Lenox Street. For the same time span, there were three survey responses from passengers alighting at Lenox Street, but none from passengers alighting at Melnea Cass Boulevard. Using expansion factors for individual stops, the Lenox Street responses would have been weighted at $32/3 = 10.667$, but the expanded survey total for these two stops combined would have been 10 less than the alighting count total because the alightings at Melnea Cass Boulevard would not have been accounted for. To compensate for this, the Lenox Street alighting surveys were weighted by the combined alighting counts there and at Melnea Cass Boulevard, making the expansion factor $(32+10)/3 = 14.000$.

Composite factors were also used in cases where the response rate for an individual boarding or alighting stop was so low that a very large expansion factor would have been required. Large expansion factors can produce misleading results for some questions. For example, in question 5, town of trip origin, if a lone survey respondent happens to be the only person from that town using the service, a large expansion factor would imply much more demand than actually exists for connections from that town. In some cases, very large expansion factors were avoided by using composite factors for the same boarding and alighting “stop pair” for two or all three of the time intervals in the survey day.

Every survey in the database was given a weight of at least 1.0. The largest expansion factor given any individual survey in 2005 was 39.9, but only 5.6% of all surveys were expanded by more than three times the average of 8.33. (For comparison, in the 1995 bus survey, some records were weighted by factors up to 120.) Only two of the most heavily weighted 2005 Silver Line surveys had uncommon origin or destination neighborhoods.

1.4 TRIP PURPOSE, REASONS FOR USING THE SILVER LINE, AND ALTERNATIVE MEANS OF TRANSPORTATION

1.4.1 TRIP PURPOSE

Survey question 4 asked passengers where they were before starting the trips on which the survey forms were received, and question 8 asked where they would be at the ends of their trips. The check-off choices for both questions

were: home; school; work; a store; the doctor or other personal business; a work-related errand or meeting; a restaurant, or social or recreational activity; or “other” (with write-in space provided). As in the case of previous MBTA surveys, the standard summary tables of Silver Line trip purposes classify all trips either starting or ending at home as “home-based.” Trips between work and any location other than home are classified as “work-based.” Trips with specified activities other than home or work at both ends are classified as “non-home/non-work-based.” Trips for which there was no response to either question 4, question 8, or both are classified as “no answer.”

On the inbound Silver Line trips surveyed, home-based work trips accounted for the largest shares in both years, but declined from 52.2% of the total in 2003 to 45.4% in 2005. In absolute terms, the number of home-based work trips decreased, while trips for most other purposes increased. Trips with neither home nor work at either end also declined in importance, from 12.2% to 9.2%. The largest gains were in home-based “other” trips, which grew from 2.6% to 6.9% of the inbound total, and home-based work-related trips, which went from 1.2% to 3.8%. Work-based trips retained the second-largest share, increasing from 12.2% to 13.2%.

Home-based work trips also accounted for the largest share of outbound ridership, but also decreased slightly in importance, from 36.7% of the total in 2003 to 34.9% in 2005. Work-based trips were the second-most-important for outbound riders in both years, with the share increasing from 12.4% to 17.5%. Home-based school trips were third in both years, though falling slightly, from 11.1% to 10.8%. (The inbound share held by such trips also fell very slightly, from 7.2% to 7.1%.) The 2003 figures may have been below normal, since the survey was conducted in June, but the 2005 survey was done in May. Survey response rates among younger students are usually low in any case. The majority of the school-trip respondents were college or graduate school students, as only 17% of them in 2003 and 22% in 2005 were under age 18, but most did not identify their schools.

Home-based trips to or from the doctor or other personal business were fourth among outbound responses, at 10.9% in 2003 and 8.7% in 2005, versus 6.4% and 6.2% inbound. About half of all home-based and of non-home-based trips to the doctor or other personal business began or ended at the Silver Line stops serving New England Medical Center, Boston Medical Center, or Boston University Medical Center.

For both directions combined, the most common trip purpose in 2005 was home-based work (41.1%), followed by work-based (15.0%), home-based school (8.7%) and non-home/non-work-based (8.8%). In the 1995 survey on former bus Route 49, home-based work trips accounted for a slightly higher percentage, at 43.1%, but only 11.1% of trips were work-based, and only 1.2% were home-based school.

1.4.2 REASONS FOR USING TRANSIT

In 2005, survey question 21 provided a list of seven reasons for using Silver Line Washington Street service, plus “other,” with write-in space provided. Passengers were asked to check as many of these reasons as applied to them. In the 2003 survey, question 21 asked for reasons for using MBTA service rather than reasons for using the Silver Line. When the results of both surveys were processed, it was found that all of the reasons written in for “other” were essentially restatements of reasons on the list of seven, so they were shifted to the applicable categories in the database.

As in many other MBTA surveys, the most common reason cited by Silver Line riders for using transit service was “convenience.” In 2003, this was checked by 63.2% of the inbound respondents and 61.6% of the outbound respondents. However, in 2005, when the survey asked specifically about Silver Line Washington Street service, these percentages had decreased to 55.8% and 59.9%. How much of this was due to the change in the question and how much to lowered perceptions of the Silver Line as being convenient is unknown.

Beyond convenience, there was little agreement on the order of importance of the various reasons checked by inbound and outbound riders in either survey year. (Because the instructions asked passengers to check as many reasons as applied, the totals of percentages for all reasons were well over 100%.) “Inexpensive way to travel” was second in frequency among inbound riders in 2003, at 32.1%, but fell to third at 25.5% in 2005. This was probably a reflection of the fare increase that was implemented between the two surveys. Among outbound riders, “inexpensive” ranked only fourth in 2003 and fifth in 2005, at 31.1% and 22.9%.

“Avoid driving/traffic” was second for outbound riders in 2003 (36.3%), but had slipped to fourth place (23.8%) in 2005. Among inbound riders, this reason fell from fourth (29.1%) to sixth (20.0%) in frequency.

“Speed/travel time” was third in frequency inbound in 2003, at 30.6%, but was fifth (22.4%) in 2005. Part of this drop was a reflection of longer travel times related to the new fare-collection system, mentioned by many respondents in their written comments. For outbound riders, the relative importance of speed/travel time advanced slightly, from sixth (25.7%) to fifth (22.8%).

“Only transportation available” was the third-most-common reason cited by outbound riders in both years, but was checked by only 24.1% of the riders in 2005 versus 32.6% in 2003. Among inbound riders, this reason moved up from sixth in importance, at 26.8%, to second, at 28.3%. In 2003, inbound and outbound riders both ranked “parking cost/availability” fifth, at 28.1% and 27.2%. In 2005, it was fourth inbound (23.6%) and second outbound (24.8%). “Environmentally responsible” ranked last in both years, at 19.0% outbound and 14.6% inbound in 2003, falling to 11.9% and 9.6% in 2005.

In 2005, for both directions combined, “convenience” was checked by 57.5% of the riders, “only transportation available” by 26.6%, “inexpensive way to travel” by 24.5%, and “avoid driving/traffic” by 21.6%. The first part of this distribution differed significantly from that of the former bus Route 49. In the 1995 survey on that route, the most common reason indicated for using the service was “only transportation available,” at 44.5%. “Convenience” was second, at 41.9%, followed by “inexpensive way to travel,” at 23.5%, and “avoid driving/traffic” at 21.2%.

The comparisons above indicate that for trip-makers who have a choice of ways to travel, the Silver Line is more attractive than Route 49 was relative to other alternatives. This is consistent with the observed increase in ridership on the Silver Line compared with Route 49. In absolute terms, the control counts showed that during the span of survey hours, Route 49 had a two-way total of 4,090 boardings. In the same hours, the Silver Line had about 8,770 riders in both 2003 and 2005, or an increase of 4,680. The number of riders indicating “convenience” as a reason for using transit increased from 1,713 on Route 49 to 5,473 on the Silver Line in 2003 and 4,967 in 2005, or gains of 3,760 and 3,254.

1.4.3 PRIOR ALTERNATIVE MEANS OF TRANSPORTATION

In both years, survey question 13 asked passengers how they typically made the same trip before Silver Line service started, checking as many choices as applied. As might be expected, the most common prior means of transportation reported by Silver Line riders was MBTA bus Route 49, which formerly served the same corridor. In 2003, this was reported by 54.6% of inbound riders and 49.3% of outbound riders, with a two-way average of 52.2%. These results were consistent with passenger counts showing a total of 14,105 riders all day on the Silver Line in the spring of 2003, compared with 7,627 riders on Route 49 in 2001. In the 2005 survey, the percentage of passengers who formerly used Route 49 dropped to 39.9% inbound and 31.9% outbound, with a two-way average of 36.6%. In absolute terms, the number of Silver Line survey respondents who reported having used the former Route 49 dropped by 1,127, from 4,302 to 3,165, from 2003 until 2005, although the expanded survey total for all prior modes combined in the corresponding tables dropped by only 120. This can be attributed at least partly to normal ridership turnover in the time between the two surveys.

Because respondents could report more than one prior mode, the percentages for all modes combined in each survey add up to more than 100%. Therefore, the decrease from 2003 to 2005 in the proportion of Silver Line riders who were former Route 49 users did not have to be offset entirely by increases in proportions reported for other prior modes. In absolute terms, the numbers of passengers who formerly used other modes, such as the Orange Line, changed relatively little between 2003 and 2005, but the percentages among those riders who also reported using Route 49 decreased. This may have been because over time riders who used Route 49 less often than other alternatives were less

likely to recall their Route 49 use as frequent enough to report. Other than this, decreases in the proportion of former Route 49 riders were mostly a result of increases in the proportions of riders who formerly drove alone or did not make the trip at all. This is an indication that Silver Line Washington Street service continued to attract new riders beyond the initial surge in its first year of operation.

After Route 49, the most commonly reported prior means of transportation in both surveys was the Orange Line, reported in 2003 by 29.8% of inbound and 26.7% of outbound riders, and a two-way average of 28.5%. (About 2% of Silver Line riders formerly used the Orange Line in combination with a means of access or egress other than Route 49, and continued using the Orange Line in combination with the Silver Line.) These shares changed somewhat in 2005, to 27.9% inbound, 30.1% outbound, and 28.8% for both directions combined.

The Silver Line is short enough for walking to be a feasible alternative for many of the trips. (The total distance from Dudley Square to Temple Place via Washington Street is 2.2 miles.) In 2003, walking was listed as a prior means of transportation by 12.6% of inbound riders and 18.2% of outbound riders. Overall, 6.3% indicated walking as their only prior mode of travel; most of these traveled for less than the full length of the Silver Line. Those that listed both walking and other means could either have alternated between them or walked to or from another transit line.

In 2005, former walkers increased to 16.1% inbound, but dropped to 14.3% outbound, with a two-way average of 15.3%. Overall, 8.2% indicated walking as their only prior mode of travel.

In 2003, passengers who did not make the same trip prior to the opening of the Silver Line accounted for 7.5% of the inbound trips and 6.6% of the outbound trips, and 7.2% for both directions combined. The survey form did not distinguish between passengers who chose to make new trips because of the Silver Line and those whose travel needs coincidentally changed, for reasons such as a new home or work location, after the Silver Line opened. In 2005, the new-trip shares had increased to 12.8% inbound, 12.0% outbound, and 12.5% for both directions combined.

In 2003, only 1.5% of the inbound riders and 3.7% of the outbound riders, with an average of 2.5% for both directions combined, reported driving alone as a prior means of transportation. Almost half of these also reported prior means other than driving alone, so only 1.4% of the respondents formerly drove alone exclusively. In 2005, 6.3% of the inbound riders and 5.3% of the outbound riders, with an average of 5.9% for both directions combined, reported driving alone as a prior means of transportation. This included 4.4% who formerly drove alone exclusively.

1.4.4 CURRENT ALTERNATIVE MEANS OF TRANSPORTATION

Question 14 asked what alternative means, if any, were still used instead of Silver Line Washington Street service to make the same trip on some days. In

both surveys, the majority of passengers (79.1% inbound and 78.0% outbound in 2003, increasing to 84.9% inbound and 91.7% outbound in 2005) reported that they still made the same trips by other means on some days. Many checked more than one alternative mode, but it was not possible to determine whether this meant use of two or more modes to complete a single trip, or use of different alternatives on different days.

In 2003, the survey form provided only for checking off as many alternatives as applied, but in 2005, question 14 also asked the number of days per week that alternative services were used. However, significant numbers of the respondents in 2005 merely used check marks rather than indicating specific numbers. In the case of those using other MBTA buses, more than half did not specify a number of days per week. The averages shown in the tables include only responses that specified the number of days on which alternative service was used.

The most common alternative choices in both surveys were MBTA bus (35.7% inbound and 32.9% outbound in 2003, changing to 35.6% and 36.9% in 2005) and MBTA subway (32.7% inbound and 35.5% outbound in 2003, dropping to 21.5% and 27.6% in 2005). In 2003, both bus and subway were indicated on about one-third of the forms that included either, but in 2005, only 19% of those that listed either listed both.

Walking was the third-most-common current alternative checked in both surveys (23.2% inbound and 24.7% outbound in 2003, dropping to 16.1% inbound and 18.5% outbound in 2005), but this also included some overlap with other alternatives.

In the 2003 survey, some of the distributions of current alternative means of transportation appeared to be inconsistent with those of prior alternative modes. For example, among inbound riders, 10.8% reported driving alone as a current alternative mode, but only 1.5% reported having driven alone before Silver Line service started. At first glance, this implied that implementation of the Silver Line caused an increase in the number of passengers choosing to drive instead of using MBTA service. Further analysis suggested that differences in the wording of questions 13 and 14 did not allow direct comparisons of the results. Question 13 asked what modes were “typically” used before Silver Line service started, but question 14 asked what other modes were still used “on some days.” Thus, for example, a passenger who formerly rode bus Route 49 on 9 out of 10 days and drove 1 day in 10 would be likely to have indicated only Route 49 as the typical former mode. However, if using the Silver Line on 9 days out of 10 and driving on 1 day in 10, the same passenger would be likely to have indicated driving alone as a mode still used on some days.

The revision of question 14 in the 2005 survey to ask for the number of days per week that alternative forms of transportation were still used was intended in part to resolve inconsistencies with the question 13 responses. As noted above, however, many of the respondents still used only check marks rather

than numbers for question 14. Among those who did use numbers, the average reported frequency of alternative means was surprisingly high. For example, the average number of days per week reported for use of other MBTA buses instead of the Silver Line was 4.0 inbound and 4.2 outbound, with an average of 4.1 for both directions combined.

It might be expected that the number of days per week of alternative bus use would vary inversely with the number of days of Silver Line use, but this was not the case. For example, among those reporting some alternative bus use and Silver Line use four or fewer days per week, the average number of days of alternative bus use was 3.2. However, for those with Silver Line use of five or more days per week, the average number of days of alternative bus use was 4.7. Since this result could be true only if the Silver Line and the alternative buses were used on some of the same days, either these passengers used the Silver Line in one direction and alternative buses in the other, or they made several trips per day, alternating among modes.

In the 2005 survey, the percentages of riders reporting some current use of driving alone still exceeded the percentages who formerly drove alone (9.7% versus 6.3% inbound, 6.1% versus 5.3% outbound, 8.2% versus 5.9% overall), but the reported average number of days per week of current driving alone was only 2.3 inbound and 2.8 outbound. Among those who specified a number of days of current driving alone, who had also previously made the trip by some means, but who did not indicate prior driving alone, the average number of current days driving alone was 2.7. Some of these same respondents may in fact have driven alone before on some days, without considering this as typical in their question 13 responses.

1.5 USAGE RATES AND FARE TYPES

1.5.1 NUMBER OF DAYS PER WEEK RIDERS USE THE SILVER LINE

Survey question 11 asked how many days per week passengers usually use the Silver Line. In 2003, the most common response was five days (40.8% inbound, 35.6% outbound). The slightly lower frequency of outbound use reflected a higher proportion of non-repetitive trips in that direction, as discussed for the “Trip Purpose” tables. In 2005, five-day use was also the most common, but dropped to 34.0% inbound and increased to 37.9% outbound. The usage rate showing the greatest increase among inbound riders was two days a week, which went from 5.9% to 10.9%.

In 2003, almost equal percentages of use of more than five days a week were reported in both directions, but six-day use was more common inbound than outbound (11.5% versus 8.5%), and seven-day use was more common outbound than inbound (16.4% versus 13.0%). In 2005, six-day use dropped to 9.0% inbound, but increased to 12.1% outbound. Seven-day use increased to 13.6% inbound, but decreased to 14.6% outbound.

Usage of less than one day a week was slightly more common outbound than inbound in 2003 (11.7% versus 9.8%). In 2005, outbound and inbound rates were more nearly equal (9.4% and 9.0%).

For both directions combined, the most common usage rates in 2003 were five days a week (38.4%), seven days (14.5%), less than one day (10.7%), and six days (10.1%). In 2005, the most common rates were five days a week (35.6%), seven days (14.0%), three days (10.5%), and six days (10.3%). (The results of the same question on the 1995 survey on Route 49 are not directly comparable. Those results were expanded from a much smaller sample than the Silver Line results, and were inconsistent with the results of the weekend usage question for Route 49.)

1.5.2 WEEKEND USAGE

In question 11, responses for usage five days a week or less could include some weekend ridership, since the wording of the question did not differentiate between days of the week. (The surveys were distributed only on weekdays, so every response was from a passenger who rode at least once on a weekday in the survey week.) Question 12 provided further details by asking passengers about the frequency of Saturday and Sunday use. For each weekend day, the choices were “regularly,” “occasionally,” or “not at all.”

The majority of respondents in both surveys indicated that they made at least some use of the Silver Line on weekends. In 2003, only 30.9% inbound and 39.2% outbound reported that they did not use it at all on either Saturday or Sunday. In 2005, the corresponding figures were 30.1% and 33.3%. Other than those indicating no weekend use, the most common combination of weekend responses was occasional use on both Saturday and Sunday (36.4% inbound and 28.4% outbound in 2003; 34.6% inbound and 31.0% outbound in 2005). Regular use on both Saturday and Sunday was next (16.9% inbound and 21.1% outbound in 2003; 18.7% inbound and 21.0% outbound in 2005).

For both directions combined in 2003, 34.7% of Silver Line riders did not use it at all on weekends, 32.7% rode occasionally on both Saturdays and Sundays, and 18.9% rode regularly on both Saturday and Sunday. In 2005, the corresponding figures were 31.5%, 33.1%, and 19.7%. Among passengers who reported usage rates of less than six days per week, 6% reported regular use on Saturday, Sunday, or both in 2003, and 10.2% in 2005. Another 35% in both years reported occasional use on both Saturday and Sunday.

In the 1995 survey, the proportion of Route 49 riders reporting that they did not ride at all on Saturday or Sunday (34.4%) was almost the same as the rate on the Silver Line in 2003 (34.7%). Likewise, the proportions reporting occasional use of Route 49 on both Saturday and Sunday on Route 49 (32.3%) was almost the same as on the Silver Line in 2003 (32.7%). However, only 11.5% of Route 49 riders reported regular use on both Saturday and Sunday, compared with 18.9% of Silver Line riders in 2003 and 19.7% in 2005.

1.5.3 FARE PAYMENT TYPE

Survey question 10 asked how passengers paid their fares to use Silver Line Washington Street service. In 2003, the most common method reported was some form of adult monthly pass (that is, monthly passes excluding senior/disability and students). These were used by 50.4% of the inbound riders and 44.5% of the outbound riders, with a two-way average of 47.8%. In 2005, the figures were 46.8% inbound, 47.1% outbound, and 46.9% for both directions combined. The two-way results in both years were about midway between the weekday pass-use rates found in a fare-mix study conducted in 2002 for the bus system as a whole (40.3%) and for the rapid transit system (57.0%). In the *2005 Fare-Mix Study* report, adult monthly pass use increased to 40.9% on the bus system, but decreased to 51.5% on the rapid transit system.¹

Adult cash fares were the second-most-common Silver Line fare-payment method in 2003, used for 28.7% of inbound trips, 28.2% of outbound trips, and 28.5% for both directions combined. This was close to the 28.0% using adult cash fares on the bus system, but slightly lower than the 31.3% found on the rapid transit system in 2002. In 2005, adult cash fares accounted for 26.0% of fares inbound, 28.0% outbound, and 26.8% overall. In the 2005 fare-mix study, adult cash fares accounted for 26.3% of trips on the bus system and 35.4% on the rapid transit system.

Reduced cash fares for senior citizens and riders with disabilities (reported as one category on the survey form) were paid by 6.8% of inbound riders and 8.5% of outbound riders, for an average of 7.6% in 2003. In 2005, these percentages changed to 13.1% inbound, 6.6% outbound, and 10.4% overall. In 2003, another 2.2% inbound and 5.3% outbound, or a combined average of 3.6% used senior/disability monthly passes. In 2005, the corresponding figures were 2.1%, 4.2%, and 3.0%. The combined cash and pass use shares of 11.2% in 2003 and 13.4% in 2005, by senior/disability-fare passengers were higher than those for all bus and trackless trolley routes in 2002 or 2005 (11.1% and 8.5%) and much higher than that of the rapid transit system in 2002 and 2005 (4.3% in both years).

The third-most-common method of Silver Line Washington Street fare payment in 2003 was paper transfers, used by 4.6% of inbound riders and 4.1% of outbound riders, with a two-way total of 4.4%. In 2005, these figures increased slightly, to 4.7% inbound and 4.8% outbound. For the bus system as a whole, paper transfers were used by 5.8% of weekday riders in 2002 and 10.3% in 2005. Paper transfers were not recorded as a separate category in the 2002 rapid transit fare mix because they were valid at only a few rapid transit and Green Line stations. In 2005, they accounted for only 0.1% of rapid transit fares.

¹ Thomas J. Humphrey, of the Central Transportation Planning Staff, *2005 Fare-Mix Study: MBTA Heavy Rail, Light Rail, Bus, and Commuter Rail Service: Average Fares and Ridership*, September 2006.

The survey form did not distinguish between transfers obtained from other bus routes and transfers obtained from rapid transit lines, but this can be determined from the reported access modes. In 2003, among those reporting paper transfer use, 28.9% accessed the Silver Line via rapid transit and 56.4% by bus. The remaining 14.6% of paper transfer users reported walking to the Silver Line. Based on the other information on these surveys, unless either the access mode or the fare-payment method was reported incorrectly, these respondents were apparently using transfers for unauthorized purposes such as return halves of round-trips.

Among paper transfer users in 2005, 37.9% accessed the Silver Line via rapid transit and 50.5% by bus. Another 11.3% reported other access modes, including walk, park-and-ride, and drop-off. Again, unless the access mode or the fare-payment method was reported incorrectly, the transfers were apparently used improperly. Most passengers knowingly using transfers improperly would not be expected to admit to it on a survey form. Therefore, these figures are likely to have understated improper transfer use.

Whether or not reported accurately, the number of boardings by paper transfer would somewhat understate the actual amount of free transferring. Subway passes could be used by passengers transferring between the Silver Line and a rapid transit line regardless of which mode was used first. (In contrast, subway passes were not valid on most MBTA bus routes.) Riders were allowed to use local-bus passes to transfer from the Silver Line to rapid transit service at stations with direct connections, but in most cases, the return halves of such trips would require cash fares for the rapid transit segments.

Among inbound Silver Line passengers, 3.7% in 2003 and 4.0% in 2005 reported that they had transferred to a rapid transit line and had paid their Silver Line fares with subway passes. Another 1.1% in 2003 and 0.4% in 2005 reported that they had paid their Silver Line fares with local-bus passes, and that they were going to transfer to rapid transit. Among outbound Silver Line passengers, 7.7% in 2003 and 7.8% in 2005 reported that they transferred from a rapid transit line and paid their fares with subway passes. Only 0.2% in 2003 and 0.3% in 2005 reported transferring from rapid transit and using local-bus passes on Silver Line Washington Street service.

1.6 ACCESS TO AND EGRESS FROM SILVER LINE WASHINGTON STREET

Survey question 3 asked how passengers got to their Silver Line Washington Street boarding stops. The results are included in the table on access to the Silver Line. Question 7 asked how passengers completed their trips after alighting from the Silver Line. The results are included in the table on egress from the Silver Line.

The range of access and egress options varies among stops. Direct rapid transit connections are possible only at Chinatown, New England Medical Center, Downtown Crossing (Temple Place), and Boylston. Most of the Silver Line

stops are also served by MBTA bus routes, but the directions of those routes are not all convenient for making trips in conjunction with the Silver Line.

1.6.1 ACCESS

Despite the availability of transit connections, walking was the most commonly reported means of Silver Line access in both surveys. In 2003, walk-ins were reported in 61.1% of inbound trips and 64.1% of outbound trips, and the combined average of inbound and outbound trips was 62.5%. In 2005, these shares dropped somewhat, to 55.5% inbound, 62.4% outbound, and 58.3% overall.

Among inbound passengers, the second-greatest access mode in both surveys was MBTA buses, at 31.4% in 2003 and 34.0% in 2005. In the 2003 survey, 14 different bus routes were reported to have been used, with shares from individual routes ranging from 6.9%, down to 0.4% of all inbound riders. In 2005, transfers were reported from 15 routes, with shares from individual routes ranging from 7.0% down to 0.1%. From many points, access to the Silver Line is possible by more than one bus route, so the access shares of individual routes understate the total bus ridership from such locations. Four routes running to Dudley Square from Grove Hall or points further south via Blue Hill Avenue or Warren Street (Routes 14, 23, 28, and 45) accounted for 55.5% of all the transfers to the inbound Silver Line from specified MBTA buses in 2003 and for 52.5% in 2005. In 2003, home-based work trips accounted for 61.0% of the trips transferring from these four routes, compared with 52.1% of all inbound Silver Line trips in the survey span. However, in 2005 the percentage of home-based work trips on the four routes had dropped to 47.2%, compared with 45.4% of all inbound trips. All other trip purposes accounted for less than 8% each of transfer trips from these routes in 2003, but in 2005 work-based trips increased to 12.2%, home-based school trips to 9.8%, and home-based personal business trips to 9.0%.

In contrast to the inbound pattern, only 2.8% of outbound riders in 2003 and only 0.7% in 2005 accessed the Silver Line by MBTA bus, but 30.5% in 2003 and 35.7% in 2005 used rapid transit access. These differences reflect the predominance of Dudley Square, a major bus transfer point in the inbound boarding locations, and the predominance of downtown Boston stops with rapid transit connections among outbound boarding locations.

In 2003, all of the remaining inbound access trips were accounted for by park-and-ride (5.7%) or drop-offs (1.6%). In 2005, inbound park-and-ride access increased to 8.5%, but the drop-off share was almost unchanged, at 1.5%. Other, unspecified access modes accounted for 0.3%. The surveys did not ask about specific parking locations. Most of the park-and-ride passengers would have had to use on-street spaces, as there are no dedicated parking facilities for the Silver Line. These passengers reported boarding at several stops along the line, with about half being at Dudley Square. Future changes in on-street parking regulations could force these riders to park further away or to use different access modes if they continued to ride the Silver Line. Among

outbound passengers, only 1.2% reported park-and-ride access in 2003, and none in 2005. Less than 0.1% of the outbound riders were dropped off in 2003, but 0.8% were dropped off in 2005.

1.6.2 EGRESS

Walking accounted for an even greater share of Silver Line egress than access in both surveys. In 2003, it was reported in 77.6% of inbound trips, 64.3% of outbound trips, and 71.7% overall. In 2005, it was reported in 76.7% of inbound trips, 66.0% of outbound trips, and 72.3% overall. Rapid transit egress was used in only 18.2% of inbound alightings in 2003 and 19.7% in 2005, compared with access in 30.5% of outbound boardings in 2003 and 35.7% in 2005. In 2003, bus egress from inbound trips, at 2.4%, was similar to outbound bus access (2.8%), but in 2005 inbound bus egress, at 3.1%, greatly exceeded outbound access, at 0.7%.

When the access and egress responses were examined at a finer level of detail than is shown in the tables at the end of this chapter, it was found that at the four downtown Boston stops with rapid transit connections, rapid transit transfers accounted for 45.4% of outbound boardings, but for only 21.4% of inbound alightings, in 2003. In 2005, rapid transit transfers accounted for 51.8% of outbound boardings and 27.0% of inbound alightings at these stations. These directional imbalances were largely a result of the survey spans having covered only the hours up to 3:30 PM, when the majority of passengers would have been making their initial trips of the day. Among both inbound and outbound passengers, the most prevalent trip purpose during these hours was home-to-work travel. For such trips, rapid transit transfers occurred in 80.3% of the outbound boardings at the four downtown stops in 2003 and 87.4% in 2005, but in only 25.0% of the inbound alightings there in 2003 and 25.4% in 2005. Among inbound work trips alighting at these four stops, the majority had final destinations within downtown Boston, at locations where walking directly from the Silver Line was feasible. Conversely, the majority of outbound work trips boarding at these four stops originated at points beyond feasible walking distance from the Silver Line.

