Title VI Report

MBTA

MAY 2011

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MBTA Title VI Report
May 2011

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MBTA Title VI Mission Statement

The MBTA is committed to providing a level and quality of service to minority and low-income individuals and communities that is equivalent to the services provided to nonminority and non-low-income individuals and communities.

MBTA Title VI Report Purpose

To document the steps the MBTA has taken and will take to ensure that, for all programs and activities receiving federal financial assistance, the MBTA provides services without excluding or discriminating against minority or low-income individuals or communities or creating additional barriers to their use of the MBTA transit system.


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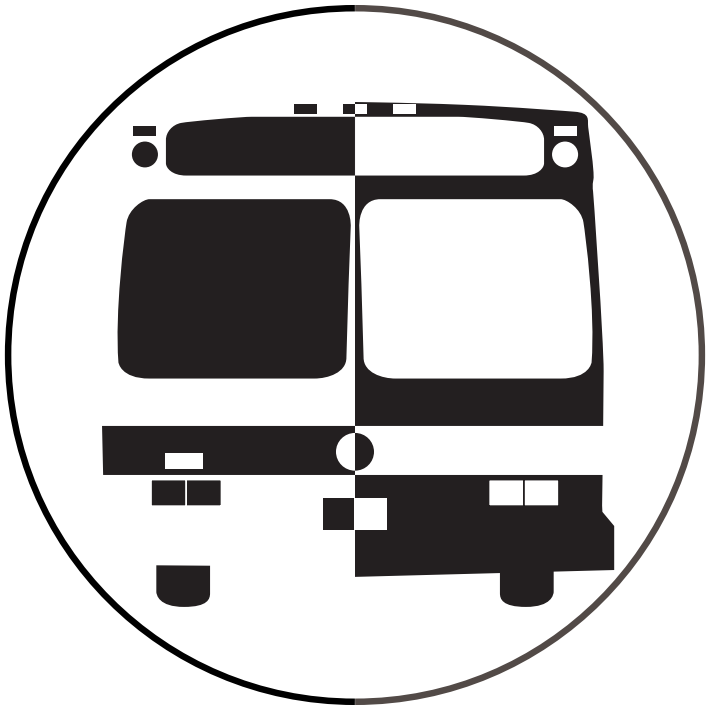


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Chapter 1

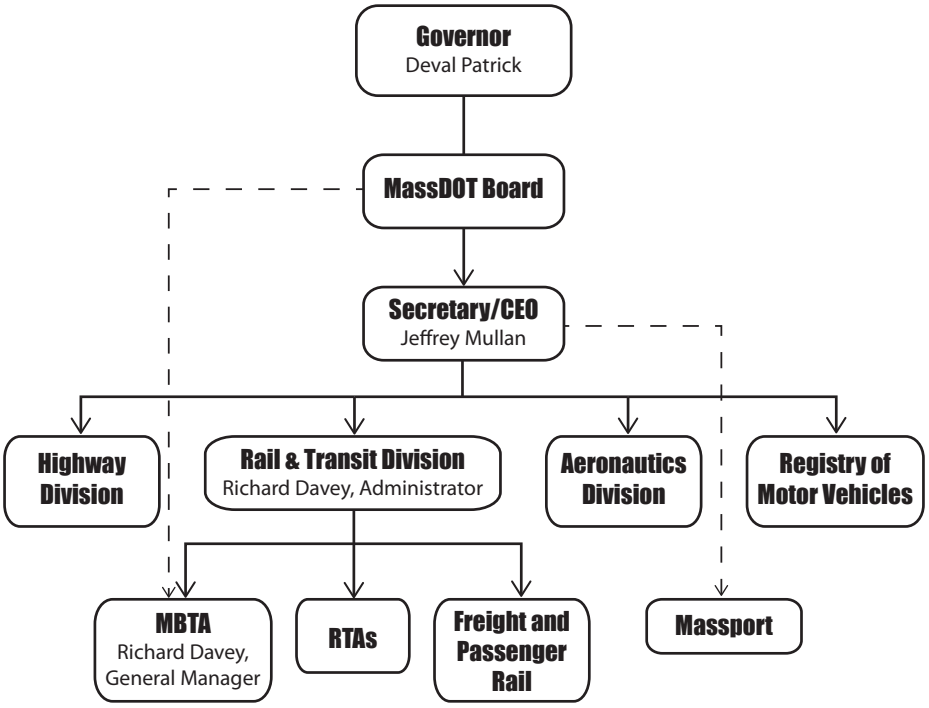
Introduction

Title VI of the Civil Rights Act of 1964 provides that "no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance." To fulfill this basic civil rights mandate, each federal agency that provides financial assistance for any program is authorized and directed by the United States Department of Justice to apply provisions of Title VI to each program by issuing applicable rules, regulations, or requirements. The Federal Transit Administration (FTA) of the United States Department of Transportation issued guidelines on May 26, 1988, FTA C 4702.1, describing the contents of Title VI compliance programs to be adopted and maintained by recipients of FTA-administered funds for transit programs. On May 13, 2007, these guidelines were updated with the publication of FTA C 4702.1A, which now requires that Title VI compliance programs include income status in addition to minority status.

This document constitutes the Massachusetts Bay Transportation Authority's Title VI Program, adopted in May 2011 with the approval of General Manager Richard A. Davey. It is prepared in accordance with FTA C 4702.1A and incorporates the reporting requirements set forth therein. Table 1-1 summarizes the reporting requirements as they relate to the chapters in this report. As can be seen in this table, Chapter 2 addresses the MBTA's general reporting requirements under the circular, including a description of the procedures for filing civil rights complaints; a list of Title VI investigations, complaints, and lawsuits; the agency's plan for providing meaningful access to persons with limited English proficiency; a copy of the notice to the public regarding protection under Title VI; a list of construction projects currently under National Environmental Policy Act (NEPA) review; and a summary of public-outreach activities involving minority and low-income populations. Chapter 3 includes several maps that show the MBTA's extensive transit service network and the location of minority and low-income areas. Chapter 4 describes the service policies and standards under which the Authority operates to ensure high-quality and safe levels of service to the public. Chapter 5 evaluates the effects of major service changes and fare increases. Finally, Chapter 6 analyzes in depth the extent to which the MBTA has met its service standards and compares the levels and quality of service provided to the various communities served by the MBTA.

In June 2009, Governor Deval Patrick signed transportation reform legislation (Chapter 25 of the Acts of 2009, "An Act Modernizing the Transportation Systems of the Commonwealth of Massachusetts" [as amended by Chapter 26 of the "Act"]), which required integration of the Commonwealth's transportation agencies and authorities into a new, streamlined Massachusetts Department of Transportation (MassDOT). The MBTA is now a part of MassDOT but retains a separate legal existence. MassDOT is administered by a Governor-appointed Secretary of Transportation as Chief Executive Officer. Both MassDOT and the MBTA are overseen by a five-member Board of Directors (appointed by the Governor). The Rail and Transit Division (RTD) is led by Division Administrator Richard Davey, who is also the General Manager of the MBTA. The MBTA remains a separate designated FTA recipient. The new organizational structure is shown in Figure 1-1.

FIGURE 1-1 MassDOT/MBTA Organization Structure



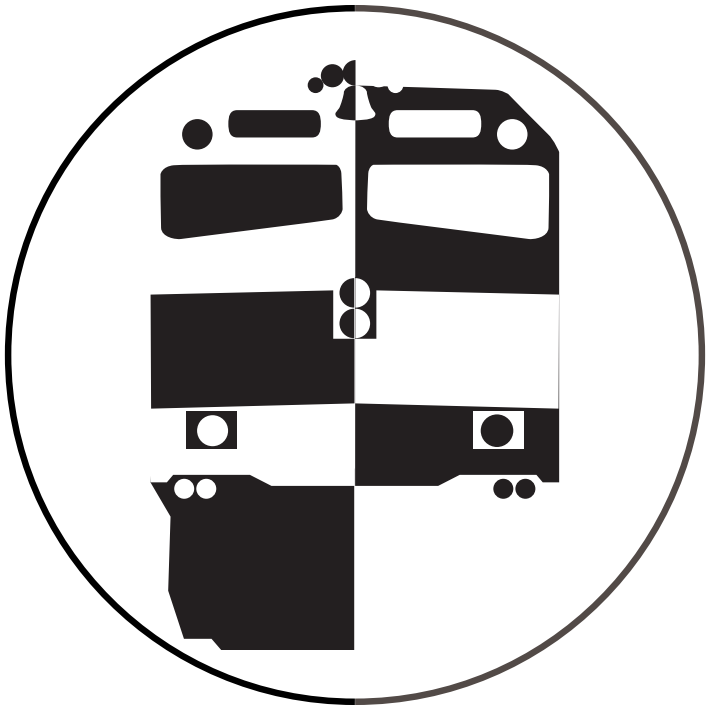
This report was developed by the MBTA with technical support for data collection and analysis from the Central Transportation Planning Staff (CTPS) of the Boston Region Metropolitan Planning Organization. CTPS was also responsible for the layout and production of the document. Questions or comments about the content of this program may be addressed to Joseph Cosgrove, Director of Development, MBTA, Room 5750, 10 Park Plaza, Boston, MA 02116, or to Mary Fernandes, AGM for the Office of Diversity and Civil Rights, MBTA, Room 5720, 10 Park Plaza, Boston, MA 02116.

TABLE 1-1 2011 MBTA Triennial Title VI Report

Report Chapter	Provisions	Circular Reference	Reporting Requirement
Introduction			
General Reporting Requirements	Develop Title VI complaint procedures	IV. 2.	A copy of procedures for filing a Title VI complaint.
	Record Title VI investigations, complaints, and lawsuits	IV. 3.	A list of any Title VI investigations, complaints, or lawsuits filed with the agency since the time of the last submittal.
	Provide meaningful access to persons with limited English proficiency	IV. 4.	A copy of the agency's plan for providing meaningful access to activities and programs for persons with limited English proficiency.
	Notify beneficiaries of protection under Title VI	IV. 5.	A notice that the agency complies with Title VI and a list of the procedures the public may follow to file a discrimination complaint.
	Analyze construction projects for environmental justice	IV. 8.	Although the new guidance does not require that the MBTA report on this topic in this document, a summary of the status of current construction projects receiving federal funding is included.
	Promote inclusive public participation	IV. 9.	A summary of public outreach and involvement activities undertaken since the last submission and a description of steps taken to ensure that minority persons had meaningful access to these activities.
Demographic Data and Maps	Collect and map demographic data	V. 1. a.	Demographic maps and charts prepared since the most recent decennial census.

TABLE 1-1 2011 MBTA Triennial Title VI Report (cont.)

Report Chapter	Provisions	Circular Reference	Reporting Requirement
Service Standards and Policies	Set systemwide service standards	V. 2. a.	Systemwide service standards for vehicle load, vehicle headway, on-time performance, distribution of transit amenities, and service availability.
	Set systemwide service policies	V. 3. a.	Systemwide policies for vehicle assignment and transit security.
Service and Fare Changes	Evaluate service and fare changes	V. 4.	An analysis of the impacts on minority and low-income populations of any significant service and fare changes that occurred since the previous report was submitted.
Service Monitoring	Monitor transit service	V. 5.	The results of Level of Service monitoring. The results of Quality of Service monitoring. The results of the Title VI analysis of a customer survey.

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MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
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Chapter 2

General Reporting Requirements

Procedures for Filing a Civil Rights Complaint [FTA C4702.1A, IV. 2.]

MBTA Policy and Procedures for Filing Discrimination Complaints under Title VI and Related Statutes

Policy

It is the policy of the Massachusetts Bay Transportation Authority (MBTA) to utilize its best efforts to ensure that all programs, services, activities, and benefits are implemented without discrimination and with the inclusion of minority and protected-class interests through its civil rights policies and procedures. The MBTA's Title VI policy, in accordance with Title VI of the Civil Rights Act of 1964, assures that no person or groups of persons shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination under any and all programs, services, or activities administered by its departments. Additionally, other laws provide similar protection on the basis of a person's gender, religion, age, disability, sexual orientation, or other protected characteristics.

The Authority has a zero-tolerance policy prohibiting any form of unlawful discrimination against our customers. It prohibits discrimination, harassment, or retaliation against our customers as outlined in the policies on antidiscrimination and the prevention of harassment, which are distributed to all MBTA employees.

Toward this end, it is the objective of the MBTA to:

1. Ensure that the level and quality of transportation service is provided without regard to race, color, national origin, and other protected characteristics.

2. Identify and address issues of environmental justice based on income status.

3. Promote the full and fair participation of all affected populations in transportation decision making.

4. Prevent the denial, reduction, or delay in benefits related to programs and activities that benefit minority populations or low-income populations.

5. Ensure meaningful access to programs and activities by persons with limited English proficiency, disability, and veteran status.

The General Manager, as Chief Executive Officer of the Authority, has overall responsibility for carrying out the MBTA's commitment to the Title VI program. The Office of Diversity and Civil Rights (ODCR) has been delegated the responsibility of coordinating program procedures, overseeing implementation, and monitoring and reporting on the progress attained. The Title VI program is an Authority-wide initiative, and all managers, supervisors, and employees share the responsibility of identifying and reporting civil rights violators. Appropriate training is provided to customer support representatives, supervisors, superintendents, and other employees. Area superintendents and supervisors (or their designees) are responsible for receiving complaints which come through various intake venues, including the Customer Communications and Marketing (CCM) department.

The MBTA's ODCR has developed a complaint procedure that covers Title VI and other customer civil rights complaints. However, it does not deny the complainant the right to file formal complaints with the Massachusetts Commission Against Discrimination (MCAD) or the Federal Transit Administration (FTA), or to seek private counsel for complaints alleging discrimination, intimidation, or retaliation, of any kind that is prohibited by law, as is stated in our policy.

Procedure

The following is a summary of the internal procedures that the MBTA's ODCR uses for investigation and resolution of Title VI and other customer civil rights complaints.

1. Any person or groups of persons who believe that they have been aggrieved by unlawful harassment, retaliation, or other discriminatory practice under Title VI or other statutes or have been excluded from participation in, denied the benefits of, or subjected to harassment, retaliation, or other forms of discrimination based on race, color, or national origin, under the program of transit service delivery or related benefits, may file a complaint with the MBTA. Complaints may be filed by contacting CCM, writing to "Write to the Top," or reporting to the officer on duty.

   Allegations received do not have to use the key words "complaint," "civil rights," or "discrimination," or their near equivalents. It is sufficient if such allegations imply any form of harassment, retaliation, or unequal treatment in one or more of the Authority's programs or services to be considered and processed as an allegation of a discriminatory practice.

