SOUTH STATION EXPANSION

# Bicycle and Pedestrian Survey *(responses as of 7/10/14)*

## Online Questionnaire

MassDOT developed an online survey, prepared in English, Spanish, and Chinese. The questionnaire was made available through a link on the South Station Expansion website (Link to the South Station Expansion homepage: https://www.massdot.state.ma.us/southstationexpansion/Home.aspx). The questionnaire went live on May 12, 2014.

The questionnaire was publicized on the MassDOT blog; an email was sent to the project database; printed bookmarks were distributed at events and also available at the Information Desk at South Station, and they were advertised on the monitors at South Station. Links to the survey were also sent to 76 bicycle, pedestrian, and neighborhood groups. Many of these groups forwarded the link to their members, linked to the survey on Twitter and posted it to Facebook.[1] Project team members also staffed an information session at South Station on May 16, promoting Bay State Bike Week and the online survey.

As of July 10, 2014, 693 people had accessed the questionnaire. The top referrer sites[2] were through a link via BostonBiker.org (14), the Boston Magazine blog (10), a direct email from MassDOT (60), typing in the URL directly – likely via the screens at the Station or the bookmarks (324) - and the MassDOT South Station homepage (38). While not all questions were completed in full by each respondent, the team is confident that the results provide insight into improvements to be investigated regarding bicycle and pedestrian improvements in the vicinity of South Station.

While the advantages of online surveys are that they save time and can provide access to diverse groups of individuals, sample issues result. All of the demographic information provided by the respondents is self-reported, and the non-response rate is difficult to estimate. For example, we do not know how many people learned about the survey and chose not to complete it. There is also a self-selection bias in terms of who responds to the questionnaire, primarily people who already know about the project, those who regularly use the station, those who are interested in bicycle and pedestrian issues, and those who have the time or inclination to participate. Therefore, the results of the survey are not intended to be statistically significant, using scientific sampling methods.

## Who are the Respondents?

As noted earlier, the survey was available in three languages – English, Spanish, and Chinese. Two respondents accessed the survey in Chinese and two accessed it in Spanish. Only 4.5% of respondents live in the Dewey Square/South Station area, and 43% work in the area.

Nearly all the respondents who accessed the questionnaire use transportation services at South Station (see Table 1). Respondents were able to select multiple services in their response. The most popular

[1] A detailed breakdown of this information is available upon request.
[2] A referrer is the webpage a respondent visited immediately before beginning the survey.

services used by respondents are MBTA Red Line (85% of respondents), MBTA Silver Line (66%) and MBTA Commuter Rail (59%).

## Table 1: Use of Transportation Services at South Station

| Response | Chart | Percentage | Count |
|---|---|---|---|
| None | | 2.7% | 18 |
| Amtrak | | 42.8% | 289 |
| MBTA Commuter Rail | | 59.4% | 401 |
| Intercity Bus (e.g. New York, Hyannis, Providence) | | 33.2% | 224 |
| MBTA Red Line | | 85.3% | 576 |
| MBTA Silver Line | | 66.2% | 447 |
| MBTA Bus (e.g., 4, 7, 11) | | 12.0% | 81 |
| Hubway | | 25.9% | 175 |
| Taxi | | 18.1% | 122 |
| Other, please specify... | | 7.9% | 53 |
| | | **Total Responses** | **675** |

Over half the respondents (59%) were also mostly likely to visit the Dewey Square/South Station area during weekday rush hours versus non-rush weekdays, holiday or weekends. The most common area destinations (visited by over 30% of respondents) included South Station itself, the South Boston/Innovation/Waterfront District, the Financial District, and the Rose Kennedy Greenway.

Respondents were also asked a series of questions about walking and bicycling – their habits in the project study area, their overall comfort with walking and bicycling for transportation purposes, and their use of the Hubway service.

Overall, the respondents are regular walkers in the area and are comfortable walking distances for transportation purposes. Over 50% of respondents walk regularly (either "daily," "weekdays," or "regularly") in the study area to get to public transit, work, and/or recreation (see Table 2). Very few respondents walk in the area as part of a school commute. Only approximately 9% of respondents are uncomfortable walking over ¼ mile for transportation purposes; 19% are comfortable walking over one mile (see Table 3).