These results reflect the much greater importance of Boston Proper as a destination than as an origin of work trips. Census figures show that among cities and towns served by the MBTA rapid transit system, Boston Proper accounts for about 30% of the employment but only about 8% of the population. A survey conducted during the hours when return trips home from work predominated could be expected to show a much higher proportion of transfers to rapid transit and a much lower proportion of transfers from rapid transit than appeared in the results above.

Bus egress from outbound trips was slightly greater than bus access to inbound trips in 2003, at 32.5% versus 31.4%, but slightly lower in 2005, at 30.8% versus 34.0%. These similarities reflect the greater mix of land uses around stations on the outer end of the Silver Line, compared with the separation of residential and employment development in downtown Boston. These egress

trips were distributed among 13 routes in both years. In 2003, 11 of the same routes were also reported for inbound access, and in 2005 all 13 were. Routes 14, 23, 28, and 45 accounted for 47.7% of all the transfers from the outbound Silver Line to specified MBTA bus routes in 2003 and 51.0% in 2005, compared with 55.5% of the inbound bus transfers to the Silver Line in 2003 and 52.5% in 2005.

Transfers to these four routes showed significantly different distributions of trip purposes than were found among inbound transfers. In 2003, home-based school trips accounted for the largest share of the outbound transfers, at 29.6%, followed by home-based unspecified other trips, at 18.0%. (Among all of the outbound Silver Line riders, only 11.1% were making home-based school trips during the survey span.) Home-based work trips were third, at 16.7% of the outbound transfers to these four bus routes, compared with 61.0% of the inbound transfers from them. In 2005, home-based work trips had the largest share of transfers to these four routes, at 30.3%, followed by home-based school trips, at 17.7%, and home-based work-related trips, at 13.7%. These changes resulted largely from differences in the accuracy of the two surveys rather than from actual changes in trip purposes. The results for transfers to the four bus routes to which the most transfers were made were expanded from a larger sample in 2005 than in 2003, and a much higher proportion of the 2005 responses came from passengers boarding after 2:45 PM, when work-to-home trips were beginning to predominate. It would be expected that after the end of the survey span, when the number of passengers making return trips began to exceed those making initial trips, the distributions of trip purposes would change further.

Overall, outbound passengers going home were much more likely than passengers with other destination activities to transfer to buses (42.2% versus 27.1% in 2005). This was a reflection of the greater dispersal of home destinations among residential neighborhoods beyond convenient walking distance of Silver Line stops, and concentrations of work destinations at locations such as South End hospitals that are near stops. Only 17.1% of outbound Silver Line trips to work were completed by transferring to an MBTA bus.

In 2003, park-and-ride and pick-ups accounted for only 1.3% and 0.2% of outbound Silver Line egress, compared with the 5.7% park-and-ride and 1.6% drop-off access rates among inbound passengers. In 2005, outbound park-and-ride egress increased to 3.1%, but pick-ups dropped to less than 0.1%. In comparison, inbound park-and-ride access increased to 8.5%, but drop-offs fell slightly, to 1.5%. The majority of riders that used these inbound access modes began their trips at home, but the majority of homeward-bound trips would have occurred after the end of the survey span.

1.7 ORIGIN LOCATIONS AND ACTIVITIES

Survey question 5 asked passengers where their trips began, including the city or town and address, or the nearest street intersection or landmark. In the

database, these responses were assigned numerical codes, identifying either an entire city or town or a neighborhood, using the same definitions as in past MBTA surveys. In the summary tables, located at the end of this chapter, responses for each origin were subdivided by activity at origin using the results of survey question 4.

The Silver Line runs directly through four Boston neighborhoods, but also attracts a significant portion of its ridership from origins outside those neighborhoods. The outer terminal at Dudley Square and the stops at Melnea Cass Boulevard and Lenox Street are all within Roxbury. The six stops from Massachusetts Avenue to Herald Street, inclusive, are in the South End, but the Massachusetts Avenue stop is also the nearest stop to some origins in Roxbury. The New England Medical Center, Chinatown, and Boylston stops are all in the Park Square neighborhood, and the Temple Place stop is in the Financial/Retail District.

Among inbound survey passengers in both years, the largest source of trip origins was the South End, at 48.1% in 2003 and 43.7% in 2005, followed by Roxbury, at 30.5% in 2003 and 35.0% in 2005. North Dorchester and South Dorchester, which both have extensive bus connections to the Silver Line, were origins for 6.8% and 6.1% of the riders in 2003. In 2005, the South Dorchester share increased to 7.3%, but the North Dorchester share fell to 3.9%. Some of these changes may have reflected differences in the way origin codes were assigned to trips starting near the border of two neighborhoods rather than actual origin shifts. In 2003, the remaining 8.5% of origins were scattered among 16 cities, towns, and neighborhoods, with none accounting individually for more than 2.0%. In 2005, 19 reported origins accounted for the 10.1% remaining after the top four, with only Jamaica Plain, at 2.4%, accounting for more than 2.0%.

The majority of inbound trips (69.1% in 2003 and 71.2% in 2005) started at home. In 2003, such trips accounted for 66.5% to 77.2% of the origins from the four largest sources. In 2005, the range was 60.0% to 95.1%.

Former bus Route 49 had a smaller trip attraction area than the Silver Line. The 1995 survey found that 97.1% of the inbound riders on Route 49 had trip origins in either Roxbury, the South End, South Dorchester, or North Dorchester, compared with the 91.5% of inbound Silver Line trips originating in these neighborhoods in 2003 and 89.9% in 2005. Because of the much smaller Route 49 sample, however, it was less likely that passengers from neighborhoods originating small numbers of trips would have received survey forms. On Route 49, Roxbury originated the largest individual share of riders, at 56.2%, and the South End was second, at 28.6%. On the Silver Line, the rank order was reversed, as detailed above. The proportion of home-origin trips on inbound Route 49 (71.8%) was slightly greater than that on inbound Silver Line trips in either survey (69.1% and 70.8%).

Outbound Silver Line trip origins were drawn from a much larger area than inbound origins were. This was partly a result of the rapid transit connections

at the inner end. The South End was the largest source of outbound riders, but accounted for only 38.3% of the origins in that direction in 2003, compared with 48.1% of the inbound riders. In 2005, the South End share of boardings had declined to 30.6% outbound and 43.7% inbound. Park Square was the second-largest source of outbound trip origins, at 14.4%, in 2003, but was third, at 8.6% in 2005. The Financial/Retail District was third, at 8.0%, in 2003, but moved up to second, at 13.9%, in 2005. (Some of these differences may have resulted from differences in classification of imprecisely described origins.) Government Center was the fourth-largest origin in both surveys, at 4.4% in 2003 and 6.3% in 2005. Together, the top four origins accounted for 65.1% of all outbound origins in 2003, compared with a 91.5% share of the inbound origins by the top four inbound sources. In 2005, the top four outbound origins accounted for 59.4% of outbound trips, compared with an 89.9% share of all inbound trips by the top four inbound sources.

In 2003, the remaining 34.9% of outbound origins were scattered among 60 cities, towns, and neighborhoods. Of these, the only ones that accounted individually for at least 2.0% were the North End (3.6%), Malden (3.0%), Beacon Hill (2.1%), and North Cambridge (2.0%). In 2005, the remaining 40.6% of outbound origins were scattered among 65 cities, towns, and neighborhoods. Of these, the only ones that accounted individually for at least 2.0% were “unspecified downtown” (3.8%), Malden (3.7%), and the North End (2.6%). Beacon Hill had dropped to 1.4%, and North Cambridge to 1.2%.

Much smaller shares of all outbound trips began at home compared with inbound home-origin trips (49.6% versus 69.1% in 2003, and 49.9% versus 70.8% in 2005). However, among sources below the top four neighborhoods, home-origin trips accounted for 68.9% of all trips in 2003 and 69.4% in 2005.

Route 49, like the Silver Line, attracted riders from a larger area outbound than inbound. Nevertheless, the top four sources on Route 49 accounted for 72.7% of the riders, and only five other sources were reported. (As with the inbound surveys, the small sample size limited the likelihood of obtaining responses from locations originating small numbers of trips.)

1.8 DESTINATION LOCATIONS AND ACTIVITIES

Survey question 9 asked passengers where their trips would end, including city or town and address, or the nearest street intersection or landmark. In the database, these were assigned numerical codes for cities, towns, and neighborhoods, using the same definitions as used in coding trip origins. In the summary tables, located at the end of the chapter, responses for each destination were subdivided by activity there using the results of survey question 8.

In both surveys, the South End was the location of the largest individual share of inbound destinations, at 29.6% in 2003 and 23.9% in 2005. These were smaller than that neighborhood’s shares of origins (48.1% inbound and 38.3% outbound in 2003; 43.7% inbound and 30.6% outbound in 2005). The next-

largest shares of inbound destinations in both years were in the Financial/Retail District (16.2% in 2003, 18.6% in 2005), Park Square (15.6% in 2003, 13.3% in 2005), Downtown Boston unspecified (6.9% in 2003, 10.9% in 2005), and Government Center (6.4% in 2003, and 6.7% in 2005). In 2003, South Boston was sixth, with 3.6%, but in 2005 it dropped to ninth, at 1.6%. The downtown Boston Waterfront moved up from eighth place in 2003, at 2.4%, to sixth in 2005, at 3.8% in 2005.

The top six destinations accounted for 78.3% of all reported destinations in 2003 and for 77.2% in 2005. The remainder were divided among 36 cities, towns, and neighborhoods in 2003, and 39 in 2005, with each individually accounting for less than 3.0% of the total. Trips to work accounted for the largest shares of inbound destinations, at 52.9% in 2003 and 47.0% in 2005. In 2003, trips with unspecified purposes were second, at 11.2%, and each of the other listed purposes accounted for shares below 8.5%. In 2005, trips with unspecified purposes were second, at 11.6%, and trips to home were third, at 10.7%. All of the other listed purposes each accounted for shares below 9.3%.

The 1995 survey found a much greater concentration of Route 49 passenger destinations near the downtown Boston stops than was found on the Silver Line. On Route 49, the largest group of destinations was in the Financial/Retail District (48.8%), followed by Park Square (15.7%). The South End was only the third-largest destination on Route 49, at 11.5%, compared with the most common destination on the Silver Line, at 29.6% in 2003 and 23.9% in 2005.

Outbound Silver Line destinations in both surveys were concentrated in much smaller numbers of locations than inbound destinations were. The largest shares went to the South End, at 43.3% in 2003 and 46.4% in 2005. Roxbury was second in both years (38.2% in 2003 and 35.1% in 2005), for a total of 81.5% in both years for the South End and Roxbury combined. South Dorchester was third in both years, at 5.9% and 5.3%, respectively. In 2003, the BU/Fenway/Longwood Medical Area neighborhood was fourth, at 4.1%, but in 2005 it had dropped slightly, to fifth, at 3.7%. Trips to that neighborhood were made by transferring from the Silver Line to MBTA buses at Dudley Square or Melnea Cass Boulevard. North Dorchester moved up from fifth in 2003, at 2.1%, to fourth in 2005, at 4.2%. Destinations below fifth place were divided among nine cities, towns, and neighborhoods in 2003 and seven in 2005, with shares of under 2.0% each in both years.

Going to work was the most common outbound trip purpose, but it accounted for only 34.8% of destinations in 2003 and 35.7% in 2005, compared with 52.9% and 47.0% of inbound destinations. Going home was the second-most-common outbound trip purpose, at 28.2% in 2003 and 26.7% in 2005, compared with only 7.4% and 10.7% of inbound destinations in these years. Other specified trip purposes each accounted for less than 7.5% of the overall outbound total in 2003 and less than 9.8% in 2005, but captured much larger shares of trips to some areas.

In the 1995 survey on Route 49, Roxbury accounted for 60.7% of the outbound destinations, and the South End for 29.3%, with the sample too small to identify destinations of the remaining 10.0% accurately.

1.9 SOCIOECONOMIC CHARACTERISTICS

1.9.1 AGE OF RIDERS

Survey question 15 asked passengers to indicate their ages, within any of six listed ranges. There were some responses in every age range. The range 45 to 64 had the largest shares of responses, both inbound (27.4% in 2003 and 30.4% in 2005) and outbound (31.9% in 2003 and 29.6% in 2005), but also had the longest span of years of any of the ranges listed. Responses from riders age 17 and under were low in both surveys relative to the general population, at 3.3% and 2.4% outbound in 2003, and at 1.5% inbound and 5.8% outbound in 2005. These figures may understate the actual ridership shares, as children usually do not fill out surveys. Figures from the 2000 census indicate that about 15% of the residents of the city of Boston were under age 18. The 2002 and 2005 MBTA fare-mix studies found that for the bus system overall, 7.6% of weekday riders in 2002 and 6.1% in 2005 were children or students below college age. The fare-mix figures were based on direct observations on randomly selected trips rather than on surveys.

Riders age 65 and older also accounted for lower shares of Silver Line ridership than of their percentage in the population in Boston, at 3.8% inbound and 4.1% outbound in 2003. In 2005, these shares increased to 9.3% and 5.5%. The 2000 census found that 10.4% of the residents of the city of Boston were age 65 or over. The fare-mix study conducted in 2002 found that 11.1% of the passengers on the MBTA bus system were senior citizens or passengers with disabilities eligible for reduced fares, but did not separate the two subgroups. In the 2005 fare-mix study, this share dropped to 8.5%.

1.9.2 ANNUAL HOUSEHOLD INCOMES OF RIDERS

Survey question 19 asked passengers to indicate their annual household incomes within one of six ranges listed on the survey form. (Income questions usually have the lowest response rates among questions on MBTA passenger surveys. In the Silver Line surveys, this question was not answered on 17% of the returned forms in 2003 and on 16% of the surveys that had usable responses to other questions in 2005.)

In 2003, the percentages of passengers reporting incomes in each of the six ranges were similar for inbound and outbound passengers, except in the two lowest ranges. Incomes of less than \$20,000 per year were reported by 30.2% outbound, but only 22.4% inbound. However, incomes in the range of \$20,000 to \$29,999 were reported by 10.7% outbound, but 18.8% inbound, making the combined totals for the two lowest ranges about equal for both directions of travel. At the other extreme, household incomes of over \$80,000 were reported by 14.5% outbound and 15.2% inbound.

In the 2005 survey, there was greater disparity between the percentages of inbound and outbound riders reported in most of the income ranges. Compared with 2003, the percentage of inbound riders reporting incomes of under \$20,000 increased significantly, to 34.1%, but the outbound share decreased, to 26.3%. In the \$20,000-to-\$29,999 range, the inbound share fell to 14.0%, but the outbound share increased slightly, to 11.1%. In the \$30,000-to-\$39,999 range, the inbound share fell from 15.1% to 13.0%, but the outbound share increased from 16.8% to 18.7%. At the other extreme, reported incomes of over \$80,000 increased to 15.4% inbound and to 15.6% outbound.

The reason for the large increase in low-income riders inbound is unclear. However, among those with incomes of less than \$20,000 a year, the percentage of riders making home-based work trips was significantly lower than that in all other income groups combined (18.7% versus 60.1%).

(Comparisons with older survey results from bus Route 49 would not be meaningful because of inflation.)

1.9.3 GENDER OF RIDERS

Survey question 20 asked for passenger gender. In 2003, female respondents outnumbered males significantly, both inbound (60.6% to 39.1%) and outbound (65.0% to 34.9%), and 62.6% to 37.2% overall. In 2005, the inbound ratio was almost unchanged, at 59.4% to 40.5%, but the outbound ratio was only 56.7% to 43.0%, for a bidirectional ratio of 58.3% to 41.5%. For comparison, MBTA bus Route 49, which was replaced by the Silver Line, had a split of 67.6% female and 32.3% male respondents when surveyed in 1995. For all bus routes combined running from the Cabot Garage, where Route 49 was based, the survey split was 70.6% female and 29.3% male.

1.10 AUTOMOBILE AVAILABILITY

1.10.1 LICENSED DRIVERS

Survey question 16 asked passengers if they had valid driver's licenses. The responses varied only slightly between inbound and outbound riders, and also between 2003 and 2005. Of the inbound riders in 2003, 67.5% were licensed and 32.5% were not. In 2005, the splits were 67.1% and 32.9%. Outbound in 2003, 64.0% were licensed and 36.0% were not. In 2005, the splits were 62.5% and 37.5%. For both directions combined, the split was 65.9% licensed and 34.1% not licensed in 2003, changing to 65.2% and 34.8% in 2005. These results were also similar to those on former bus Route 49 in 1995, which showed that 67.8% were licensed and 32.2% were not licensed.

1.10.2 RIDERS WITH AUTOMOBILES AVAILABLE FOR TRIP

Survey question 17 asked passengers if they had automobiles available for the trips on which they received the survey forms. The results by direction differed only slightly. Inbound in 2003, 38.9% had autos available and 61.1% did not.

Outbound in 2003, 37.8% had autos available and 62.2% did not. For both directions combined 38.4% had autos available and 61.6% did not. The percentages of riders with autos available decreased somewhat in 2005, to 35.0% inbound, 34.4% outbound, and 34.8% overall. Nevertheless, the reported auto availability was still significantly higher than that on former bus Route 49. In the 1995 survey, 27.3% of riders on bus Route 49 had autos available and 72.7% did not. This difference is consistent with the finding of much lower transit dependence among Silver Line riders than among Route 49 riders in the “Reasons for Using Transit” question.

1.11 SERVICE QUALITY

Survey question 22 asked passengers to rate 10 measures of service quality on a scale of 1 to 5, with 1 being poor and 5 being excellent. The mean ratings for all measures were about the same on inbound and outbound surveys, so the results are discussed together below. In both surveys, most measures received mean ratings between 3.0 (average) and 4.0 (above average). In 2003, the highest ratings went to “announcement of stops” (4.1) and “travel time/directness of route” (4.0). In 2005, the announcement of stops still had the highest rating, but the mean had dropped to 3.7. “Travel time/directness of route” had dropped to third, with a mean rating of 3.3. In 2003, the lowest rating went to “availability of seating,” at 2.9, but in 2005 it had improved slightly, to 3.1, putting it in a tie with several other measures. The service quality rated the least favorably in 2005 was the new fare-collection system, which got a mean rating of only 1.8. This system was implemented shortly before the survey was done, so there is no basis for comparing changes in opinions over time.

In addition to rating each service quality measure on a scale of one to five, passengers were asked to indicate the three measures most important to them. Some checked fewer than three and others checked more than three. Overall, the proportion of respondents who indicated the importance of any service quality measures was much lower in 2005 than in 2003.

The results for the service quality measures are discussed below in greater detail. In the summary tables, the measures are listed in the same order in which they appeared on the survey form. In the discussion below, they are listed in descending order by the number of passengers in both directions combined that checked them as one of the three most important measures in 2005. The first four had the same order in 2003.

Reliability (On-Time Performance)

“Reliability” was the measure of service quality cited by the greatest numbers of passengers in both surveys as one of the three most important. It was checked by 26.0% in 2003, but only 18.4% in 2005. In 2003, it was also one of the highest-rated attributes, with a mean rating of 3.9. Ratings of average or better were given by 91.5% of respondents. However, in 2005 the mean rating had fallen to 3.0, and only 65.0% rated it as average or better. Ratings of poor

or below average increased from 8.4% to 34.9%. This change in perception was related to the large number of complaints about the new fare-collection system and its impact on trip time in 2005.

Frequency of Service

“Frequency of service” was the measure cited in both surveys by the second-greatest number of passengers as one of the three most important, being checked by 18.7% in 2003 and by 12.5% in 2005. It was also one of the highest-rated attributes in 2003, with a mean rating of 3.7, but in 2005 the mean was only 3.1. Ratings of average or better were given by 85.8% of respondents in 2003, but only 71.2% in 2005.

Personal Safety

“Personal safety” was cited by the third-greatest numbers of passengers as one of the three most important service quality measures, being checked by 12.2% in 2003 and by 7.3% in 2005. It was also one of the higher-rated attributes, with a mean rating of 3.6 in 2003 and 3.4 in 2005. Ratings of average or better were given by 88.3% of respondents in 2003 and 83.7% in 2005.

Travel Time/Directness of Route

“Travel time/directness of route” was cited by the fourth-greatest numbers of passengers as one of the three most important service quality measures, being checked by 11.5% in 2003 and 7.0% in 2005. In 2003, it was the second-highest-rated attribute, with a mean rating of 4.0, but in 2005 it was third, with a 3.3 mean. Ratings of average or better were given by 93.2% of respondents in 2003, but only 76.1% in 2005. This measure also received the smallest number of “poor” ratings in 2003, at 1.5%, but in 2005 it was only sixth-lowest, at 12.3%.

New Fare-Collection System

The new fare-collection system, which was not in use in 2003, was cited by the fifth-greatest number of passengers in 2005 as one of the three most important service quality measures. It was checked by 5.7%. The mean rating of 1.8 was the lowest rating received by any service quality measure on any MBTA passenger survey in the past 15 years. Ratings of poor were given by 60.8%, and below average by another 13.9%. Only 6.2% rated the new system as excellent.

The survey was conducted before design modifications to the prototype farebox had been made. At the time, Silver Line Washington Street was the only route on which the new fareboxes had been tested. Other MBTA reports indicate that passenger throughput rates showed improvement after the farebox design modifications were made.

Cleanliness/Condition of Vehicles

In 2003, “cleanliness/condition of vehicles” was cited by the fifth-greatest number of passengers as one of the three most important service quality measures, being checked by 9.4%. It was one of the higher-rated attributes, with a mean rating of 3.6. Ratings of average or better were given by 87.7% of respondents. In 2005, it was sixth, cited by 5.5%, with a mean rating of 3.2. Ratings of average or better were given by 78.4% of respondents.

Courtesy of Drivers

In both surveys, “courtesy of drivers” was cited by the seventh-greatest numbers of passengers as one of the three most important service quality measures. In 2003, it was checked by 7.5%. Its overall rating was in the midrange among all service quality attributes, with a mean of 3.5. Ratings of average or better were given by 82.7% of respondents. In 2005, this measure was checked by 4.5% as one of the most important. The mean rating dropped to 3.1, with only 71.8% giving ratings of average or better. Ratings of poor increased from 7.1% to 12.5%. To some extent, passengers may have blamed delays related to the new fare-collection system on the vehicle operators.

Availability of Seating

In 2003, “availability of seating” was cited by the sixth-greatest number of passengers as one of the three most important service quality measures, being checked by 8.3%. In 2005, it was eighth, checked by 3.4%. In 2003, it received the least-favorable ratings of any attribute, with a mean of 2.9. It had by far the greatest number of “poor” ratings, at 18.3%, and the greatest number of “below-average” ratings, at 16.6%. The average number of riders per trip during the survey span was 19% lower outbound than inbound. Consequently, the mean rating for seating was higher among outbound passengers (3.2) than among inbound passengers (2.7). Nevertheless, it was the lowest-rated measure outbound as well as inbound.

When the 2003 survey was conducted, the Silver Line used 39-seat vehicles. These were subsequently replaced with 57-seat articulated vehicles, with no change in frequency. This resulted in a 46% increase in the number of seats provided, which would have been expected to increase customer satisfaction with this attribute significantly. However, the mean rating improved only from 2.9 to 3.1. The proportion of poor ratings dropped from 18.3% to 12.1%, while below-average ratings went from 16.6% to 12.1%. (Several other measures had higher percentages of poor ratings in 2005.) Ratings of excellent increased from 11.4% to 13.3%. The inbound mean went from 2.7 to 3.0. and the outbound mean from 3.2 to 3.3.

Announcement of Stops

In 2003, “announcement of stops” was checked by the eighth-greatest number of passengers as one of the three most important service quality measures, being checked by 6.0%. However, it had the highest mean rating of all service

quality measures, at 4.1. Ratings of average or better were given by 90.2% of respondents. The high rating was attributable to the use of an automated stop-announcement system on Silver Line vehicles, including electronic signs, in addition to audible announcements.

In 2005, this measure was checked by the ninth-greatest number of passengers, at 1.4%. It still had the most favorable ratings among all of the measures, but the mean dropped to 3.7. Ratings of average or better were given by 84.6% of respondents. Ratings of poor were given by 6.4%, up from 4.1% in 2003. The change to articulated vehicles may have had some impact on the audibility of announcements.

The relatively low rankings of importance are more a reflection of the greater importance placed on other service quality attributes on the list than an indication that stop announcements are not important.

Shelter Amenities (Seating, Service Information)

In both surveys, “shelter amenities” received the second-lowest numbers of check-offs as an important service quality measure, at 2.8% in 2003 and 0.4% in 2005. This was also one of the lower-rated attributes, with means of 3.3 and 3.1. In 2003, it had the third-greatest number of “poor” ratings, at 11.9%, and the second-greatest number of “below-average” ratings, at 11.4%. In 2005, poor ratings increased to 12.1% and below-average ratings to 14.6%, but five other measures had higher percentages of poor ratings.

The Silver Line opened before construction work at all of the stops was complete, and this probably contributed to unfavorable opinions of shelter amenities in 2003. However, by 2005 all planned shelter work had been completed. Because of the frequency of service on the route, the average wait times at stops are short. This accounts in part for the low importance attached to shelter amenities.

Parking Availability

“Parking availability” received the lowest numbers of check-offs as an important service quality measure, at 2.1% in 2003 and 0.3% in 2005. It was also one of the lower-rated attributes, with means of 3.3 and 3.0. In both surveys it had the second-greatest number of “poor” ratings, at 15.0% in 2003 and 20.3% in 2005. There are no dedicated park-and-ride facilities for the Silver Line, but only small percentages of Silver Line riders (5.9% inbound and 2.5% outbound in 2003; 8.5% inbound and 3.1% outbound in 2005) reported that they used park-and-ride access or egress. Walking was the most common means of access, and numerous bus and rapid transit connections are also available. The majority of Silver Line riders did not have autos available for their trips. Therefore, the lack of parking facilities would not be expected to be of concern to them. Nevertheless, in 2003 the mean rating for this measure was the same from passengers who did not use park-and-ride access or egress as for those who did, and in 2005 it was slightly higher for park-and-ride passengers than for all others (3.1 versus 3.0).

Compared with non-park-and-ride passengers, a smaller percentage of park-and-riders in 2005 rated parking availability as either poor (7.7% versus 21.1%) or excellent (11.6% versus 17.6%). Among passengers who did not use park-and-ride access but reported that they had autos available, 31.5% rated parking availability as poor and only 10.5% rated it excellent. This suggests that some of them would have preferred to use park-and-ride access if more parking were available.



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Trip Purpose, Reasons for Using Transit and Alternate Means

Expanded Results 6:00 AM - 3:30 PM

Inbound

Trip Purposes

	Number of Riders	Percent of Riders	Cumulative Percentage
Home-based Work	2,186	45.4%	45.4%
Home-based School	342	7.1%	52.6%
Home-based Shopping	305	6.3%	58.9%
Home-based Social Activity	86	1.8%	60.7%
Home-based Personal Business	296	6.2%	66.8%
Home-based Work-related	182	3.8%	70.6%
Home-based Other	332	6.9%	77.5%
Work-based	637	13.2%	90.8%
Non Home or Work-based	444	9.2%	100.0%
TOTAL	4,810	100.0%	100.0%
No Answer	119		

Reasons for Using Transit

	Number of Riders	Percent of Riders*
Convenience	2,845	55.8%
Speed/Travel time	1,143	22.4%
Avoid driving/traffic	1,020	20.0%
Inexpensive way to travel	1,303	25.5%
Parking cost/availability	1,203	23.6%
Environmentally responsible	494	9.6%
Only transportation available	1,444	28.3%
Other	0	0.0%
TOTAL RIDERS	5,093	

Alternate Means of Transportation

	Prior to Silver Line Service		Currently		
	Number of Riders	Percent of Riders*	Number of Riders	Average Days/Week	Percent of Riders*
MBTA Bus	2,588	50.8%	1,816	4.0	35.6%
Route 49	2,036	39.9%			
Other routes	552	10.8%			
MBTA Subway	1,739	34.1%	1,096	3.0	21.5%
Orange Line	1,421	27.9%			
Other lines	317	6.2%			
Driving alone	321	6.3%	497	2.3	9.7%
Carpool/vanpool			99	1.8	1.9%
Walking	821	16.1%	824	3.0	16.1%
Not making the trip	655	12.8%			
Bicycle	0	0.0%	0		0.0%
Taxicab	0	0.0%	0		0.0%
Other	36	0.7%	7	1.0	0.1%
TOTAL RIDERS	5,093		5,093		

*Note: Percent of riders may total to more than 100 percent due to multiple responses.