2. All complaints, written or verbal, shall be accepted. In the event a complainant sets forth allegations verbally and refuses to reduce such allegations to writing, the person to whom the complaint is made shall reduce the complaint to writing. Complaints should include the following information:

    - Name, address, and telephone number of the complainant, if provided.
    - Basis of the complaint: race, color, national origin, sex, age, disability, or other protected characteristics.
    - Date on which the alleged discriminatory event occurred.
    - Nature of the incident that led the complainant to believe that discrimination was a factor.
    - Location, date, time, and other identifying information, including the transit mode (if the incident occurred on the bus, rapid transit, commuter train, or boat); employee badge number; and number of vehicle, if known.
    - Names, addresses, and telephone numbers of persons (witnesses) who may have knowledge of the event.

    All civil rights complaints received by any department should be forwarded to CSS; disability complaints should also be sent to the Department of System-Wide Accessibility (SWA). CCM will determine which complaints are Title VI or civil rights based. All CSS representatives have undergone intake training on recognizing Title VI and civil rights issues. Once complaints are designated as Title VI or civil rights the CCM will provide copies of these complaints to the ODCR for investigation.

3. ODCR will investigate all civil rights complaints. Investigations will include identifying and interviewing persons with knowledge of the Title VI violation (e.g., the person making the complaint, witnesses, or anyone identified by the complainant) and anyone with relevant information. The person who has been accused of discriminating or committing a prohibited act will be notified and interviewed. If necessary, additional information may be requested from the complainant and witnesses.

4. Upon completion of the interviews and investigation, the investigator will develop a final report based on the facts. The report will contain the investigator's findings and conclusions concerning the complaint and recommendations for corrective action and discipline, if necessary. If a civil rights violation is found to exist, appropriate action will be taken, monitored, and reported. Any actions taken as a result of the investigator's findings and conclusions are the responsibility of the concerned department and other officials involved. If no violation is found and the complainant is not satisfied, the complainant may file a complaint with MCAD or FTA's Office of Civil Rights.

5. The complainant will be notified by letter or phone by the MBTA (CCM, the General Manager's office, ODCR or the department involved) of the resolution of the complaint.

6. CCM will maintain a log of complaints, including those pertaining to Title VI, accessibility, and other customer complaints of discrimination, harassment, or retaliation; the date the complaint was filed; a summary of the allegation(s); the status of the complaint; and the actions taken in response to the complaint. ODCR also maintains a log of all complaints that it investigates.

7. Should the MBTA receive a Title VI complaint in the form of a formal charge or lawsuit, the Office of the General Counsel will be responsible for the investigation and for maintaining the log as described herein.

Title VI Investigations, Complaints, and Lawsuits [FTA C4702.1A, IV. 3.]

Table 2-1 lists all Title VI investigations, complaints, and lawsuits filed with the agency since the MBTA's September 30, 2008, submittal to FTA. The table is in two sections: MBTA customer complaints and MCAD (Massachusetts Commission Against Discrimination) EEO and other legal challenges.

TABLE 2-1 MBTA Title VI Complaints, Lawsuits, and Investigations
(CP = Complainant; RSP = Respondent; CRI = Civil Rights Investigator)

MBTA Legal Challenges				
	Forum	**Date Filed**	**Summary of Allegations**	**Status/Action Taken**
1.	MBTA	11-07-08	**Race – Verbal Assault** CP alleged that RSP used racial slurs when CP was riding the E Green Line. RSP accused him of not tapping TAP pass.	Closed. No Cause. Insufficient evidence. Training recommended for the RSP.
2.	MBTA	11-20-08	**Nat. Orig. – Verbal Assault** CP boarded a bus at Wellington & Mill St. and her requests to stop the bus were ignored. CP claimed that the RSP referred to her and others on the bus using slur against Haitians.	Closed. No Cause. Insufficient evidence. Witness never came forward.
3.	MBTA	11-27-08	**Nat. Orig. – Offensive** CP contacted MBTA Police looking for lost documents. RSP used "racist" words, questioned his citizenship, and told him to go to his country.	Closed. No Cause. Training recommended for the RSP.

TABLE 2-1 MBTA Title VI Complaints, Lawsuits, and Investigations (cont.)

(CP = Complainant; RSP = Respondent; CRI = Civil Rights Investigator)

MBTA Legal Challenges (cont.)

	Forum	Date Filed	Summary of Allegations	Status/Action Taken
4.	MBTA	12-15-08	**Race – Offensive** Customer, who is African-American, alleges that the driver was being racist by yelling at her and saying "You people never have your fare" when her CharlieCard had insufficient value on it and she said, "Give me a second I just have to find my card."	Closed. No Finding. No response from CP. Unable to investigate.
5.	MBTA	12-26-08	**Race – Disparate Treatment** Customer states that bus operator showed a negative attitude toward her when she attempted to add money to her CharlieCard, while that operator allowed a white male in his thirties or forties on the bus who failed to pay, and did not make any comments toward him.	Closed. No Cause.
6.	MBTA	2-03-09	**Race – Offensive** CP claimed that the RSP made a negative comment regarding another passenger in a predominantly minority (black) neighborhood.	Closed. No Cause. Insufficient evidence.
7.	MBTA	2-05-09	**Nat. Orig. – Verbal dispute** CP filed a complaint that RSP (MBTA bus driver) swore at her and called her by an offensive epithet because she questioned him as to why the bus was waiting. CP believes she was treated poorly because she was the only "non-Hispanic" on the bus.	Closed. Non-Civil Rights.
8.	MBTA	2-21-09	**Nat. Orig. – Offensive** CP filed a complaint against RSP (MBTA bus driver) that he made offensive remarks to another shuttle bus driver.	Closed. Cause Finding. RSP issued discipline and required to attend training.

TABLE 2-1 MBTA Title VI Complaints, Lawsuits, and Investigations (cont.)

(CP = Complainant; RSP = Respondent; CRI = Civil Rights Investigator)

MBTA Legal Challenges (cont.)

	Forum	Date Filed	Summary of Allegations	Status/Action Taken
9.	MBTA	3-12-09	**Race – Offensive** Customer alleged that CSA at Copley Station came up to him, called him by an offensive epithet referring to his being white, and demanded that he come back to the gate and pay his fare. When CSA found out that she was wrong, she refused to let him back in and he missed his train.	Closed. No Cause.
10.	MBTA	3-23-09	**Race – Offensive** CP complained that the RSP (a minority bus driver) made an inappropriate comment referring to her race (white) on the #55 Queensbury route.	Closed. No Cause.
11.	MBTA	4-13-09	**Nat. Orig. – Offensive** CP complained that while riding the #93 bus the driver and another passenger made abusive statements towards people of Puerto Rican and Chinese descent.	Closed. No Cause. Insufficient evidence. Training recommended for the RSP (bus driver).
12.	MBTA	5-24-09	**Race – Offensive** CP was caused embarrassment, upon trying to board an MBTA bus with her children, over a fare dispute. CP feels she was treated improperly because of her race.	Closed. No Cause.
13.	MBTA	5-26-09	**Race – Disparate Treatment** CP was on the #28 bus and stated that RSP bypassed her stop even though she rang the bell. CP claims this always happens on this route and believes it is because it serves a minority community.	Closed. No Cause. No contact from CP. RSP submitted statement.

TABLE 2-1 MBTA Title VI Complaints, Lawsuits, and Investigations (cont.)

(CP = Complainant; RSP = Respondent; CRI = Civil Rights Investigator)

MBTA Legal Challenges (cont.)

	Forum	Date Filed	Summary of Allegations	Status/Action Taken
14.	MBTA	6-17-09	**Nat. Orig. – Offensive** Customer alleged that RSP (operator) made offensive comments regarding race and national origin.	Closed. No Cause. Conducted telephone interview of CP. Training recommended for the RSP.
15.	MBTA	6-26-09	**Race – Disparate Treatment** Transit Police asked to see CP's TAP after she passed through gate. CP alleges racial profiling.	Closed. No Cause. CRI conducted telephone interview with Deputy Chief O'Connor, who explained that Transit Police were stopping all TAP users, in effort to combat fare evasion.
16.	MBTA	6-30-09	**Race – Disparate Treatment** Customer alleged that when she called into CSS for information regarding her CharlieCard, she was given poor information and was treated rudely. Customer alleged that it might be due to her race.	Closed. Non-Civil Rights. Investigator exchanged emails with CP and spoke to her on 7-2-09. After discussion, this appears to be non-civil rights.
17.	MBTA	7-03-09	**Race – Disparate Treatment** CP tapped through fare gates at Copley and was approached by inspector who accused him of not paying his fare. MBTA Police dispatched.	Closed. No Cause.
18.	MBTA	7-10-09	**Race – Disparate Treatment** CP, an African American, filed a complaint regarding an incident on the Rt. 442 bus. CP alleged that the RSP (driver, who is white) became upset because he was talking on his cell phone. CP was told to get off the bus; CP refused. RSP pulled the bus to the side of the road and called police. CP alleged that the RSP called him by insulting epithets, used racial slurs, and made an offensively race-based comment.	Closed. No Cause.

TABLE 2-1 MBTA Title VI Complaints, Lawsuits, and Investigations (cont.)

(CP = Complainant; RSP = Respondent; CRI = Civil Rights Investigator)

MBTA Legal Challenges (cont.)

	Forum	Date Filed	Summary of Allegations	Status/Action Taken
19.	MBTA	7-19-09	**Nat. Orig. – Offensive** CP alleges that RSP singled him out and yelled at him, saying that he did not mount his bike to rack properly.	Closed. No Cause.
20.	MBTA	7-28-09	**Race – Disparate Treatment** CP riding the Route 225 bus felt that the driver discriminated against her because of her race by responding rudely to her question regarding a stop.	Closed. No Cause. Insufficient evidence.
21.	MBTA	8-15-09	**Nat. Orig. – Offensive** Passenger alleges that when he told RSP that he forgot his monthly pass, RSP made an offensive remark to him referring to his national origin.	Closed. No Cause.
22.	MBTA	8-15-09	**Race & Gender – Offensive** Passenger alleges that when she attempted to board RSP's bus, RSP told her there was insufficient room and used several racial slurs towards her.	Closed. No Cause.
23.	MBTA	8-21-09	**Race – Disparate Treatment** Customer states that CSA at Forest Hills is harassing his wife. CP did not provide any contact info, but CSS tracked down the number.	Closed. No Cause. Received statement from Area. No contact from CP.
24.	MBTA	9-17-09	**Nat. Orig. – Offensive** CP reported that operator referred to another passenger using an offensive epithet for Asians. Unable to contact customer to conduct an investigation.	Closed. No Cause.
25.	MBTA	9-28-09	**Nat. Orig. – Offensive** Customer alleges that RSP asked made an offensive remark to her referring to her national origin (Asian).	Closed. No Cause. No response from CP.

TABLE 2-1 MBTA Title VI Complaints, Lawsuits, and Investigations (cont.)

(CP = Complainant; RSP = Respondent; CRI = Civil Rights Investigator)

MBTA Legal Challenges (cont.)

	Forum	Date Filed	Summary of Allegations	Status/Action Taken
26.	MBTA	10-04-09	**Race – Offensive** Customers allege that RSP used a racial slur after they alighted at Hynes on the #1 route.	Closed. No Cause. CRI interviewed parties.
27.	MBTA	10-06-09	**Race – Offensive** CP alleges that RSP said he would kick her off the bus and made a remark to her that was a slur against blacks. CP was offended by the racist remark, though she is not black herself.	Closed. No Cause.
28.	MBTA	10-06-09	**Race – Offensive** CP alleged that the bus driver on Route 109 was rude and harassing to his daughter over change for the fare. CP also alleged that the bus driver made offensive racial comments and used racial slurs against Puerto Ricans and blacks.	Closed. No Finding. Customer was contacted but never responded.
29.	MBTA	10-12-09	**Race/Age/Dis.** CP alleges CSA refused to assist her with AFC machine and made insulting and discriminatory remarks to her.	Closed. No Cause. Recommended that Area review for Courtesy/Customer Service.
30.	MBTA	10-16-09	**Nat. Orig. – Offensive** Customer alleges he observed RSP make mocking statements regarding an Asian passenger.	Closed. No Cause. CP has not responded to email. RSP denied allegations.
31.	MBTA	10-24-09	**Race/Gender** RSP allegedly made offensive comments to CP (high school student) and other passengers.	Closed. Cause Finding.
32.	MBTA	10-26-09	**Race – Offensive** Customer says RSP bypasses her on the #30 route. Customer has had issues with RSP in the past month where RSP called customer by an offensive epithet referring to her race (white).	Closed. No Finding. Area investigated on-going issues with customer.

TABLE 2-1 MBTA Title VI Complaints, Lawsuits, and Investigations (cont.)

(CP = Complainant; RSP = Respondent; CRI = Civil Rights Investigator)

MBTA Legal Challenges (cont.)

	Forum	Date Filed	Summary of Allegations	Status/Action Taken
33.	MBTA	11-09-09	**Race – Offensive** Operator on Route #90 allegedly called customer by an offensive epithet referring to a racial group (blacks) and ordered her off the bus.	Closed. No Finding. Wrong contact information provided by CP.
34.	MBTA	11-20-09	**Race/Nat. Orig. – Offensive** Customer observed RSP refer to another customer by an offensive epithet referring to national origin (Mexican).	Closed. No Cause. CRI reviewed the bus videotape.
35.	MBTA	12-01-09	**Race – Offensive** CP alleges that CSA made offensive comment based on race.	Closed. No Finding.
36.	MBTA	12-23-09	**Race – Offensive** CP questioned RSP regarding stopping at the Northern Ave. stop and the RSP called him by an offensive epithet referring to persons of color.	Closed. No Finding.
37.	MBTA	01-05-10	**Race – Disparate Treatment** CP filed a complaint because RSP (a white bus driver) bypassed her as she waited for the bus. CP feels she was bypassed because of her race.	Closed. No Cause.
38.	MBTA	1-19-10	**Nat. Orig./Race** CP complained that a homeless man shouted racial slurs as he exited the Red Line train at Davis Square. CP reported the incident to RSP (MBTA CSA) and was told by the RSP that the homeless man had the right to speak in the way he had. When the CP said that he was going to call the Customer Service line, the RSP made an offensive remark to him based on national origin.	Closed. No Cause.

TABLE 2-1 MBTA Title VI Complaints, Lawsuits, and Investigations (cont.)

(CP = Complainant; RSP = Respondent; CRI = Civil Rights Investigator)

MBTA Legal Challenges (cont.)