## Table 2: Walking Frequency in the Dewey Square/South Station Area

| | Daily | Weekdays | Regularly | Rarely | Never | Total Responses |
|---|---|---|---|---|---|---|
| To get to public transit | 81 (14.6%) | 128 (23.0%) | 190 (34.2%) | 133 (23.9%) | 24 (4.3%) | 556 |
| Commute to school | 6 (1.1%) | 4 (0.7%) | 7 (1.3%) | 38 (7.0%) | 486 (89.8%) | 541 |
| Commute to work | 85 (15.4%) | 151 (27.4%) | 75 (13.6%) | 105 (19.1%) | 135 (24.5%) | 551 |
| For recreation (community events, shopping, dining, errands) | 22 (4.0%) | 32 (5.9%) | 224 (41.1%) | 230 (42.2%) | 37 (6.8%) | 545 |

## Table 3: Comfort with Walking for Transportation Purposes

| Response | Chart | Percentage | Count |
|---|---|---|---|
| Up to 1/4 mile (about 5 minutes) |  | 8.9% | 50 |
| Up to 1/2 mile (about 10 minutes) |  | 40.7% | 228 |
| Up to 1 mile (about 20 minutes) |  | 31.1% | 174 |
| More than 1 mile |  | 19.3% | 108 |
| | | **Total Responses** | **560** |

The survey's responses are dominated by experienced bicyclists. Over 51% of respondents characterized themselves as "confident and comfortable riding with traffic on the road in most situations" (see Table 4). 52% use their personal bicycles in the area, and 16% are Hubway users.

## Table 4: Comfort as a Bicyclist

| Response | Chart | Percentage | Count |
|---|---|---|---|
| I don't ride and have no plans to start. | | 18.0% | 92 |
| Less confident - I only feel safe on separated paths (with few traffic crossings) and local streets. | | 11.7% | 60 |
| Casual - I prefer separated paths but will ride on roads where space is available and traffic is manageable. | | 19.1% | 98 |
| Experienced - I am confident and comfortable riding with traffic on the road in most situations. | | 51.2% | 262 |
| | | **Total Responses** | **512** |

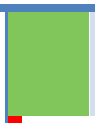
Though there is a large percentage of respondents who are experienced bicyclists, very few bicycle in the Dewey Square/South Station area regularly. Unlike the response to the pedestrian question, which saw a majority of respondents "regularly" walking to get to public transit, work and/or recreation, only a minority of respondents bicycle in the project area for these trip purposes (see Table 5).

## Table 5: Frequency of Biking in the Dewey Square/South Station Area

| | Daily | Weekdays | Regularly | Rarely | Never | Total Responses |
|---|---|---|---|---|---|---|
| To get to public transit | 13 (2.5%) | 18 (3.5%) | 75 (14.6%) | 134 (26.0%) | 275 (53.4%) | 515 |
| Commute to school | 1 (0.2%) | 0 (0.0%) | 6 (1.2%) | 24 (4.7%) | 484 (94.0%) | 515 |
| Commute to work | 39 (7.6%) | 63 (12.2%) | 54 (10.5%) | 88 (17.1%) | 272 (52.7%) | 516 |
| For recreation (shopping, community events, dining) | 15 (2.9%) | 6 (1.2%) | 138 (27.0%) | 142 (27.8%) | 210 (41.1%) | 511 |

Though there is a minority who bicycle in the area for transportation services, approximately three-quarters of the respondents expressed willingness to bicycle for transportation as a concept (see Table 6). In fact, over 50% are willing to bicycle 5 miles or more for transportation services.

### Table 6: Comfort with Bicycling for Transportation Purposes

| Response | Chart | Percentage | Count |
|---|---|---|---|
| I don't bicycle for transportation purposes. |  | 24.6% | 126 |
| Under 2 miles |  | 4.9% | 25 |
| 2-4 miles |  | 18.0% | 92 |
| 5-7 miles |  | 21.9% | 112 |
| 8-10 miles |  | 14.5% | 74 |
| More than 10 miles |  | 16.2% | 83 |
| | | **Total Responses** | **512** |

## RESULTS

The project team then researched the barriers to both walking and bicycling in the study area since respondents are generally comfortable with walking and bicycling. Respondents believe the biggest barrier to walking short trips in the area is that traffic is too heavy and fast (see Table 7). Other potential obstacles seem much less important to respondents.