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Trip Purpose, Reasons for Using Transit and Alternate Means

Expanded Results 6:00 AM - 3:30 PM

Outbound

Trip Purposes

	Number of Riders	Percent of Riders	Cumulative Percentage
Home-based Work	1,189	34.9%	34.9%
Home-based School	369	10.8%	45.8%
Home-based Shopping	197	5.8%	51.6%
Home-based Social Activity	81	2.4%	54.0%
Home-based Personal Business	297	8.7%	62.7%
Home-based Work-related	128	3.8%	66.4%
Home-based Other	264	7.8%	74.2%
Work-based	596	17.5%	91.7%
Non Home or Work-based	282	8.3%	100.0%
TOTAL	3,403	100.0%	100.0%
No Answer	58		

Reasons for Using Transit

	Number of Riders	Percent of Riders*
Convenience	2,121	59.9%
Speed/Travel time	810	22.8%
Avoid driving/traffic	845	23.8%
Inexpensive way to travel	813	22.9%
Parking cost/availability	880	24.8%
Environmentally responsible	423	11.9%
Only transportation available	855	24.1%
Other	0	0.0%
TOTAL RIDERS	3,540	

Alternate Means of Transportation

	Prior to Silver Line Service		Currently		
	Number of Riders	Percent of Riders*	Number of Riders	Average Days/Week	Percent of Riders*
MBTA Bus	1,708	48.2%	1,306	4.2	36.9%
Route 49	1,129	31.9%			
Other routes	579	16.3%			
MBTA Subway	1,252	35.3%	977	3.9	27.6%
Orange Line	1,066	30.1%			
Other lines	185	5.2%			
Driving alone	189	5.3%	215	2.8	6.1%
Carpool/vanpool			85	1.5	2.4%
Walking	508	14.3%	658	2.5	18.5%
Not making the trip	426	12.0%			
Bicycle	0	0.0%	8	1.0	0.2%
Taxicab	0	0.0%	0		0.0%
Other	3	0.1%	0		0.0%
TOTAL RIDERS	3,540		3,540		

*Note: Percent of riders may total to more than 100 percent due to multiple responses.



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Usage Rates and Fare Types

Expanded Results 6:00 AM - 3:30 PM

Inbound

Number of Days per Week Riders Use the Silver Line:

	Number of Riders	Percent of Riders	Cumulative Percentage
Less Than One	452	9.0%	9.0%
One Day	235	4.7%	13.7%
Two Days	545	10.9%	24.6%
Three Days	485	9.7%	34.2%
Four Days	461	9.2%	43.4%
Five Days	1,705	34.0%	77.4%
Six Days	452	9.0%	86.4%
Seven Days	682	13.6%	100.0%
TOTAL	5,017	100.0%	100.0%
No Answer	79		

Weekend Usage

SATURDAY USAGE	SUNDAY USAGE				Saturday Total
	Regularly	Occasionally	Not At All	No Answer	
Regularly	740 18.7%	122 3.1%	19 0.5%	265	1,146 24.0%
Occasionally	89 2.3%	1,366 34.6%	404 10.2%	434	2,293 48.1%
Not at all	0 0.0%	20 0.5%	1,191 30.1%	113	1,324 27.8%
No answer	29	94	26	178	
Sunday Total	858 20.9%	1,602 39.0%	1,640 39.9%		

Usage Rates by Fare Type

Fare Payment Type	Number of Riders	Percent of Riders	Number of Days Used per Week
Adult cash fare	1,303	26.0%	3.6
Adult monthly pass	2,345	46.8%	4.4
Senior citizen/disabled monthly pass	110	2.1%	3.9
Student monthly pass	52	1.0%	5.0
Adult weekly pass	194	3.8%	4.6
Paper transfer	239	4.7%	2.9
Senior citizen/disabled cash fare	658	13.1%	4.2
Child/student cash fare	33	0.6%	3.1
Visitor Passport	3	0.0%	5.0
Other	67	1.3%	3.2
All payment types	5,004	100.0%	4.0



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Usage Rates and Fare Types

Expanded Results 6:00 AM - 3:30 PM

Outbound

Number of Days per Week Riders Use the Silver Line:

	Number of Riders	Percent of Riders	Cumulative Percentage
Less Than One	327	9.4%	9.4%
One Day	152	4.4%	13.8%
Two Days	134	3.9%	17.7%
Three Days	402	11.6%	29.3%
Four Days	209	6.0%	35.4%
Five Days	1,313	37.9%	73.3%
Six Days	419	12.1%	85.4%
Seven Days	505	14.6%	100.0%
TOTAL	3,461	100.0%	100.0%
No Answer	79		

Weekend Usage

SATURDAY USAGE	SUNDAY USAGE				Saturday Total
	Regularly	Occasionally	Not At All	No Answer	
Regularly	583 21.0%	114 4.1%	1 0.0%	181	879 26.3%
Occasionally	72 2.6%	862 31.0%	210 7.6%	280	1,424 42.6%
Not at all	0 0.0%	7 0.3%	926 33.3%	101	1,034 30.9%
No answer	9	42	41	107	
Sunday Total	664 23.1%	1,025 35.7%	1,178 41.0%		

Usage Rates by Fare Type

Fare Payment Type	Number of Riders	Percent of Riders	Number of Days Used per Week
Adult cash fare	970	28.0%	3.7
Adult monthly pass	1,633	47.1%	4.5
Senior citizen/disabled monthly pass	148	4.2%	5.3
Student monthly pass	120	3.4%	6.1
Adult weekly pass	90	2.5%	6.0
Paper transfer	168	4.8%	3.9
Senior citizen/disabled cash fare	230	6.6%	3.8
Child/student cash fare	46	1.3%	5.0
Visitor Passport	0	0.0%	
Other	56	1.6%	0.0
All payment types	3,461	100.0%	4.3



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Access to the Silver Line

Expanded Results 6:00 AM - 3:30 PM

Inbound

Access Mode to this Bus:	Number of Riders	Percent of Riders
Walk	2,807	55.5%
Park 'n' ride	432	8.5%
Drop off	78	1.5%
Bicycle	0	0.0%
Taxicab	0	0.0%
Other	17	0.3%
Total private trans	3,334	66.0%
MBTA Bus	1,718	34.0%
Rapid Transit	3	0.1%
Commuter rail	0	0.0%
Other transit	0	0.0%
Total public trans.	1,721	34.0%
TOTAL	5,055	100.0%
No Answer	38	

Bus Transfers from Connecting Routes:	Number of Riders	Percent of Riders	
	23	356	7.0%
	28	215	4.3%
	66	208	4.1%
	44	199	3.9%
	45	187	3.7%
	15	142	2.8%
	14	131	2.6%
	42	99	2.0%
	41	63	1.2%
	1	38	0.8%
	47	27	0.5%
	9	12	0.2%
	19	8	0.2%
	8	5	0.1%
Remaining specified			
Unspecified		23	0.5%
TOTAL		1,715	33.9%

Bus Transfers from Non-Connecting Routes:	Number of Riders	Percent of Riders	
	276	3	0.1%
Other			
TOTAL		3	0.1%



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Access to the Silver Line

Expanded Results 6:00 AM - 3:30 PM

Outbound

Access Mode to this Bus:	Number of Riders	Percent of Riders
Walk	2,183	62.4%
Park 'n' ride	0	0.0%
Drop off	28	0.8%
Bicycle	0	0.0%
Taxicab	0	0.0%
Other	0	0.0%
Total private trans	2,211	63.3%
MBTA Bus	23	0.7%
Rapid Transit	1,249	35.7%
Commuter rail	0	0.0%
Other transit	11	0.3%
Total public trans.	1,283	36.7%
TOTAL	3,494	100.0%
No Answer	48	

Bus Transfers from Connecting Routes:	Number of Riders	Percent of Riders
11	4	0.1%
Remaining specified		
Unspecified		
TOTAL	4	0.1%

Bus Transfers from Non-Connecting Routes:	Number of Riders	Percent of Riders
459	13	0.4%
428	3	0.1%
354	3	0.1%
Other		
TOTAL	19	0.5%



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Egress from the Silver Line

Expanded Results 6:00 AM - 3:30 PM

Inbound

Egress Mode from this Bus:	Number of Riders	Percent of Riders
Walk	3,877	76.7%
Park 'n' ride	0	0.0%
Pick up	14	0.2%
Bicycle	0	0.0%
Taxicab	0	0.0%
Other	8	0.1%
Total private trans.	3,899	77.2%
MBTA Bus	157	3.1%
Rapid Transit	997	19.7%
Commuter rail	0	0.0%
Other transit	0	0.0%
Total public trans.	1,154	22.8%
TOTAL	5,053	100.0%
No Answer	42	

Bus Transfers to Connecting Routes:	Number of Riders	Percent of Riders	
	9	49	1.0%
	8	31	0.6%
	1	14	0.3%
	11	13	0.3%
	93	2	
Remaining specified			
Unspecified		38	0.8%
TOTAL		148	2.9%

Bus Transfers to Non-Connecting Routes:

	7	2	
	501	2	
	553	2	
	554	2	
Other			
TOTAL		8	0.2%



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Egress from the Silver Line

Expanded Results 6:00 AM - 3:30 PM

Outbound

Egress Mode from this Bus:

	Number of Riders	Percent of Riders
Walk	2,338	66.0%
Park 'n' ride	110	3.1%
Pick up	1	0.0%
Bicycle	0	0.0%
Taxicab	0	0.0%
Other	1	0.0%
Total private trans.	2,450	69.2%
MBTA Bus	1,090	30.8%
Rapid Transit	0	0.0%
Commuter rail	0	0.0%
Other transit	0	0.0%
Total public trans.	1,090	30.8%
TOTAL	3,540	100.0%
No Answer	0	

Bus Transfers to Connecting Routes:

	Number of Riders	Percent of Riders
Walk	23	6.0%
Park 'n' ride	28	5.8%
Pick up	66	3.9%
Bicycle	15	3.0%
Taxicab	19	2.0%
Other	14	1.8%
Total private trans.	1	1.8%
MBTA Bus	45	1.4%
Rapid Transit	42	1.0%
Commuter rail	8	0.8%
Other transit	44	0.7%
Total public trans.	47	0.7%
TOTAL	41	0.4%
Remaining specified		
Unspecified	53	1.5%
TOTAL	1,091	30.8%

Bus Transfers to Non-Connecting Routes:

Other
TOTAL



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Origin Locations and Activities

Expanded Results 6:00 AM - 3:30 PM

Inbound

LOCATIONS			ACTIVITIES							
City/Town/Neighborhood	Total Riders	Pct. of Riders	Home	School	Work	Pers. Bus.	Work Rel.	Shop-ping	Social/ Rec.	Other/ Unknown
Boston: South End	2,196	43.7%	73.5%	1.4%	12.0%	4.6%	2.8%	1.3%	1.4%	3.0%
Boston: Roxbury	1,761	35.0%	66.9%	7.1%	10.0%	1.7%	3.1%	5.6%	0.9%	4.7%
Boston: South Dorchester	369	7.3%	60.0%	8.5%		9.1%	1.1%			21.2%
Boston: North Dorchester	198	3.9%	95.1%	2.8%						2.1%
Boston: Jamaica Plain	121	2.4%	30.7%	4.6%	35.3%	29.4%				
Boston: Mattapan	85	1.7%	69.2%	6.5%				6.5%		17.9%
Boston: Roslindale	51	1.0%	100.0%							
Brockton	40	0.8%	100.0%							
Boston: Park Square	33	0.7%	45.5%		50.7%	3.9%				
Cambridge: Kendall/MIT	27	0.5%	100.0%							
Brookline: Unspecified	27	0.5%	100.0%							
Milton	16	0.3%	100.0%							
Quincy	16	0.3%	100.0%							
Boston: Allston/Brighton	16	0.3%	100.0%							
Boston: BU-Fenway-Longwood	15	0.3%	26.8%			73.2%				
Plymouth	12	0.2%	100.0%							
Randolph	12	0.2%	62.5%	37.5%						
Boston: South Boston	12	0.2%	100.0%							
Newton	6	0.1%	100.0%							
Boston: Unspecified southeast	5	0.1%	100.0%							
Boston: Hyde Park	4	0.1%	100.0%							
Dedham	2		100.0%							
Boston: East Boston	1			100.0%						
TOTAL	5,023	100.0%	70.8%	4.2%	9.9%	4.2%	2.4%	2.6%	0.9%	4.9%

Unknown 70



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Origin Locations and Activities

Expanded Results 6:00 AM - 3:30 PM

Outbound

LOCATIONS			ACTIVITIES							
City/Town/Neighborhood	Total Riders	Pct. of Riders	Home	School	Work	Pers. Bus.	Work Rel.	Shop-ping	Social/ Rec.	Other/ Unknown
Boston: South End	1,062	30.6%	59.4%	5.5%	12.0%	12.2%		0.1%		10.7%
Boston: Financial-Retail	484	13.9%	8.2%	2.0%	44.5%		21.5%	20.2%	1.7%	1.7%
Boston: Park Square	298	8.6%	21.6%	7.6%	14.0%	24.9%	16.3%		2.4%	13.2%
Boston: Government Center	219	6.3%	9.1%	6.3%	31.1%	9.5%	27.1%	7.1%		9.9%
Boston: Unspecified downtown	131	3.8%	18.7%	7.7%	23.4%		36.7%	7.6%		5.9%
Malden	129	3.7%	83.3%		16.7%					
Boston: North End	91	2.6%	54.0%		20.6%		8.7%		4.4%	12.2%
Revere	65	1.9%	98.5%	1.5%						
Somerville: Davis Square	55	1.6%	100.0%							
Boston: Charlestown	54	1.6%	69.3%	1.9%					28.9%	
Cambridge: Harvard Square	52	1.5%	100.0%							
Medford	51	1.5%	100.0%							
Boston: Beacon Hill	49	1.4%	76.7%		23.3%					
Boston: North Dorchester	48	1.4%	82.1%	17.9%						
Cambridge: North Cambridge	43	1.2%	100.0%							
Boston: Unspecified	36	1.0%	45.4%							54.6%
Boston: BU-Fenway-Longwood	32	0.9%	26.2%	24.9%	26.2%	22.7%				
Boston: Waterfront	32	0.9%			87.6%	12.4%				
Somerville: Unspecified	31	0.9%	100.0%							
Boston: South Boston	28	0.8%	100.0%							
Boston: Allston/Brighton	26	0.7%	42.0%	31.8%			26.2%			
Boston: East Boston	25	0.7%	100.0%							
Weymouth	23	0.7%	100.0%							
Cambridge: Unspecified	23	0.7%			100.0%					
Boston: Logan Airport	22	0.6%								100.0%
Other	365	10.5%	75.8%	2.3%	14.9%	0.6%		4.7%		1.7%
TOTAL	3,476	100.0%	49.9%	4.3%	18.7%	6.9%	7.9%	4.1%	1.0%	7.2%
Unknown	64									



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Destination Locations and Activities

Expanded Results 6:00 AM - 3:30 PM

Inbound

LOCATIONS			ACTIVITIES							
City/Town/Neighborhood	Total Riders	Pct. of Riders	Home	School	Work	Pers. Bus.	Work Rel.	Shopping	Social/ Rec.	Other/ Unknown
Boston: South End	1,191	23.9%	20.4%	4.4%	43.8%	13.6%		4.9%	4.3%	8.5%
Boston: Financial-Retail	930	18.6%	0.2%	5.8%	60.7%	4.8%	5.5%	17.7%		5.3%
Boston: Park Square	664	13.3%	0.6%	14.2%	48.1%	12.2%	1.9%	8.6%	1.8%	12.7%
Boston: Unspecified downtown	542	10.9%	15.5%	7.7%	17.3%	2.8%	2.3%	26.1%		28.2%
Boston: Government Center	335	6.7%	2.4%	2.6%	59.1%	6.9%	15.4%	1.9%		11.7%
Boston: Waterfront	187	3.8%			75.6%	3.4%	13.1%			7.9%
Boston: Roxbury	144	2.9%	13.1%		8.3%		18.5%	7.7%	7.7%	44.7%
Boston: Beacon Hill	83	1.7%			36.0%	41.6%	9.2%			13.2%
Boston: South Boston	82	1.6%	16.0%		45.6%					38.3%
Boston: North End	77	1.5%			82.6%	7.1%	10.3%			
Cambridge: Kendall/MIT	76	1.5%	11.2%		88.8%					
Cambridge: Harvard Square	68	1.4%			36.5%	18.0%	28.3%		17.2%	
Boston: Back Bay	57	1.2%		11.0%	89.0%					
Boston: Charlestown	46	0.9%	15.3%	43.2%	32.5%					9.1%
Brookline: Unspecified	45	0.9%	21.7%		58.4%			19.8%		
Malden	42	0.8%	79.3%						20.7%	
Boston: BU-Fenway-Longwood	39	0.8%	3.2%	16.1%	66.2%	14.5%				
Cambridge: Central Square	39	0.8%			34.4%		65.6%			
Boston: Unspecified	37	0.7%	8.1%		67.5%					24.4%
Boston: North Dorchester	31	0.6%		28.9%	71.1%					
Quincy	30	0.6%		93.0%	7.0%					
Ayer	27	0.5%	100.0%							
Boston: Logan Airport	25	0.5%			48.2%					51.8%
Somerville: Davis Square	20	0.4%	27.3%		15.1%			57.7%		
Boston: Prudential	19	0.4%			77.3%				6.8%	15.9%
Other	155	3.1%	41.4%	6.1%	37.6%	9.4%	3.6%			1.9%
TOTAL	4,992	100.0%	10.7%	6.6%	47.0%	8.1%	4.9%	9.2%	1.9%	11.6%
Unknown	101									



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Destination Locations and Activities

Expanded Results 6:00 AM - 3:30 PM

Outbound

LOCATIONS			ACTIVITIES							
City/Town/Neighborhood	Total Riders	Pct. of Riders	Home	School	Work	Pers. Bus.	Work Rel.	Shop-ping	Social/ Rec.	Other/ Unknown
Boston: South End	1,641	46.4%	21.4%	8.6%	48.3%	8.5%	0.7%	1.7%	1.7%	9.2%
Boston: Roxbury	1,242	35.1%	29.4%	10.2%	26.6%	6.9%	3.3%	9.1%	3.9%	10.6%
Boston: South Dorchester	188	5.3%	32.9%		35.0%	4.9%		5.3%	10.4%	11.5%
Boston: North Dorchester	150	4.2%	29.8%	12.5%	11.0%	10.0%	20.5%	16.1%		
Boston: BU-Fenway-Longwood	131	3.7%	10.6%	28.9%	27.3%	27.8%				5.4%
Boston: Mattapan	60	1.7%	65.8%				34.2%			
Boston: Roslindale	55	1.6%	100.0%							
Boston: Unspecified	26	0.7%	3.9%	3.9%	84.4%	3.9%				3.9%
Boston: Unspecified southeast	19	0.5%		100.0%						
Boston: Park Square	14	0.4%	50.0%							50.0%
Boston: Jamaica Plain	9	0.3%	11.0%			89.0%				
Dedham	1								100.0%	
TOTAL	3,534	100.0%	26.6%	9.7%	35.7%	8.3%	2.9%	5.0%	2.7%	9.0%

Unknown

5



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Socioeconomic Data

Expanded Results 6:00 AM - 3:30 PM

Inbound

Age of Riders:

	Number of Riders	Percent of Riders	Cumulative Percentage
17 and Under	73	1.5%	1.5%
18 - 24	626	12.6%	14.1%
25 - 34	1,195	24.1%	38.2%
35 - 44	1,094	22.1%	60.3%
45 - 64	1,504	30.4%	90.7%
65 and Older	460	9.3%	100.0%
TOTAL	4,952	100.0%	100.0%
No Answer	142		

Gender of Riders:

	Number of Riders	Percent of Riders
Male	1,850	40.5%
Female	2,715	59.4%
Other	0	0.0%
TOTAL	4,565	100.0%
No Answer	528	

Annual Household Incomes of Riders:

	Number of Riders	Percent of Riders	Cumulative Percentage
Under \$20,000	1,459	34.1%	34.1%
\$20,000 - \$29,999	601	14.0%	48.1%
\$30,000 - \$39,999	556	13.0%	61.1%
\$40,000 - \$59,999	576	13.4%	74.5%
\$60,000 - \$79,999	431	10.1%	84.6%
Over \$80,000	661	15.4%	100.0%
TOTAL	4,284	100.0%	100.0%
No Answer	809		
Mean Household Size	2.46		



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Socioeconomic Data

Expanded Results 6:00 AM - 3:30 PM

Outbound

Age of Riders:

	Number of Riders	Percent of Riders	Cumulative Percentage
17 and Under	198	5.8%	5.8%
18 - 24	337	9.8%	15.6%
25 - 34	765	22.3%	37.9%
35 - 44	923	26.9%	64.9%
45 - 64	1,013	29.6%	94.5%
65 and Older	190	5.5%	100.0%
TOTAL	3,426	100.0%	100.0%
No Answer	113		

Gender of Riders:

	Number of Riders	Percent of Riders
Male	1,370	43.0%
Female	1,805	56.7%
Other	4	0.1%
TOTAL	3,181	100.0%
No Answer	358	

Annual Household Incomes of Riders:

	Number of Riders	Percent of Riders	Cumulative Percentage
Under \$20,000	768	26.3%	26.3%
\$20,000 - \$29,999	324	11.1%	37.4%
\$30,000 - \$39,999	545	18.7%	56.1%
\$40,000 - \$59,999	459	15.7%	71.8%
\$60,000 - \$79,999	367	12.6%	84.4%
Over \$80,000	456	15.6%	100.0%
TOTAL	2,919	100.0%	100.0%
No Answer	621		
Mean Household Size	2.65		



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Automobile Availability Data

Expanded Results 6:00 AM - 3:30 PM

Inbound

Licensed Drivers:

	Number of Riders	Percent of Riders
Licensed	3,304	67.1%
Not Licensed	1,622	32.9%
TOTAL	4,926	100.0%
No Answer	168	

Riders with Automobiles Available for Trip:

	Number of Riders	Percent of Riders
Auto Available	1,714	35.0%
No Auto Available	3,180	65.0%
TOTAL	4,894	100.0%
No Answer	199	



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Automobile Availability Data

Expanded Results 6:00 AM - 3:30 PM

Outbound

Licensed Drivers:

	Number of Riders	Percent of Riders
Licensed	2,169	62.5%
Not Licensed	1,303	37.5%
TOTAL	3,472	100.0%
No Answer	68	

Riders with Automobiles Available for Trip:

	Number of Riders	Percent of Riders
Auto Available	1,193	34.4%
No Auto Available	2,275	65.6%
TOTAL	3,468	100.0%
No Answer	72	



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Customer Service Data

Expanded Results 6:00 AM - 3:30 PM

Inbound

Service Quality	Mean	Poor	Below Average	Average	Above Average	Excellent	Total	No Answer	Importance*
Reliability	2.9	18.5%	17.0%	32.3%	16.6%	15.6%	4,565	529	979
Personal safety	3.3	6.2%	10.9%	38.6%	31.5%	12.8%	4,321	773	404
Cleanliness of vehicles	3.2	7.5%	15.3%	37.4%	29.9%	9.9%	4,548	546	275
Courtesy of drivers	3.1	12.1%	17.0%	33.9%	27.0%	9.9%	4,601	493	199
Announcement of stops	3.7	4.8%	10.2%	21.9%	31.4%	31.7%	4,590	503	71
Availability of seating	3.0	13.0%	14.7%	39.2%	22.6%	10.4%	4,551	543	147
Frequency of service	3.1	15.0%	16.3%	31.6%	21.7%	15.3%	4,635	459	713
Travel time/Directness	3.2	14.5%	12.0%	28.4%	26.7%	18.5%	4,479	615	386
Parking availability	2.9	22.7%	11.0%	34.4%	15.9%	16.0%	2,321	2,773	21
Shelter amenities	3.0	13.1%	15.3%	37.3%	23.8%	10.4%	3,570	1,523	28
New fare collection system	1.7	65.2%	12.7%	12.1%	4.1%	5.8%	4,520	574	393

*The number of respondents who indicated that this service quality measure was one of the three most important to them. Many respondents checked no measures while others checked more than three.



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Customer Service Data

Expanded Results 6:00 AM - 3:30 PM

Outbound

Service Quality	Mean	Poor	Below Average	Average	Above Average	Excellent	Total	No Answer	Importance*
Reliability	3.0	17.0%	17.2%	29.4%	23.8%	12.6%	3,037	503	613
Personal safety	3.5	3.8%	11.5%	36.6%	29.2%	18.9%	2,949	591	227
Cleanliness of vehicles	3.3	5.9%	14.0%	36.7%	28.6%	14.9%	3,083	457	196
Courtesy of drivers	3.2	13.0%	13.9%	32.6%	24.0%	16.6%	3,113	427	190
Announcement of stops	3.7	8.7%	7.1%	22.2%	30.8%	31.1%	3,087	453	50
Availability of seating	3.3	10.7%	14.4%	29.2%	28.1%	17.6%	3,022	518	149
Frequency of service	3.2	9.9%	15.1%	31.9%	28.1%	14.9%	3,133	407	365
Travel time/Directness	3.4	9.1%	11.1%	30.4%	27.5%	21.9%	3,048	492	215
Parking availability	3.1	17.4%	13.3%	31.9%	19.7%	17.8%	1,808	1,732	5
Shelter amenities	3.2	10.8%	13.5%	38.1%	24.7%	12.9%	2,476	1,064	4
New fare collection system	2.0	54.0%	15.7%	16.5%	7.1%	6.7%	2,964	576	101

*The number of respondents who indicated that this service quality measure was one of the three most important to them. Many respondents checked no measures while others checked more than three.



MBTA Silver Line Washington St. Survey

2005 Passenger Survey

Customer Service Data

Expanded Results 6:00 AM - 3:30 PM

Both Directions

Service Quality	Mean	Poor	Below Average	Average	Above Average	Excellent	Total	No Answer	Importance*
Reliability	3.0	17.9%	17.0%	31.1%	19.5%	14.4%	7,602	1,032	1,592
Personal safety	3.4	5.2%	11.1%	37.8%	30.6%	15.3%	7,270	1,364	631
Cleanliness of vehicles	3.2	6.8%	14.8%	37.1%	29.4%	11.9%	7,630	1,004	471
Courtesy of drivers	3.1	12.5%	15.8%	33.4%	25.8%	12.6%	7,714	920	389
Announcement of stops	3.7	6.4%	9.0%	22.0%	31.2%	31.4%	7,677	957	121
Availability of seating	3.1	12.1%	14.6%	35.2%	24.8%	13.3%	7,573	1,061	296
Frequency of service	3.1	13.0%	15.9%	31.8%	24.3%	15.1%	7,768	866	1,079
Travel time/Directness	3.3	12.3%	11.6%	29.2%	27.0%	19.9%	7,527	1,107	601
Parking availability	3.0	20.3%	12.0%	33.3%	17.5%	16.8%	4,129	4,505	26
Shelter amenities	3.1	12.1%	14.6%	37.6%	24.2%	11.4%	6,046	2,588	32
New fare collection system	1.8	60.8%	13.9%	13.9%	5.3%	6.2%	7,484	1,150	494

*The number of respondents who indicated that this service quality measure was one of the three most important to them. Many respondents checked no measures while others checked more than three.



Silver Line Waterfront

2.1 INTRODUCTION

Service on the Waterfront branches of the MBTA's Silver Line bus rapid transit system began in stages in December 2004. All-day passenger counts were conducted on these routes during the spring of 2005 and again during the spring of 2006. During May, June, and July 2006, CTPS conducted surveys of passengers on all Silver Line Waterfront routes. Following the strategies of previous surveys on the MBTA's rapid transit and bus systems, survey forms were distributed on trips in both directions between 6:00 AM and 3:30 PM on weekdays. Past passenger counts and surveys indicated that the majority of riders using MBTA services on a given day made round-trips, and that most of them made at least one leg of their round-trip prior to 3:30 PM. Therefore, the distribution strategy made survey forms available to most riders on their initial trips and minimized the number of riders offered more than one survey form during the day.