	Forum	Date Filed	Summary of Allegations	Status/Action Taken
39.	MBTA	1-20-10	**Race – Disparate Treatment** CP alleges he got into an argument with another customer, who was white, who called him by an offensive epithet referring to a racial group (blacks). CP says the argument escalated and the white customer drew a knife. CP says that RSP then came out of the booth and threatened to call the police. CP is upset that RSP did not intervene sooner, when she heard the epithets.	Closed. No Cause. Received statement from area and talked to CP. Insufficient evidence to find cause.
40.	MBTA	1-30-10	**Race – Disparate Treatment** CP reported that her husband and child were refused service because of their race.	Closed. No Finding.
41.	MBTA	3-07-10	**Nat. Orig./Race** CP alleged that the bus operator was rude and made derogatory comments regarding Asian passengers.	Closed. No Finding.
42.	MBTA	3-11-10	**Nat. Orig. – Offensive** CP claimed that RSP (bus driver) screamed at her and told her not to ride her bus. CP feels she has received this treatment because she is Hispanic.	Closed. No Cause. Insufficient evidence.
43.	MBTA	5-08-10	**Nat. Orig. – Offensive** CP alleges that when he asked why his wife's CharlieCard didn't work, the RSP, a CSA, yelled at him and made an offensive remark referring to his national origin.	Closed. No Cause. Video conflicts with CP's account.
44.	MBTA	6-04-10	**Race – Offensive** Customer alleges RSP made disparaging comments about white people.	Closed. No Cause.

TABLE 2-1 MBTA Title VI Complaints, Lawsuits, and Investigations (cont.)

(CP = Complainant; RSP = Respondent; CRI = Civil Rights Investigator)

MBTA Legal Challenges (cont.)

	Forum	Date Filed	Summary of Allegations	Status/Action Taken
45.	MBTA	6-11-10	**Race – Offensive** CP alleged that operator is rude, calls her by racial slurs, and incites other passengers on the bus to swear at her.	Closed. No Cause.
46.	MBTA	6-25-10	**Color – Offensive** CP alleged that the bus operator was harassing her and her 9-year-old sister.	Closed. No Finding. CP never responded.

MCAD (Massachusetts Commission Against Discrimination) EEO and Other Legal Challenges

	Forum	Date Filed	Summary of Allegations	Status/Action Taken
47.	MCAD	4-21-09	**Race/Color – Discrimination** CP alleged that he sat down on a bench next to a white woman, and members of her group got upset, called the police, and demanded that the CP be removed from the station.	MCAD issued a Lack of Probable Cause finding on July 7, 2010.
48.	MCAD	5-29-09	**Race/Color and Gender** CP alleged that she was talking on her cell phone and that a black man in an MBTA uniform said something inappropriate that offended her.	MCAD issued a Lack of Probable Cause finding on August 2, 2010.
49.	MCAD	01-7-10	**Race/Color – Discrimination** CP, 20 years old, alleged that two white males, around the same age as himself, entered the reduced fare gate; when he used his student pass, he was stopped by a TPD officer who asked his age, asked for his student identification number and driver's license, wrote a citation for $100, and confiscated his student pass.	CP's counsel inquired concerning resolving the matter and the parties reached a voluntary settlement. MCAD ordered the file closed as settled and dismissed with prejudice on July 14, 2010.

Plan for Providing Meaningful Access to Activities and Programs for Persons with Limited English Proficiency [FTA C4702.1A, IV. 4.]

It is the policy of the MBTA to ensure that persons with limited English proficiency (LEP) are not discriminated against or denied meaningful access to and participation in the programs and services provided by the Authority. As such, the MBTA has developed and operationalized a strategic plan for the Authority that reflects the overall goals for improving language access for our customers who are limited in their English proficiency.

The strategic plan contained in the Policy and Procedure provides a road map for addressing our goals while leaving room for growth and evolution as the Authority learns more about the needs of its customers. The vision is to fully operationalize the strategic plan over several years at all levels of the Authority. Attaining full implementation of the plan requires resources, and thus the pace and scope of implementation will be influenced by the increasing volumes of customers with LEP, the nature of the service, and budgetary constraints.

The LEP Policy and Procedure (included in Appendix A) shall apply to all of the Authority's programs, services, and facilities, regardless of whether or not they receive federal financial support. It is the intent of the MBTA, in providing language services to LEP persons, to achieve a balance that ensures meaningful access to programs and services while not incurring undue burdens on the Authority's resources.

The MBTA has designated the Office of Diversity and Civil Rights (ODCR) to provide oversight and coordination of the implementation of the LEP Policy and Procedure. ODCR shall also direct the ongoing monitoring and periodic assessment of the LEP Policy and Procedure's effectiveness. Revisions to the policy and procedures will be made periodically as deemed necessary to improve implementation. Reviews of the program will include the following factors:

- Changes in the demographic composition of the service area.
- Substantial changes in the nature and type of the services provided.
- Variance in the frequency of encounters with LEP customers.
- Availability of technology and other new resources.
- Assessment of whether language services meet the needs of the customers.
- Feedback from LEP groups and the community at large.

To improve the effectiveness of the program, the Authority will revise and update the policy and procedure if necessary, based upon the findings and feedback compiled from the reviews.

Based on analysis of data from the 2000 U.S. census, the MBTA has determined that the primary languages other than English that are spoken in the MBTA service area are Spanish, Chinese, Cape Verdean Creole/Portuguese, Italian, and Haitian Creole/French. Figure 2-1 shows the distribution of the population according to the closest corresponding U.S. Census language categories.

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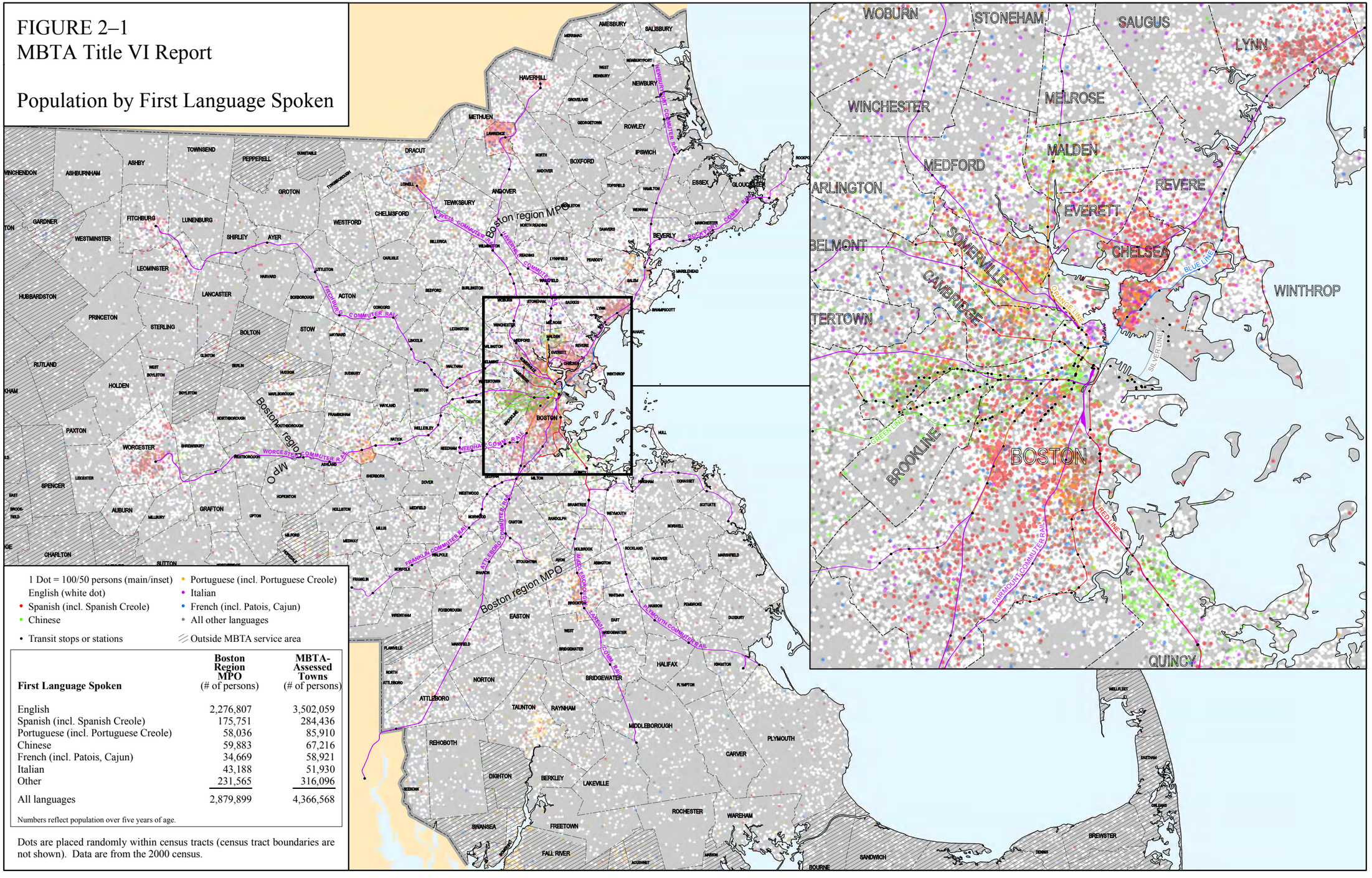
FIGURE 2–1
MBTA Title VI Report

Population by First Language Spoken



1 Dot = 100/50 persons (main/inset)
English (white dot)
Spanish (incl. Spanish Creole)
Chinese
Transit stops or stations
Portuguese (incl. Portuguese Creole)
Italian
French (incl. Patois, Cajun)
All other languages
Outside MBTA service area

First Language Spoken	Boston Region MPO (# of persons)	MBTA-Assessed Towns (# of persons)
English	2,276,807	3,502,059
Spanish (incl. Spanish Creole)	175,751	284,436
Portuguese (incl. Portuguese Creole)	58,036	85,910
Chinese	59,883	67,216
French (incl. Patois, Cajun)	34,669	58,921
Italian	43,188	51,930
Other	231,565	316,096
All languages	2,879,899	4,366,568

Numbers reflect population over five years of age.

Dots are placed randomly within census tracts (census tract boundaries are not shown). Data are from the 2000 census.

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Notification to Beneficiaries of Protection under Title VI [FTA C4702.1A, IV. 5.]

The following text is quoted from the brochure designed to notify MBTA customers of their rights and protections under Title VI. This brochure has been translated from English into the five other primary languages spoken in the MBTA service area. The brochures were placed in station kiosks, at MBTA administrative offices and information desks, and (in electronic form) on the MBTA's website.

INFORMATION ON TITLE VI

Protecting Your Rights

What is Title VI?

Title VI of the Civil Rights Act of 1964 is a Federal statute that provides that no person shall be discriminated against or denied benefits on the ground of race, color, or national origin, in programs and services that receive federal financial assistance. As such, to ensure that MBTA customers are not discriminated against, we have adopted policies that promote equal access and quality service to all our customers.

What Does Title VI Mean To You?

Public transit agencies, such as the MBTA, are required to provide services in a fair and equitable manner to all passengers without regard to their race, color or national origin. Title VI also requires the MBTA to reduce language barriers that may impede access to important services by customers who may not be proficient in English.

In addition to the Title VI requirements there are other laws providing similar protection on account of a person's gender, religion, age, disability, sexual orientation, or other protected status.

The MBTA also has a zero-tolerance policy prohibiting any form of unlawful discrimination.

What Services Are Available To Customers Who Are Not Proficient In English?

Under Title VI, customers who are not proficient in English are entitled to assistance in accessing critical MBTA information. If deemed essential or upon request, we can translate materials in several languages, including Spanish, Chinese, Haitian Creole, Italian and Cape Verdean Creole.

Additionally:

- Our automated fare system provides audio and visual instruction in English, Spanish and Chinese
- Our customer service agents and hub monitors are able to provide guidance to customers who are not proficient in English; and
- If deemed necessary or upon request translation services may be provided.

What Should You Do If You Have A Complaint?

All comments and suggestions for improvement in our service are welcome and will be considered.

You can:

- Submit your comments, suggestions or complaint to Customer Communications via email to www.mbta.com; or
- Send a letter to MBTA's Customer Communications, Ten Park Plaza, Room 5610, Boston, MA 02116; or
- Call MBTA's Customer Communications at (617) 222-3200.
- For more information or for an alternate format of this document please call (617) 222-3200, TTY (617) 222-5416 or visit www.mbta.com.

When submitting complaints, please include your contact information as well as details of the incident including what occurred, where and when, and the names, addresses, phone numbers and e-mail addresses of witnesses.

We Welcome Your Feedback!

The MBTA is committed to providing safe, efficient and quality transportation services to all the communities that we serve. If you have comments or suggestions on how we can improve on our commitment to non-discrimination in our services or how we can better serve the needs of our customers who are not proficient in English, we would like to hear from you.

Analysis of Construction Projects [FTA C4702.1A, IV. 8.]

The Title VI circular provides guidance on how recipients of federal funds should conduct environmental-justice reviews of construction projects through the National Environmental Policy Act (NEPA) process. Although the guidance does not require that the MBTA report on this topic in this document, the Authority has chosen to include the following summary of the status of current construction projects that receive federal funding.

The MBTA includes, in its planning reviews of capital construction projects, an environmental-justice analysis identifying anticipated impacts on minority and low-income communities and defines proposed mitigation, if warranted. Table 2-2 lists the status and NEPA record of MBTA capital construction projects currently programmed in the Boston region's Transportation Improvement Program (TIP) by the Boston Region MPO. Backup documentation for NEPA reviews is maintained by the MBTA Environmental Department.

TABLE 2-2 MBTA Capital Construction Projects (Federal Non-Stimulus Funding)

Project	Project Status/Type	Environmental Review
Locomotive and Coach Procurement	Revenue Vehicle	c 17 Exempt
ITS Initiatives	Technology/Revenue/ITD	c 21 Exempt
Power Improvements	Power--Substation Upgrade	c 21 Exempt
Station Rehab	Maintenance/Repair	Maintenance
MBTA Accessibility Program (LRAP)	Government Center/State/Copley/ Arlington	Copley FONSI 12/30/04 Govt Ctr FONSI 11/29/04 Arlington FONSI 5/14/04
Blue Line Vehicles	Revenue Vehicle	c 17 Exempt
Station Management Program	AFC--Phase 2 Parking/Commuter Rail	c 21 Exempt
CNG Bus Overhaul Program	Vehicle Maintenance	c 14 Exempt
Everett Maintenance Facility	Design & Construction--Support Facility	Categorical Exclusion (CE) approved 2/28/08
Elevator Replacement/Rehabilitation	Design & Construction--Harvard/ Porter/Park/Downtown Crossing/ State	Redundant: Park St FONSI 12/29/09 Porter/Downtown/State CE 5/7/08 Harvard CE 5/29/08
Grant Application Notes (GANs) Program	Budget--Fairmount & Bus Procurement	c 17, c 15, c 21 Exempt
MBTA Enhancement Program	Operations Support/ Communications/Signage	c 8, c 21 Exempt
Preventive Maintenance	System Maintenance	c 18 Exempt

TABLE 2-2 MBTA Capital Construction Projects (Federal Non-Stimulus Funding) (cont.)