## Table 7: Barriers to Walking Short Trips in the Dewey Square/South Station area

| | Major obstacle | Minor obstacle | No obstacle | Total Responses |
|---|---|---|---|---|
| Traffic is too heavy and fast | 191 (35.3%) | 185 (34.2%) | 165 (30.5%) | 541 |
| Sidewalks/paths/crossing are in poor condition | 88 (16.2%) | 193 (35.5%) | 262 (48.3%) | 543 |
| Weather | 85 (15.7%) | 224 (41.5%) | 231 (42.8%) | 540 |
| Darkness | 49 (9.1%) | 145 (27.0%) | 344 (63.9%) | 538 |
| Concern about personal safety or security | 43 (8.0%) | 154 (28.6%) | 341 (63.4%) | 538 |
| Need to transport other people and things | 53 (9.8%) | 201 (37.3%) | 285 (52.9%) | 539 |

Respondents also see a number of improvements that could be made to promote walking in the area. Of all the measures listed, the least important seem to be better lighting and security (see Table 8).

## Table 8: Improvements Needed to Promote Walking in the Dewey Square/South Station Area

| | Not at all Important | Somewhat Important | Important | Very Important | Total Responses |
|---|---|---|---|---|---|
| Longer WALK signals at crossings | 86 (16.0%) | 168 (31.2%) | 149 (27.7%) | 135 (25.1%) | 538 |
| More pedestrian crossings | 86 (16.0%) | 148 (27.5%) | 161 (29.9%) | 143 (26.6%) | 538 |
| Improved curb ramps and accessibility for people with disabilities | 120 (22.4%) | 164 (30.6%) | 145 (27.1%) | 107 (20.0%) | 536 |
| Slower traffic | 114 (21.3%) | 140 (26.2%) | 140 (26.2%) | 141 (26.4%) | 535 |

| | Not at all Important | Somewhat Important | Important | Very Important | Total Responses |
|---|---|---|---|---|---|
| More buffer between the sidewalk and vehicle traffic | 128 (23.7%) | 156 (28.9%) | 134 (24.8%) | 122 (22.6%) | 540 |
| Better lighting or security measures | 129 (24.1%) | 219 (40.9%) | 127 (23.7%) | 61 (11.4%) | 536 |
| Better sidewalk maintenance (repair of infrastructure, or removal of snow/debris) | 90 (16.8%) | 186 (34.6%) | 144 (26.8%) | 117 (21.8%) | 537 |
| Increased education and enforcement of pedestrian traffic laws | 151 (28.2%) | 152 (28.4%) | 119 (22.2%) | 114 (21.3%) | 536 |
| Re-opening of Dorchester Avenue | 187 (34.7%) | 153 (28.4%) | 90 (16.7%) | 109 (20.2%) | 539 |

Pedestrians identify many more barriers to bicycling than walking in the study area. A majority of respondents see poor condition/lack of bicycle facilities, traffic (too heavy and fast), and a lack of motorist caution as major obstacles to bicycling in the area (see Table 9).

### Table 9: Barriers to Keep You from Bicycling in the Dewey Square/South Station Area

| | Major Obstacle | Minor Obstacle | No Obstacle | Total Responses |
|---|---|---|---|---|
| Poor condition or lack of bicycle facilities (lanes, paths, road shoulders) | 308 (60.4%) | 112 (22.0%) | 90 (17.6%) | 510 |
| Traffic is too fast and heavy | 304 (59.5%) | 115 (22.5%) | 92 (18.0%) | 511 |
| Motorists do not exercise caution around cyclists | 344 (67.3%) | 85 (16.6%) | 82 (16.0%) | 511 |
| Weather | 104 (20.4%) | 197 (38.7%) | 208 (40.9%) | 509 |

| | | | | |
|---|---|---|---|---|
| Darkness | 74 (14.5%) | 164 (32.2%) | 272 (53.3%) | 510 |
| Lack of secure bicycle parking | 160 (31.4%) | 147 (28.8%) | 203 (39.8%) | 510 |
| Lack of workplace amenities (showers, lockers) | 94 (18.4%) | 138 (27.1%) | 278 (54.5%) | 510 |
| Personal security | 57 (11.2%) | 129 (25.3%) | 324 (63.5%) | 510 |
| Need to transport other people and things | 70 (13.7%) | 156 (30.6%) | 284 (55.7%) | 510 |

As with pedestrian improvements, respondents also identified many improvements that could be made to improve bicycling in the area (see Table 10). The most important improvements, though, are an increased number of bicycle lanes, improved buffers between bicyclists and vehicles, better bicycle accommodation through intersections, and slower traffic.