The questions on the Silver Line Waterfront survey forms were similar to those on surveys used previously for passengers on the Silver Line Washington Street route and other MBTA modes (a copy of the survey form is provided in Appendix B). The survey results were entered in computerized databases, from which they can be summarized in a variety of standard reports, or in customized reports on request. The results of the 2006 survey are presented in Sections 2.4 through 2.11, below. For purposes of discussion, the results are grouped in the same way as they are in the standard-format tables, located at the end of this chapter, but some of the findings are based on an examination of the data at finer levels of detail than appear in these tables. In general, the tables for the 2006 survey results contain the same kinds of information as the tables for the earlier surveys. However, because of a change in the program used to generate the reports, some of the presentation formats have also changed.

For many of the survey questions, responses differed between inbound and outbound riders. In addition, in each direction there were differences in responses between passengers with outer stops in South Boston and those with outer stops at Logan International Airport. Therefore, results for many of the

questions have been summarized separately by outer stop group as well as by direction.

Section 2.2 provides a general description of the Silver Line Waterfront routes as they were configured when the surveys were conducted. Section 2.3 describes the methods used to expand the survey results to match passenger count totals. In the expanded survey results, the largest group was outbound trips to stops in South Boston, at 3,628. The second-largest ridership group was outbound trips to stops at Logan Airport, at 901. The third-largest ridership group was inbound trips from stops in South Boston, at 647. The smallest ridership group was inbound trips from stops at Logan Airport, at 443.

2.2 SILVER LINE WATERFRONT DESCRIPTION

When the 2006 passenger survey was conducted, Silver Line Waterfront service included three routes. These were SL1 (Logan Airport–South Station), SL2 (Boston Marine Industrial Park–South Station), and SL3 (City Point–South Station via Boston Marine Industrial Park). All three routes shared an exclusive transitway, partly in a tunnel, from South Station to Silver Line Way in South Boston. From there, they each ran on public roads to their respective outer terminals. Route SL3 trips looped through the Boston Marine Industrial Park (BMIP) only on trips leaving South Station outbound before 12:00 noon or leaving City Point inbound starting at 11:56 AM. Route SL2 served the BMIP loop at all times. Additional short-turn service on the shared segment between Silver Line Way and South Station was operated before 10:00 AM and after 4:00 PM on weekdays.

All Silver Line Waterfront service was provided with dual-mode vehicles that were operated with electric power from overhead wires while on the transitway, and by diesel engines between Silver Line Way and the outer terminals.

2.3 SURVEY WEIGHTING METHOD

The 2006 survey distribution strategy was designed to make survey forms available to all passengers riding the Silver Line Waterfront routes during the hours covered, but as in past survey efforts, not all passengers who were offered forms took them, and not all who took them filled them out. Counts taken around the same time as the 2006 survey distribution showed that about 6,050 passengers boarded vehicles on the Silver Line Waterfront routes between 6:00 AM and 3:30 PM on a composite weekday. The survey effort yielded a total of 702 forms that were sufficiently complete to include in the database, equivalent to an 11.6% sample. (For comparison, the most recent survey on the Silver Line Washington Street route yielded a 12.0% sample.)

As in the case of other MBTA surveys, the actual responses to the Silver Line surveys were factored up to the typical ridership total during the survey span. If a uniform expansion factor had been used for the 2006 survey, all results would have been multiplied by 8.62. However, more detailed analysis of the

returns showed that, as in past surveys, response rates varied by time of day and by length of trip. Passengers making longer trips have more time than passengers making shorter trips to fill out forms and return them to on-board or in-station collectors. Also, passengers making repetitive trips during peak hours are somewhat more inclined to complete surveys than are passengers making discretionary trips in off-peak hours.

To account for differences in response rates, the method used to calculate expansion factors for the Silver Line Waterfront survey was similar to that used for the Silver Line Washington Street surveys. Usable returned surveys were first subdivided into inbound and outbound trips. Next, these were further divided into boardings on trips departing their terminals in three time intervals: 6:00 to 8:29 AM, 8:30 to 11:59 AM, and noon to 3:30 PM. (Surveys indicating boarding times before 6:00 AM were included in the first interval, and forms showing boarding times after 3:30 PM were included in the third interval.) This resulted in a total of six subgroups, each defined by a direction and a time interval. Within each subgroup an iterative process was used to weight forms so that the expanded boarding and alighting totals at each stop would equal as nearly as possible the spring passenger counts for the survey year in the same time interval.

In cases where there were no survey responses for boardings or for alightings at a stop where the counts showed activity, composite factors for two or three consecutive stops in the same neighborhood were used. For example, the first two inbound stops after City Point on Route SL3 are at East First Street opposite M Street and at Summer Street opposite Powerhouse Street. In the time interval 6:00 to 8:29 AM, the 2006 passenger counts showed three inbound boardings at City Point, four at M Street, and two at Powerhouse Street, or a total of nine. For the same time span, there were two survey responses from passengers boarding at City Point, but none from passengers boarding at the next two stops. Using expansion factors for individual stops, the City Point responses would have been weighted at $3/2 = 1.5$, but the expanded survey total for the three stops combined would have been six less than the boarding count total because the boardings at M Street and Powerhouse Street would not have been accounted for. To compensate for this, the City Point boarding surveys were weighted by the combined boarding counts there and at the next two stops, making the expansion factor $(3+4+2)/2 = 4.5$

Composite factors were also used in cases where the response rate for an individual boarding or alighting stop was so low that a very large expansion factor would have been required. Large expansion factors can produce misleading results for some questions. For example, in question 4b, which asked for the town of the trip origin, if a lone survey respondent happens to be the only person from that town using the service, a large expansion factor would imply much more demand than actually exists for connections from that town. In some cases, very large expansion factors were avoided by using

composite factors for the same boarding stop for two or all three of the time intervals in the survey day.

The passenger counts showed that during the overall survey span, 97% of the outbound boardings and 94% of the inbound alightings occurred at South Station. The survey weight factors were based initially on passenger count totals at the alighting points for outbound surveys and at the boarding points for inbound surveys. Some further adjustments were made in cases where these values would have resulted in large discrepancies between count totals and expanded survey totals for outbound ons or inbound offs at stops other than South Station. At Logan Airport, Route SL1 makes five stops, but many of the survey responses from passengers going to or from these stops did not specify which one was used. Because of this, results from all airport stops were combined within each time period when the weight factors were calculated.

Every survey in the database was given a weight of at least 1.0. The largest expansion factor given any individual survey was 22.8, or 2.6 times as great as the average factor of 8.6, but only 9.1% of all surveys were expanded by more than twice the average. (For comparison, some records were weighted by factors of up to 39.9 in the 2005 Silver Line Washington Street survey, and by factors of up to 120 in the 1995 systemwide bus survey.) The most heavily weighted 2006 surveys did not include enough uncommon origin or destination neighborhoods to result in unrealistic distribution summaries.

2.4 TRIP PURPOSE, REASONS FOR USING THE SILVER LINE, AND ALTERNATIVE MEANS OF TRANSPORTATION

2.4.1 TRIP PURPOSE

Survey question 4a asked passengers where they were before starting the trips on which the survey forms were received, and question 8a asked where they would be at the ends of their trips. The check-off choices for both questions were: home, school, work, a store, the doctor or other personal business, a work-related errand or meeting, a restaurant or social or recreational activity, the airport, or “other” (with write-in space provided). As in the case of previous MBTA surveys, the standard summary tables of Silver Line Waterfront trip purposes classify all trips either starting or ending at home as “home-based.” Trips between work and any location other than home are classified as “work-based.” Trips with specified activities other than home or work at both ends are classified as “non-home/non-work-based.” Trips for which there was no response to either question 4a, question 8a, or both are classified as “no answer.”

The category “at the airport” was intended to be checked by passengers going to or from the airport for reasons not included in one of the other categories, mostly to connect to or from flights. For example, passengers going to work at the airport should have checked “work” rather than “at the airport.” In editing the survey results, responses were cross-checked for consistency with other information, such as trip frequency and fare-payment method. Because of

significant differences between the characteristics of trips to and from South Boston stops and trips to and from the airport, the results were summarized separately.

Outbound Trips to South Boston

Among passengers in this group reporting trip activity at both the origin and destination, home-based work trips accounted for the great majority of trip purposes, at 85.8% (2,978). This was nearly twice the percentage of inbound riders from the South Boston stops. (It would be expected that if the surveys had all been conducted after 3:30 PM instead of before then, the inbound and outbound percentages would have been reversed.) The only other trip purpose accounting for more than 2.5% of the trips within this group was work-based trips, at 8.7% (300).

Outbound Trips to Logan Airport

Among passengers in this group, the largest trip-purpose share was home-based airport trips, at 39.0% (351). Trips not based either at home or at work were second, at 22.8% (205). These were mostly made by visitors to the Boston area about to depart Logan by air. (For purposes of analysis, trips by airline passengers were categorized as beginning or ending at the airport, even if the activity at the other end of the air trip was specified on the survey form.) Home-based work trips were third, at 20.7% (187). These consisted mostly of passengers going to work at the airport, but also included a few continuing beyond to work locations elsewhere in East Boston. Work-based airport trips were fourth, at 12.3% (111).

Inbound Trips from South Boston

Among passengers in this group reporting trip activity at both the origin and destination, the largest specified trip-purpose category was home-based work trips, at 43.1% (368). This was very similar to the 45.4% of inbound Silver Line Washington Street riders in 2005. The land use around the most heavily used South Boston stops on the Silver Line Waterfront routes is predominantly non-residential. Consequently, on the inbound surveys, many of the home-based trips were reported by passengers returning home rather than by passengers starting from home. Trips starting from home were accounted for largely by suburban residents who drove to parking lots in South Boston and took the Silver Line to work in downtown Boston. Residents of converted factories and warehouses in the vicinity of Courthouse Station also accounted for some home-based trips.

The second-largest inbound trip-purpose category from the South Boston stops was work-based non-airport trips, at 35.4% (303). This was much greater than the 13.2% found for inbound Washington Street trips in 2005. The only other trip purpose accounting for more than 4.0% of the inbound South Boston boardings was home-based social or recreational activity, at 6.4% (55).

Inbound Trips from Logan Airport

The largest specified trip-purpose category among passengers in this group was home-based airport trips, at 34.4% (213). These were made mostly by passengers returning home after arriving at Logan by air. Trips that did not begin or end at home or work were second, at 25.6% (159). These were mostly made by visitors to the Boston area after arriving at Logan by air. Home-based work trips were third, at 15.0% (93). These included a combination of passengers going to work from homes in East Boston and passengers returning home from work at the airport. Work-based airport trips were fourth, at 15.8% (98), consisting of passengers going to work after arriving at Logan by air.

2.4.2 REASONS FOR RIDING SILVER LINE WATERFRONT

Survey question 19 provided a list of seven reasons for using Silver Line Waterfront service, plus “other” (for which write-in space was provided). Passengers were asked to check as many of these reasons as applied to them.

Convenience

As in many other MBTA surveys, the reason most often cited by Silver Line Waterfront riders for using the service was “convenience.” This was checked by 84.0% of the inbound riders and 69.1% of outbound riders. For comparison, in the 2005 Silver Line Washington Street survey convenience was cited by 55.8% of the inbound riders inbound and by 59.9% of outbound riders. Further breakdowns of the Waterfront survey responses show that among inbound riders, the highest rating for convenience was given by those boarding at stops in South Boston, at 88.5%. Among those boarding at the airport with airline origins, convenience was cited by 79.6%, and among others boarding at the airport stops it was 73.1%. The outbound surveys showed much smaller differences between groups in the percentages citing convenience, at 68.8% of those going to South Boston stops, 70.2% of those going to the airport for airline connections, and 69.7% of those going to the airport for other reasons.

Avoid Driving/Traffic

Beyond convenience, there was less agreement among groups of riders on reasons for using Silver Line Waterfront service. (Because the instructions asked passengers to check as many reasons as applied, the totals of percentages for all reasons were well over 100%.) Overall, “avoid driving/traffic” was the second-most-frequently cited reason, at 49.4% among outbound riders and 46.7% among inbound riders. Among subgroups, it was cited most frequently by passengers going to Logan Airport for air connections (63.9%) and by non-air passengers coming from Logan (62.0%). It was least important among outbound riders destined for South Boston stops (36.9%).

Speed/Travel Time

“Speed/travel time” was cited by the third-largest number of survey respondents overall, at 41.5% outbound and 45.1% inbound (the latter being

slightly behind “inexpensive way to travel”). Among subgroups, it was cited most frequently by non-air passengers going to Logan stops (53.1%) and least frequently by inbound passengers boarding at South Boston stops (42.4%).

Inexpensive Way to Travel

“Inexpensive way to travel” was fourth in the frequency of check-offs among outbound riders (37.3%) and third among inbound riders (45.7%). Among subgroups, it was cited most frequently by air passengers coming from Logan stops (68.6%) or going to Logan stops (65.8%). For many of these riders, the basis of comparison for expense would have been taxis, limousines, or shuttle services. “Inexpensive” was cited least often by inbound passengers boarding at South Boston stops (31.2%) and by outbound passengers going to South Boston stops (31.3%). For many of the South Boston passengers, the basis of comparison would have been MBTA local bus routes, free shuttles that were discontinued after the Silver Line opened, or walking.

Environmentally Responsible

“Environmentally responsible” was fifth in the frequency of check-offs among riders in both directions, at 32.8% inbound and 28.6% outbound. The highest percentages came from air passengers boarding at Logan (43.3%) or alighting at Logan (41.8%). The lowest percentages came from outbound passengers going to South Boston stops (25.5%) and inbound passengers boarding at South Boston stops (28.4%). Many of the South Boston passengers could have walked as an alternative to the Silver Line portions of their trips.

Parking Cost/Availability

“Parking cost/availability” ranked sixth among reasons for using Silver Line Waterfront service, at 28.7% inbound and 23.7% outbound. Very few passengers accessed this service by driving directly to it. Presumably, most respondents who checked this reason meant that the cost or availability of parking as an alternative to, rather than in conjunction with, the Silver Line influenced their travel choices. This reason was cited most often by air passengers boarding at Logan stops (41.1%). Among them, Logan was most often at the home end of the air trip, so leaving a car parked there would have been an alternative to using the Silver Line. In contrast, parking cost/availability was of least concern to non-air passengers alighting at Logan (11.4%).

Only Transportation Available

Least-often checked among the seven listed reasons for using Silver Line Waterfront service was “only transportation available,” at 21.2% outbound and 17.5% inbound. This indicates that the majority of riders chose this service over other alternatives that they could have used. Among subgroups, the highest percentage checking “only transportation available” came from outbound passengers going to South Boston stops (24.2%), and the lowest

percentage came from non-air passengers boarding at Logan (7.6%). Of the respondents that checked “only transportation available,” only 32.2% outbound and 17.9% inbound also reported that they had not made the same trips before the Waterfront service started. However, the largest shares of those who had previously made the same trips formerly used local MBTA bus routes or private shuttles that were discontinued after the Waterfront service started.

Other

Only 5.7% of outbound riders and 2.6% of inbound riders indicated that they used Silver Line Waterfront service for “other” reasons (reasons other than the seven on the checklist). The other reasons most frequently specified in the space provided included bad weather, listed by some who would otherwise have walked, and temporary closing of the I-90 tunnels, listed by some passengers going to or from Logan.

2.4.3 PRIOR ALTERNATIVE MEANS OF TRANSPORTATION

Question 11 asked how they typically made the trip (for which the survey was being completed) before they started using the Silver Line Waterfront service and provided check boxes to indicate the alternative mode used. The intent of this question was to determine what changes in travel modes had occurred as a result of the implementation of Silver Line Waterfront service. The majority of survey respondents interpreted the question that way, but some listed the modes used for the entire trip, even though most segments had not changed. For example, a passenger who switched to the Silver Line from a private shuttle as the final connection from South Station to the World Trade Center, and used a combination of an MBTA bus and the Red Line to reach South Station both before and after starting to use the Silver Line, should have checked only private shuttle as the prior mode, but may also have checked MBTA bus and MBTA subway. In the database, question 11 responses were edited, if necessary, to show only the trip segments that had changed.

The range of present and prior alternatives for travel to and from South Boston points served by Silver Line Waterfront differs from that for travel to and from Logan Airport. Therefore, the survey results for travel to and from these segment were summarized separately.

Outbound Trips to South Boston

Of the survey respondents making outbound trips to destinations in South Boston, 94.0% included responses to question 11. Among those who responded, 74.4% (2,536) reported a prior trip mode, and 25.6% (872) had not previously made the same trip. Those reporting a prior mode included 1.6% (53) who also checked “did not make trip,” implying that they previously made the same trip less frequently. For those that did not previously make the same trip, follow-up question 11a asked whether the newly implemented Silver Line had influenced the decision to make the trip. Of those that did not previously make the same trip by any means, 60.7% (530) reported that it did not

influence the decision, 33.1% (289) reported that it did, and 6.2% (54) did not respond. Most of those that reported that the Silver Line did influence the decision gave written reasons. The greatest number of these indicated that they had taken new jobs in South Boston partly because of availability of the Silver Line.

The survey form allowed passengers to check as many prior modes of transportation as applied. Excluding travel modes used in combination both with a mode no longer used and with the Silver Line (for example, the Red Line to bus Route 7 replaced by the Red Line to the Silver Line), most passengers specified only one previous mode. Among passengers going to South Boston, the most common prior mode was walking, specified by 26.2% (894). This was followed closely by private shuttles, at 24.5% (834). These shuttles ran from the South Station area to the World Trade Center, the Boston Design Center, and the Black Falcon cruise ship terminal. They were discontinued shortly after the Silver Line opened, eliminating them as an option. The third-most-frequent prior mode for trips to South Boston was MBTA buses, at 7.9% (268). Some MBTA bus service to this area was also discontinued when the Silver Line opened, but some was retained.

Driving alone was the fourth-largest prior mode for riders going to South Boston, at 4.5% (152). Unlike most of the other alternatives, which would have been used only in place of the Silver Line segment of the trip, driving alone probably replaced all or most of the trip segments. “Other” was the fifth-most-common prior alternative, at 0.5% (16). Most of these responses specified taxis as the prior mode. The least-common prior mode was carpool or vanpool only, at 0.2% (8). Another 10.7% specified use of two or more prior alternatives, with walking, at 7.6%, being one of the alternatives checked.

Outbound Trips to Logan Airport

Of the survey respondents making outbound trips to Logan Airport, 95.5% included responses to question 11. Among those who responded, 83.0% (715) reported a prior trip mode, and 17.0% (146) had not previously made the same trip. Of those that did not previously make the same trip by any means, 51.8% (75) reported that the Silver Line influenced the decision to make the trip, 44.8% (65) reported that it did not, and 3.3% (5) did not respond. The majority of those that reported that the Silver Line had influenced the decision were departing airline passengers. It is questionable whether the existence of the Silver Line alone would have prompted them to make air trips they would not otherwise have made, but it may have influenced the choice of Logan over other airports, such as Manchester or T. F. Greene. Cost and convenience were the main factors reported by these riders as reasons for using the Silver Line.

Among passengers going to the Logan Airport stops, the most common prior mode was MBTA subway, specified by 37.6% (324). These were passengers that previously used the Blue Line. Of the 324, over two-thirds (222) formerly took the Red Line to the Blue Line via either the Orange Line or the Green Line, and had switched to taking the Red Line to the Silver Line. Most of the

rest were about equally divided between riders who formerly walked to Blue Line stations from origins in downtown Boston and riders who formerly took South Side commuter trains to Back Bay and used the Orange Line as a connection from there to the Blue Line.

“Drove alone” was the second-largest prior mode among riders going to Logan, at 15.3% (132). “Other” modes (not on the checklist) were third, at 10.6% (91). Almost all of the riders that checked “other” indicated that they had previously taken taxis. Private shuttle service, private-carrier fixed bus routes, and Massport Logan Express bus routes together were the source of 3.5% (30) of the airport-bound riders. Carpools and vanpools accounted for 1.2% (10). No Silver Line riders previously walked to the airport, and none previously used MBTA buses as the only prior mode, though a small number had used MBTA buses for some portions of their airport trips.

Two or more prior alternatives were reported by 14.9% (128) of the airport-bound riders. This included 9.7% (83) who sometimes drove alone.

Inbound Trips from South Boston

Of the survey respondents making inbound trips from stops in South Boston, 93.1% included responses to question 11. Among those who responded, 77.0% (641) reported a prior trip mode, and 23.0% (191) had not previously made the same trip. Of those that did not previously make the same trip by any means, 37.2% (71) reported that the Silver Line influenced the decision to make the trip, 44.1% (84) reported that it did not, and 18.6% (35) did not respond. Of those that were influenced by the Silver Line, about half indicated that they had made home or lodging choices based on proximity to it.

Among passengers boarding in South Boston, the most common prior mode was walking, specified by 35.7% (297). “Drove alone” was a distant second, at 10.6% (88). Diversions from alternatives that were not on the checklist were next, at 10.5% (88). The majority of these were taxi diversions (63), with drop-offs and bicycles accounting for the rest. Diversions from the discontinued private shuttles were fourth, at 8.7% (73), and diversions from MBTA buses fifth, at 6.5% (54). Diversions from MBTA subway lines accounted for the rest, at 1.1% (9). There is no MBTA subway service directly paralleling the Silver Line Waterfront service from South Boston. A more detailed examination of the subway diversions found that they consisted of trips to downtown Boston by passengers formerly dropped off at subway stations instead of Silver Line stops.

Only 3.9% (33) of the inbound riders boarding in South Boston reported using two or more prior modes for the same trip. Of these, the largest share (2.5%, or 21) alternated between driving alone and using the private shuttles.

Inbound Trips from Logan Airport

Of the survey respondents making inbound trips from stops at Logan Airport, 89.6% included responses to question 11. Among those who responded, 80.7%

(467) reported a prior trip mode, and 19.3% (112) had not previously made the same trip. Of those that did not previously make the same trip by any means, 28.4% (32) reported that the Silver Line influenced the decision to make the trip, 54.7% (61) reported that it did not, and 16.8% (19) did not respond. Of those that were influenced by the Silver Line, about half indicated that they had made home or lodging choices based on proximity to it. Included in those influenced by the Silver Line were 22 respondents going to new work locations in South Boston from origins in East Boston.

Among the inbound passengers boarding at the Logan stops, the most common prior travel mode by far was MBTA subway (the Blue Line), at 46.3% (268). “Other” alternatives (not specified on the checklist) were a distant second, at 13.0% (75). Most of the respondents used the write-in area to identify the other modes. These included 21 who formerly took taxis, 25 who had been met in private cars, 11 who switched from rental cars, and 11 who diverted from regional airports.

“Drove alone” was the third-most-common prior mode for inbound trips from Logan, at 9.5% (55). The only other alternative used exclusively was carpool/vanpool, at 4.1% (24). Two or more prior alternatives were reported by 7.8% (45) of the passengers boarding at the airport stops. This included 5.2% (30) that drove alone some of the time.

Current Alternative Means of Transportation

Question 12 asked what other means, if any, were still used to make the same trip. The intent of this question was to determine the rate of use of other modes instead of the Silver Line Waterfront, and most respondents interpreted it that way. However, because of ambiguous wording on the survey form, some listed all of the modes used in addition to the Silver Line for the entire trip from origin to destination. This duplicated the information on access in question 3 and on egress in question 7. In the database, records were edited to eliminate listing of access and egress modes in question 12. The survey form did not ask how many days per week respondents used alternative means of transportation. As might be expected, the percentages reporting current alternative modes were higher among passengers using the Silver Line between one and four days a week than among those using it five days a week. Respondents who were only visiting Boston had the lowest rates of reporting alternative modes. Some of them would have been visiting for the first time, and would not yet have had an opportunity to use any other modes.

Outbound Trips to South Boston

Of the survey respondents making outbound trips to stops in South Boston, 53.5% (1,942) reported some continued use of alternative means to make the same trips. Of these, 91.7% (1,781) reported use of only one alternative. The most common alternative was walking, at 57.9% (1,125). Driving alone was second, at 20.4% (395). Private shuttles were third, at 6.9% (135). Although the private shuttles from South Station to points served by the Silver Line in

South Boston were discontinued before the survey was conducted, shuttles from North Station and from State Street were retained. “Other” modes were the fourth-most-common current alternative, at 3.4% (65). These were equally divided between taxi, bicycle, and being dropped off by someone else. Another 8.3% (161) reported continued use of two or more alternatives, with almost all of these including walking as one of the alternatives.

Outbound Trips to Logan Airport

Of the survey respondents making outbound trips to stops at the airport, 50.7% (457) reported some continued use of alternative means to make the same trips. Of these, 82.8% (378) reported use of only one alternative. The most common alternative was driving alone, at 43.3% (198). MBTA subway (the Blue Line) was second, at 15.2% (70). “Other” modes, not specified on the checklist, were third, at 13.5% (62). The largest number of these were taxi (51), with most of the rest being drop-offs. “Carpool or vanpool” was fourth, at 6.3% (29). Private shuttles (including private-carrier fixed-route buses and Logan Express) accounted for 4.4% (20). Another 17.2% (79) reported current use of two or more alternatives, with 16.0% (73) reporting driving alone as one of these.

Inbound Trips from South Boston

Of the survey respondents making inbound trips from stops in South Boston, 56.5% (505) reported some continued use of alternative means to make the same trips. Of these, 92.4% (466) reported use of only one alternative. The most common alternative was walking, at 67.0% (338). Driving alone was second, at 19.8% (100). Private shuttles were third, at 4.2% (21). Although the private shuttles from South Station to points served by the Silver Line in South Boston were discontinued before the survey was conducted, shuttles to North Station and to State Street were retained. Other modes were the fourth-most-common current alternative, at 1.0% (5), with the only specified other mode being bicycle. Only 0.4% (2) reported continued use of MBTA buses. Another 7.6% (39) reported continued use of two or more alternatives, with 26 of these including walking as one of the alternatives. Five of these included MBTA bus as the second alternative.

Inbound Trips from Logan Airport

Of the survey respondents making inbound trips from stops at the airport, 43.5% (281) reported some continued use of alternative means to make the same trips. Of these, 81.5% (229) reported use of only one alternative. The most common alternative was driving alone, at 29.2% (82). MBTA subway (the Blue Line) was second, at 21.1% (59). Other modes not specified on the checklist were third, at 16.4% (46). The largest number of these were taxi (38), with the rest being unspecified. Carpool or vanpool was fourth, at 12.2% (34). Private shuttles (including private-carrier fixed-route buses and Logan Express) accounted for 2.6% (7). Another 18.5% (52) reported current use of two or more alternatives, with 13.0% (36) reporting driving alone as one of these.

2.5 USAGE RATES AND FARE TYPES

2.5.1 NUMBER OF DAYS PER WEEK RIDERS USE THE SILVER LINE WATERFRONT

Survey question 9 asked how many days per week passengers usually use Silver Line Waterfront service. The responses differed significantly between passengers traveling only on the segments between South Station and South Boston and those traveling to or from Logan Airport. The South Boston ridership consisted predominantly of home-to-work trips repeated regularly, but many of the Logan passengers were connecting to or from airline trips that they would not repeat frequently.

Among outbound South Boston riders, the most commonly reported frequency of Silver Line Waterfront use was five days per week, at 74.8% (2,563). This was consistent with the very high proportion of all outbound South Boston riders (85.8%) who were making home-based work trips. The least-common frequency in this ridership group was “just visiting,” at 0.5% (18), but this would be expected to be much higher on days with major events at the convention center.

Five-day use was also the most common frequency among inbound riders boarding in South Boston, but was much less dominant, at 26.3% (211). Only 43.1% of all inbound South Boston riders were making home-based work trips. The second-largest frequency among inbound South Boston riders was less than one day, at 26.0% (208). There was no obvious pattern of trip purposes to explain the large number of infrequent riders.

Among outbound riders going to stops at Logan Airport, the most commonly reported frequency was less than one day, at 48.2% (418), followed by “just visiting,” at 26.0% (225). Most of those with a frequency of less than one day were going to the airport to take flights for which Logan was the home end of the trip. The third-most-commonly reported trip frequency for outbound riders to Logan was five days a week, at 14.5% (125). Almost all of the riders with this frequency were making home-to-work trips.

The reported trip frequencies for inbound riders boarding at Logan were similar to those for outbound riders going to Logan. Among the inbound riders, the most commonly reported frequency was less than one day, at 51.4% (304), followed by “just visiting,” at 21.1% (125). Five-day ridership was third, but only at 8.7% (52). All of the five-day riders were either going to work from homes in East Boston or were going home from work at the airport.