Project	Project Status/Type	Environmental Review
Bus and Train Arrival LCD Signage	Operations Support/Communications	c 21 Exempt
Orange Line Vehicles	Revenue Vehicle	c 17 Exempt
Maintenace Facilities - Equipment	System Maintenance	c 19 Exempt
Commuter Rail Systems Upgrades	Commuter Rail Ops/Engineering	NEPA review to be completed
Specialized Non-Revenue Vehicles	Maintenance Equipment	c 17 Exempt
Parking Program	Maintenance--Parking Facilities	Maintenance
Station Accessibility Program (1)	Design & Construction--Science Park/Symphony/Hynes/Wollaston	c 1 Exempt for design activities Science Park FONSI 7/21/10
Commuter Rail Accessibility	Commuter Rail Ops--Station/Platform Upgrades	Maintenance
Environmental Program	Environmental Compliance	c 1 Exempt
Ferry System Enhancements	Commuter Boat Maintenance/Repair	Maintenance
Blue Line Modernization	Station/Line Upgrade	Maverick Orient Heights State
Red Line No. 2 Car Overhaul	Revenue Vehicle Maintenance	c 14 Exempt
Kawasaki Coaches	Rolling Stock Maintenance	c 17 Exempt
Locomotive and Coach Procurement	Revenue Vehicle	c 17 Exempt
Positive Train Control	SMI/Engineering	c 19 Exempt
Station Platform Program	Design & Construction--Wood Island, Subway	c 1 Exempt
CRASP	Rolling Stock Maintenance	Maintenance
Subway Vehicle Programs	Revenue Vehicle Engineering	c 17 Exempt
Columbia Junction	SMI/Engineering--Signal System Upgrade	c 21 Exempt

TABLE 2-2 MBTA Capital Construction Projects (Federal Non-Stimulus Funding) (cont.)		
Project	**Project Status / Type**	**Environmental Review**
Power Improvements	Power Division--Substations/Cable Upgrades	c 21 Exempt
Bridge and Tunnel Program	Design & Construction--Inspection; Red Line/Concord Main Street/ Neponset River/Merrimack/Hyde & Langley	c 1 Concord CE 8/13/08 Neponset CE 6/14/10 Hyde CE 5/22/03 Langley CE 1/10/08
Track Upgrades	SMI/Rail Ops	c 18 Exempt
Signal Systems Upgrades	SMI/Engineering	c 21 Exempt
Melrose Commuter Rail Station Area Improvement	City of Melrose	c 3, c 15 Exempt
Winthrop Ferry Demo Project	Town of Winthrop	c 16 Exempt
Hingham Intermodal Center		CE 6/23/09
Wonderland Busway/Garage		Busway CE re-eval 6/4/09 Garage FONSI 3/15/10
Salem Intermodal Station Design		c 1 Exempt
Auburndale Design		c 1 Exempt
Rockport Commuter Rail Station Improvements		c 8, c 2, c 19 Exempt
Boston Bike Bus Livability		c 3 Exempt

Some of the major projects undertaken will improve MBTA service in communities that have been identified as minority and/or low-income. These projects include:

- Green Line Extension.
- South Coast Rail.
- Key Bus Route Initiative.
- Route 28X.
- Roxbury/Dorchester/Mattapan Transit Needs Study.
- Fairmount Corridor Improvements.

Each of these projects, and the efforts to involve the community in them, are described in the Public Outreach and Involvement Activities section of this report.

Additional projects were undertaken using American Recovery and Reinvestment Act of 2009 (ARRA) funding. ARRA is intended to stimulate the economy and save/create jobs through both federal tax cuts and increased spending – including for highway and transit infrastructure. ARRA was approved by Congress and signed by President Obama on February 17, 2009. On March 5, 2009, transit funding apportionments for states and urbanized areas were published in the *Federal Register*, along with initial guidelines for accessing the funds. Based on these apportionments, the MBTA received $232.2 million in ARRA formula funding, within the following grant programs:

- Section 5307 (Urbanized Area Formula Grants) - $180.7 million.
- Section 5309 (Fixed Guideway Modernization) - $51.5 million.

In addition, the MBTA has received ARRA funds through a "TIGGER" (Transit Investments for Greenhouse Gas and Energy Reduction) discretionary grant program and through the "flex" of highway ARRA funds to transit. Currently, this includes the following:

- "TIGGER Grant" Funds for Renewable Wind Energy Projects - $2.5 million.
- Highway ARRA Funds "Flexed" to the MBTA for Transit (Wonderland Garage) - $39.0 million.

The MBTA is also a designated implementing agency or limited agent participating in the following projects receiving grant awards through two discretionary federal programs: "TIGER" (Transportation Investments Generating Economic Recovery) and "HSIPR" (High-Speed Intercity Passenger Rail):

- TIGER funding to the City of Revere from FTA for a Wonderland transit facility and streetscape project - $20.0 million.

- TIGER funding to Montachusett Regional Transit Authority from FTA for Fitchburg Line extension to a new Wachusett Station - $55.0 million.

- TIGER funding, through MassDOT and the Federal Railroad Administration (FRA), for the reconstruction of New Bedford freight line bridges - $20.0 million.

- HSIPR funding, to MassDOT from FRA, for rail line rehabilitation of the Knowledge Corridor in the Pioneer Valley (Northampton – Greenfield)- $70.0 million.

In total, the MBTA has programmed implementation of $438.7 million in ARRA funds. Stimulus projects can be 100 percent federally funded; no MBTA or local match is required. However, the funding is subject to all federal requirements – e.g., project inclusion in State Transportation Improvement Program (STIP), and federal environmental and procurement rules. The projects the MBTA is undertaking with ARRA funds are shown in Table 2-3.

TABLE 2-3 MBTA ARRA-Funded Capital Projects		
Project Name	**Brief Project Description**	**Environmental Approval**
Bus Stop and Customer Enhancements	$7.8M for bus stop amenities (e.g., shelters, benches, signage, pavement markings, ADA), focusing on Key Bus Routes and Silver Line bus stops; improvements to Route 23/39 bus corridors; and other customer service enhancements.	Categorical Exclusion (CE) approved 6/23/09
Back Bay Station Lobby Ventilation	$3.0M for improving ventilation and air quality within Back Bay Station lobby area (e.g., roof units, fans, door systems).	CE approved 4/15/09
Silver Line - Phases A & B: Dudley-S. Station Enhancements	$1.7M for new bus shelter at South Station, dedicated bus lane, traffic signal priority and real-time arrival system. (Excludes $0.8M for ramp work; separate ARRA project.)	CE approved 6/9/09
Enhanced Bicycle Parking Facilities	$4.8M for construction of enhanced bicycle parking facilities at up to 50 stations (where feasible, parking cages with lighting and security).	CE approved 6/23/09
THE RIDE Vehicles	Procurement of 108 vans off of MassDOT (then Executive Office of Transportation) contract, to increase level of MBTA-owned vehicles and reduce expenses (vs. operator-owned vehicles).	Exempt from NEPA review
MBTA Systemwide Fencing	$3.8M for replacing and repairing fencing along ROW and MBTA property.	CE approved 4/15/09
Commuter Rail - Various Station Projects	$5.25M for various CR station projects, systemwide (e.g., platform pavement replacement, lighting, signage).	CE approved 6/9/09
Dudley Square Station Improvements	$960K for construction of a 2-officer kiosk at Dudley Square Station, including video monitors, CCTV, telephones, etc.; as well as lighting, shelter, and signage improvements.	CE approved 6/9/09
MBTA Tunnel Signage	$6.7M for fabrication and installation of signage within MBTA tunnels; a safety initiative for both customers and employees.	CE approved 6/9/09
Commuter Rail Facilities	$8.0M for commuter rail facilities - including layover facility upgrades and various facility repairs (e.g., roof replacement, fire protection systems).	CE approved 4/15/09

TABLE 2-3 MBTA ARRA-Funded Capital Projects (cont.)		
Project Name	**Brief Project Description**	**Environmental Approval**
Fitchburg Line - Interlocking Project	$10.2M for CPF-43 interlocking work, which will provide improved reiability and on-time performance for the Fitchburg Line.	CE approved 2/23/09 (Small Starts)
Commuter Rail - Bridge Projects	$3.0M for bridge repairs. Anticipate timber/ tie replacements at about 10 bridges on Fairmount and Franklin Lines.	CE approved 6/30/09
Haverhill Line - Double Track and Signal Work	$10.0M for Haverhill Line double tracking project (Wilmington Jct. to Andover St. in Lawrence). $7.4M for new track circuits, new power switches, new interlocking, and grade crossing improvements.	CE approved 4/15/09
Ashmont Station Upgrade Phase II	$13.9M for "phase 2" upgrades, including final wall, ceiling, and walkway finishes.	CE approved 8/24/04 (FONSI issued)
MBTA Bus Facility Rehabilitation and Improvements	$14.6M for various bus facility improvements (e.g., bus washing equipment, overhead doors, pavement repairs) as well as repairs/upgrades to heating, cooling, and lighting systems at bus garages.	CE approved 4/15/09
Double Track - Fitchburg Line	$39.8M for "stand alone" Fitchburg double tracking project - between West Acton and Ayer, including Littleton Station work.	CE approved 4/15/09
Hybrid Bus Procurement	$30.7M for procurement of 25 articulated 60' hybrid buses. Primary purpose is to replace aging buses; will also help to expand capacity on busy routes (Routes 28, 39, and Silver Line Washington Street).	Typically do not get written approval for vehicle CEs
Silver Line - Essex St. Ramp and Areaway Reconstruction	$800K to reconstruct Essex Street ramps and areaways in association with providing Silver Line service to South Station. Scope not included within $1.7M ARRA project.	CE approved 6/9/09
MBTA Operating Assistance	Under the Supplemental Appropriations Act of 2009 (H.R. 2346) , transit agencies can use up to 10% of 5307 ARRA funds for operating assistance.	Operating assistance does not require NEPA approval
Orient Heights Track and Special Trackwork Reconstruction	Rebuild 11,000 feet of track; replace thirty 50-year-old turnouts; replace the negative return power cable; prepare yard for new No. 5 Blue Line cars and operation of 6-car trains.	CE Exemption approved by FTA via email on 3/5/10

TABLE 2-3 MBTA ARRA-Funded Capital Projects (cont.)		
Project Name	**Brief Project Description**	**Environmental Approval**
Emergency Station Lighting Program	Installation of 600VDC lighting systems in transit stations with only 1 source of AC power, enhancing safety and sustaining lighting during a power outage - a continuation of a previous effort.	CE Exemption approved by FTA via email on 3/5/10
Substation Control Battery Set Replacement Program - Phase 2	Replacement of traction power substation control batteries (primary source of operational control for power system's AC & DC breakers).	CE Exemption approved by FTA via email on 3/5/10
Tunnel Dewatering Pump Station Rehabilitation Program	Replace and upgrade dewatering equipment (pumps, motors, valves, piping, alarms) within transit tunnel pump rooms. Focus on 4 locations: Orange Line (2), Red Line and Blue Line.	CE Exemption approved by FTA via email on 3/5/10
Back Bay Re-Roofing Project	Roof repair/replacement - repair deteriorating roof; work associated with ARRA Phase 1 lobby ventilation project.	CE Exemption approved by FTA via email on 3/5/10
North Quincy Station Platform Repairs	Structural repairs to the existing concrete platforms at North Quincy Station.	CE Exemption approved by FTA via email on 3/5/10
Braintree Station Structural Repairs	Structural repairs to Braintree Station platform.	CE Exemption approved by FTA via email on 3/5/10
Key Bus Route Improvements	Bus stop amenities and other customer service enhancements, focusing on Key Bus Routes. Work also includes busway pavement repairs, map upgrades, handheld CAD/AVL computers, and AFC validator equipment.	CE Exemption approved by FTA via email on 3/5/10
Revere - Wonderland Station Garage	Parking garage construction at Wonderland Station.	Environmental Assessment to FTA 2/24/10; FONSI issued by FTA 3/15/10
Wedgemere Station Accessibility	Design and installation of two new mini-high platforms, accessible ramps, and other improvements at the Wedgemere commuter rail station on the Lowell Line.	CE Exemption letter to FTA on 3/22/10; FTA confirmed the MBTA's ability to assert the CE
Red Line Floating Slab Work	Repairs to the deteriorating existing floating slab system on the Red Line, addressing approx. 75 acute locations in the Cambridge/Somerville area.	CE Exemption letter to FTA on 3/22/10; FTA confirmed the MBTA's ability to assert the CE

TABLE 2-3 MBTA ARRA-Funded Capital Projects (cont.)		
Project Name	**Brief Project Description**	**Environmental Approval**
"TIGGER" Grant Renewable Wind Energy Project	Installation of 2 wind energy turbines at MBTA commuter rail facilities: in Kingston (100kW) and Bridgewater (up to 600 kW). $2.5M approved through competitive TIGGER grant program. Another $0.7M through MTC grants.	CE for Kingston approved 1/6/2010; CE for Bridgewater approved 2/22/2010
"TIGER" Grant Wonderland Transit Plaza	Project includes construction of a new public transit plaza adjacent to Wonderland Station and a footbridge to connect the plaza to the beach and parkland areas.	FTA issued environmental approval on 7/8/2010
"TIGER" Grant Fitchburg Line - Wachusett Extension	Project will extend existing commuter rail service west of Fitchburg an additional 4.5 miles, along with a new station at Wachusett and a new layover facility.	FTA issued a Finding of No Significant Impact for EA 10/1/10
"TIGER" Grant Fast Track New Bedford - South Coast Rail Bridges	Complete replacement of three insufficient freight rail bridges (built in 1907) on the New Bedford/Fall River Freight Line.	FRA issued a Finding of No Significant Impact
"HSIPR" Grant Knowledge Corridor (Pending)	Project will rehabilitate existing Connecticut River rail line in western Massachusetts, which will allow for rerouted Amtrak Vermonter service to Northampton and Greenfield.	Pending

TIGGER stands for "Transit Investments for Greenhouse Gas and Energy Reduction"
TIGER stands for "Transportation Investments Generating Economic Recovery"
HSIPR stands for "High-Speed Intercity Passenger Rail"

Public Outreach and Involvement Activities [FTA C4702.1A, IV. 9.]

The MBTA conducts extensive public outreach both to keep members of the public informed and to solicit input concerning transit needs and concerns. This section of the report describes the variety of approaches the MBTA uses to facilitate the exchange of ideas and information with members of the public. The MBTA is continually working to improve its outreach, particularly to individuals in low-income and diverse communities.

"Join the GM"

The General Manager/Rail and Transit Administrator recognizes the importance of soliciting community input concerning transit service. In 2010, he introduced "Join the GM" sessions as opportunities for MBTA management to get out onto the system and engage directly in dialogue with customers throughout the MBTA service area. The General Manager, accompanied by senior management staff, held listening sessions in subway and bus stations. Special outreach was made to stations in low-income/minority communities; 18 of these sessions were held, nine in stations that are classified as minority and four in stations that are classified as both minority and low-income. Comments heard during these sessions have focused generally on both system- and service-related concerns, such as station and vehicle cleanliness. Customer feedback received during these sessions has enabled MBTA staff to make adjustments to service planning, target station maintenance resources, and improve the overall customer experience on the system.