## Table 10: Improvements Needed to Promote Bicycling in the Dewey Square/South Station Area

| | Not at all Important | Somewhat Important | Important | Very Important | Total Responses |
|---|---|---|---|---|---|
| More bike lanes | 53 (10.4%) | 79 (15.6%) | 107 (21.1%) | 269 (53.0%) | 508 |
| Wider outside lanes (easier to share lane with cars) | 96 (18.9%) | 117 (23.0%) | 131 (25.8%) | 164 (32.3%) | 508 |
| Improved buffers between bicyclists and vehicles | 49 (9.6%) | 58 (11.4%) | 100 (19.6%) | 302 (59.3%) | 509 |
| Better bicycle parking and storage | 76 (15.0%) | 126 (24.8%) | 148 (29.1%) | 158 (31.1%) | 508 |
| More on-road bike signage (share the road signs/bike may use full lane signs) | 94 (18.5%) | 141 (27.8%) | 127 (25.0%) | 146 (28.7%) | 508 |
| Better bike accommodation through intersections (bike boxes) | 66 (13.0%) | 81 (15.9%) | 149 (29.3%) | 213 (41.8%) | 509 |
| Slower traffic | 83 (16.3%) | 104 (20.5%) | 119 (23.4%) | 202 (39.8%) | 508 |
| More and better bike route wayfinding signs and bike maps | 106 (20.9%) | 167 (32.9%) | 120 (23.6%) | 115 (22.6%) | 508 |
| Increased maintenance (street sweeping/repair of roads) | 67 (13.2%) | 136 (26.8%) | 130 (25.6%) | 175 (34.4%) | 508 |
| Increased enforcement and education of traffic laws | 75 (14.8%) | 91 (17.9%) | 122 (24.0%) | 220 (43.3%) | 508 |
| Larger Hubway station | 173 (34.1%) | 178 (35.0%) | 94 (18.5%) | 63 (12.4%) | 508 |
| 12-Month Hubway service | 167 (32.9%) | 120 (23.6%) | 125 (24.6%) | 96 (18.9%) | 508 |

| | | | | | |
|---|---|---|---|---|---|
| Additional bicycle amenities (showers, repair services, lockers, changing rooms) | 149 (29.3%) | 174 (34.3%) | 107 (21.1%) | 78 (15.4%) | 508 |
| Colored asphalt for bicycle lanes | 86 (16.9%) | 98 (19.3%) | 146 (28.7%) | 179 (35.2%) | 509 |
| Reopening of Dorchester Avenue | 170 (33.5%) | 115 (22.6%) | 93 (18.3%) | 130 (25.6%) | 508 |

Respondents were asked to identify the most challenging area near Dewey Square/South Station as a pedestrian or bicyclist (see Appendix[3]; Table A-1). Common areas identified included: Atlantic Avenue/Summer Street; Congress Street/Atlantic Avenue; Entrance to I-93/Seaport Boulevard; Essex Street (many intersections); Purchase Street/Atlantic Avenue; and Congress Street/Purchase Street.

Respondents were also asked to name the number one improvement they would make to ensure easier walking and bicycling in the study area (see Appendix; Table A-2). Popular choices included: more bike lanes/cycle tracks (with physical separation from traffic); traffic reduction/calming measures; re-opening of Dorchester Avenue; pedestrian bridges/walkways; long pedestrian traffic signals; and fix the taxi/automobile drop-off/pickup area by South Station.

## Conclusions

Generally speaking, respondents to the questionnaire seem reasonably satisfied with pedestrian conditions in the study area, though think they can be improved through some key areas such as traffic calming, longer traffic signals, and work at key intersections.

In contrast, though the survey respondents were dominated by self-defined experienced bicyclists who use transportation services at South Station regularly, they do not bicycle in the study area. The majority of respondents identified a number of major obstacles to bicycling in the area including traffic, lack of caution by motorists and poor bicycle infrastructure. Respondents were also able to identify some key improvements that could promote more bicycling in the area.

MassDOT will share the data from the survey with the City Boston and other stakeholders. While future surveys are likely to address additional topics, MassDOT will track some issues for repeat testing to see if there are changes based on improvements and/or users of various modes.

[3] The Appendix is available upon request.