2.5.2 WEEKEND USAGE

In question 9, responses for usage five days a week or less could include some weekend ridership, since the wording of the question did not differentiate between days of the week. (The surveys were distributed only on weekdays, so every response was from a passenger who rode at least once on a weekday in the survey week.) Question 10 provided further details by asking passengers

about the frequency of Saturday and Sunday use. For each weekend day, the choices were: “regularly,” “occasionally,” or “not at all.”

Overall, more than half of the survey respondents indicated that they did not use the Silver Line Waterfront at all on Saturday or Sunday. Among outbound riders, 57.6% (2,611) did not ride at all on weekend days. Among those going to South Boston stops, 62.2% (2,258) did not ride on weekends, but among those going to Logan Airport, only 39.1% (353) did not ride on weekends. Riders going to weekday jobs in South Boston might have no reason to go to that neighborhood on weekends, but airline passengers traveling on weekdays might also make some weekend airline trips. Many of the survey respondents skipped question 12, which asked whether they continued to sometimes use other means to make the trip (and provided check boxes for them to indicate all alternative modes that applied). However, if it is assumed that those destined to both Logan and South Boston who did not respond to question 12 also did not use the service on weekends, the percentage making at least some weekend trips would still be higher among riders going to Logan (37.1%) than among those going to South Boston (30.3%). Regular use on both Saturday and Sunday was reported by 6.3% of outbound Logan riders (57) and 1.6% of outbound South Boston riders (58). Occasional use on both Saturday and Sunday was reported by 27.2% of outbound Logan riders (245) and 18.7% of outbound South Boston riders (678).

Among inbound riders, 53.2% (818) overall did not use the Silver Line Waterfront at all on weekends. For Logan boardings, this figure was 48.6% (314), and for South Boston boardings it was 56.5% (504). Treating non-responses to question 12 as indicating no weekend use, at least some weekend trips were made by 37.7% of riders boarding the Silver Line at Logan and 30.9% of those boarding in South Boston. Regular use on both Saturday and Sunday was reported by 4.1% of inbound Logan riders (26) and 6.7% of inbound South Boston riders (60). Occasional use on both Saturday and Sunday was reported by 23.8% of inbound Logan riders (154) and 13.2% of inbound South Boston riders (118).

2.5.3 FARE PAYMENT TYPE

Survey question 5 asked how passengers paid their fares to use Silver Line Waterfront service. The results varied widely among passenger groups because of differences in trip purposes and frequencies. Among outbound riders going to stops in South Boston, the majority of whom were going from home to work, adult monthly passes were by far the most common fare-payment method, at 83.9% (3,045). Adult single-ride fares were second, at 11.9% (433). Adult weekly passes, senior/disability single fares, and senior/disability passes accounted for 1.3% to 1.6% each. There was no reported use of child/student single fares, student passes, or other fares.

Inbound riders boarding at South Boston stops had a greater variety of trip purposes. This was reflected in the lower reported adult monthly pass usage rate of 51.3% (457) and the higher rate of adult single-ride fares, at 33.3%

(297). Most of the less-used fare categories also showed higher percentages among inbound riders, ranging up to the 5.0% (45) reported for weekly pass users.

Among riders going to or from Logan Airport, many of whom were making infrequently repeated or one-time airline connections, adult single-ride fares were by far the most common, at 71.1% (640) outbound and 74.6% (482) inbound. Adult monthly passes were second, at 23.5% (212) outbound and 19.2% (124) inbound. All other fare options each accounted for at most 2.0% outbound, and at most 2.8% inbound. Adult single-ride fares were paid by 74.2% of riders checking “at the airport” as the trip destination and by 80.3% of those reporting it as the trip origin.

2.6 ACCESS TO AND EGRESS FROM SILVER LINE WATERFRONT

2.6.1 ACCESS

Survey question 3 asked how passengers got to their Silver Line Waterfront boarding stops on the trips when they were surveyed. The survey form allowed passengers to check all modes that applied, so it was possible to report all of the links used between the actual trip origin and the Silver Line boarding point. Some passengers did report all links, but some showed only the immediate connection to the Silver Line. The survey form did not provide a means of indicating the sequence in which the various links were used, but in general, there was only one sequence in which a given set of links could have been used. For example, a passenger boarding the Silver Line at South Station and reporting access via walk, bus, and subway was presumed to have walked to a bus stop, taken the bus to a subway station, and taken the subway to South Station.

Outbound Trips to South Boston

All of the survey responses for outbound trips to stops in South Boston showed South Station as the Silver Line boarding point. Direct transit connections can be made there from the Red Line, all South Side commuter rail lines, Amtrak intercity rail service, several MBTA bus routes, and several private-carrier bus routes. South Station is also within convenient walking distance of much of downtown Boston.

For outbound trips to South Boston stops, the most commonly reported access mode was subway, at 54.4% (1,973). Included within this group were 120 riders (3.3%) that accessed the subway by MBTA bus or MBTA-subsidized bus, with 7 of these having driven to stops on the bus routes used to access the subway. Transfers from North Side commuter rail lines at North Station accounted for 1.9% (70 trips) included in the subway access riders. Walk-ins to subway stations were reported by 1.1% (40).

The second-largest number of reported access trips were made via South Side commuter rail lines, at 35.2% (1,278). Most of these did not indicate the means of initial access to the commuter rail line, but 23 (0.6%) reported that they had walked to the boarding station and 18 (0.5%) reported that they had driven.

The third-largest number of reported access trips were made by walking to South Station from the trip origin, at 201 (5.5%). The only other group accounting for more than 1.1% of access trips was bus transfers at South Station. These included 2.8% (102) from MBTA buses (many of which required walking several blocks to make the transfer) and 1.6% (59) from private-carrier bus routes that use the South Station bus terminal. The only reported driving access trips were to intermediate transit services used to reach South Station rather than directly to the Silver Line.

Outbound Trips to Logan Airport

Boardings at South Station accounted for 83% of the weighted outbound survey returns for trips to Logan Airport, with the rest divided between boardings at the Courthouse, World Trade Center, and Silver Line Way stops. For passengers boarding at South Station, the range of possible access modes was the same as that for passengers going to South Boston. Most passengers boarding at the other stops accessed them by walking.

Overall, the most common Silver Line Waterfront access method for outbound trips to Logan was subway, at 58.8% (530). This included 4.3% (39 trips) that initially accessed the subway by MBTA bus. Walking directly to Silver Line Waterfront stops was the second-most-common access method, at 157 (17.4%). Transfers from South Side commuter rail lines were third, at 14.5% (131). Drop-offs (all at the Silver Line Way and Courthouse stops) were fourth, at 3.8% (34). There were very few direct bus transfers by Logan passengers (6 from MBTA buses and 13 from private carriers), but other access modes included 18 transfers from intercity Amtrak trains.

Inbound Trips from South Boston

The number of access options for inbound Silver Line Waterfront trips was much smaller than the number of outbound options. Among inbound riders boarding in South Boston within the survey span, walking was by far the most common means of access, at 87.6% (782 trips). As discussed in Section 2.4, walking is also a frequent alternative to using Silver Line Waterfront service at all for trips between South Boston and South Station. The second-most-common access mode was park-and-ride, at 8.2% (73). This mode was used mostly by suburban residents who worked in downtown Boston and drove to South Boston lots that have lower rates than downtown parking facilities. The only other reported access mode was drop-offs, at 4.1% (37). These were also reported by riders with trips in outlying areas rather than in South Boston.

Inbound Trips from Logan Airport

For inbound trips starting at Logan Airport, the most common means of access was also walking, at 86.1% (557). This included 482 trips by riders whose reported origin activity was “at the airport.” Most of these had presumably arrived at the airport by air, but the survey form did not verify this directly. The second-greatest number of riders accessed the Silver Line at the airport from shuttle services operated by Massport, rental-car agencies, or hotels. These accounted for 8.8% (57) of the airport boardings, and included 19 transfers from the Blue Line at Airport Station and 15 walk-ins to Airport Station from nearby points in East Boston. Another 2.0% (13) transferred to the Silver Line from private-carrier bus routes serving the airport from the north, and an equal number were dropped off from private vehicles.

2.6.2 EGRESS

Survey question 7 asked how passengers would get to their destinations from Silver Line Waterfront service. The survey form allowed passengers to check all modes that applied. Some passengers reported all of their links, but some showed only the immediate connection from the Silver Line. The survey form did not provide a means of indicating the sequence in which the various egress links were used, but in general, there was only one sequence in which a given set of links could have been used.

Outbound Trips to South Boston

Almost all of the survey respondents (99.2%, or 3,396) on outbound Silver Line Waterfront trips to destinations in South Boston reported walking as the means of egress to the final destination. One passenger (weighted at 7 in the survey expansion) transferred from the Silver Line to a local MBTA bus route to complete the trip. Another passenger (weighted at 22 in the survey expansion) transferred from the Silver Line to a Provincetown ferry at the World Trade Center stop.

Outbound Trips to Logan Airport

Walking was also the main egress mode for outbound riders going to Silver Line stops at Logan Airport, at 90.0% (761). The majority of these (587) reported “at the airport” as the destination. Presumably, most of the latter actually continued their journeys by air, but the survey form did not show this directly. The second-largest number of egress trips (5.6%, or 48) were made by the various Massport and other shuttle services operating at the airport. Driving egress was third, at 2.6% (22), and getting picked up by private vehicle last, at 1.8% (16). The latter two figures were expanded from only one survey each.

Inbound Trips from South Boston

Almost all of the survey returns from inbound riders boarding at stops in South Boston were for trips with alightings at South Station. The range of egress options there was the same as the range of access options for outbound trips,

but because of differences in locations of inbound destinations versus outbound origins during the survey hours, the percentages of use of modes for access and egress differed.

The most common egress mode for inbound trips boarding in South Boston was walking, at 53.8% (442). Subway egress was second, at 42.1% (346). This included 6.8% (56) that reported completing their trips by transferring from subway to MBTA or regional transit authority buses, and 1.5% (12) that reported driving away from subway stations. Because the results for transfers from rapid transit to buses were expanded from a very small number of responses, identification of individual bus routes was not meaningful. No direct transfers from the Silver Line to buses or to parked private vehicles were reported. The remaining 4.0% (33) reported transferring to commuter rail lines at South Station. The absence of direct bus transfers and the small number of commuter rail transfers compared with outbound access trips reflected the limiting of survey distribution to boardings before 3:30 PM. Most of the outbound bus and commuter rail passengers were going from home to work, but few work-to-home trips occur before 3:30. The bus and commuter rail routes from which passengers transferred serve relatively small numbers of reverse-commute trips from any origins.

Inbound Trips from Logan Airport

The distribution of egress modes for inbound trips from Logan Airport differed from that for inbound trips from South Boston. Many of the Logan riders were returning home from air journeys, and were destined for suburbs. The most commonly reported egress mode for trips from Logan was subway, at 311 (50.7%). This included 2.8% (17) that reported completing their trips by transferring from subway to MBTA bus, and 15 (2.4%) that reported being picked up from subway stations.

The second-most-common egress mode for passengers boarding at Logan was walking, at 29.2% (179). Direct transfers to commuter rail at South Station were third, at 8.8% (54). Driving or riding away in private vehicles parked near Silver Line stations was the fourth-most-common egress mode, at 4.4% (27), followed by direct transfers to buses (all to private carriers at South Station), at 3.8% (23). Other egress modes, including transfers to intercity Amtrak trains and renting cars downtown instead of at the airport accounted for the remaining 3.1% (19). Because the results for egress by bus, either directly or via transfer from rapid transit, were expanded from a very small number of responses, the identification of individual bus routes was not meaningful.

2.7 ORIGIN LOCATIONS AND ACTIVITIES

Survey question 4b asked passengers where their trips began, including city or town and address, or the nearest street intersection or landmark. In the summary tables, responses for each origin were subdivided by activity at origin using the results of survey question 4a.

The checklist choices for question 4a included “at the airport.” In designing the survey, it was intended that this choice be selected by Silver Line riders who arrived at Logan by air, and cross-tabulations with other survey responses indicated that this was generally the case. Some airline passengers instead listed the activity and location at the other end of the air trip, but because the number who did so was too small to provide a representative sample, their origins were also changed to “at the airport” in the database.

As shown by the breakdown of access modes reported in question 3 and summarized in Section 2.6, above, outbound riders on the Silver Line Waterfront during the survey hours were using it predominantly as a distributor for other modes, while inbound riders were using it predominantly as the initial transportation mode. Consequently, the number of different origin neighborhoods or towns reported was much greater among outbound riders than among inbound riders.

Outbound Trips to South Boston

The city of Quincy accounted for the largest individual share of origins of outbound Silver Line Waterfront riders going to South Boston stops, at 7.2% (260). Almost all of these transferred from the Red Line, which has four stations in Quincy, with the rest arriving by commuter rail from Quincy Center Station. Boston neighborhoods outside Boston Proper accounted for a combined total of 17.2% (623), with North Dorchester having the largest individual share, at 3.1% (113). Almost all of those with origins in North Dorchester arrived via the Red Line from the JFK/UMass or Savin Hill Stations. Neighborhoods within Boston Proper accounted for a combined 12.0% (437) of the origins, with the largest share from an individual neighborhood being 4.6% (169), from the Financial/Retail District in Boston. Cambridge neighborhoods accounted for a combined total of 8.3% (302) of the origins, with Central Square having the largest individual share, at 3.5% (128). Cambridge has five Red Line stations.

The only other municipality originating more than 100 outbound Silver Line trips to South Boston in the survey span was Somerville, at 4.5% (164). Davis Square, where there is a Red Line station, accounted for nearly half of these, at 2.1% (78). Together, Boston, Cambridge, Quincy, and Somerville accounted for nearly half of the outbound Silver Line trips to South Boston, at 49.2% (1,786). Most of the rest were divided among more than 75 other cities and towns in Massachusetts, but there were also small shares from Rhode Island (1.7%) and New Hampshire (0.6%).

All of the riders with in-state origin locations other than Boston or Cambridge began their trips at home. The only specified Boston neighborhoods with no trip origins from home were the Financial/Retail District and the downtown Boston Waterfront. From the Financial/Retail District, the largest origin activities were social/recreational (39.0%), consisting of return trips to work after lunch downtown, and work (30.6%). All of the reported trip origins from

the downtown Boston Waterfront were from work, including lunchtime trips to seaport restaurants.

Outbound Trips to Logan Airport

Origins of outbound Silver Line trips to Logan Airport were more concentrated than origins of trips to South Boston. Boston neighborhoods outside Boston Proper accounted for a combined total of 22.1% of the trips (199). Among these neighborhoods, the largest trip source was South Boston, at 10.1% (91). Cambridge neighborhoods accounted for a combined total of 21.6% of the trips (195). Among these neighborhoods, the largest trip source was Kendall/MIT, at 5.9% (53). Neighborhoods within Boston Proper accounted for a combined total of 17.0% of the trips (153), with the largest source among these being the Financial/Retail District, at 8.4% (76).

Somerville accounted for 7.5% of the origins of trips to Logan (68). Quincy was behind several other towns, with only 1.1% (10) of the Silver Line trips to the airport. The well-established water transportation service to the airport from a terminal in Quincy probably contributed to the low use of the Silver Line.

Boston, Cambridge, and Somerville combined accounted for 68.2% (615) of the outbound Silver Line trips to Logan, compared with 42.0% of the trips to South Boston. Most of the rest of the reported outbound Logan trip origins were in 54 other cities and towns in Massachusetts. But 3.0% (27) came from Connecticut, Rhode Island, or New York. Because many of the passengers were making non-repetitive airline trips, the distribution of origins would be expected to vary somewhat from day to day.

In contrast with the riders destined for South Boston stops, many of those going to Silver Line stops at Logan Airport did not begin their trips at home. The largest number of those not starting from home checked “other” as the origin activity. A more detailed examination of the results showed that most of those with “other” origins were visitors to Boston who were connecting with airline flights. These riders started at origins such as hotels or homes of relatives. Most of those who did not start from home and were not visitors were airline passengers starting from work or from work-related origins in Boston Proper or Cambridge.

Inbound Trips from South Boston

The number of origins reported by inbound Silver Line Waterfront riders was much smaller than the number reported by outbound riders. Among those boarding at South Boston stops, 87.6%(782) reported origins in South Boston. The remaining 110 came from 11 other reported origins, but the total shown for each of those origins was expanded from only one survey. All of the riders with origins outside South Boston drove from home to parking lots near Court House or World Trade Center Stations. These lots have lower fees than downtown Boston parking facilities, but are gradually being displaced by new development.

Of the riders with trip origins in South Boston, the largest share (54.6%, or 427) started from work. Trips from home were second, at 23.5% (183). The rest were scattered among various origin activities.

Inbound Trips from Logan Airport

Of the riders boarding at Silver Line stops at Logan Airport, 90.0% (582) had trip origins somewhere on the airport grounds. The largest share of these (82.7%, or 481) had “at the airport” as the reported origin. Most of these presumably arrived there by air, but the survey form did not ask for details beyond that point. Most of the rest of those starting from the airport (14.0%, or 81) began their trips at work. This number would have been expected to be greater if surveys had been distributed after 3:30 PM.

The 10.0% of riders boarding at airport stops but with starting points outside the airport had five different reported origins, but only East Boston had more than one actual survey response. Most of the riders with origins outside the airport started from home. Access modes to the Silver Line for these passengers included being dropped off directly at a stop, taking a combination of the Blue Line and a Massport bus from Airport Station, walking to Airport Station and taking a Massport bus, taking a courtesy shuttle from a hotel to the airport, and taking a private-carrier bus to the airport. Most of them had final destinations either in South Boston or closer to South Station than to Blue Line stops in downtown Boston.

2.8 DESTINATION LOCATIONS AND ACTIVITIES

Survey question 8b asked passengers where their trips would end, including city or town and address, or the nearest street intersection or landmark. In the summary tables, responses for each destination were subdivided by activity there, using the results of survey question 8a.

The checklist choices for question 8a included “at the airport.” In designing the survey, it was intended that this choice be selected by Silver Line riders who were going to the airport to catch flights, and cross-tabulations with other survey responses indicated that this was generally the case. Some airline passengers instead listed the activity and location at the other end of the air trip, but because the number who did so was too small to provide a representative sample, their destinations were also changed to “at the airport” in the database.

Outbound Trips to South Boston

Almost all of the Silver Line riders alighting at stops in South Boston (99.4%, or 3,606) had final destinations in South Boston. One rider (expanded to 22 in the database) transferred to a Provincetown ferry at the World Trade Center. For those riders with final destinations in South Boston, the main reported destination activity was work, at 87.1% (3,141). Work-related trips were second, at 5.2% (188). Another 4.4% of outbound South Boston riders (159) did not complete their survey forms sufficiently to indicate a trip purpose.

However, almost all of them boarded during the AM peak period, had trip origins at home, paid their fares with monthly passes, and alighted at stations in the industrial sections of South Boston, so they were almost certainly going to work.

Outbound Trips to Logan Airport

The great majority of Silver Line riders alighting at the Logan Airport stops (93.5%, or 842) had final destinations on the airport grounds. For 78.2% of these (658) the destination activity was “at the airport” with most presumably continuing beyond by air. Work destinations accounted for most of the rest, at 18.4% (155).

All of the passengers alighting at the airport stops but specifying destinations outside the airport grounds were going to East Boston. All of these (37) were going to work, reached either by being picked up in private autos or by taking hotel courtesy shuttles.

The 22 trips indicated in the table as going to unidentified destinations were expanded from a single survey, by a passenger returning home from work in South Boston in an auto that had been parked near the airport. This was an unusual trip for that respondent, made because of the detouring of Ted Williams Tunnel traffic.

Inbound Trips from South Boston

During the survey hours, inbound trips from stops in South Boston were reported going to 26 cities, towns, and neighborhoods. The largest individual share went to the Financial/Retail District, at 26.6% (238). The Waterfront was second, at 15.3% (136). Destinations in other neighborhoods within Boston Proper were reported by a combined total of 17.4% (155), making the overall share for Boston Proper 59.3%.

The Harvard Square neighborhood of Cambridge was third overall as a destination for Silver Line trips from South Boston, at 6.1% (55). Trips to all Cambridge neighborhoods combined accounted for 11.2% (100). Boston neighborhoods outside Boston Proper accounted for a combined 7.1% (63).

Destinations were reported in a total of nine cities or towns other than Boston or Cambridge. These accounted for a combined total of 16.8% (150). Among these, Malden had the largest individual share, at 4.5% (40). (Results for many of these destinations were expanded from only one survey each.)

The mix of trip purposes varied by destination. All of the trips to destinations outside Boston or Cambridge were to home, except for trips going to Malden, where the split was 83.0% to home and 17.0% to work-related destinations. Among Boston Proper neighborhoods, work was the largest destination activity in the Financial/Retail District (41.5%), the Waterfront (44.6%), Government Center (65.9%), and Park Square (100%). Stores were the top destinations in the Back Bay (100%) and in unspecified downtown neighborhoods (57.1%).

On Beacon Hill, the top destination activity was personal business (64.1%) and in the South End it was home (100%).

Inbound Trips from Logan Airport

During the survey hours, inbound trips from stops at Logan Airport were reported going to 33 cities, towns, and neighborhoods. The largest individual share went to South Boston, at 78 (12.0%). The Harvard Square neighborhood of Cambridge was second, at 11.7% (75), followed by the Financial/Retail District, at 7.9% (51). For all Boston Proper neighborhoods combined, the share was 19.2% (124). Other Boston neighborhoods had a combined share of 17.2% (111), and the entire city of Cambridge accounted for 25.3% (164).

Destinations were reported in a total of 18 cities and towns other than Boston or Cambridge. These accounted for a combined total of 26.4% (171). Among these, Lexington had the largest individual share, at 2.6% (17). However, results from many of these destinations were expanded from only one survey each. Destinations of passengers arriving at Logan by air would be expected to vary from day to day.

For trips to most of the destinations outside Boston or Cambridge, either the destination activity was home, or the survey respondent was a visitor going to a hotel, a tourist attraction, or the home of a friend or relative. Some of those destined for points in Boston or Cambridge were also visitors.

Work destinations accounted for the highest shares of trips going from Logan to South Boston (70.1%, or 55), to the Financial/Retail District (70.7%, or 36), and to the Kendall/MIT neighborhood in Cambridge (46.4%, or 15). Work-related trips were the most important Waterfront destination (67.6%, or 28).

2.9 SOCIOECONOMIC CHARACTERISTICS

2.9.1 AGE OF RIDERS

Survey question 13 asked passengers to indicate their ages, within any of six listed ranges. As with other questions, results were processed separately for inbound and outbound riders, and for trips with outer ends at South Boston stops and trips with outer ends at Logan Airport stops. The results were somewhat skewed by the fact that the number of years was not the same in all choices provided on the survey form.

The distributions of ages varied somewhat among the four ridership groups. For three of the groups, riders aged 45 to 64 were most common, ranging from 32.0% of outbound riders to South Boston to 35.9% of outbound riders to Logan. This age group accounted for 35.6% of inbound boardings at Logan, but ages 25 to 34 were even more common there, at 38.1%. The importance of the 25-to-34 category varied widely among rider groups, ranging down to a low of 14.5% among inbound riders from South Boston. Responses in the 35-to-44 category also varied widely, from a low of 14.7% among those boarding

inbound at Logan to a high of 33.0% among those boarding inbound in South Boston.

Riders under age 17 were the least common in all four groups, ranging from no responses among inbound South Boston riders up to 1.1% of inbound riders boarding at Logan. Riders age 65 or over accounted for the second-lowest share in each group, ranging from 2.3% of outbound riders to South Boston up to 6.3% of outbound riders to Logan.

2.9.2 GENDER OF RIDERS

Survey question 18 asked for passenger gender. In all four ridership groups, females outnumbered males, but the margins were smaller than for the Silver Line Washington Street surveys. The differences were greatest among outbound riders, with females accounting for 56.9% of those going to South Boston and 53.9% of those going to Logan. Among inbound riders, the division was nearly even, with females accounting for 51.9% of riders from Logan and 51.1% of riders from South Boston. (It has not been determined whether any of these differences resulted from females being more likely than males to fill out survey forms.)

2.9.3 ANNUAL HOUSEHOLD INCOMES OF RIDERS

Survey question 17 asked passengers to indicate their annual household incomes within one of six ranges listed on the survey form. Income questions usually have the lowest response rates among questions on MBTA passenger surveys. In the Silver Line Waterfront survey, this question was not answered on 16.3% of the returned forms that had usable responses to other questions. (This was about the same as the percent not responding to this question in the Silver Line Washington Street survey.) The income ranges listed on the survey forms have not changed for many years, so there has been a progression of incomes toward the higher ranges.

For all four ridership groups in the Silver Line Waterfront survey, the most commonly reported income range by far was \$80,000 or more. Excluding surveys with no response for income, this was the answer of 57.4% of outbound passengers going to South Boston and 61.6% of those coming from South Boston. Among Logan Airport riders, incomes of \$80,000 or more were reported by 47.3% outbound and 46.1% inbound.

For South Boston riders, incomes of \$60,000 to \$79,999 accounted for the second-largest share of responses, at 16.4% outbound and 16.2% inbound. Incomes of \$40,000 to \$59,999 were third, at 14.0% outbound and 14.2% inbound. There was less consistency in the lower three income ranges. Inbound South Boston riders reported no incomes in the \$30,000-to-\$39,999 range or the \$20,000-to-\$29,999 range, but 8.0% had incomes of less than \$20,000. Outbound riders had only 2.5% with incomes of less than \$20,000, with 3.3% between \$20,000 and \$29,999, and 6.5% between \$30,000 and \$39,999.

For Logan riders, the second-most-common income range was \$40,000 to \$59,999, at 19.0% outbound and 22.3% inbound. The \$60,000-to-\$79,999 range was third inbound, at 14.6%, but only fourth outbound, at 9.1%. In the lower ranges, 8.4% of Logan riders outbound and 7.9% inbound reported incomes of under \$20,000. Incomes in the \$20,000-to-\$29,999 range were reported by 5.4% of Logan riders outbound, but no inbound riders.

2.9.4 AVERAGE HOUSEHOLD SIZE

Survey question 16 asked for the number of people living in the respondent's house or apartment, including the respondent. The results were similar for all four ridership groups. For passengers with outer trip ends in South Boston, the reported averages were 2.55 outbound and 2.61 inbound. For passengers with outer trip ends at Logan Airport the reported averages were 2.62 outbound and 2.52 inbound.

2.10 AUTOMOBILE AVAILABILITY

2.10.1 LICENSED DRIVERS

Survey question 14 asked passengers if they had valid driver's licenses. In all four ridership groups, the vast majority of respondents did have licenses. Among South Boston riders, 92.5% of the outbound riders and 92.2% of the inbound riders had licenses. Among Logan riders, 95.4% of outbound and 97.2% of inbound riders had licenses. (In contrast, only 65% of Silver Line Washington Street riders in 2005 were licensed.)

2.10.2 RIDERS WITH AUTOMOBILES AVAILABLE FOR TRIP

Survey question 15 asked passengers if they had automobiles available for the trips on which they received the survey forms. Except for riders boarding at Logan (many of whom were visitors arriving by air), a majority of riders in each group had autos available. Auto availability was highest among outbound riders to South Boston, at 67.2%. Auto availability among inbound South Boston riders was somewhat lower, at 60.1%. Among outbound riders to Logan, 60.2% had autos available, but among inbound riders from Logan, only 43.4% did. Among visitors to Boston making air connections at Logan, 27.3% outbound and 24.3% inbound had autos available. Excluding these visitors, 71.3% of Logan outbound riders but only 47.8% of inbound riders had autos available. Inbound passengers may not all have interpreted this question in the same way. None of those that took the Silver Line away from the airport would have had parked cars waiting for them there. Some of those that reported that they had autos available may have been arriving back from round-trips on which they could have left cars at Logan when they departed. Others may have meant that they could have arranged to be picked up in private autos instead of taking the Silver Line.

Overall, the auto availability results indicate that a majority of Silver Line Waterfront riders were using it by choice rather than by necessity.

2.11 SERVICE QUALITY

Survey question 20 asked passengers to rate 13 measures of service quality on a scale of one to five, with one being poor and five being excellent. The overall ratings of most measures differed little among the four ridership groups, so they are discussed together below. Of the 13 measures, 8 received overall ratings between 3.0 (average) and 4.0 (above average), and the other 5 received ratings between 4.0 and 5.0. The highest rating went to “cleanliness/condition of vehicles,” at 4.2, and the lowest to “parking availability,” at 3.0.