Community Relations Department

The General Manager recently created the MBTA's Community Relations Department (CRD) to coordinate and streamline the public outreach efforts of all of the MBTA's departments and to provide a consistent level of support to all communities that interact with the MBTA. The CRD is committed to building and maintaining a positive and lasting relationship with all communities. It makes a concerted communication and outreach effort to involve all project stakeholders and elected officials in the MBTA's project planning and participation process. The CRD works in cooperation with the project managers in all departments on all community relations, communication, and coordination matters.

The MBTA's concept of community involvement is more than just communicating with stakeholders; it is communicating and managing the process to achieve an outcome that gathers input on a developing project and gains acceptance of the completed project. Consensus does not mean that all are satisfied with the project results; it means stakeholders are willing to accept project outcomes as developed through the community involvement process.

The MBTA typically communicates to the general public through one or more of the following methods:

- Agency website.
- Customer service telephone lines.
- Press releases, posters, flyers, and mailings.
- Newspaper, radio, and television advertisements.
- Signs and handouts available in vehicles and at stations.
- Community meetings.
- Information tables at local events.

Some of these communication tools are geared towards riders who are using the system, while other methods are intended to reach the community at large.

Limited English Proficiency

The CRD is developing a centralized language assistance program that will establish Authority-wide standards and procedures for implementing the Authority's LEP plan. The CRD will provide resources and offer assistance to all departments for communicating in a competent, effective, and timely manner with members of the public who have limited proficiency in English. These efforts will send the positive message to these customers that their business is valued and will also attract riders who would otherwise be excluded from participation in the service because of language barriers. In so doing, the services that the MBTA provides will be safe, reliable, convenient, and accessible to everyone, regardless of their ability to communicate in English. The CRD will notify the affected communities, agencies, and elected officials of the language assistance program.

Public/Community Meetings Process

The MBTA hosts public/community meetings and workshops to share project information and to solicit input from the community in an informal setting. These meetings are publicized through press releases, mailings, and/or the distribution of informational meeting flyers. Notices of public meetings are also posted on the MBTA and MassDOT websites. The CRD distributes informational materials at these meetings.

Public meetings are planned and publicized as early as possible. It is the responsibility of the CRD staff or the MBTA department charged with the coordination of any public meeting to ensure that the event is accessible to all people. For persons with disabilities and others who might need assistance, various forms of assistance are available, including appropriate room set-up, alternate formats of handouts, and American Sign Language (ASL) interpreters when requested. All meeting planners are provided with the checklist shown in Figure 2-2 to ensure that the meeting locations are accessible.

Figure 2-2: Draft Checklist for MassDOT Meeting Planners

- ☐ Is there at least one person who is responsible for ensuring that the public meeting is accessible for all attendees?
- ☐ Is the meeting location 1/4 mile or less from the nearest accessible bus stop or rail station?
- ☐ Is there an accessible path of travel provided from the public transportation stop to the meeting location and meeting room?
- ☐ If parking will be available at the meeting location, are there accessible parking spaces available (review # of car and van accessible spaces)?
- ☐ Is there an accessible path of travel provided from the accessible parking area to the meeting area?

Figure 2-2: Draft Checklist for MassDOT Meeting Planners (cont.)

- ☐ If the main entrance to the building is not accessible, is there a sign pointing towards the accessible entrance?
- ☐ Is there a pair of accessible restrooms available within close proximity of the meeting area? If not, is there at least 1 accessible unisex restroom?
- ☐ Is there at least one accessible (TTY and within appropriate height range) telephone available?
- ☐ Is there an integrated seating area for individuals who use a wheeled mobility device in the meeting room?
- ☐ Is there seating available for attendees who are deaf or hard of hearing near the front of the space so that attendees may see the interpreter/captioner or lip read?
- ☐ Is there an appropriately-lit area in the front of the room for sign language interpreters?
- ☐ Are the aisle ways at least three feet wide and clear of obstacles or tripping hazards?
- ☐ If microphones are used during the public meeting, are adjustable microphone stands available for attendees?
- ☐ If a stage or platform will be used during the public meeting, is it accessible?
- ☐ If a podium will be used during the public meeting, is the podium height-adjustable? If not, is there a small table (between 28 and 34 inches in height) provided to the side of the podium?
- ☐ Have sign language interpreters been reserved for the public meeting?
- ☐ Are assistive listening devices available for the public meeting?
- ☐ Are five large print copies of meeting handouts available?
- ☐ Are printed materials available upon request, in alternative formats?
- ☐ Has the public meeting been publicized at least 3 weeks in advance?
- ☐ Has the meeting been publicized on the MBTA website?
- ☐ Does the public meeting notice include accessibility information, how to request a reasonable accommodation, and information on whom to contact to request a reasonable accommodation?
- ☐ Are film or video presentations closed captioned and audio described?

Advance notices of community meetings are published in urban newspapers with a general circulation, as well as newspapers published for specific local communities or neighborhoods. At least one week before a meeting, informational flyers are distributed or signs are posted, as appropriate. Notices of public hearings related to service changes are also posted on the MBTA and MassDOT websites.

For construction projects, public review meetings are held at the conceptual, 30 percent design review, 60 percent design review, and final design phases. Notices of public hearings and meetings regarding planned construction projects are e-mailed to all affected community groups. The MBTA's Community Relations Department is represented at all internal planning, design, and construction review meetings to ensure that project stakeholders' concerns and interests are identified and addressed early; and to allow the CRD to assess the project scope and resources needed. Early engagement allows the CRD to develop a public community-involvement process tailored to each individual project to allow full participation by all stakeholders.

In addition, the MassDOT/MBTA Board of Directors meets monthly and includes time on its agenda for public comment—an open forum for individuals to present their concerns regarding transit construction, operations, and policies directly to the General Manager and the Secretary of Transportation, as well as the board that governs them.

Dissemination of Information Regarding Service Changes

Any change in MBTA service—whether it is a delay caused by bad weather, a modification in scheduling, or an increase in service levels to handle a special event—is of importance to the hundreds of thousands of people who depend on the MBTA to get to work, school, medical appointments, and countless other destinations. The Community Relations Department has an aggressive program in place, targeted to the area's minority and low-income populations, to inform passengers of these changes. In all of its communications with the public, the MBTA takes steps to ensure that important notices comply with the LEP (limited-English-proficiency) policy.

The Authority makes service changes of varying magnitude for a variety of reasons, including: (1) emergency situations, (2) construction activity, (3) periodic service-plan reviews, and (4) regular quarterly schedule updates. The magnitude of and reasons for the changes determine which of the following methods are used to inform the public of these changes.

Newspaper

Pertinent and timely service information is distributed via press releases to citywide and community-oriented newspapers, including newspapers geared to minority communities. Press releases of interest to a specific area are targeted to newspapers in that area. Press releases of more general interest are sent to area newspapers that reach a broad range of ethnic and racial groups with varying income levels.

Internet

The MBTA website (www.mbta.com) has been recognized within the transit industry for its design and content, with a focus on ease of use for transit customers. Features include an interactive-scheduling Trip Planner, MBTA service maps, and multilingual translations. Since 2007, the MBTA has offered "T Alerts" that provide customized service updates to customers via e-mail, mobile phones, and personal-digital-assistant (PDA) devices. "Mobile MBTA.com" provides Web-enabled mobile phones with easy-to-read, specially formatted views of www.mbta.com.

The MBTA website is used to disseminate information regarding ongoing MBTA projects, project proposals, and transit services, including dates and times of public meetings, hearings, and project procurements; schedules, route maps, and schedule changes; and service and escalator/elevator advisories and alerts. The website is also used as a means of soliciting input from interested parties regarding MBTA plans, projects, and services. In addition, the website offers customers an avenue for registering complaints and commendations about MBTA services.

Press releases are posted automatically on the MBTA website.

E-mail and Text Messaging

Customers can sign up for "T-Alerts" to receive instant notification by e-mail, mobile phone, pager, or PDA of delays of 15 minutes or more on their designated service. Customers can also provide input to the MBTA by sending an e-mail to feedback@mbta.com.

Real-Time Information/Applications

In 2009, the MBTA began releasing schedule data and real-time location data for transit vehicles, which can be used by software developers to build applications for the public. Currently, these data are available for all bus routes, as well as the Red, Orange, and Blue Lines. Data for commuter rail should be available during 2011.

To date, developers have built many applications (generally known as apps) with the data for computers, cell phones, and smart phones. Some of these applications are available at no charge, while some have a user fee. Generally, these applications show users the actual location of the next bus or train and/or predict when the vehicle will arrive at a selected stop. There are applications that can be used from any cell phone, with the information provided to the user via voice or text message. The MBTA maintains a showcase of many of these software applications at www.mbta.com/apps in order to help people find what programs are available, although the MBTA does not guarantee the reliability or accuracy of any particular application.

Public Meetings, Workshops, and Hearings

Public meetings and workshops for service planning are hosted by the MBTA to share information and to solicit input from the public in an informal setting. In the past, these meetings have been publicized through press releases, mailings, and/or the distribution of informational flyers. Notices of public meetings have also been posted on the MBTA website.

Public hearings are held for the Service Planning Department to solicit formal comments from the public regarding the impacts of proposed service changes. Advance notices of public hearings have been published in urban newspapers with a general circulation, as well as newspapers published for specific local communities or neighborhoods. In addition, one week before a hearing, informational flyers have been distributed or signs posted, as appropriate.

Going forward, the Service Planning Department will work with the CRD to coordinate the public-outreach efforts for the Service Plan.

Community Group Meetings

Upon request, MBTA personnel attend regularly scheduled or special civic and community organization meetings to address construction or service changes that are of interest to the group. The MBTA staff attempts to maintain close working relationships with communities to ensure that relevant service- and construction-related issues and concerns are addressed or resolved. MBTA personnel often serve on community task forces, through which they also disseminate information to the public.

Billboards, Paid Advertisements, and Variable Message Signs

Where it is appropriate, the MBTA uses billboards, paid advertisements, and variable message signs to publicize construction and service disruptions.

Posters and Flyers

The Authority displays posters on vehicles, in stations, and at high-volume bus shelters detailing any service changes that would impact customers. The Authority also distributes flyers to individual passengers, area homes, businesses, and/or community organizations, where appropriate, by the most effective means.

Schedule Cards

The MBTA produces and distributes 2.5 million schedule cards every quarter (10 million annually) to ensure that the public has access to route and schedule information for the bus routes operated by the MBTA (the Authority reviews the routes' timetables four times per year). To assist the public, if a route or schedule has changed since the publication of the previous schedule, the front panel of the schedule card notes the type of change. Major bus terminals have a display case where schedule card information can be

easily referenced. Also at these terminals are racks where passengers may obtain schedule cards. Signs at schedule racks inform passengers about routes that have had some type of change since the last schedule was published. The MBTA website also contains HTML and PDF versions of all schedules.

Customer Care Center

In 2006–07, the MBTA enhanced its customer responsiveness by creating the centralized Customer Support Services Department. All service-related inquiries, commendations, and complaints are received and monitored through the Customer Care Center. The tracking of customer interactions is accomplished via a state-of-the-art customer service management system. Translation services are available. Reporting and management of call flow are done through the Automated Call Distributor.

In November 2010 the Customer Support Services Department was merged with the Marketing Communications Department to further enhance the MBTA's responsiveness to customer concerns and to ensure consistency in the dissemination of information to riders. The new Customer Communications and Marketing Department is charged with meeting a customer satisfaction goal of responding to 95 percent of customer concerns within five days.

MBTA Transit Police

The MBTA Transit Police Department is dedicated to maintaining the MBTA as a safe environment for all riders throughout the system and for all members of the MBTA community.

In order to facilitate service to the community while respecting differences that exist between neighborhoods, the department is structured along four geographic boundaries (designated as Transit Police Service Areas [TPSAs]). The TPSAs have a single Area Commander responsible for the overall quality of police service provided in the area and for engaging the community in the development of policing strategies tailored to local needs. An emphasis on community policing is a cornerstone of the policing strategy.

Community policing is designed to include the regular use of partnerships and problem-solving techniques that proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime. Each TPSA engages in community outreach and involvement activities. An example of the types of efforts the Transit Police utilize to engage the community is provided in Appendix B.

The MBTA Rider Oversight Committee (ROC)

The MBTA established the Rider Oversight Committee in 2004 to discuss customer-service improvements and service-quality issues. Through the ROC, which meets monthly, the MBTA has institutionalized ongoing public participation in all aspects of the Authority's operations.

The MBTA ROC's mission statement is:

> The MBTA ROC, a diverse group of riders, advocates and MBTA employees, provides recommendations to the MBTA that communicate the needs and concerns of all riders in order to assist the MBTA in providing affordable, safe and quality service.

The 24-member committee addresses various transit-related issues, including but not limited to the MBTA's fare policy and fare structure, fare equity issues, service improvements, service-quality standards, ridership data collection, and alternative funding sources for both the capital program and the operating budget. In addition to meeting monthly, the committee meets quarterly with the MBTA's General Manager/MassDOT Rail and Transit Administrator, the MBTA's Deputy General Manager/Chief Financial Officer, and the MassDOT Secretary/CEO.

Activities That Require Extensive Public Involvement

The MBTA makes a concerted effort to involve customers and the general public in its project planning, service evaluation, and policy development initiatives. Primary planning processes at the MBTA that include extensive civic engagement are:

- Service Plan: the plan through which the MBTA evaluates the performance of existing bus and rapid transit services and assesses the effectiveness of proposed service changes. The Service Plan is usually updated every two years. However, the 2010 Service Plan update process was delayed and is currently underway.

- Capital Investment Program (CIP): the Authority's five-year capital spending plan, which is prepared annually. The CIP implements the system priorities outlined in the PMT.

- Program for Mass Transportation (PMT): the long-range master plan for capital improvements. The PMT defines the Authority's vision and investment priorities for Boston area transit. The MBTA is required, under its enabling legislation, to prepare the PMT every five years. The MBTA released the last PMT update in 2009, following a two-year public process.

- Major projects: The MBTA and MassDOT are committed to targeted, comprehensive, and inclusive civic engagement for all major improvement projects.

- Fare changes: The MBTA has not had a fare change since 2007.

- Boston Region Metropolitan Planning Organization (MPO) certification activities: The MBTA, as an agency, is a voting member of the MPO and actively participates in MPO public-outreach activities and in the development of federally required planning and policy certification documents: the Regional Transportation Plan, the Transportation Improvement Program, and the Unified Planning Work Program.

Outreach for Biennial Service Plan

For the 2010/2011 Service Plan, which is currently under development, initial outreach began in September 2010. In September and October 2010, eight outreach workshops were held in eight locations (Cambridge, Chelsea, Lynn, Medford, Quincy, Roxbury, Watertown, and the State Transportation Building in downtown Boston) to discuss service and the service-planning process and to solicit ideas from the public for service changes. In addition, suggestions were accepted via e-mail, letter, an on-line form, and other customer-service channels within the MBTA. The workshops were advertised via flyers aboard buses and in stations, banner ads on the mbta.com website, press releases, and ads in the *Haitian Reporter*, *La Semana*, and *Sampan*. The workshops were also advertised through affinity groups, including ROC, the Transit Riders Union, Transportation Management Associations, etc. Spanish language translation was provided for the Chelsea and Lynn meetings based on the demographics of the area. Requests for translators were solicited for all meetings, with one-week advance notification required, but no requests were received.

In addition to representatives from Service Planning, Bus Operations, Heavy Rail and Light Rail, Automated Fare Collection, MBTA Police, and Construction, and other MBTA representatives, 112 members of the public attended the meetings. Furthermore, customers submitted 163 comments via the online form, e-mail, and U.S. mail.

Outreach for the MBTA Capital Investment Program

Each year, the MBTA reviews and updates the MBTA Capital Investment Program (CIP), which is a financially constrained document. The CIP provides an overview of the Authority's planned capital expenditures for a five-year planning horizon, describes the MBTA's infrastructure and the capital needs for maintaining the system, outlines ongoing and programmed capital projects, and details planned expansion projects.

The draft CIP is published electronically to encourage public participation and comments on the document. The Authority designates a public-comment period that begins approximately two weeks prior to public workshops and hearings about the draft and ends approximately two weeks after. In order to notify the public of the release of the draft and upcoming events, the MBTA posts announcements on its website, sends information to the Boston Region Metropolitan Planning Organization and the MBTA Advisory Board, purchases advertisement space, publishes announcements in the Metro newspapers, and places flyers and posters in MBTA vehicles. Members of the public who are unable to attend either the workshops or the hearing can submit comments through the U.S. mail and/or e-mail. The feedback collected through the public-participation process is synthesized and forwarded to the MBTA Board of Directors and the MBTA Advisory Board for review.

The public meetings allow members of the public to give their input on and ask questions about the proposed capital program in person. Various MBTA departments designate key personnel to be present at each of the meetings in order to respond to questions. All meeting locations are accessible to persons with disabilities, and sign language (ASL) interpreters are present.

Public Meeting Formats

The public meetings have one of the following two formats.

- Public Hearing Format: During a public hearing, the MBTA presents an overview of the draft CIP, with highlights of key existing and new projects. Members of the public are then invited to provide formal comments; however, no questions are answered during the hearing. A court reporter records the entire hearing, including the comments provided by each of the participants, and this becomes part of the public record. After a hearing has been completed, members of the public can meet informally with MBTA personnel to have their questions answered.

- Workshop Format: Each public workshop begins with an overview of the draft CIP, including highlights of key existing and new projects. Since members of the public often come to the meetings with the expectation of having their questions answered, the workshop format includes a question-and-answer segment. No court reporter is present to record the program under this format. However, MBTA staff take notes on the session and later incorporate the information into a report summarizing the public-participation process.

Public-Participation Events Held for the Last Three CIP Cycles

During the past three cycles of the CIP, the following public-participation events were held:

December 2010

Workshops
- Roxbury – Dudley Square Branch Library (December 6)
- Chelsea – Chelsea City Hall (December 7)
- Braintree – Braintree Town Hall (December 8)
- Cambridge – Citywide Senior Center (December 9)
- Mattapan – Mildred Avenue Community Center (December 14)

Public Hearing
- Boston – State Transportation Building (December 16)

February and March 2010

Workshops
- Worcester – Public Library (February 22)
- Roxbury – Dudley Square Branch Library (February 23)
- Boston– Northeastern University, Egan Research Center (February 24)
- Mattapan – Mildred Avenue Community Center (March 1)

Public Hearing
Boston – State Transportation Building (March 2)

February and March 2009

Workshops
Fitchburg – Intermodal Transportation Center (February 26)
Roxbury – Dudley Square Branch Library (March 5)
Boston – State Transportation Building (March 10)
Boston – Northeastern University, Egan Research Center (March 16)

Public Hearing
Mattapan – Mildred Avenue Community Center (March 3)

Outreach for the Program for Mass Transportation

The Program for Mass Transportation (PMT) is the MBTA's long-range capital planning document. The extensive public outreach conducted for the development of the draft 2008 PMT was reported in the MBTA's 2008 Title VI Report. However, three additional public meetings and one public hearing were conducted in May 2009 to solicit input regarding the draft PMT before it was adopted.

The public meetings were held in several municipalities: Quincy, Waltham, and Salem. The public hearing was held at the Boston Public Library. All locations were accessible to people with disabilities, and special accommodations, as well as materials in alternative formats, were made available upon request.

Press releases on the public meetings and the hearing were sent to local and regional newspapers in the service area. Flyers announcing the meetings and hearing were distributed in both English and Spanish on MBTA bus routes, and posters were displayed in transit stations. Legal notices were placed in the *Boston Globe*, *Bay State Banner*, *El Mundo* (in Spanish), and *La Semana* (in Spanish).

The draft document was posted on the project website that is linked to both the MBTA and the Boston Region MPO websites. The site also included general information on the PMT, notices of the public meetings and hearing, and information on the Stakeholder Advisory Committee.

Outreach for Major Projects

This section includes a description of some of the major projects the MBTA has undertaken to improve MBTA service in communities that have been identified as minority and/or low-income and a discussion of the public-outreach activities for each.

Green Line Extension Project

The Green Line Extension project will extend existing MBTA Green Line service from a relocated Lechmere Station in East Cambridge to Union Square in Somerville and College Avenue in Medford. This project will greatly improve public transit service in some of the most densely-populated municipalities of the commonwealth. According to the transit modeling performed for this project, the Green Line extension would increase transit access to environmental-justice and persons-with-disabilities populations. The extension connects environmental-justice communities to the region's fixed-guideway network, thus improving access to jobs and services. The project is designed to provide fair access to stations and economic development opportunities and avoid any disproportionate share of impacts.

While there are impacts on environmental-justice populations due to the acquisition of commercial buildings, displacement of some jobs, and noise, these impacts are neither severe nor disproportionate. Noise mitigation efforts will result in the elimination of any residual adverse impacts due to noise. Among its many benefits, the Green Line Extension project will:

- Provide new and better opportunities for residents and visitors to travel within their communities and within the region.
- Address longstanding transportation inequities.
- Result in fewer automobiles on local roads and therefore help combat greenhouse gas emissions and other components of air pollution.
- Support municipal plans for sustainable growth and development.
- Provide residents of environmental-justice communities with faster rides to work and other destinations.

MassDOT and the MBTA have made commitments to comprehensive and inclusive civic engagement for the Green Line Extension project. Since July 2008, the Green Line Extension project maintained a rigorous public outreach campaign as the project transitioned from the environmental review process to the preliminary engineering phase. Over the past two years, MassDOT held four general project information meetings: two in Medford and two in Somerville; two meetings in Cambridge regarding Lechmere Station and the proposed maintenance facility; three station-location workshops; and public hearings for the filing of the Draft Environmental Impact Report and the Final Environmental Impact Report respectively. Many of these meetings were attended by over 200 interested citizens. The project team also hosted eight meetings for two citizen working groups: six for the Citizens Advisory Group and two for the Design Working Group for the environmental review phase and preliminary engineering phase, respectively. Finally, the project team regularly provided neighborhood briefings to community groups upon request.

These meetings were well publicized and accessible through a variety of outreach activities. Advertisements were placed in all newspapers covering the project corridor, including some prominent Spanish newspapers. MassDOT used each city's assessors list to send out citywide mailings publicizing the meetings. Notices sent to property owners included language asking them to distribute the notice to their tenants and translate if necessary. For some meetings, project staff distributed flyers in specific neighborhoods (some of which were environmental-justice communities) near proposed Green Line stations. All meeting notices offered translation and assistive-listening services upon request, and assistive-listening devices were provided regularly at meetings. Project fact sheets were made available in Spanish, and meeting flyers were translated into Spanish and Portuguese when appropriate. Every meeting was held in a location accessible to people with disabilities.

South Coast Rail Project

The South Coast Rail project will restore passenger rail transportation from South Station in Boston to Fall River and New Bedford (Taunton, Fall River, and New Bedford are the only cities within 50 miles of Boston that are not served by commuter rail), and will serve a number of environmental-justice communities.

The South Coast Rail project will provide a new, convenient travel option that will be less expensive than driving. The project will also:

- Address long-standing transportation inequity by extending MBTA service to a region of the commonwealth—particularly to two urban areas with large immigrant and low-income populations—currently underserved by the existing transportation network.
- Improve the economy in Southeastern Massachusetts, channeling new jobs to places with high unemployment rates.
- Stimulate immediate employment opportunities during construction of the project.
- Infuse new life into our older industrial cities that are grappling with high unemployment rates and disinvestment.
- Advance climate solutions by removing cars from the road, and incorporating energy efficiency and renewable energy technologies into the project design.
- Preserve our natural resources by protecting farms, forests, and fields from sprawl development.
- Enable residents of the South Coast to access jobs and services in the Boston area.
- Allow Boston-area workers to more easily take advantage of affordable housing in the South Coast.

As part of the project's extensive civic engagement campaign, MassDOT and its project consultants carried out extensive outreach targeted at environmental-justice communities. Since July 2008, the South Coast Rail project maintained a rigorous and inclusive public outreach campaign. From July 2008 through September 2009, nine station-location workshops were held in eight different locations; two public meetings were held to present the DEIS/DEIR scope; one public meeting was held to release the corridor plan; and two public meetings were held, in two different locations, to release technical reports.

All public meetings were publicized through a variety of means, including e-mail and postcards (for larger meetings) sent to a contact database with over 2,000 entries of local, state, and federal officials as well as local businesses and interested citizens. Press releases were sent to a list of over 80 media contacts in the region, including newspapers targeting Spanish- and Portuguese-speaking populations. Station-location workshops were also publicized with flyers. Flyers for the station-location workshops and the September 2009 meetings were translated into Spanish and Portuguese, and non-English-language interpreters and ASL services were offered upon request. Project information and documents are regularly posted to a robust project website: www.mass.gov/SouthCoastRail.

In addition, MassDOT hosted 22 Interagency Coordinating Group meetings for federal and state regulatory agencies to review project information. MassDOT also hosted 24 Commuter Rail Task Force meetings. The Commuter Rail Task Force is a group of interested citizens and municipal contacts who regularly receive project updates and advise MassDOT on a number of project-related items.

MassDOT and its consultants also produced boards for a traveling exhibit in South Coast museums and libraries on the economic and environmental benefits of the South Coast Rail project. The exhibit appeared in the Fall River and New Bedford libraries, as well as other locations in the region.

MassDOT and its consultants partnered with the City of New Bedford, the Southeastern Regional Transit Administration (SRTA), and UMass Dartmouth, and with local officials to form the New Bedford Transit Working Group to develop a New Bedford Transit Development Plan. UMass Dartmouth conducted a phone and onboard survey of SRTA riders and New Bedford residents. The results were shared with the SRTA board and will be publicized in a series of meetings in New Bedford scheduled for April 2011. One of these meetings offers Spanish translation, one is directed at youths, and one is directed at the economic sector and non-riders. MassDOT also partnered with the city of New Bedford to run a Whale's Tooth Station Design Contest in New Bedford.

Outreach Targeted to Environmental-Justice Communities

The project team developed two double-sided flyers—one in English and Portuguese and one in English and Spanish—to invite residents to participate in public meetings about potential rail stations in the New Bedford area. To better accommodate non-English-speaking populations, all meeting notices offered translation services at public meetings upon request. In October 2008, the flyers were mailed to a list of over 80 New Bedford churches and community centers in environmental-justice neighborhoods.

A brochure was produced with general project information in English, Spanish, and Portuguese for a July 2009 mailing targeting environmental-justice populations. This outreach effort was expanded by including the Southeastern Regional Planning and Economic Development District's database of environmental-justice contacts. This list included the same churches and community centers from previous mailings, as well as commissions on disability, housing authorities, councils on aging, and newspapers such as the Cape Verdean News and the Portuguese Times, both based in New Bedford. Brochures were also sent to town planners and to the 31 public libraries in the region. In total, brochures were mailed to 250 recipients.

In the fall of 2010, MassDOT drafted press releases and flyers to give notice to nearby neighborhoods of bridge work being done through a Transportation Investment Generating Economic Recovery Grant (TIGER). These flyers were translated into Spanish and Portuguese.

Key Bus Routes Initiative

The MBTA has designated 15 of its busiest bus routes as "Key Bus Routes." Of these 15 routes, 12 are designated as minority and 7 are designated as both minority and low-income. The MBTA has established the Key Bus Route Improvement Program to improve the overall quality of service for customers on these routes (by reducing trip times; enhancing customer comfort, convenience and safety; and making the bus service more reliable and cost-effective). The Key Bus Route Improvement Program involves extensive public outreach, with participation invited from customers, community representatives, and municipalities served by each bus route. Additionally, opportunities will be provided to solicit contributions to the planning and design of improvements.

Route 28X Project

The MBTA initiated the 28X project in 2009 to construct a bus rapid transit line to replace the existing Route 28 bus service (Route 28 is one of the MBTA's Key Bus Routes). The 28X proposal was an attempt to use ARRA formula funds to improve public transportation service where there was a demonstrated need and to provide a major investment in a historically underserved low-income and minority section of Boston. Unlike most projects constructed with ARRA funds, the 28X project was only at the conceptual stage and would have required a significant amount of effort in order to be "ready" for construction under ARRA guidelines.

Feedback received at the initial public meetings for the 28X project was overwhelmingly negative. Unfortunately, there were few regular public transit riders from the corridor in attendance at meetings. In order to ensure that riders had a voice in the public process, and to allow more time to respond to the concerns raised by residents and to advance the design of the proposal, the decision was made to shift the 28X proposal into ARRA's TIGER discretionary grant program.

The extra time provided the opportunity to expand the public outreach effort in a number of ways:

- Information tables were set up at major hubs for corridor transit riders—Dudley Station, Grove Hall Mecca Mall, Ruggles Station, and Mattapan Square—to both provide information on the proposal directly to riders and to gather feedback from them. Information was provided not only on the proposal's benefits, but also on its potential impacts on the community. Feedback received in these settings was overwhelmingly positive. An information table was also set up at a National Night Out event in Franklin Park that was attended by hundreds of community residents, and a third information-table event was held to focus on bus riders that would be losing stops.

- The Secretary of Transportation was very visible in reaching out to the community, making appearances on a community radio station during the morning commute broadcast and riding the existing Route 28 bus during the AM commute to talk with passengers.

- 2,000 to 3,000 flyers announcing public meetings were distributed to bus riders on Route 28 and other corridor routes in the weeks leading up to the public meetings. Unfortunately, this approach did not yield many additional transit rider meeting attendees.

- MassDOT (Executive Office of Transportation [EOT] at the time) staff canvassed corridor businesses, informing owners and managers about the proposal and providing proposal flyers for distribution to customers.

- MassDOT (EOT at the time) staff provided briefings to a number of neighborhood-based organizations/institutions.