In addition to rating each service quality measure on a scale of one to five, passengers were asked to indicate the three measures most important to them. Some checked fewer than three and others checked more than three. The results for the service quality measures are discussed below in greater detail. In the summary tables located at the end of this chapter, the measures are listed in the same order in which they appeared on the survey form. In the discussion below, they are listed in descending order of the number of passengers in all four groups combined that checked them as one of the three most important measures.

Reliability (On-Time Performance)

“Reliability” was the service quality measure cited by the greatest number of Silver Line Waterfront passengers in every group as one of the three most important, being checked by 22%. It was tied for fifth place, at 3.8. Overall, 90.5% rated it as average or better, and only 9.5% as poor or below average.

Frequency of Service

“Frequency of service” was checked by the second-greatest number of passengers in every group as one of the three most important service quality measures, at 19%. However, it was among the lower-rated attributes, with a mean rating of 3.6. Overall, 85.5% rated it as average or better, and 14.5% as poor or below average. Outbound South Boston riders were the least satisfied with frequency, giving it a mean rating of 3.5, with 18.9% calling it poor or below average. Outbound Logan riders were the most satisfied with frequency, giving it a mean rating of 4.0, and only 7.2% calling it poor or below average.

Travel Time/Directness of Route

“Travel time/directness of route” was checked by the third-greatest number of riders overall as one of the three most important service quality measures, at 12%. It was also among the higher-rated attributes, with a mean rating of 4.1. Overall, 94.1% rated it as average or better, and 5.9% as poor or below average. Inbound South Boston riders were the most satisfied with travel time, giving it a mean rating of 4.4, and none calling it poor or below average.

Inbound Logan riders were the least satisfied with travel time, giving it a mean rating of 3.7, with 10.5% calling it poor or below average. Riders in this group experience a relatively circuitous routing between the exit ramp from the Ted

Williams Tunnel and the start of the exclusive Silver Line route at Silver Line Way. Between these points, Silver Line vehicles pass the main entrance to the World Trade Center Station at street level. Several minutes later, they stop at the subway level platforms of the same station.

Subway Access

“Subway access” was checked by the fourth-greatest number of riders overall as one of the three most important service quality measures, at 10%. It was also among the highest-rated attributes, with a mean rating of 4.2. Overall, 97.3% rated it as average or better, and 2.8% as poor or below average. Outbound Logan riders were the most satisfied with subway access, giving it a mean rating of 4.4, with none calling it poor and only 0.6% below average. (Many of the riders in this group came from the Red Line and formerly made two transfers to connect with the Blue Line.) Riders in all other groups gave this measure a mean rating of 4.2.

Cleanliness/Condition of Vehicles

“Cleanliness/condition of vehicles” was checked by the fifth-greatest number of riders overall as one of the three most important service quality measures, at 6%. It was also the highest-rated attribute, with a mean rating of 4.3. Overall, 98.0% rated it as average or better, and only 2.0% as poor or below average. There was little difference of opinion among the ridership groups, but inbound Logan riders gave it a mean rating of 4.4, and 100% rated it average or better. When the survey was conducted, most of the vehicles used on the Silver Line Waterfront routes had been in service for 1.5 years or less. Since the vehicles are of an unusual custom design, it is unclear how long their service lives will be.

Personal Safety

“Personal safety” was checked by the sixth-greatest number of riders overall as one of the three most important service quality measures, at 5.3%. It was in a two-way tie as the second-highest-rated attribute, with a mean rating of 4.2. Overall, 97.5% rated it as average or better, and only 2.5% as poor or below average. There was little difference of opinion among the ridership groups, but outbound South Boston riders gave a mean rating of only 4.1, with 3.6% poor or below average.

Availability of Seating

“Availability of seating” was checked by the seventh-greatest number of riders overall as one of the three most important service quality measures, at 5.3%. It was the second-lowest rated attribute, with a mean rating of 3.5. Overall, 83.9% rated it as average or better, and 16.1% as poor or below average. Outbound South Boston riders were the least satisfied with seating, rating it 3.3, with 22.3% rating it poor or below average. Outbound Logan riders were the most satisfied with seating, rating it 4.0, with 6.1% rating it poor or below

average. At South Station, where most of the outbound survey respondents boarded, vehicles going to Logan pick up Logan passengers first and then proceed to another loading berth to pick up passengers going to other, shared stops. Because of this procedure, most riders going to Logan get seats.

Courtesy of Drivers

“Courtesy of drivers” was checked by the eighth-greatest number of riders overall as one of the three most important service quality measures, at 2.3%. It was among the higher-rated attributes, with a mean rating of 3.9. Overall, 94.8% rated it as average or better, and only 5.2% as poor or below average. There was little variation between ridership groups in the ranking of this measure.

Announcement of Stops

“Announcement of stops” was checked by the ninth-greatest number of riders overall as one of the three most important service quality measures, at 2.0%. A high proportion of the respondents used the service daily, and presumably had no difficulty recognizing where they were with or without announcements. However, this measure was tied as having the second-highest mean rating, at 4.2. Overall, 94.6% rated it as average or better, and only 5.4% as poor or below average. The on-board announcements are pre-recorded and automated, so they are consistent from trip to trip. Inbound South Boston riders gave the highest rating to announcements, with a mean of 4.5, no ratings of poor, and only 2.8% rating it below average. Inbound Logan riders, many of whom were visitors to Boston riding the Silver Line for the first time, gave the lowest rating to announcements, with a mean of 3.9. They gave no ratings of poor, but 6.8% rated announcements below average.

New Fare-Collection System

“New fare-collection system” was checked by the tenth-greatest number of riders overall as one of the three most important service quality measures, at 1.8%. It was among the lower-rated attributes, with a mean of 3.6. Overall, 82.2% rated it as average or better, and 17.8% as poor or below average. Inbound Logan riders were the least pleased with the system, giving it a mean rating of 3.4, and 23.0% poor or below average. When the survey was conducted, there were no fare-vending machines at Logan, but they have since been installed at all of the stops there. The MBTA was also then still in the process of converting to automated fare collection throughout the system, resulting in a confusing mix of old and new collection methods on different services that Silver Line passengers might have encountered during their trips. In addition, CharlieCards had not yet been made available to the general ridership. Outbound Logan riders had the best opinion of the fare-collection system, giving it a mean rating of 3.7, and only 12.4% rated it poor or below average. Most of these riders boarded at South Station, and either paid their fares there or transferred from the Red Line, having paid to enter at other stations.

Parking Availability

“Parking availability” was checked by the third-lowest number of riders overall as one of the three most important service quality measures, at 1.6%. Of the four rider groups, the only one with any reported direct access to the Silver Line by driving was inbound South Boston boardings. The expanded survey total showed 73 park-and-ride trips in this group, all from origins outside South Boston. Nevertheless, the service quality ratings indicate that over 2,017 riders had opinions about parking availability. Because of this large difference, most were probably rating commuter parking availability in general rather than Silver Line parking.

Overall, parking availability was the lowest-rated service quality attribute, with a mean of 3.0. It was rated average or better by 71.2% and poor or below average by 28.8%. Inbound South Boston riders gave the highest proportion of poor ratings, at 28.2%. All of the latter riders used walk-in access, but some of them were making return trips to suburban starting points.

Shelter Amenities

The second-lowest number of riders overall checked “shelter amenities” as one of the three most important service quality measures, at 1.3%. Ratings were in the lower midrange among all service quality attributes, with a mean of 3.6. Overall, 87.5% rated it as average or better, and 12.5% as poor or below average. There was some difference of opinion on this measure among the four rider groups, with the highest mean (3.8) coming from passengers going to Logan Airport, and the lowest (3.3) from passengers boarding at the airport. There are no shelters for Silver Line passengers at the airport stops, but it is possible to wait near stops inside some of the airport terminals. Most of the passengers going to Logan boarded at South Station. Those making their first Silver Line trips when they answered the survey would not have known what shelters were provided at other stops.

Station Features

The lowest number of riders overall checked “station features” as one of the three most important service quality measures, at 1.3%. Ratings were in the upper midrange among all service quality attributes, with a mean of 3.8. Overall, 93.6% rated it as average or better, and 6.4% as poor or below average. This measure had not been used on previous surveys, and its meaning was open to some interpretation by respondents. As was the case for shelter amenities, ratings varied among passenger groups. The highest ratings (3.9) came from inbound South Boston riders and outbound Logan riders, both at 3.9, and the lowest came from inbound Logan riders, at 3.4. Some visitors boarding at Logan would not yet have seen any of the Silver Line subway stations, but most other riders would have.



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM - 3:30 PM

Trip Purpose

Trip Category	Number	Percent	Cumulative Percent
Home-based Work	2,978	85.8%	85.8%
Home-based School	8	0.2%	86.1%
Home-based Shopping	9	0.2%	86.3%
Home-based Social Activity	25	0.7%	87.0%
Home-based Personal Business	9	0.3%	87.3%
Home-based Work-related	80	2.3%	89.6%
Home-based Airport	0	0.0%	89.6%
Home-based Other	30	0.9%	90.5%
Work-based Non-Airport	300	8.7%	99.1%
Work-based Airport	0	0.0%	99.1%
Non Home- or Work-based	30	0.9%	100.0%
	Total		
		3,470	
	No Answer		
		158	

Note: Percentages are based on surveys with responses to both origin and destination activity questions. Surveys with no reported activity at origin, destination, or both are included in the "No Answer" total

Sum of row entries may differ from column totals due to rounding



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Trip Purpose

Trip Category	Number	Percent	Cumulative Percent
Home-based Work	187	20.7%	20.7%
Home-based School	0	0.0%	20.7%
Home-based Shopping	0	0.0%	20.7%
Home-based Social Activity	0	0.0%	20.7%
Home-based Personal Business	8	0.9%	21.6%
Home-based Work-related	4	0.5%	22.1%
Home-based Airport	351	39.0%	61.1%
Home-based Other	8	0.8%	62.0%
Work-based Non-Airport	27	3.0%	65.0%
Work-based Airport	111	12.3%	77.2%
Non Home- or Work-based	205	22.8%	100.0%
Total	901		
No Answer	0		

Note: Percentages are based on surveys with responses to both origin and destination activity questions. Surveys with no reported activity at origin, destination, or both are included in the "No Answer" total

Sum of row entries may differ from column totals due to rounding



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound South Boston Ons 6:00 AM - 3:30 PM

Trip Purpose

Trip Category	Number	Percent	Cumulative Percent
Home-based Work	368	43.1%	43.1%
Home-based School	19	2.2%	45.3%
Home-based Shopping	21	2.5%	47.7%
Home-based Social Activity	55	6.4%	54.1%
Home-based Personal Business	33	3.9%	58.0%
Home-based Work-related	21	2.5%	60.5%
Home-based Airport	0	0.0%	60.5%
Home-based Other	14	1.7%	62.1%
Work-based Non-Airport	303	35.4%	97.5%
Work-based Airport	0	0.0%	97.5%
Non Home- or Work-based	21	2.5%	100.0%
Total	855		
No Answer	37		

Note: Percentages are based on surveys with responses to both origin and destination activity questions. Surveys with no reported activity at origin, destination, or both are included in the "No Answer" total

Sum of row entries may differ from column totals due to rounding



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Trip Purpose

Trip Category	Number	Percent	Cumulative Percent
Home-based Work	93	15.0%	15.0%
Home-based School	0	0.0%	15.0%
Home-based Shopping	0	0.0%	15.0%
Home-based Social Activity	8	1.2%	16.2%
Home-based Personal Business	0	0.0%	16.2%
Home-based Work-related	0	0.0%	16.2%
Home-based Airport	213	34.4%	50.6%
Home-based Other	14	2.2%	52.8%
Work-based Non-Airport	36	5.8%	58.6%
Work-based Airport	98	15.8%	74.4%
Non Home- or Work-based	159	25.6%	100.0%
Total	620		
No Answer	27		

Note: Percentages are based on surveys with responses to both origin and destination activity questions. Surveys with no reported activity at origin, destination, or both are included in the "No Answer" total

Sum of row entries may differ from column totals due to rounding



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM - 3:30 PM

Reasons for Riding

Reason	Number	Percent
Convenience	2,294	68.8%
Avoid Driving/Traffic	1,569	47.1%
Speed/travel time	1,329	39.9%
Inexpensive	1,042	31.3%
Environmentally responsible	852	25.5%
Parking cost/availability	807	24.2%
Only transportation available	806	24.2%
Other	166	5.0%
Total Weighted Records with Responses	3,334	
Total Weighted Records with No Responses	294	

Note: Percentages are based on weighted number of records with any reasons checked. Respondents were instructed to check all reasons that applied, but some did not check any. The total of all reasons checked exceeds the total number of records with responses, and the total of the percentage values is greater than 100%



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Reasons for Riding

Reason	Number	Percent
Convenience	609	70.2%
Inexpensive	527	60.7%
Avoid Driving/Traffic	508	58.4%
Speed/travel time	414	47.6%
Environmentally responsible	352	40.5%
Parking cost/availability	188	21.6%
Only transportation available	86	9.9%
Other	72	8.3%
Total Weighted Records with Responses	869	
Total Weighted Records with No Responses	32	

Note: Percentages are based on weighted number of records with any reasons checked. Respondents were instructed to check all reasons that applied, but some did not check any. The total of all reasons checked exceeds the total number of records with responses, and the total of the percentage values is greater than 100%



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound South Boston Ons 6:00 AM - 3:30 PM

Reasons for Riding

Reason	Number	Percent
Convenience	706	88.5%
Speed/travel time	339	42.4%
Avoid Driving/Traffic	322	40.4%
Inexpensive	249	31.2%
Environmentally responsible	227	28.4%
Parking cost/availability	188	23.5%
Only transportation available	158	19.8%
Other	19	2.4%
Total Weighted Records with Responses	798	
Total Weighted Records with No Responses	94	

Note: Percentages are based on weighted number of records with any reasons checked. Respondents were instructed to check all reasons that applied, but some did not check any. The total of all reasons checked exceeds the total number of records with responses, and the total of the percentage values is greater than 100%



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Reasons for Riding

Reason	Number	Percent
Convenience	441	77.7%
Inexpensive	375	66.0%
Avoid Driving/Traffic	316	55.6%
Speed/travel time	277	48.8%
Environmentally responsible	222	39.1%
Parking cost/availability	205	36.1%
Only transportation available	81	14.3%
Other	17	2.9%
Total Weighted Records with Responses	567	
Total Weighted Records with No Responses	80	

Note: Percentages are based on weighted number of records with any reasons checked. Respondents were instructed to check all reasons that applied, but some did not check any. The total of all reasons checked exceeds the total number of records with responses, and the total of the percentage values is greater than 100%



MBTA Silver Line Waterfront Survey

2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM-3:30 PM

Alternate Means of Transportation

Alternate Means	Before Silver Line Available		Currently	
	Number	Percent	Number	Percent
<u>One Alternate Means Used</u>				
Drive Alone	152	4.5%	395	20.4%
Carpool or Vanpool	8	0.2%	45	2.3%
Walk	894	26.2%	1,125	57.9%
Private Shuttle	834	24.5%	135	6.9%
MBTA Subway	0	0.0%	0	0.0%
MBTA Bus	268	7.9%	16	0.8%
Other	16	0.5%	65	3.4%
Subtotal	2,173	63.7%	1,781	91.7%
<u>Multiple Alternate Means Used</u>				
Drive/Walk	16	0.5%	70	3.6%
Drive/Shuttle	37	1.1%	8	0.4%
Drive/No trip	22	0.6%	0	0.0%
Walk/Shuttle	90	2.6%	15	0.8%
Walk/Bus	86	2.5%	32	1.6%
Walk/Shuttle/Bus	16	0.5%	0	0.0%
Walk/Shuttle/Bus/Other	8	0.2%	0	0.0%
Walk/No trip	10	0.3%	0	0.0%
Walk/No trip/Other	22	0.6%	0	0.0%
Walk/Other	3	0.1%	22	1.1%
Pool/Walk	0	0.0%	14	0.7%
Pool/Walk/Shuttle	8	0.2%	0	0.0%
Shuttle/Bus	47	1.4%	0	0.0%
Subtotal	364	10.7%	161	8.3%
Did Not Travel	872	25.6%	0	0.0%
Grand Total	3,409	100.0%	1,942	100.0%
No Answer	219		1,686	
Pct. returns with response	94.0%		53.5%	



MBTA Silver Line Waterfront Survey

2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM-3:30 PM

Alternate Means of Transportation

Alternate Means	Before Silver Line Available		Currently	
	Number	Percent	Number	Percent
<u>One Alternate Means Used</u>				
Drive Alone	132	15.3%	198	43.3%
Carpool or Vanpool	10	1.2%	29	6.3%
Walk	0	0.0%	0	0.0%
Private Shuttle	30	3.5%	20	4.4%
MBTA Subway	324	37.6%	70	15.2%
MBTA Bus	0	0.0%	0	0.0%
Other	91	10.6%	62	13.5%
Subtotal	587	68.2%	378	82.8%
<u>Multiple Alternate Means Used</u>				
Drive/Pool	8	0.9%	16	3.6%
Drive/Pool/Subway	4	0.5%	0	0.0%
Drive/Subway/Other	4	0.5%	0	0.0%
Drive/Subway	15	1.7%	22	4.8%
Drive/Shuttle	8	0.9%	5	1.1%
Drive/Shuttle/Subway	0	0.0%	3	0.7%
Drive/Other	44	5.1%	27	5.9%
Pool/Subway	3	0.4%	0	0.0%
Shuttle/Subway/Other	5	0.6%	0	0.0%
Shuttle/Subway	6	0.7%	0	0.0%
Subway/Bus	11	1.3%	0	0.0%
Subway/Other	10	1.1%	6	1.2%
Bus/Other	6	0.7%	0	0.0%
Subway/No trip/Other	4	0.5%	0	0.0%
Subtotal	128	14.9%	79	17.2%
Did Not Travel	146	17.0%	0	0.0%
Grand Total	861	100.0%	457	100.0%
No Answer	40		444	
Pct. returns with response	95.5%		50.7%	



MBTA Silver Line Waterfront Survey

2006 Passenger Survey

Current recordset:

Inbound South Boston Ons 6:00 AM-3:30 PM

Alternate Means of Transportation

Alternate Means	Before Silver Line Available		Currently	
	Number	Percent	Number	Percent
<u>One Alternate Means Used</u>				
Drive Alone	88	10.6%	100	19.8%
Carpool or Vanpool	0	0.0%	0	0.0%
Walk	297	35.7%	338	67.0%
Private Shuttle	73	8.7%	21	4.2%
MBTA Subway	9	1.1%	0	0.0%
MBTA Bus	54	6.5%	2	0.4%
Other	88	10.5%	5	1.0%
Subtotal	608	73.1%	466	92.4%
<u>Multiple Alternate Means Used</u>				
Drive/Walk	0	0.0%	21	4.2%
Drive/Shuttle	21	2.5%	0	0.0%
Walk/Bus	0	0.0%	5	0.9%
Walk/Bus/Other	5	0.5%	0	0.0%
Pool/Walk	7	0.8%	0	0.0%
Subway/Bus	0	0.0%	13	2.6%
Subtotal	33	3.9%	39	7.6%
Did Not Travel	191	23.0%	0	0.0%
Grand Total	832	100.0%	505	100.0%
No Answer	60		387	
Pct. returns with response	93.2%		56.6%	



MBTA Silver Line Waterfront Survey

2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM-3:30 PM

Alternate Means of Transportation

Alternate Means	Before Silver Line Available		Currently	
	Number	Percent	Number	Percent
<u>One Alternate Means Used</u>				
Drive Alone	55	9.4%	82	29.2%
Carpool or Vanpool	24	4.1%	34	12.2%
Walk	0	0.0%	0	0.0%
Private Shuttle	0	0.0%	7	2.6%
MBTA Subway	276	47.0%	59	21.1%
MBTA Bus	0	0.0%	0	0.0%
Other	75	12.8%	46	16.4%
Subtotal	430	73.3%	229	81.5%
<u>Multiple Alternate Means Used</u>				
Drive/Pool	0	0.0%	8	2.7%
Drive/Pool/Subway	0	0.0%	7	2.6%
Drive/Subway	8	1.3%	14	5.1%
Drive/Subway/Bus	8	1.3%	0	0.0%
Drive/Shuttle	7	1.2%	7	2.6%
Drive/Shuttle/Subway/Pool	7	1.2%	0	0.0%
Pool/Shuttle	8	1.3%	8	2.7%
Shuttle/Other	0	0.0%	8	2.7%
Subway/Other	7	1.2%	0	0.0%
Subtotal	45	7.7%	52	18.5%
Did Not Travel	112	19.1%	0	0.0%
Grand Total	587	100.0%	281	100.0%
No Answer	60		366	
Pct. returns with response	90.8%		43.5%	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM - 3:30 PM

Frequency of Use

Frequency	Number	Percent	Cumulative Percent
Less than 1 day	257	7.5%	7.5%
1 day	67	2.0%	9.5%
2 days	88	2.6%	12.1%
3 days	166	4.8%	16.9%
4 days	183	5.3%	22.2%
5 days	2,563	74.8%	97.1%
6 days	28	0.8%	97.9%
7 days	55	1.6%	99.5%
Just visiting	18	0.5%	100.0%
	Total	3,425	
	No Answer	203	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound South Boston Ons 6:00 AM - 3:30 PM

Frequency of Use

Frequency	Number	Percent	Cumulative Percent
Less than 1 day	208	26.0%	26.0%
1 day	58	7.2%	33.2%
2 days	139	17.4%	50.6%
3 days	101	12.7%	63.3%
4 days	21	2.7%	66.0%
5 days	211	26.3%	92.3%
6 days	17	2.1%	94.4%
7 days	14	1.8%	96.2%
Just visiting	30	3.8%	100.0%
	Total	801	
	No Answer	91	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Frequency of Use

Frequency	Number	Percent	Cumulative Percent
Less than 1 day	418	48.2%	48.2%
1 day	31	3.6%	51.9%
2 days	37	4.3%	56.2%
3 days	6	0.6%	56.8%
4 days	4	0.5%	57.3%
5 days	125	14.5%	71.8%
6 days	5	0.5%	72.3%
7 days	14	1.7%	74.0%
Just visiting	225	26.0%	100.0%
	Total	866	
	No Answer	35	




MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Frequency of Use

Frequency	Number	Percent	Cumulative Percent
Less than 1 day	304	51.4%	51.4%
1 day	17	2.9%	54.3%
2 days	35	6.0%	60.3%
3 days	34	5.7%	66.0%
4 days	17	2.9%	68.9%
5 days	52	8.7%	77.6%
6 days	8	1.3%	78.9%
7 days	0	0.0%	78.9%
Just visiting	125	21.1%	100.0%
	Total		
		592	
	No Answer		
		55	


 **MBTA Silver Line Waterfront Survey**
 2006 Passenger Survey

Current Recordset:

Outbound South Boston Offs 6:00 AM - 3:30 PM

Weekend Usage Rates

Saturday Use?	Sunday Use?				Total Saturday
	Not checked	Regularly	Occasionally	Not at all	
Not checked	223 6.1%	0 0.0%	0 0.0%	0 0.0%	223 6.1%
Regularly	20 0.5%	58 1.6%	15 0.4%	0 0.0%	93 2.6%
Occasionally	117 3.2%	0 0.0%	678 18.7%	213 5.9%	1008 27.8%
Not at all	31 0.9%	0 0.0%	15 0.4%	2258 62.2%	2304 63.5%
Total Sunday	391 10.8%	58 1.6%	708 19.5%	2471 68.1%	3628

 **MBTA Silver Line Waterfront Survey**
 2006 Passenger Survey

Current Recordset:

Inbound South Boston Ons 6:00 AM - 3:30 PM

Weekend Usage Rates

Saturday Use?	Sunday Use?				Total Saturday
	Not checked	Regularly	Occasionally	Not at all	
Not checked	112 12.6%	0 0.0%	0 0.0%	0 0.0%	112 12.6%
Regularly	0 0.0%	59 6.7%	17 1.9%	0 0.0%	77 8.6%
Occasionally	58 6.5%	0 0.0%	118 13.2%	0 0.0%	176 19.7%
Not at all	7 0.8%	0 0.0%	16 1.8%	504 56.5%	527 59.1%
Total Sunday	177 19.9%	59 6.7%	151 16.9%	504 56.5%	892

T *MBTA Silver Line Waterfront Survey*
2006 Passenger Survey

Current Recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Weekend Usage Rates

Saturday Use?	Sunday Use?				Total Saturday
	Not checked	Regularly	Occasionally	Not at all	
Not checked	193 21.4%	0 0.0%	0 0.0%	3 0.3%	196 21.8%
Regularly	0 0.0%	57 6.3%	9 1.0%	0 0.0%	66 7.3%
Occasionally	16 1.7%	0 0.0%	245 27.2%	5 0.5%	265 29.4%
Not at all	14 1.5%	0 0.0%	8 0.8%	353 39.1%	374 41.5%
Total Sunday	223 24.7%	57 6.3%	261 29.0%	361 40.0%	901

T *MBTA Silver Line Waterfront Survey*
2006 Passenger Survey

Current Recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Weekend Usage Rates

Saturday Use?	Sunday Use?				Total Saturday
	Not checked	Regularly	Occasionally	Not at all	
Not checked	89 13.7%	0 0.0%	17 2.7%	0 0.0%	106 16.3%
Regularly	0 0.0%	26 4.1%	8 1.2%	0 0.0%	34 5.2%
Occasionally	24 3.7%	0 0.0%	154 23.8%	0 0.0%	178 27.5%
Not at all	7 1.1%	0 0.0%	8 1.2%	314 48.6%	329 50.9%
Total Sunday	120 18.5%	26 4.1%	187 28.9%	314 48.6%	647



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM - 3:30 PM

Fare Type

Fare Type	Number	Percent	Avg. Days per Week
Adult single-ride fare	433	11.9%	2.7
Monthly pass	3,045	83.9%	4.7
Adult weekly pass	56	1.6%	4.8
Senior-citizen/disability single-ride fare	47	1.3%	0.8
Senior-citizen/disability pass	47	1.3%	1.7
Child/student single-ride fare	0	0.0%	0.0
Student pass	0	0.0%	0.0
Other	0	0.0%	0.0
	Total		
	3,628		
	No Answer		
	0		



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Fare Type

Fare Type	Number	Percent	Avg. Days per Week
Adult single-ride fare	640	71.1%	1.4
Monthly pass	212	23.5%	2.5
Adult weekly pass	12	1.4%	1.6
Senior-citizen/disability single-ride fare	18	2.0%	0.5
Senior-citizen/disability pass	12	1.4%	0.5
Child/student single-ride fare	0	0.0%	0.0
Student pass	0	0.3%	0.0
Other	6	0.6%	0.0
	Total		
	901		
	No Answer		
	0		



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound South Boston Ons 6:00 AM - 3:30 PM

Fare Type

Fare Type	Number	Percent	Avg. Days per Week
Adult single-ride fare	297	33.3%	1.8
Monthly pass	457	51.3%	3.1
Adult weekly pass	45	5.0%	3.1
Senior-citizen/disability single-ride fare	40	4.5%	3.7
Senior-citizen/disability pass	29	3.2%	4.3
Child/student single-ride fare	0	0.0%	0.0
Student pass	3	0.3%	5.0
Other	21	2.4%	0.5
	Total		
	892		
	No Answer		
	0		



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Fare Type

Fare Type	Number	Percent	Avg. Days per Week
Adult single-ride fare	482	74.6%	1.2
Monthly pass	124	19.2%	2.2
Adult weekly pass	8	1.2%	5.0
Senior-citizen/disability single-ride fare	7	1.1%	0.5
Senior-citizen/disability pass	18	2.8%	2.0
Child/student single-ride fare	7	1.1%	0.0
Student pass	0	0.0%	0.0
Other	0	0.0%	0.0
	Total		
	647		
	No Answer		
	0		



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM - 3:30 PM

Access to Silver Line

Access Mode	Number	Percent
Direct Walk Access	187	5.2%
Subway only reported	1,748	48.2%
Subway from T Bus	99	2.7%
Subway from Drive to T bus	7	0.2%
Subway from Private Carrier	16	0.4%
Subway from Walk	40	1.1%
Subway from Drive	7	0.2%
Subway from North Side Commuter Rail	78	2.1%
Total Subway	1,995	55.0%
T Bus only reported	102	2.8%
Private-Carrier Bus only reported	59	1.6%
South Side Commuter Rail only	1,229	33.9%
Drive to South Side Commuter Rail	18	0.5%
Walk to South Side Commuter Rail	23	0.6%
Total South Side Commuter Rail	1,270	35.0%
Direct from Intercity Rail	8	0.2%
Direct from Vanpool	7	0.2%
Total Other	15	0.4%
Grand Total	3,628	100.0%
No Answer	0	