- A project advisory group, composed of residents of Roxbury, Dorchester, and Mattapan, was formed and met a number of times during the process. However, as occurred at the public meetings, non-riders were overrepresented at this meeting.

The public process for the 28X project led to a number of important changes to both the design of the project and the approach to outreach. Some of the key changes that were driven by community input are as follows:

- The decision to pursue the TIGER grant program in order to provide MassDOT (EOT at the time) with more time to work with the community on refining the project.

- Elimination of the initial proposal to operate the Blue Hill Avenue busway as a contraflow system.

- Formation of a Project Advisory Group (PAG).

- Expansion of project scope to develop a more comprehensive streetscape and landscaping plan as well as pedestrian improvements.

- Expansion of project scope to mitigate possible losses in on-street parking with off-street parking lots in strategic locations.

- Elimination of a proposal to run the Route 31 bus in the Blue Hill Avenue busway.

- Elimination of a proposal to short-turn half of the trips on the 28X at Franklin Park.

- Inclusion of local routes in the Blue Hill Avenue busway at select locations to provide for direct transfers with the 28X and facilitate left turns off the corridor for local routes.

- Analysis of moving the proposed Babson Street Station further south and into the Mattapan Square commercial district.

- Relocation of Morton Street Station to the north to avoid impacts to parking on the busiest commercial block in that area.

- Addition of a second station between Morton Street and Mattapan Square (Almont and Wellington Hill, instead of one station at Walk Hill).

- Special attention to maintaining good traffic flow at key left-turn lane locations (Morton, Walk Hill, American Legion, etc.).

- Preservation of other key breaks in the median busway (e.g., pedestrian crossing at Morningstar Baptist, at Rhoades Street for emergency response, etc.).

- Commitment to constructing a 28X station in Mattapan Station similar to the Blue Hill Avenue busway stations.

- Analysis of travel time comparison between traditional side-running skip-stop express service on the 28 and the proposed 28X routes.

- Additional outreach to a number of organizations, including the Boston Police Department, Boston Public Schools, METCO, and StreetSafe Boston.

- Additional door-to-door outreach to business owners on the corridor, particularly in Mattapan Square and Morton Street (more than 75 businesses had been visited)

- Additional outreach using Touch 106.1 FM, 97.5 FM, The Word (an electronic newsletter), and church bulletins through the Black Ministerial Alliance.

- Based on suggestions from the PAG and others, outreach to bus riders of Route 28 through information tables at key stations on the route, distribution of more than 5,000 flyers to passengers boarding or alighting from the Route 28 at key stops during peak periods, posting project information flyers at every bus shelter on the corridor, and distributing flyers to passengers while riding the Route 28 bus to and from meetings in the corridor.

- Focused outreach to riders of Routes 14, 19, 23, 25, and 44 who may also be affected by the 28X project.

- Inclusion of a public art component in the project, for which 1 percent of the cost of the project is set aside to purchase public art.

- Planning-level concept evaluation of community suggestions for alternative transit operations along the 28X corridor.

As a result of the strong negative public reaction to the 28X, the scope of the project was broadened to include a comprehensive transit needs study with a large upfront and continuing community input component. This study, the Roxbury/Dorchester/Mattapan (RDM) Transit Needs Study, is described below.

Roxbury/Dorchester/Mattapan (RDM) Transit Needs Study

The Massachusetts Department of Transportation (MassDOT) and the MBTA are studying public transportation needs and potential improvements in Roxbury, Dorchester, Mattapan, and portions of the South End. The Roxbury/Dorchester/Mattapan (RDM) Transit Needs Study will identify strategies—from improving bus service to building new transit lines—that can guide future investment in the corridor, all with extensive community input. The project team includes an advisory group, which is composed of members of the community, as one of several outreach channels into the community (in addition to public meetings; direct outreach to MBTA riders; and small group meetings with churches, neighborhood associations, and other stakeholder groups, relevant City of Boston departments, and corridor elected officials).

Fairmount Corridor Improvements Project

The Fairmount Corridor commuter rail line runs south from South Station through the Boston neighborhoods of Dorchester, Roxbury, and Mattapan, and terminates in the Readville section of Hyde Park. It is the only commuter rail branch that exclusively serves the city of Boston and MBTA's Urban Core. The U.S. Environmental Protection Agency (EPA), Department of Housing and Urban Development (HUD), and the Department of Transportation (DOT) have designated the Fairmount Corridor as one of five national Sustainable Communities Pilots. The Pilot program award recognizes the collaboration of Commonwealth agencies, including MassDOT and the MBTA, with partners in the City of Boston and Boston neighborhood-based community development organizations to promote more sustainable development by coordinating transit-system upgrades with economic revitalization, affordable housing, and environmental quality of life improvements.

The MBTA and MassDOT are implementing major investments in upgrading the Fairmount Line. In October of 2002, a feasibility study was performed to identify a combination of infrastructure upgrades needed to maintain a "State of Good Repair" on the Fairmount Line. The feasibility study also identified certain elements that would significantly increase ridership and revenues and potentially alleviate the

issue of overcrowded buses along the Fairmount Corridor. These elements include the construction of four new commuter rail stations, whose locations were chosen to provide a higher-quality level of service and to provide an alternative mode of transportation in "walk-to" stations for neighborhood residents along the corridor. Numerous public involvement meetings were held in the community to discuss the locations of the proposed stations.

MBTA Systemwide Passenger Survey

In 2008–09, the MBTA conducted a systemwide survey of riders. Surveys were distributed to passengers throughout the system, and every attempt was made to be inclusive. Surveys were offered in four languages in addition to English (Spanish, Cape Verdean Creole, Haitian Creole, and Chinese). In addition, some of the survey distributors were fluent in Spanish.

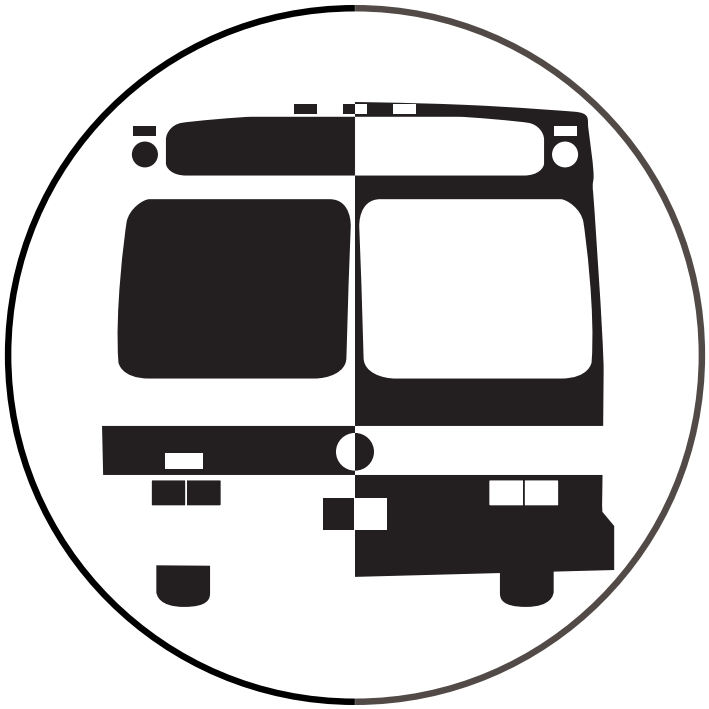
The passenger surveys gathered data that are not easily obtained through any other means. The survey results provide information on why trips are made, where riders are coming from and going to, how riders get to and from the service, and, for rapid transit, the stations at which riders enter and exit the system. They also provide information on the demographics of riders, as well as their automobile ownership, how they pay their fares, and how they perceive the quality of MBTA services. Additionally, riders were invited to share their comments and suggestions about MBTA service.

A total of 12,313 surveys were returned from bus riders; 37 percent of these (4,503) were from customers who identified themselves as minority, and 21 percent (2,578) were from customers who identified themselves as having household incomes less than $30,000. Although 1,036 of the bus customers identified themselves as Hispanic, only 44 Spanish-language forms were returned. Similarly, although 1,037 bus customers identified themselves as Asian, only 33 (less than 1/2 percent) Chinese-language forms were returned. Thirty-four percent of the bus customers reported that they did not own a car.

A total of 22,767 surveys were returned from rapid transit riders; 25 percent of these (5,709) were from customers who identified themselves as minority, and 13 percent (2,956) were from customers who identified themselves as having household incomes less than $30,000. Although 1,311 of the rapid transit customers identified themselves as Hispanic, only 6 Spanish-language forms were returned. Similarly, although 2,038 rapid transit customers identified themselves as Asian, only 26 Chinese-language forms were returned. Twenty-five percent of the rapid transit customers reported that they did not own a car.

A total of 6,763 surveys were returned from commuter rail riders; 11 percent of these (770) were from customers who identified themselves as minority, and 2 percent (125) were from customers who identified themselves as having household incomes less than $30,000. Although 157 of the commuter rail customers identified themselves as Hispanic, only 1 Spanish-language form was returned. Similarly, although 308 commuter rail customers identified themselves as Asian, only 1 Chinese-language form was returned. Three percent of the rapid transit customers reported that they did not own a car.

TABLE 2-4 Characteristics of Survey Respondents by Mode								
	Total	Minority	Low-income	Hispanic	Spanish Survey Form	Asian	Chinese Survey Form	No Household Vehicle
Bus								
Number	12,313	4,503	2,578	1,036	44	1,037	33	4,143
Percent	100%	37%	21%	8%	0.36%	8%	0.27%	34%
Rapid Transit								
Number	22,767	5,709	2,956	1,311	6	2,038	26	5,697
Percent	100%	25%	13%	6%	0.03%	9%	0.11%	25%
Commuter Rail								
Number	6,763	770	125	157	1	308	1	206
Percent	100%	11%	2%	2%	0.01%	5%	0.01%	3%



Chapter 3

Demographic Data and Maps

The circular (FTA C4702.1A, V. 1.a) provides recipients with three options that can be used to fulfill the requirement to collect demographic data. The MBTA has chosen to use demographic and service profile maps and charts for its reporting.

Demographic and Service Profile Maps and Charts

For each Title VI triennial report, the MBTA provides numerous maps, overlays, and summary statistics for the MBTA service area, using demographic data from the previous U.S. census. These materials are useful both for describing the current composition of neighborhoods in terms of minority and low-income residents, and for understanding the spatial relationships of these neighborhoods in the context of the MBTA's service area. When additional information about service coverage, planned system improvements, transit amenities, etc., is added to basic maps and tables that identify minority and low-income neighborhoods, the MBTA's performance with respect to Title VI guidelines can be understood more fully through graphical means.

The circular requires demographic maps that shade those census tracts or transportation analysis zones where the percentage of the total minority or low-income population residing in these areas exceeds the average minority or low-income population, respectively, for the service area as a whole. As in past Title VI reports, the MBTA has defined two different service areas: one for the urban fixed-route transit system and another for the commuter rail system. This has been done because the minority and low-income thresholds are lower when averaged over the much larger commuter rail area, which could lead to overidentification of minority and low-income areas in the urban core.

For the urban fixed-route transit service area (based on analysis using 2000 U.S. census data), the average percentage of minority residents is 24.6 percent and for the commuter rail service area, the average is 19.9 percent. To define low-income, the MBTA is using a different threshold than is used in FTA guidance. The definition of low-income used in this report is comparable to that adopted by the Boston Region Metropolitan Planning Organization (MPO) to designate environmental-justice areas: a low-income area is defined as one in which the median household income is less than 60 percent of the median household

income for the service area. Hence, again using 2000 U.S. census data, for the urban fixed-route transit service area, a low-income household is defined as one having annual household income less than $32,120. For the commuter rail service area, a low-income household is defined as having an income of less than $32,582.[1]

Figure 3-1 highlights the minority and low-income census tracts in the MBTA's urban fixed-route transit service area, and Figure 3-2 highlights the minority and low-income census tracts in the commuter rail service area. Subsequent figures show additional required information, superimposed over the highlighted minority and low-income census tracts. The figures that show additional information include:

- Figures 3-3 and 3-4: Fixed guideways and transit stations, depots, maintenance and garage facilities, and administrative buildings in the urban fixed-route transit service area and the commuter rail service area, respectively.

- Figures 3-5 and 3-6: Major activity centers and transit trip generators, including town halls, shopping centers, hospitals, and public libraries in the two service areas.

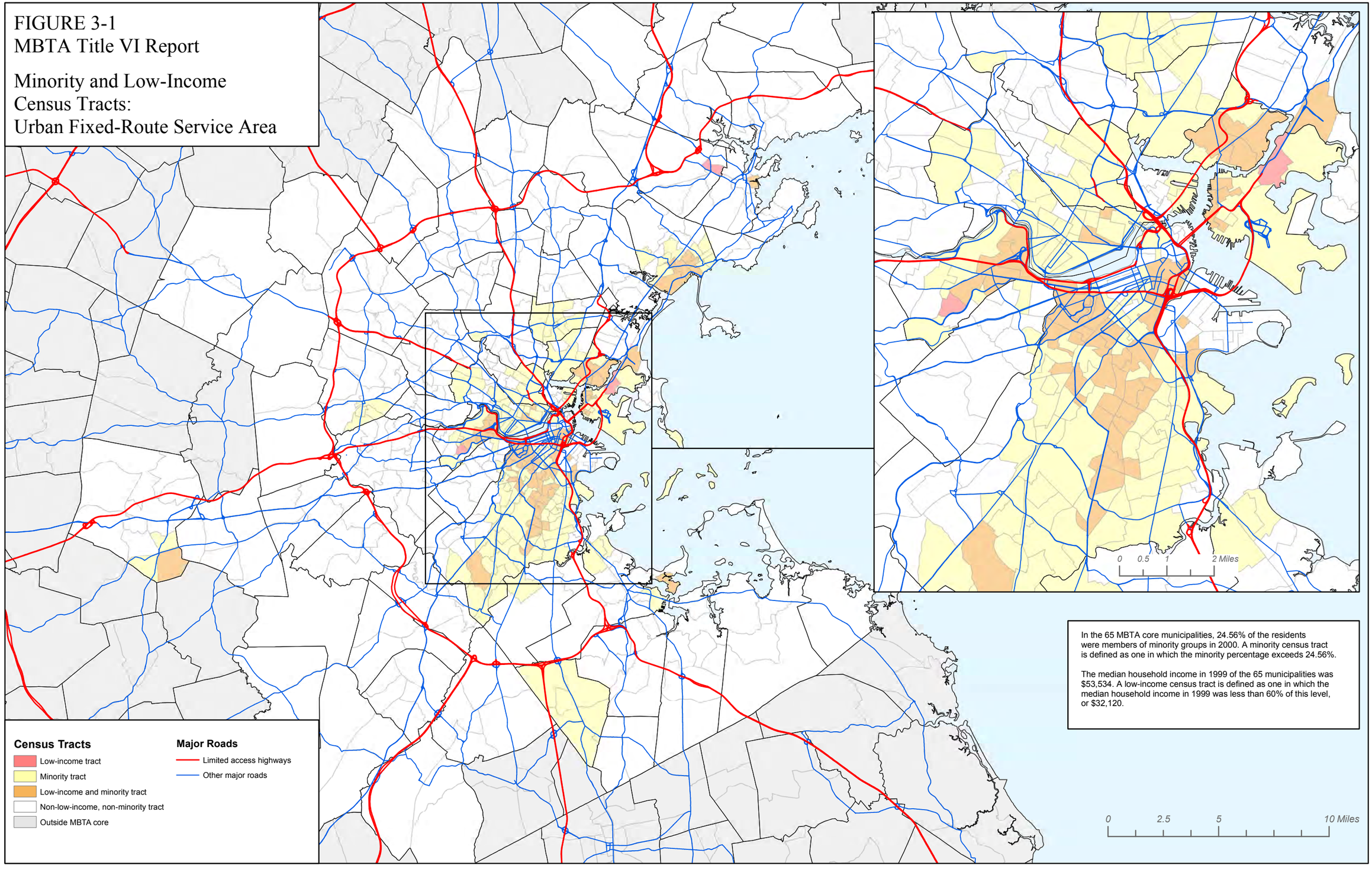
- Figures 3-7 and 3-8: Major activity centers and transit trip generators, including K–12 schools, colleges, and universities in the two service areas.