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM - 3:30 PM

Bus Access to Silver Line

<u>Access Routes</u>	<u>Number</u>	<u>Percent</u>
Direct Transfers		
<u>Route</u>		
6	7	2.5%
501	24	8.5%
504	39	13.9%
505	16	5.7%
554	8	2.8%
Silver Line Washington St.	8	2.8%
Peter Pan	25	8.9%
Plymouth & Brockton	34	12.1%
Total Direct	161	57.3%
Transfers with Rapid Transit Link		
57	3	1.1%
71	17	6.0%
87	14	5.0%
212	7	2.5%
215	16	5.7%
220	9	3.2%
325	9	3.2%
326	9	3.2%
502	8	2.8%
73 to 69	3	1.1%
Silver Line Washington St.	9	3.2%
712	8	2.8%
714	8	2.8%
Total Indirect	120	42.7%
Grand Total	281	100.0%



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Access to Silver Line

Access Mode	Number	Percent
Direct Walk Access	157	17.4%
Subway only reported	459	50.9%
Subway from T Bus	39	4.3%
Subway from Private Shuttle	4	0.4%
Subway from Dropoff	22	2.4%
Subway from North Side Commuter Rail	5	0.6%
Total Subway	529	58.7%
T Bus only reported	6	0.7%
Private-Carrier Bus only reported	13	1.4%
South Side Commuter Rail only	131	14.5%
Direct from Dropoff	34	3.8%
Direct from Intercity Rail	18	2.0%
Direct from Vanpool	0	0.0%
Direct from Taxi	4	0.4%
Transfer from inbound SL2	6	0.7%
Unspecified Other	3	0.3%
Total Other	65	7.2%
Grand Total	901	100.0%
No Answer	0	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Bus Access to Silver Line

<u>Access Routes</u>		<u>Number</u>	<u>Percent</u>
Direct Transfers			
	<u>Route</u>		
	558	6	10.5%
	DATTCO	4	7.0%
	Peter Pan	3	5.3%
	Plymouth & Brockton	6	10.5%
	Total Direct	19	33.3%
Transfers with Rapid Transit Link			
	<u>Route</u>		
	11	3	5.3%
	34	3	5.3%
	73	9	15.8%
	77	9	15.8%
	88	6	10.5%
	91	4	7.0%
	94	4	7.0%
	Total Indirect	38	66.7%
	Grand Total	57	100.0%



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound South Boston Ons 6:00 AM - 3:30 PM

Access to Silver Line

Access Mode	Number	Percent
Direct Walk Access	782	87.7%
Drive Access	73	8.2%
Dropoff Access	37	4.1%
Grand Total	892	100.0%
No Answer	0	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Access to Silver Line

Access Mode	Number	Percent
Direct Walk Access	557	86.1%
Blue Line to Massport Shuttle	19	2.9%
Walk to Shuttle at Airport Station	15	2.3%
Other Shuttle Bus/Van Access	23	3.6%
Total Shuttle Bus/Van	57	8.8%
Private Carrier Bus	13	2.0%
Drop-Off	13	2.0%
Other (unspecified)	7	1.1%
Grand Total	647	100.0%
No Answer	0	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM - 3:30 PM

Egress from Silver Line

Egress Mode	Number	Percent
Walk Egress	3,396	99.2%
Bus Egress	7	0.2%
Other Egress	22	0.6%
Grand Total	3,425	100.0%
No Answer	203	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Egress from Silver Line

Egress Mode	Number	Percent
Walk Egress	761	90.0%
Shuttle/Van Egress	48	5.6%
Drive Egress	22	2.6%
Pickup Egress	16	1.8%
Grand Total	847	100.0%
No Answer	54	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound South Boston Ons 6:00 AM - 3:30 PM

Egress from Silver Line

Egress Mode	Number	Percent
Direct Walk Egress	442	53.8%
Subway only reported	278	33.9%
Subway to T Bus	42	5.1%
Subway to RTA bus	14	1.7%
Subway to Drive	12	1.5%
Subway to be Picked Up	0	0.0%
Total Subway	346	42.1%
South Side Commuter Rail only	33	4.0%
T Bus only reported	0	0.0%
Private-Carrier Bus only reported	0	0.0%
Other Egress	0	0.0%
Grand Total	821	100.0%
No Answer	71	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Egress from Silver Line

Egress Mode	Number	Percent
Direct Walk Egress	179	29.2%
Subway only reported	279	45.5%
Subway to T Bus	17	2.8%
Subway to RTA bus	0	0.0%
Subway to Drive	0	0.0%
Subway to be Picked Up	15	2.4%
Total Subway	311	50.7%
South Side Commuter Rail only	54	8.8%
T Bus only reported	0	0.0%
Private-Carrier Bus only reported	23	3.8%
Direct Drive Egress	27	4.4%
Intercity Rail Egress	11	1.8%
Rental Car Egress	8	1.3%
Total Other Egress	46	7.5%
Grand Total	613	100.0%
No Answer	34	



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound So. Boston Offs 6:00 AM - 3:30 PM

Origin Locations and Activities by Subarea

LOCATIONS Subarea Origins	Total Riders	Pct. Of Riders	No Resp.	ACTIVITIES																	
				Home	School	Work	Store	Pers. Bus.	Work- rel.	Social/ Rec.	Airport	Other									
South Shore	614	17.0%		100%																	
Boston-Not Boston Proper	575	16.0%		94.8%	1.4%	3.8%															
Boston Proper	436	12.1%		39.8%		24.5%			5.4%	5.0%	20.4%									4.9%	
Cambridge	302	8.4%		89.5%	5.0%	3.0%					2.6%										
Metrowest-Inner	215	6.0%		100%																	
Neponset Valley	180	5.0%		100%																	
Somerville	164	4.5%		100%																	
Brockton Area	161	4.5%		100%																	
Attleboro/Taunton Area	121	3.4%		100%																	
Northwest-Inner	109	3.0%		100%																	
North Suburbs-So. of 128	115	3.2%		100%																	
Metrowest-Outer	86	2.4%		100%																	
Worcester Area	69	1.9%		100%																	
Brookline	69	1.9%		100%																	
Rhode Island	60	1.7%		100%																	
Logan Vicinity	45	1.3%		100%																	
Blackstone Valley	43	1.2%		100%																	
Cape Cod and Islands	42	1.2%		100%																	
North Shore-No. of 128	36	1.0%		100%																	
South Coast	27	0.8%		100%																	
Montachusett Area	23	0.6%		100%																	
New Hampshire	22	0.6%		32.3%					67.7%												
Marlborough Area	22	0.6%		100%																	
South Boston	16	0.4%		100%																	
North Shore-Inner	14	0.4%		100%																	
Lowell Area	10	0.3%		100%																	
Merrimack Valley-West	10	0.3%		100%																	
North Suburbs-No. of 128	8	0.2%		100%																	
Northwest-Outer	8	0.2%		100%																	
Total	2,989	83%		90.6%	0.6%	3.8%			1.1%	0.8%	2.5%									0.6%	
No Answer	26																				

Note: Sum of row entries may differ from column total because of rounding



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Origin Locations and Activities by Subarea

LOCATIONS Subarea Origins	Total Riders	Pct. Of Riders	ACTIVITIES									
			No Resp.	Home	School	Work	Store	Pers. Bus.	Work-rel.	Social/Rec.	Airport	Other
Cambridge	194	21.6%	2.5%	58.5%	8.0%	9.2%				2.9%		18.9%
Boston Proper	153	17.0%		17.6%		41.6%			3.2%	3.7%		34.0%
Boston-Not Boston Proper	108	12.0%		73.9%								26.1%
South Boston	91	10.1%		42.0%		40.9%						17.1%
South Shore	69	7.6%		84.7%		7.1%				8.2%		
Somerville	68	7.6%		74.8%								25.2%
Neponset Valley	42	4.6%		72.9%								27.1%
Northwest-Inner	35	3.9%		91.0%		9.0%						
Metrowest-Inner	27	3.0%		79.4%		20.6%						
Cape Cod and Islands	15	1.7%		100%								
Rhode Island	14	1.5%		100%								
North Suburbs-So. of 128	14	1.5%		67.4%								32.6%
Connecticut	13	1.4%							24.3%			75.7%
Worcester Area	13	1.4%		75.7%								24.3%
Blackstone Valley	8	0.8%		100%								
Northwest-Outer	7	0.8%		39.6%								60.4%
Attleboro/Taunton Area	6	0.7%		100%								
Western Massachusetts	6	0.6%		100%								
New York State	5	0.5%										100%
Brookline	4	0.5%										100%
South Coast	4	0.5%		100%								
Marlborough Area	3	0.4%		100%								
Total	898	100%	0.5%	59.2%	1.7%	14.7%			0.5%	1.6%	0.6%	21.4%
No Answer	3											

Note: Sum of row entries may differ from column total because of rounding



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Outbound So. Boston Offs 6:00 AM - 3:30 PM

Origin Locations and Activities by Subarea

LOCATIONS Subarea Origins	Total Riders	Pct. Of Riders	No Resp.	ACTIVITIES																	
				Home	School	Work	Store	Pers. Bus.	Work- rel.	Social/ Rec.	Airport	Other									
South Shore	614	17.0%		100%																	
Boston-Not Boston Proper	575	16.0%		94.8%	1.4%	3.8%															
Boston Proper	436	12.1%		39.8%		24.5%			5.4%	5.0%	20.4%									4.9%	
Cambridge	302	8.4%		89.5%	5.0%	3.0%					2.6%										
Metrowest-Inner	215	6.0%		100%																	
Neponset Valley	180	5.0%		100%																	
Somerville	164	4.5%		100%																	
Brockton Area	161	4.5%		100%																	
Attleboro/Taunton Area	121	3.4%		100%																	
Northwest-Inner	109	3.0%		100%																	
North Suburbs-So. of 128	115	3.2%		100%																	
Metrowest-Outer	86	2.4%		100%																	
Worcester Area	69	1.9%		100%																	
Brookline	69	1.9%		100%																	
Rhode Island	60	1.7%		100%																	
Logan Vicinity	45	1.3%		100%																	
Blackstone Valley	43	1.2%		100%																	
Cape Cod and Islands	42	1.2%		100%																	
North Shore-No. of 128	36	1.0%		100%																	
South Coast	27	0.8%		100%																	
Montachusett Area	23	0.6%		100%																	
New Hampshire	22	0.6%		32.3%					67.7%												
Marlborough Area	22	0.6%		100%																	
South Boston	16	0.4%		100%																	
North Shore-Inner	14	0.4%		100%																	
Lowell Area	10	0.3%		100%																	
Merrimack Valley-West	10	0.3%		100%																	
North Suburbs-No. of 128	8	0.2%		100%																	
Northwest-Outer	8	0.2%		100%																	
Total	2,989	83%		90.6%	0.6%	3.8%			1.1%	0.8%	2.5%									0.6%	
No Answer	26																				

Note: Sum of row entries may differ from column total because of rounding



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Origin Locations and Activities by Subarea

LOCATIONS Subarea Origins	Total Riders	Pct. Of Riders	ACTIVITIES									
			No Resp.	Home	School	Work	Store	Pers. Bus.	Work-rel.	Social/Rec.	Airport	Other
Cambridge	194	21.6%	2.5%	58.5%	8.0%	9.2%				2.9%		18.9%
Boston Proper	153	17.0%		17.6%		41.6%			3.2%	3.7%		34.0%
Boston-Not Boston Proper	108	12.0%		73.9%								26.1%
South Boston	91	10.1%		42.0%		40.9%						17.1%
South Shore	69	7.6%		84.7%		7.1%				8.2%		
Somerville	68	7.6%		74.8%								25.2%
Neponset Valley	42	4.6%		72.9%								27.1%
Northwest-Inner	35	3.9%		91.0%		9.0%						
Metrowest-Inner	27	3.0%		79.4%		20.6%						
Cape Cod and Islands	15	1.7%		100%								
Rhode Island	14	1.5%		100%								
North Suburbs-So. of 128	14	1.5%		67.4%								32.6%
Connecticut	13	1.4%							24.3%			75.7%
Worcester Area	13	1.4%		75.7%								24.3%
Blackstone Valley	8	0.8%		100%								
Northwest-Outer	7	0.8%		39.6%								60.4%
Attleboro/Taunton Area	6	0.7%		100%								
Western Massachusetts	6	0.6%		100%								
New York State	5	0.5%										100%
Brookline	4	0.5%										100%
South Coast	4	0.5%		100%								
Marlborough Area	3	0.4%		100%								
Total	898	100%	0.5%	59.2%	1.7%	14.7%			0.5%	1.6%	0.6%	21.4%
No Answer	3											

Note: Sum of row entries may differ from column total because of rounding



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Inbound So. Boston Ons 6:00 AM - 3:30 PM

Origin Locations and Activities by Subarea

LOCATIONS Subarea Origins	Total Riders	Pct. Of Riders	No Resp.	ACTIVITIES									
				Home	School	Work	Store	Pers. Bus.	Work- rel.	Social/ Rec.	Airport	Other	
South Boston	782	87.6%		23.5%		54.6%		1.6%	5.4%	4.3%		10.7%	
North Shore-Inner	21	2.4%		100%									
Northwest-Inner	21	2.4%		100%									
Maine	21	2.4%		100%									
Attleboro/Taunton Area	9	1.0%		100%									
Boston-Not Boston Proper	9	1.0%		100%									
Metrowest-Outer	7	0.8%		100%									
Northwest-Outer	7	0.8%		100%									
Western Massachusetts	7	0.8%		100%									
South Shore	3	0.3%		100%									
Logan Vicinity	3	0.3%		100%									
Merrimack Valley-West	3	0.3%		100%									
Total	892	100%		26.4%		20.6%		47.9%	0.0%	1.4%		3.8%	
No Answer	0												

Note: Sum of row entries may differ from column total because of rounding



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Origin Locations and Activities by Subarea

LOCATIONS Subarea Origins	Total Riders	Pct. Of Riders	No Resp.	ACTIVITIES									
				Home	School	Work	Store	Pers. Bus.	Work- rel.	Social/ Rec.	Airport	Other	
Logan Airport*	582	90.0%				14.0%					1.3%	82.7%	1.9%
Logan Vicinity	47	7.1%		89.4%									10.6%
New Hampshire	14	2.1%		100%									
North Shore-Inner	6	0.9%		100%									
Total	647	100%		9.4%		12.6%					1.2%	74.4%	2.5%
No Answer	0												

Note: Sum of row entries may differ from column total because of rounding

*In Logan Airport origins, activity "Airport" indicates riders arriving by air, regardless of activity prior to flight



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Outbound So. Boston Offs 6:00 AM - 3:30 PM

Destination Locations and Activities by Subarea

LOCATIONS	ACTIVITIES											
	Total Riders	Pct. Of Riders	No Resp.	Home	School	Work	Store	Pers. Bus.	Work-rel.	Social/ Rec.	Airport	Other
Subarea Destinations												
South Boston	3,606	99.4%	4.4%	0.2%	0.2%	87.1%	0.2%	0.7%	5.2%	1.1%		0.8%
Cape Cod and Islands*	22	0.6%								100%		
Total	3,628	100%	4.4%	0.2%	0.2%	86.6%	0.2%	0.7%	5.2%	1.7%		0.8%
No Answer	0											

Note: Sum of row entries may differ from column total because of rounding

*Trips to Cape and Islands are via transfer to Provincetown ferry at World Trade Center



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Destination Locations and Activities by Subarea

LOCATIONS	Total Riders	Pct. Of Riders	No Resp.	ACTIVITIES										
				Home	School	Work	Store	Pers. Bus.	Work-rel.	Social/Rec.	Airport	Other		
Subarea Destinations														
Logan Airport*	842	95.8%				18.4%		1.0%	1.1%	0.4%	78.2%	0.9%		
Logan Vicinity	37	4.2%				100%								
Total	879	100%				21.8%		1.0%	1.1%	0.4%	74.9%	0.9%		
No Answer	22													

Note: Sum of row entries may differ from column total because of rounding

*In Logan Airport destinations, activity "Airport" indicates riders continuing by air, regardless of activity at final destination



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Inbound So. Boston Ons 6:00 AM - 3:30 PM

Destination Locations and Activities by Subarea

LOCATIONS Subarea Destinations	Total Riders	Pct. Of Riders	No Resp.	ACTIVITIES								
				Home	School	Work	Store	Pers. Bus.	Work- rel.	Social/ Rec.	Airport	Other
Boston Proper	529	62.8%	1.7%	4.7%	0.5%	40.6%	10.3%	10.3%	15.9%	8.0%		8.0%
Cambridge	99	11.8%		33.6%	2.8%	21.2%					42.4%	
North Suburbs-So. of 128	64	7.6%		89.3%					10.7%			
Boston-Not Boston Proper	42	5.0%		21.2%	31.0%	47.8%						
Northwest-Inner	33	4.0%		100%								
South Boston	21	2.5%		57.8%		42.2%						
Metrowest-Inner	21	2.5%		100%								
Brockton Area	14	1.7%		100%								
Attleboro/Taunton Area	12	1.5%		100%								
Brookline	6	0.7%		100%								
Total	843	100%	4.4%	29.0%	2.2%	31.5%	6.5%	6.5%	10.8%	10.0%		5.0%
No Answer	49											

Note: Sum of row entries may differ from column total because of rounding



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Destination Locations and Activities by Subarea

LOCATIONS Subarea Destinations	Total Riders	Pct. Of Riders	No Resp.	ACTIVITIES								
				Home	School	Work	Store	Pers. Bus.	Work- rel.	Social/ Rec.	Airport	Other
Cambridge	165	28.1%		60.7%	4.7%	19.5%				6.1%		9.1%
Boston Proper	124	21.1%		5.9%		40.1%	6.2%	8.1%		28.7%		10.9%
South Boston	78	13.3%		9.9%		70.1%				9.0%		
Boston-Not Boston Proper	40	6.8%		61.3%				19.3%				19.3%
South Shore	35	6.0%		77.9%								22.1%
Brockton Area	22	3.8%		67.3%								32.7%
Connecticut	19	3.2%		40.5%				59.5%				
Northwest-Inner	17	2.9%		56.6%								43.4%
Western Massachusetts	15	2.6%				50.0%				50.0%		
Cape Cod and Islands	11	1.9%										100%
New Hampshire	11	1.9%		100%								
Somerville	10	1.7%		100%								
Worcester Area	9	1.6%		100%								
Neponset Valley	8	1.3%		100%								
Blackstone Valley	7	1.2%										100%
Marlborough Area	7	1.2%		100%								
Montachusett Area	7	1.2%		100%								
Total	586	100%		42.9%	1.3%	24.6%	1.3%	4.9%	9.0%	1.3%		14.6%
No Answer	61											

Note: Sum of row entries may differ from column total because of rounding



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM-3:30 PM

Socioeconomic Data

Age of Riders

Age category	Number	Percent	Cumulative Percent
17 or Under	3	0.1%	0.1%
18-24	298	8.8%	8.9%
25-34	1,067	31.4%	40.2%
35-44	866	25.5%	65.7%
45-64	1,090	32.0%	97.7%
65 or over	77	2.3%	100.0%
TOTAL	3,401		
No Answer	227		

Gender of Riders

Gender	Number	Percent
Male	1,376	43.1%
Female	1,816	56.9%
Transgender	0	0.0%
TOTAL	3,192	
No Answer	436	

Annual Household Incomes of Riders

Income category	Number	Percent	Cumulative Percent
Under \$20,000	73	2.5%	2.5%
\$20,000-\$29,999	97	3.3%	5.7%
\$30,000-\$39,999	194	6.5%	12.2%
\$40,000-\$49,999	416	14.0%	26.2%
\$60,000-\$79,999	488	16.4%	42.6%
\$80,000 or more	1,711	57.4%	100.0%
TOTAL	2,979		
No Answer	650		
Mean Household Size:	2.55		



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM-3:30 PM

Socioeconomic Data

Age of Riders

Age category	Number	Percent	Cumulative Percent
17 or Under	4	0.5%	0.5%
18-24	121	13.8%	14.3%
25-34	203	23.2%	37.5%
35-44	177	20.3%	57.8%
45-64	314	35.9%	93.7%
65 or over	55	6.3%	100.0%
TOTAL	874		
No Answer	27		

Gender of Riders

Gender	Number	Percent
Male	382	45.7%
Female	451	53.9%
Transgender	3	0.4%
TOTAL	836	
No Answer	65	

Annual Household Incomes of Riders

Income category	Number	Percent	Cumulative Percent
Under \$20,000	71	8.4%	8.4%
\$20,000-\$29,999	46	5.4%	13.8%
\$30,000-\$39,999	92	10.8%	24.6%
\$40,000-\$49,999	161	19.0%	43.6%
\$60,000-\$79,999	77	9.1%	52.7%
\$80,000 or more	401	47.3%	100.0%
TOTAL	848		
No Answer	54		
Mean Household Size:	2.62		



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound South Boston Ons 6:00 AM-3:30 PM

Socioeconomic Data

Age of Riders

Age category	Number	Percent	Cumulative Percent
17 or Under	0	0.0%	0.0%
18-24	116	13.8%	13.8%
25-34	122	14.5%	28.3%
35-44	278	33.0%	61.3%
45-64	285	33.8%	95.1%
65 or over	41	4.9%	100.0%
TOTAL	842		
No Answer	49		

Gender of Riders

Gender	Number	Percent
Male	397	48.9%
Female	415	51.1%
Transgender	0	0.0%
TOTAL	812	
No Answer	80	

Annual Household Incomes of Riders

Income category	Number	Percent	Cumulative Percent
Under \$20,000	63	8.0%	8.0%
\$20,000-\$29,999	0	0.0%	8.0%
\$30,000-\$39,999	0	0.0%	8.0%
\$40,000-\$49,999	111	14.2%	22.2%
\$60,000-\$79,999	127	16.2%	38.4%
\$80,000 or more	483	61.6%	100.0%
TOTAL	784		
No Answer	107		
Mean Household Size:	2.61		



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM-3:30 PM

Socioeconomic Data

Age of Riders

Age category	Number	Percent	Cumulative Percent
17 or Under	7	1.1%	1.1%
18-24	45	7.4%	8.5%
25-34	233	38.1%	46.6%
35-44	90	14.7%	61.3%
45-64	218	35.6%	96.9%
65 or over	19	3.1%	100.0%
TOTAL	612		
No Answer	35		

Gender of Riders

Gender	Number	Percent
Male	289	48.1%
Female	312	51.9%
Transgender	0	0.0%
TOTAL	601	
No Answer	45	

Annual Household Incomes of Riders

Income category	Number	Percent	Cumulative Percent
Under \$20,000	37	7.9%	7.9%
\$20,000-\$29,999	0	0.0%	7.9%
\$30,000-\$39,999	43	9.1%	17.0%
\$40,000-\$49,999	105	22.3%	39.3%
\$60,000-\$79,999	69	14.6%	53.9%
\$80,000 or more	217	46.1%	100.0%
TOTAL	471		
No Answer	177		
Mean Household Size:	2.52		



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Automobile Availability Data

Current recordset:

Outbound South Boston Offs 6:00 AM-3:30 PM

Licensed Drivers

Riders with Drivers License	Number	Percent
Licensed	3,158	92.5%
Not Licensed	255	7.5%
TOTAL	3,413	
No Answer	216	

Riders with Automobiles Available for Trip

Riders with Autos Available	Number	Percent
Auto Available	2,240	67.2%
No Auto Available	1,092	32.8%
TOTAL	3,332	
No Answer	297	

Current recordset:

Inbound South Boston Ons 6:00 AM-3:30 PM

Licensed Drivers

Riders with Drivers License	Number	Percent
Licensed	758	92.2%
Not Licensed	64	7.8%
TOTAL	822	
No Answer	70	

Riders with Automobiles Available for Trip

Riders with Autos Available	Number	Percent
Auto Available	485	60.1%
No Auto Available	322	39.9%
TOTAL	807	
No Answer	85	



Automobile Availability Data

Current recordset:

Outbound Logan Offs 6:00 AM-3:30 PM

Licensed Drivers

Riders with Drivers License	Number	Percent
Licensed	834	95.4%
Not Licensed	40	4.6%
TOTAL	874	
No Answer	27	

Riders with Automobiles Available for Trip

Riders with Autos Available	Number	Percent
Auto Available	521	60.2%
No Auto Available	344	39.8%
TOTAL	865	
No Answer	36	

Current recordset:

Inbound Logan Ons 6:00 AM-3:30 PM

Licensed Drivers

Riders with Drivers License	Number	Percent
Licensed	587	97.2%
Not Licensed	17	2.8%
TOTAL	604	
No Answer	43	

Riders with Automobiles Available for Trip

Riders with Autos Available	Number	Percent
Auto Available	254	43.4%
No Auto Available	331	56.6%
TOTAL	585	
No Answer	62	

Current recordset:

Inbound and Outbound Total 6:00 AM - 3:30 PM

Customer Service Data

Service Quality	Mean	Poor	Below Average	Average	Above Average	Excellent	Total	No Rating	Importance*
Reliability	3.8	151 2.8%	360 6.7%	1,280 23.8%	1,957 36.4%	1,629 30.3%	5,377	691	1,340
Personal Safety	4.2	37 0.7%	95 1.8%	1,044 19.8%	1,887 35.8%	2,209 41.9%	5,271	797	322
Cleanliness	4.3	21 0.4%	86 1.6%	595 11.1%	2,064 38.5%	2,595 48.4%	5,361	707	334
Courtesy	3.9	90 1.7%	185 3.5%	1,313 24.8%	2,117 40.0%	1,588 30.0%	5,293	775	140
Announcements	4.2	69 1.3%	219 4.1%	831 15.6%	1,802 33.8%	2,409 45.2%	5,330	738	122
Seating	3.5	229 4.2%	648 11.9%	1,742 32.0%	1,699 31.2%	1,127 20.7%	5,444	624	327
Frequency	3.6	204 3.8%	573 10.7%	1,398 26.1%	1,912 35.7%	1,270 23.7%	5,357	711	1,160
Travel Time	4.1	49 0.9%	270 5.0%	830 15.4%	2,064 38.3%	2,178 40.4%	5,390	678	719
Parking	3.0	347 17.2%	234 11.6%	736 36.5%	383 19.0%	317 15.7%	2,017	4,051	95
Shelters	3.6	161 4.0%	341 8.5%	1,382 34.4%	1,273 31.7%	859 21.4%	4,016	2,052	78
Fare Collection	3.6	427 9.1%	408 8.7%	1,134 24.2%	1,580 33.7%	1,139 24.3%	4,688	1,380	111
Station Features	3.8	80 1.7%	221 4.7%	1,568 33.4%	1,666 35.5%	1,159 24.7%	4,694	1,374	76
Subway Access	4.2	26 0.5%	120 2.3%	922 17.7%	1,802 34.6%	2,338 44.9%	5,208	860	582

*Importance indicates number of passengers having this measure as one of the three most important to them. Some respondents checked fewer than three measures and some checked more than three.



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound South Boston Offs 6:00 AM - 3:30 PM

Customer Service Data

Service Quality	Mean	Poor	Below Average	Average	Above Average	Excellent	Total	No Rating	Importance*
Reliability	3.7	96 2.9%	325 9.8%	842 25.4%	1,196 36.1%	855 25.8%	3,313	315	649
Personal Safety	4.1	29 0.9%	87 2.7%	710 22.1%	1,128 35.1%	1,259 39.2%	3,213	415	128
Cleanliness	4.3	20 0.6%	23 0.7%	436 13.4%	1,233 37.9%	1,541 47.4%	3,252	376	130
Courtesy	3.9	81 2.5%	103 3.2%	749 23.2%	1,401 43.4%	894 27.7%	3,227	401	37
Announcements	4.2	58 1.8%	116 3.6%	536 16.7%	1,069 33.3%	1,432 44.6%	3,210	418	34
Seating	3.3	203 6.2%	528 16.1%	1,180 36.0%	901 27.5%	465 14.2%	3,278	350	156
Frequency	3.5	137 4.2%	481 14.7%	916 28.0%	1,128 34.5%	608 18.6%	3,270	358	562
Travel Time	4.1	33 1.0%	161 4.9%	515 15.7%	1,197 36.5%	1,374 41.9%	3,279	349	343
Parking	2.9	194 18.3%	136 12.8%	447 42.1%	171 16.1%	114 10.7%	1,061	2,567	35
Shelters	3.6	139 5.8%	141 5.9%	881 36.8%	684 28.6%	548 22.9%	2,393	1,235	30
Fare Collection	3.5	269 9.1%	245 8.3%	757 25.6%	1,026 34.7%	659 22.3%	2,956	672	36
Station Features	3.8	55 1.9%	142 4.9%	910 31.5%	1,110 38.4%	673 23.3%	2,890	738	9
Subway Access	4.2	16 0.5%	101 3.2%	580 18.4%	1,110 35.2%	1,346 42.7%	3,152	476	230

*Importance indicates number of passengers having this measure as one of the three most important to them. Some respondents checked fewer than three measures and some checked more than three.



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Outbound Logan Offs 6:00 AM - 3:30 PM

Customer Service Data

Service Quality	Mean	Poor	Below Average	Average	Above Average	Excellent	Total	No Rating	Importance*
Reliability	4.1	17 2.2%	23 3.1%	120 15.9%	269 35.6%	326 43.2%	755	146	143
Personal Safety	4.3	8 1.0%	3 0.4%	114 14.6%	286 36.7%	368 47.3%	779	122	59
Cleanliness	4.3	4 0.5%	29 3.6%	53 6.5%	336 41.5%	388 47.9%	809	92	46
Courtesy	4.0	9 1.1%	45 5.7%	180 22.9%	289 36.8%	263 33.5%	785	116	29
Announcements	4.1	12 1.5%	45 5.6%	114 14.0%	301 37.1%	339 41.8%	811	90	27
Seating	4.0	12 1.4%	39 4.7%	182 21.7%	313 37.3%	293 34.9%	839	62	31
Frequency	4.0	20 2.5%	38 4.7%	180 22.0%	263 32.2%	315 38.6%	817	84	150
Travel Time	4.1	9 1.1%	53 6.5%	132 16.1%	279 34.0%	348 42.3%	822	79	128
Parking	3.5	18 6.0%	39 12.9%	77 25.2%	109 35.7%	62 20.3%	306	595	21
Shelters	3.8	0 0.0%	47 7.8%	166 27.7%	250 41.7%	137 22.8%	599	302	16
Fare Collection	3.7	44 7.1%	33 5.3%	153 24.9%	218 35.4%	168 27.3%	616	285	26
Station Features	3.9	0 0.0%	15 2.3%	250 37.5%	187 28.1%	214 32.1%	666	235	13
Subway Access	4.4	0 0.0%	5 0.6%	109 14.2%	252 32.7%	404 52.5%	770	131	111

*Importance indicates number of passengers having this measure as one of the three most important to them. Some respondents checked fewer than three measures and some checked more than three.



MBTA Silver Line Waterfront Survey
 2006 Passenger Survey

Current recordset:

Inbound South Boston Ons 6:00 AM - 3:30 PM

Customer Service Data

Service Quality	Mean	Poor	Below Average	Average	Above Average	Excellent	Total	No Rating	Importance*
Reliability	4.0	37 4.9%	0 0.0%	199 26.0%	252 33.0%	276 36.1%	765	127	378
Personal Safety	4.3	0 0.0%	5 0.7%	167 21.5%	222 28.7%	381 49.1%	775	117	83
Cleanliness	4.4	0 0.0%	34 4.4%	53 7.0%	264 34.6%	411 54.0%	762	130	108
Courtesy	4.0	3 0.4%	14 1.9%	218 29.9%	232 31.8%	262 36.0%	729	163	52
Announcements	4.5	0 0.0%	21 2.8%	73 9.5%	187 24.4%	484 63.3%	765	127	21
Seating	3.9	15 1.9%	54 7.0%	187 24.1%	274 35.2%	247 31.8%	778	114	113
Frequency	3.9	38 5.0%	30 4.0%	147 19.4%	327 43.2%	215 28.4%	757	135	279
Travel Time	4.4	0 0.0%	0 0.0%	48 6.3%	363 48.2%	343 45.5%	754	138	150
Parking	3.0	115 28.2%	30 7.4%	100 24.5%	69 17.0%	93 22.9%	407	485	28
Shelters	3.6	4 0.7%	88 14.1%	185 29.8%	223 35.9%	121 19.5%	621	271	21
Fare Collection	3.6	80 11.2%	72 10.1%	116 16.2%	220 30.7%	228 31.8%	717	175	21
Station Features	3.9	19 2.5%	30 4.0%	237 31.3%	223 29.4%	248 32.8%	757	135	42
Subway Access	4.2	7 0.9%	0 0.0%	139 17.9%	287 36.9%	345 44.3%	778	114	111

*Importance indicates number of passengers having this measure as one of the three most important to them. Some respondents checked fewer than three measures and some checked more than three.



MBTA Silver Line Waterfront Survey
2006 Passenger Survey

Current recordset:

Inbound Logan Ons 6:00 AM - 3:30 PM

Customer Service Data

Service Quality	Mean	Poor	Below Average	Average	Above Average	Excellent	Total	No Rating	Importance*
Reliability	4.1	0 0.0%	15 2.8%	113 20.8%	242 44.5%	173 31.9%	543	104	170
Personal Safety	4.3	0 0.0%	0 0.0%	51 10.2%	250 49.7%	202 40.1%	504	143	53
Cleanliness	4.4	0 0.0%	0 0.0%	53 9.8%	234 43.5%	251 46.7%	538	109	51
Courtesy	3.9	0 0.0%	25 4.5%	163 29.5%	194 35.0%	171 31.0%	553	94	22
Announcements	3.9	0 0.0%	37 6.8%	111 20.4%	243 44.7%	153 28.1%	543	104	39
Seating	3.8	0 0.0%	23 4.1%	199 36.3%	209 38.0%	119 21.6%	549	98	26
Frequency	3.8	8 1.5%	22 4.2%	159 30.9%	193 37.6%	133 25.8%	514	133	170
Travel Time	3.7	7 1.4%	56 10.4%	137 25.6%	223 41.7%	112 20.9%	534	113	98
Parking	3.2	20 8.2%	28 11.7%	113 46.9%	33 13.7%	47 19.5%	242	405	11
Shelters	3.3	17 4.2%	64 15.8%	153 38.1%	115 28.7%	53 13.2%	402	245	11
Fare Collection	3.4	34 8.6%	58 14.4%	105 26.2%	117 29.3%	86 21.5%	400	247	28
Station Features	3.4	7 1.9%	34 9.0%	166 43.5%	148 38.9%	26 6.7%	381	266	11
Subway Access	4.2	0 0.0%	18 3.5%	96 18.9%	151 29.8%	243 47.8%	508	139	129

*Importance indicates number of passengers having this measure as one of the three most important to them. Some respondents checked fewer than three measures and some checked more than three.

APPENDIX A

Silver Line Washington Street Survey Form

MBTA Silver Line Waterfront Survey

This survey will help the MBTA determine how the introduction of Silver Line Waterfront service has affected travel to South Boston and Logan Airport and how service can be improved. Please answer as many questions as you can. After completing the survey, you may hand it to a survey attendant, place it in a collection box at South Station, or drop it in the mail (no stamp is needed). **Your answers are confidential, and you will not be put on any mailing lists.**
 THANK YOU!

1. At which stop did you board the Silver Line Waterfront?

_____ 1
 (stop name or nearest street intersection or landmark)

2. At approximately what time did you board the Silver Line Waterfront?

2 : AM PM

3. How did you get to your boarding stop for the Silver Line Waterfront? (check all that apply)

- 3-1 Walked directly (from home, work, school, airport terminal, etc.)
- 2 Transferred from subway
 (entered the system at _____ Station) 4
- 3 Transferred from a bus
 (which route? _____) 5
- 4 Transferred from commuter rail
 (which line? _____) 6
- 5 Transferred from a shuttle van/bus
 (which one? _____) 7
- 6 Drove or rode in car and parked at or near station
- 7 Was dropped off in a private car
- 8 Other _____ 8

4a. Where were you before starting your entire trip?

- 9-1 At home
- 2 At school
- 3 At work
- 4 At a store
- 5 At the doctor or other personal business
- 6 At a work-related errand or meeting
- 7 At a restaurant, or social or recreational activity
- 8 At the airport
- 9 Other _____ 10

4b. Where is that (the place in question 4a) located?

11 _____
 (address or nearest street intersection or landmark)
 12 _____ 13 _____
 (city/town, and state) (zip code)

5. What type of fare did you pay?

- 14-1 Adult single-ride fare
- 2 Monthly pass (circle one): Local Bus; Subway; Combo; Combo+; Zone ____; Boat 15
- 3 Adult weekly pass (circle one): Combo; Combo+
- 4 Senior-citizen or person-with-disabilities reduced single-ride fare
- 5 Senior-citizen or person-with-disabilities pass
- 6 Child/student reduced single-ride fare
- 7 Student pass
- 8 Other _____ 16

6. At what stop will you get off the Silver Line Waterfront?

_____ 17
 (stop name or nearest street intersection or landmark)

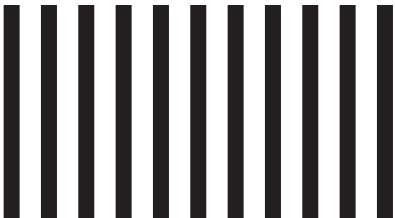
BUSINESS REPLY MAIL
 FIRST CLASS MAIL PERMIT NO. 2521 BOSTON, MA

POSTAGE WILL BE PAID BY ADDRESSEE

CENTRAL TRANSPORTATION PLANNING STAFF
 10 PARK PZ STE 2150
 BOSTON MA 02116-9776



NO POSTAGE
 NECESSARY IF
 MAILED IN THE
 UNITED STATES



7. How will you get to your destination from the Silver Line Waterfront?

- 18-1 Walk directly to destination (to home, work, school, airport, etc.)
- 2 Transfer to subway
(will exit at _____ Station) 19
- 3 Transfer to a bus
(which route? _____) 20
- 4 Transfer to commuter rail
(which line? _____) 21
- 5 Transfer to a shuttle van/bus
(which one? _____) 22
- 6 Drive or ride in car parked at or near station
- 7 Be picked up in a private car
- 8 Other _____ 23

8a. Where will you be at the end of this one-way trip (your destination)?

- 24-1 At home -5 At the doctor or other personal business
- 2 At school -6 At a work-related errand or meeting
- 3 At work -7 At a restaurant, or social or recreational activity
- 4 At a store -8 At the airport
- 9 Other _____ 25

8b. Where is that (the place in question 8a) located?

26 _____
(address or nearest street intersection or landmark)

27 _____ 28 _____
(city/town, and state) (zip code)

9. How many days per week do you usually use the Silver Line Waterfront?

- 29-1 Less than 1 day -4 3 days -7 6 days
- 2 1 day -5 4 days -8 7 days
- 3 2 days -6 5 days -9 I'm only visiting Boston

10. Do you ride the Silver Line Waterfront on . . .

- Saturdays?** ³⁰⁻¹ Yes, regularly -2 Yes, occasionally -3 No, not at all
- Sundays?** ³¹⁻¹ Yes, regularly -2 Yes, occasionally -3 No, not at all

11. How did you typically make this trip before you started using Silver Line Waterfront service? (check all that apply)

- 32 Drove alone 33 Carpool or vanpool 34 Walked
- 35 Private shuttle
(which shuttle? _____) 36
- 37 MBTA subway
(which line? _____) 38
- 39 MBTA bus
(which route? _____) 40
- 41 Did not make the trip
- 42 Other _____ 43

11a. If you answered "Did not make the trip" in Question 11, then did the new Silver Line Waterfront influence your decision to now make this trip?

- 44 Yes, because of . . . _____ 45
- 46 No, not at all

12. Do you continue to use any other means to make this trip? (check all that apply)

- 47 Drive alone 48 Carpool or vanpool 49 Walk
- 50 Private shuttle
(which shuttle? _____) 51

- 52 MBTA subway
(which line? _____) 53
- 54 MBTA bus
(which route? _____) 55
- 56 Other _____ 57

13. What is your age?

- 58-1 17 or under -3 25-34 -5 45-64
- 2 18-24 -4 35-44 -6 65 or over

14. Do you have a valid driver's license?

- 59-1 Yes -2 No

15. Did you have an automobile available to use for this trip?

- 60-1 Yes -2 No

16. How many people are in your household, including yourself?

(the number of people living in your house or apartment) ⁶¹ _____

17. What is your annual combined household income?

- 62-1 Under \$20,000 -3 \$30,000-\$39,999 -5 \$60,000-\$79,999
- 2 \$20,000-\$29,999 -4 \$40,000-\$59,999 -6 \$80,000 or more

18. What is your gender? _____ (for example: male; female) ⁶³

19. What are your main reasons for riding the Silver Line Waterfront? (check all that apply)

- 64 Convenience 68 Parking cost/availability
- 65 Speed/travel time 69 Environmentally responsible
- 66 Avoid driving/traffic 70 Only transportation available
- 67 Inexpensive way to travel 71 Other _____ 72

20. Several measures of service quality are listed below. Please circle a number after each measure to indicate how you feel about Silver Line Waterfront service. (Leave blank any measures that don't apply.) Then place a check mark beside the three measures most important to you.

	Poor	Average	Excellent	✓	
Reliability (on-time performance)	1	2	3	4	5 ⁷³ _____
Personal safety	1	2	3	4	5 ⁷⁴ _____
Cleanliness/condition of vehicles	1	2	3	4	5 ⁷⁵ _____
Courtesy of drivers	1	2	3	4	5 ⁷⁶ _____
Announcement of stops	1	2	3	4	5 ⁷⁷ _____
Availability of seating	1	2	3	4	5 ⁷⁸ _____
Frequency of service	1	2	3	4	5 ⁷⁹ _____
Travel time/directness of route	1	2	3	4	5 ⁸⁰ _____
Parking availability	1	2	3	4	5 ⁸¹ _____
Shelter amenities (seating, service info)	1	2	3	4	5 ⁸² _____
New fare-collection system	1	2	3	4	5 ⁸³ _____
Station features	1	2	3	4	5 ⁸⁴ _____
Subway access	1	2	3	4	5 ⁸⁵ _____

Comments/Suggestions:

APPENDIX B

Silver Line Waterfront Survey Form

MBTA Silver Line Waterfront Survey

This survey will help the MBTA determine how the introduction of Silver Line Waterfront service has affected travel to South Boston and Logan Airport and how service can be improved. Please answer as many questions as you can. After completing the survey, you may hand it to a survey attendant, place it in a collection box at South Station, or drop it in the mail (no stamp is needed). **Your answers are confidential, and you will not be put on any mailing lists.**
 THANK YOU!

1. At which stop did you board the Silver Line Waterfront?

_____ 1
 (stop name or nearest street intersection or landmark)

2. At approximately what time did you board the Silver Line Waterfront?

2 : AM PM

3. How did you get to your boarding stop for the Silver Line Waterfront? (check all that apply)

- 3-1 Walked directly (from home, work, school, airport terminal, etc.)
 -2 Transferred from subway
 (entered the system at _____ Station) 4
 -3 Transferred from a bus
 (which route? _____) 5
 -4 Transferred from commuter rail
 (which line? _____) 6
 -5 Transferred from a shuttle van/bus
 (which one? _____) 7
 -6 Drove or rode in car and parked at or near station
 -7 Was dropped off in a private car
 -8 Other _____ 8

4a. Where were you before starting your entire trip?

- 9-1 At home -5 At the doctor or other personal business
 -2 At school -6 At a work-related errand or meeting
 -3 At work -7 At a restaurant, or social or recreational activity
 -4 At a store -8 At the airport
 -9 Other _____ 10

4b. Where is that (the place in question 4a) located?

11 _____
 (address or nearest street intersection or landmark)
 12 _____ 13 _____
 (city/town, and state) (zip code)

5. What type of fare did you pay?

- 14-1 Adult single-ride fare
 -2 Monthly pass (circle one): Local Bus; Subway; Combo; Combo+; Zone ____; Boat 15
 -3 Adult weekly pass (circle one): Combo; Combo+
 -4 Senior-citizen or person-with-disabilities reduced single-ride fare
 -5 Senior-citizen or person-with-disabilities pass
 -6 Child/student reduced single-ride fare
 -7 Student pass
 -8 Other _____ 16

6. At what stop will you get off the Silver Line Waterfront?

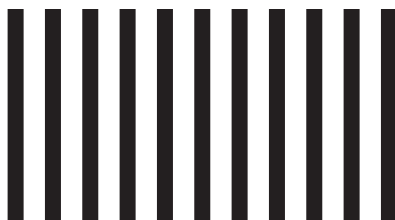
_____ 17
 (stop name or nearest street intersection or landmark)

BUSINESS REPLY MAIL
 FIRST CLASS MAIL PERMIT NO. 2521 BOSTON, MA
 POSTAGE WILL BE PAID BY ADDRESSEE

CENTRAL TRANSPORTATION PLANNING STAFF
 10 PARK PZ STE 2150
 BOSTON MA 02116-9776



NO POSTAGE
 NECESSARY IF
 MAILED IN THE
 UNITED STATES



7. How will you get to your destination from the Silver Line Waterfront?

- 18-1 Walk directly to destination (to home, work, school, airport, etc.)
- 2 Transfer to subway
(will exit at _____ Station) 19
- 3 Transfer to a bus
(which route? _____) 20
- 4 Transfer to commuter rail
(which line? _____) 21
- 5 Transfer to a shuttle van/bus
(which one? _____) 22
- 6 Drive or ride in car parked at or near station
- 7 Be picked up in a private car
- 8 Other _____ 23

8a. Where will you be at the end of this one-way trip (your destination)?

- 24-1 At home -5 At the doctor or other personal business
- 2 At school -6 At a work-related errand or meeting
- 3 At work -7 At a restaurant, or social or recreational activity
- 4 At a store -8 At the airport
- 9 Other _____ 25

8b. Where is that (the place in question 8a) located?

26 _____
(address or nearest street intersection or landmark)

27 _____ 28 _____
(city/town, and state) (zip code)

9. How many days per week do you usually use the Silver Line Waterfront?

- 29-1 Less than 1 day -4 3 days -7 6 days
- 2 1 day -5 4 days -8 7 days
- 3 2 days -6 5 days -9 I'm only visiting Boston

10. Do you ride the Silver Line Waterfront on . . .

- Saturdays?** 30-1 Yes, regularly -2 Yes, occasionally -3 No, not at all
- Sundays?** 31-1 Yes, regularly -2 Yes, occasionally -3 No, not at all

11. How did you typically make this trip before you started using Silver Line Waterfront service? (check all that apply)

- 32 Drove alone 33 Carpool or vanpool 34 Walked
- 35 Private shuttle
(which shuttle? _____) 36
- 37 MBTA subway
(which line? _____) 38
- 39 MBTA bus
(which route? _____) 40
- 41 Did not make the trip
- 42 Other _____ 43

11a. If you answered "Did not make the trip" in Question 11, then did the new Silver Line Waterfront influence your decision to now make this trip?

- 44 Yes, because of . . . _____ 45
- 46 No, not at all

12. Do you continue to use any other means to make this trip? (check all that apply)

- 47 Drive alone 48 Carpool or vanpool 49 Walk
- 50 Private shuttle
(which shuttle? _____) 51

- 52 MBTA subway
(which line? _____) 53
- 54 MBTA bus
(which route? _____) 55
- 56 Other _____ 57

13. What is your age?

- 58-1 17 or under -3 25-34 -5 45-64
- 2 18-24 -4 35-44 -6 65 or over

14. Do you have a valid driver's license?

- 59-1 Yes -2 No

15. Did you have an automobile available to use for this trip?

- 60-1 Yes -2 No

16. How many people are in your household, including yourself?

(the number of people living in your house or apartment) 61 _____

17. What is your annual combined household income?

- 62-1 Under \$20,000 -3 \$30,000-\$39,999 -5 \$60,000-\$79,999
- 2 \$20,000-\$29,999 -4 \$40,000-\$59,999 -6 \$80,000 or more

18. What is your gender? _____ (for example: male; female) 63

19. What are your main reasons for riding the Silver Line Waterfront? (check all that apply)

- 64 Convenience 68 Parking cost/availability
- 65 Speed/travel time 69 Environmentally responsible
- 66 Avoid driving/traffic 70 Only transportation available
- 67 Inexpensive way to travel 71 Other _____ 72

20. Several measures of service quality are listed below. Please circle a number after each measure to indicate how you feel about Silver Line Waterfront service. (Leave blank any measures that don't apply.) Then place a check mark beside the three measures most important to you.

	Poor	Average	Excellent	✓	
Reliability (on-time performance)	1	2	3	4	5 73 _____
Personal safety	1	2	3	4	5 74 _____
Cleanliness/condition of vehicles	1	2	3	4	5 75 _____
Courtesy of drivers	1	2	3	4	5 76 _____
Announcement of stops	1	2	3	4	5 77 _____
Availability of seating	1	2	3	4	5 78 _____
Frequency of service	1	2	3	4	5 79 _____
Travel time/directness of route	1	2	3	4	5 80 _____
Parking availability	1	2	3	4	5 81 _____
Shelter amenities (seating, service info)	1	2	3	4	5 82 _____
New fare-collection system	1	2	3	4	5 83 _____
Station features	1	2	3	4	5 84 _____
Subway access	1	2	3	4	5 85 _____

Comments/Suggestions:

APPENDIX C

Silver Line Waterfront Survey Returns by Stop

Comparison of Silver Line Waterfront Outbound Survey Returns with Spring 2006 Passenger Counts by Alighting Stop

Survey Returns by Alighting Stop

Time	On Sta.	COHO	WTCR	SLWY	HARB	TIDE	DD21	DD25	BF88	BFDC	DDDC	POWR	EMST	CTPT	LOGA	LGB1	LGB2	LGCD	LOGE	LOGU	Log. Total	
600-829		37	120	27		7	6	3	8	4		1		1	2	4	1	3	2	31	43	
830-1159	SSTA	33	76	11		2	10	3	5	1					4	3		3	2	46	58	
1200-1530		4	11	3	3				1	1					5	1	2	12	4	44	68	
600-829																					0	
830-1159	COHO																				2	2
1200-1530																					2	2
600-829																						0
830-1159	WTCR																				2	2
1200-1530																					1	1
600-829																						0
830-1159	SLWY															1						1
1200-1530																1					1	2
600-829		37	120	27	0	7	6	3	8	4	0	1	0	1	2	4	1	3	2	31	43	
830-1159	TOTAL	33	76	11	0	2	10	3	5	1	0	0	0	0	4	4	0	3	2	50	63	
1200-1530		4	11	3	3	0	0	0	1	1	0	0	0	0	5	2	2	12	4	48	73	
600-1530		74	207	41	3	9	16	6	14	6	0	1	0	1	11	10	3	18	8	129	179	

Passenger Counts by Alighting Stop

Counts	On Sta.	COHO	WTCR	SLWY	HARB	TIDE	DD21	DD25	BF88	BFDC	DDDC	POWR	EMST	CTPT	LOGA	LGB1	LGB2	LGCD	LOGE	LOGU	Log. Total
600-829		359	975	193	30	90	51	58	50	6	1	3	0	0	38	39	26	77	15		195
830-1159	TOTAL	488	592	94	11	89	33	26	55	8	5	3	0	1	63	43	29	99	68		302
1200-1530		82	241	40	4	26	1	3	0	0	0	1	2	8	83	60	57	135	75		410
600-1530		929	1808	327	45	205	85	87	105	14	6	7	2	9	184	142	112	311	158		907

Surveys/Counts

	On Sta.	COHO	WTCR	SLWY	HARB	TIDE	DD21	DD25	BF88	BFDC	DDDC	POWR	EMST	CTPT	LOGA	LGB1	LGB2	LGCD	LOGE	LOGU	Log. Total
600-829		0.103	0.123	0.140	0.000	0.078	0.118	0.052	0.160	0.667	0.000	0.333			0.053	0.103	0.038	0.039	0.133		0.221
830-1159	TOTAL	0.068	0.128	0.117	0.000	0.022	0.303	0.115	0.091	0.125	0.000	0.000		0.000	0.063	0.093	0.000	0.030	0.029		0.209
1200-1530		0.049	0.046	0.075	0.750	0.000	0.000	0.000				0.000	0.000	0.000	0.060	0.033	0.035	0.089	0.053		0.178
600-1530		0.080	0.114	0.125	0.067	0.044	0.188	0.069	0.133	0.429	0.000	0.143	0.000	0.111	0.060	0.070	0.027	0.058	0.051		0.197

Note: The majority of respondents alighting at Logan did not specify which stop they alighted at, and were coded as LOGU alightings

Comparison of Silver Line Waterfront Inbound Survey Returns with Spring 2006 Passenger Counts by Boarding Stop

Survey Returns by Boarding Stop

Time	Off Sta.	COHO	WTCR	SLWY	N306	TIDE	DD21	DD25	BF88	BFDC	DDDC	POWR	EMST	CTPT	LOGA	LGB1	LGB2	LGCD	LOGE	LOGU	Log. Total	
600-829		10	6	2											1	1			1	3	6	
830-1159	SSTA	7	13	1									1			3	2	3	1	10	19	
1200-1530		9	14	1										1	2	5	1	5	5	19	37	
600-829															1						1	
830-1159	COHO																				0	
1200-1530																				1	1	
600-829														1	1						2	3
830-1159	WTCR															1					1	2
1200-1530																					2	2
600-829																				1		1
830-1159	SLWY																				1	1
1200-1530																						0
600-829		10	6	2	0	0	0	0	0	0	0	0	0	1	3	1	0	0	2	5		11
830-1159	TOTAL	7	13	1	0	0	0	0	0	0	0	0	1	0	0	4	2	3	1	12		22
1200-1530		9	14	1	0	0	0	0	0	0	0	0	0	1	2	5	1	5	5	22		40
600-1530		26	33	4	0	0	0	0	0	0	0	0	1	2	5	10	3	8	8	39		73

Passenger Counts by Boarding Stop

Counts	Off Sta.	COHO	WTCR	SLWY	N306	TIDE	DD21	DD25	BF88	BFDC	DDDC	POWR	EMST	CTPT	LOGA	LGB1	LGB2	LGCD	LOGE	LOGU	Log. Total
600-829		28	54	16	0	1	0	0	0	0	0	2	4	3	28	17	19	80	5		149
830-1159	TOTAL	48	149	43	2	7	1	1	0	0	0	4	8	1	18	28	27	111	24		208
1200-1530		111	349	70	21	30	5	2	5	2	2	0	0	2	50	28	42	97	73		290
600-1530		187	552	129	23	38	6	3	5	2	2	6	12	6	96	73	88	288	102		647

Surveys/Counts

	Off Sta.	COHO	WTCR	SLWY	N306	TIDE	DD21	DD25	BF88	BFDC	DDDC	POWR	EMST	CTPT	LOGA	LGB1	LGB2	LGCD	LOGE	LOGU	Log. Total
600-829		0.357	0.111	0.125		0.000						0.000	0.000	0.333	0.107	0.059	0.000	0.000	0.400		0.074
830-1159	TOTAL	0.146	0.087	0.023	0.000	0.000	0.000	0.000				0.000	0.125	0.000	0.000	0.143	0.074	0.027	0.042		0.106
1200-1530		0.081	0.040	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0.500	0.040	0.179	0.024	0.052	0.068		0.138
600-1530		0.139	0.060	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.083	0.333	0.052	0.137	0.034	0.028	0.078		0.113

Note: Over half of the respondents boarding at Logan did not specify which stop they boarded at, and were coded as LOGU boardings

APPENDIX D

Silver Line Waterfront Stops and Database Codes

Silver Line Waterfront Stops and Database Codes

<u>Station Code</u>	<u>Station or Stop Name</u>
SSTA	South Station
COHO	Courthouse
WTCR	World trade Center
SLWY	Silver Line Way
HARB	Northern Ave. at Harbor St. (outbound)
N306	306 Northern Ave. (inbound)
TIDE	Northern Ave. at Tide St.
DD21	21 Dry Dock Ave.
DD25	25 Dry Dock Ave.
BF88	88 Black Falcon Ave.
BFDC	Black Falcon Ave. at Design Center
DDDC	Dry Dock Ave. at Design Center
POWR	Summer St. at Powerhouse St.
EMST	East 1st St. at M Street
CTPT	City Point Bus Terminal
LOGA	Logan Airport Terminal A
LGB1	Logan Airport Terminal B, Stop 1
LGB2	Logan Airport Terminal B, Stop 2
LGCD	Logan Airport Terminals C & D
LOGE	Logan Airport Terminal E
LOGU	Logan Airport Unspecified stop