- Figure 3-9 and 3-10: Transit facilities that were recently modernized or are scheduled for modernization in the next five years in the two service areas.

[1] *The Circular defines low-income persons as those whose median household income is at or below the U.S. Department of Health and Human Services' poverty guidelines, which are the same for all 48 contiguous states. Because the cost of living in Massachusetts is much higher than the national average, tying the definition of low-income to the median income of each of the MBTA's two service areas provides a more accurate representation of areas that are low-income in relation to the region.*

FIGURE 3-1
MBTA Title VI Report

Minority and Low-Income
Census Tracts:
Urban Fixed-Route Service Area



In the 65 MBTA core municipalities, 24.56% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 24.56%.

The median household income in 1999 of the 65 municipalities was $53,534. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,120.

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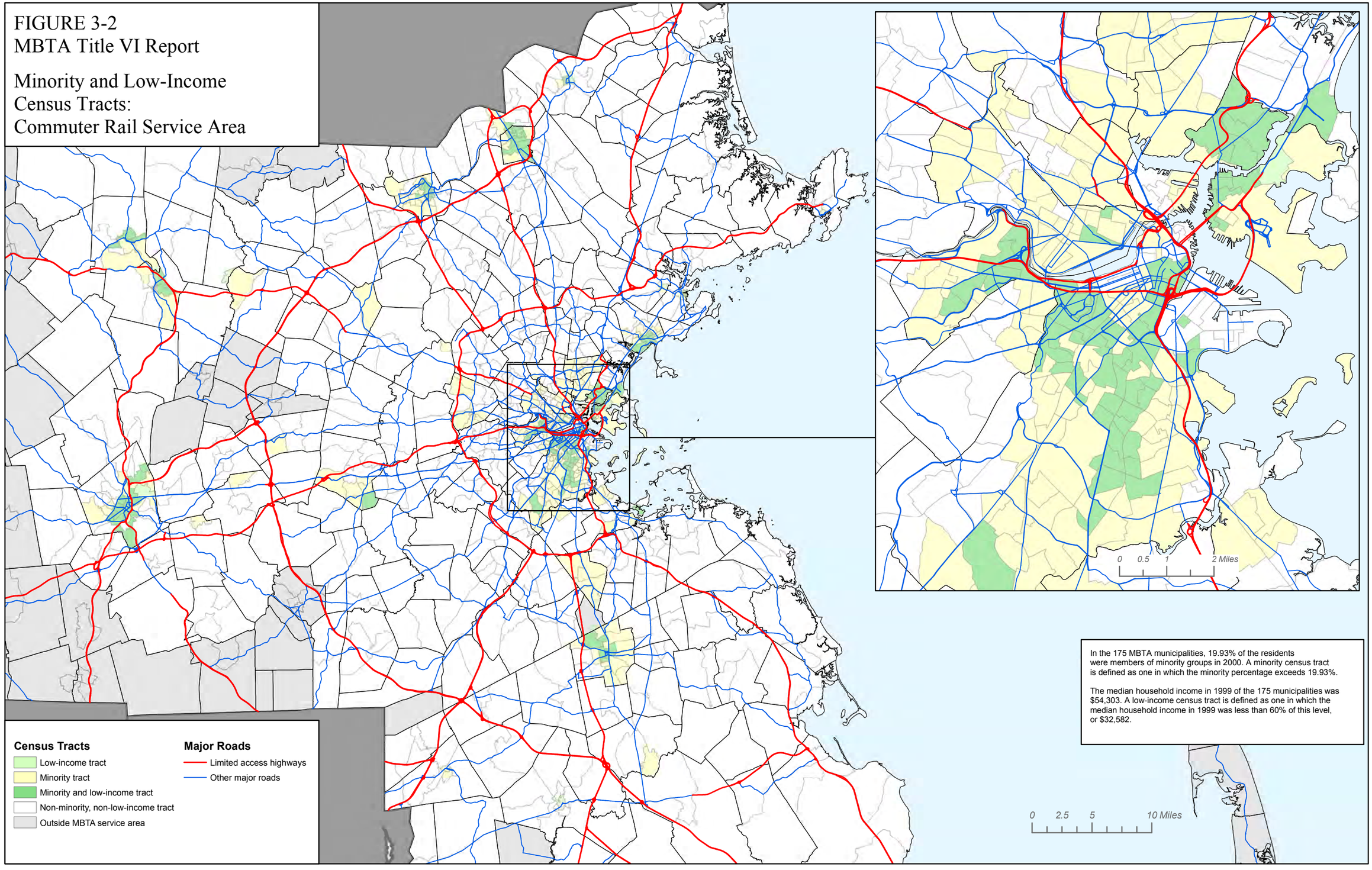
FIGURE 3-2
MBTA Title VI Report

Minority and Low-Income
Census Tracts:
Commuter Rail Service Area



Census Tracts
- Low-income tract
- Minority tract
- Minority and low-income tract
- Non-minority, non-low-income tract
- Outside MBTA service area

Major Roads
- Limited access highways
- Other major roads

In the 175 MBTA municipalities, 19.93% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 19.93%.

The median household income in 1999 of the 175 municipalities was $54,303. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,582.

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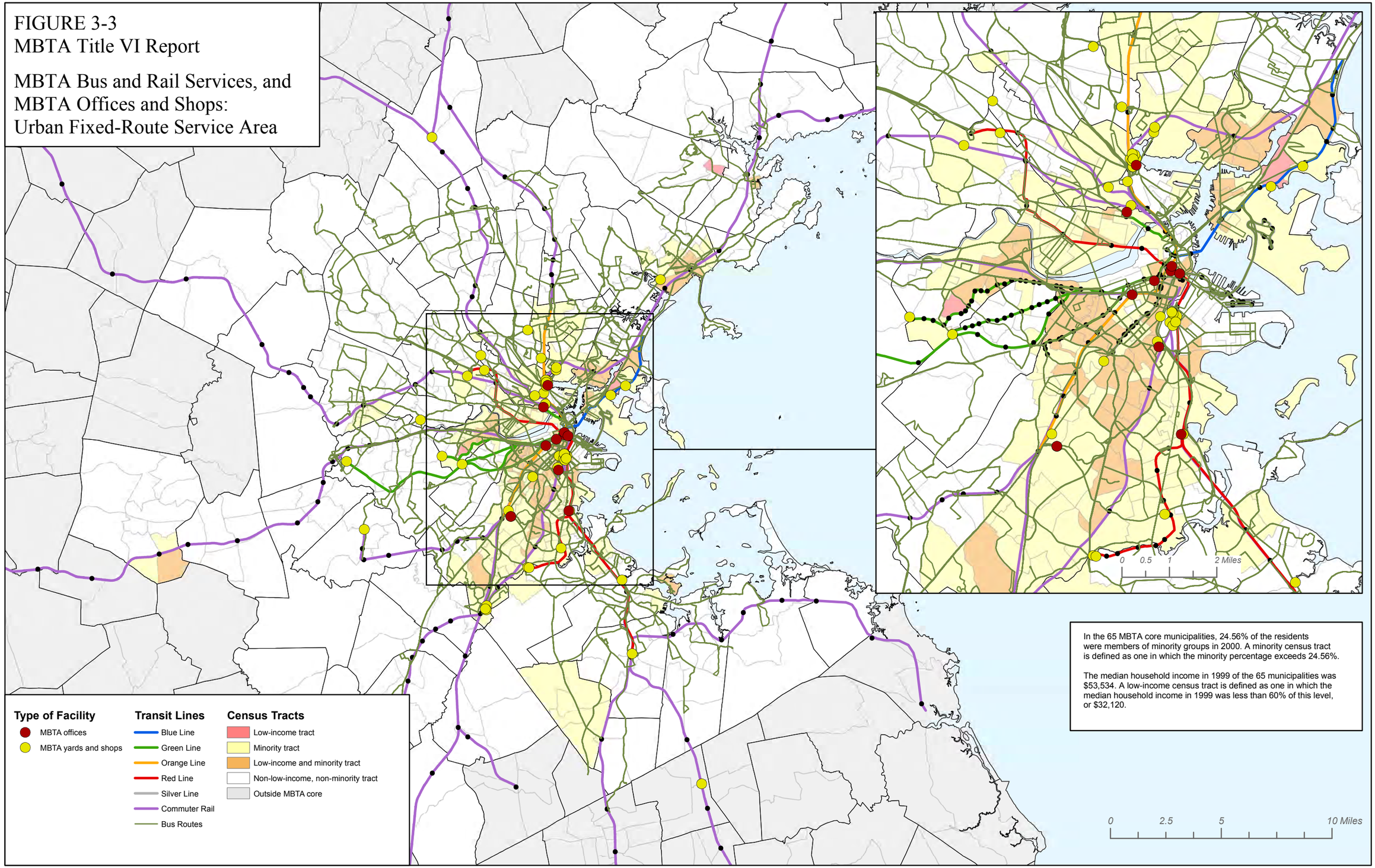
FIGURE 3-3
MBTA Title VI Report

MBTA Bus and Rail Services, and
MBTA Offices and Shops:
Urban Fixed-Route Service Area



Type of Facility
- MBTA offices
- MBTA yards and shops

Transit Lines
- Blue Line
- Green Line
- Orange Line
- Red Line
- Silver Line
- Commuter Rail
- Bus Routes

Census Tracts
- Low-income tract
- Minority tract
- Low-income and minority tract
- Non-low-income, non-minority tract
- Outside MBTA core

In the 65 MBTA core municipalities, 24.56% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 24.56%.

The median household income in 1999 of the 65 municipalities was $53,534. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,120.

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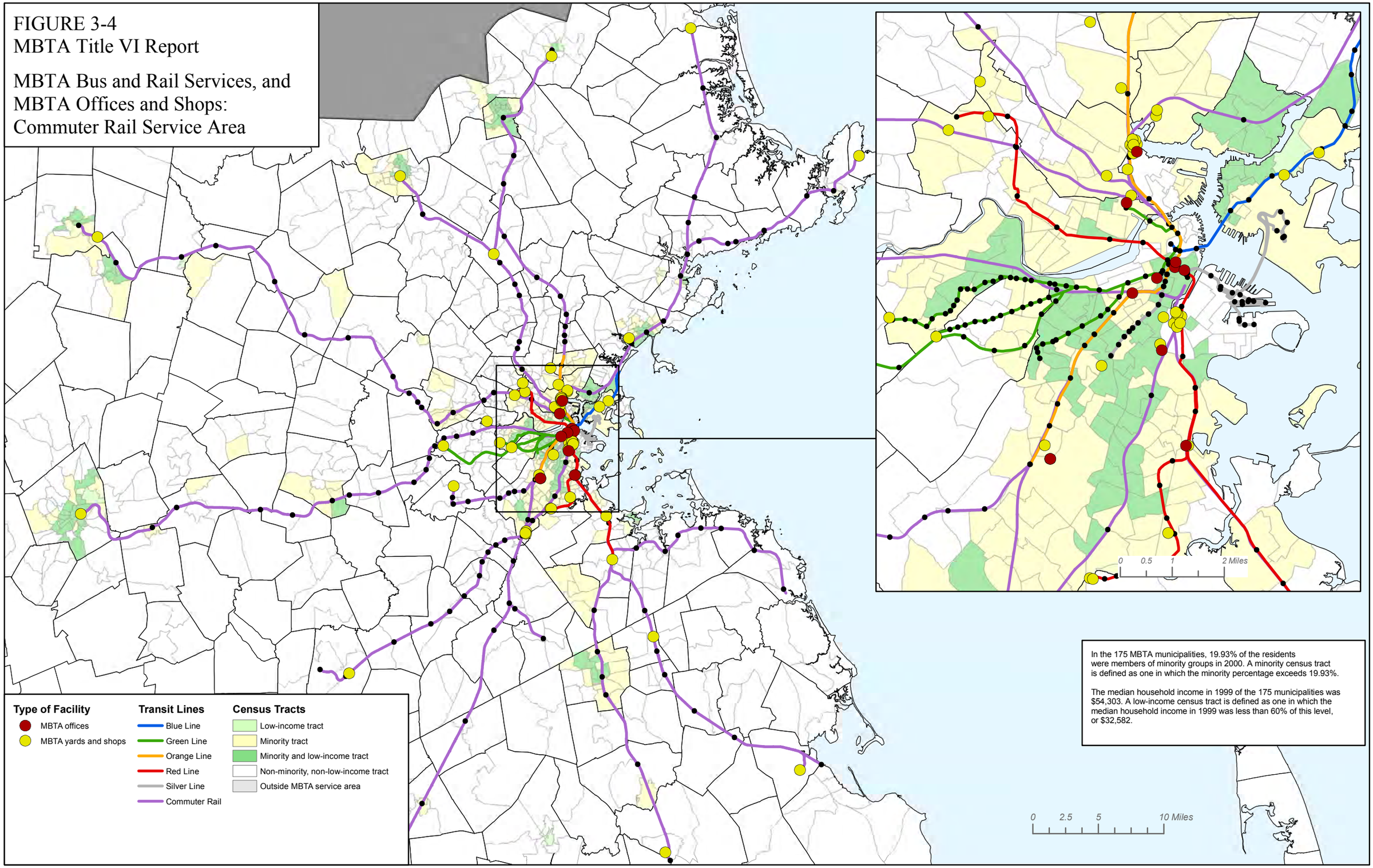
FIGURE 3-4
MBTA Title VI Report

MBTA Bus and Rail Services, and
MBTA Offices and Shops:
Commuter Rail Service Area



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The median household income in 1999 of the 175 municipalities was $54,303. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,582.

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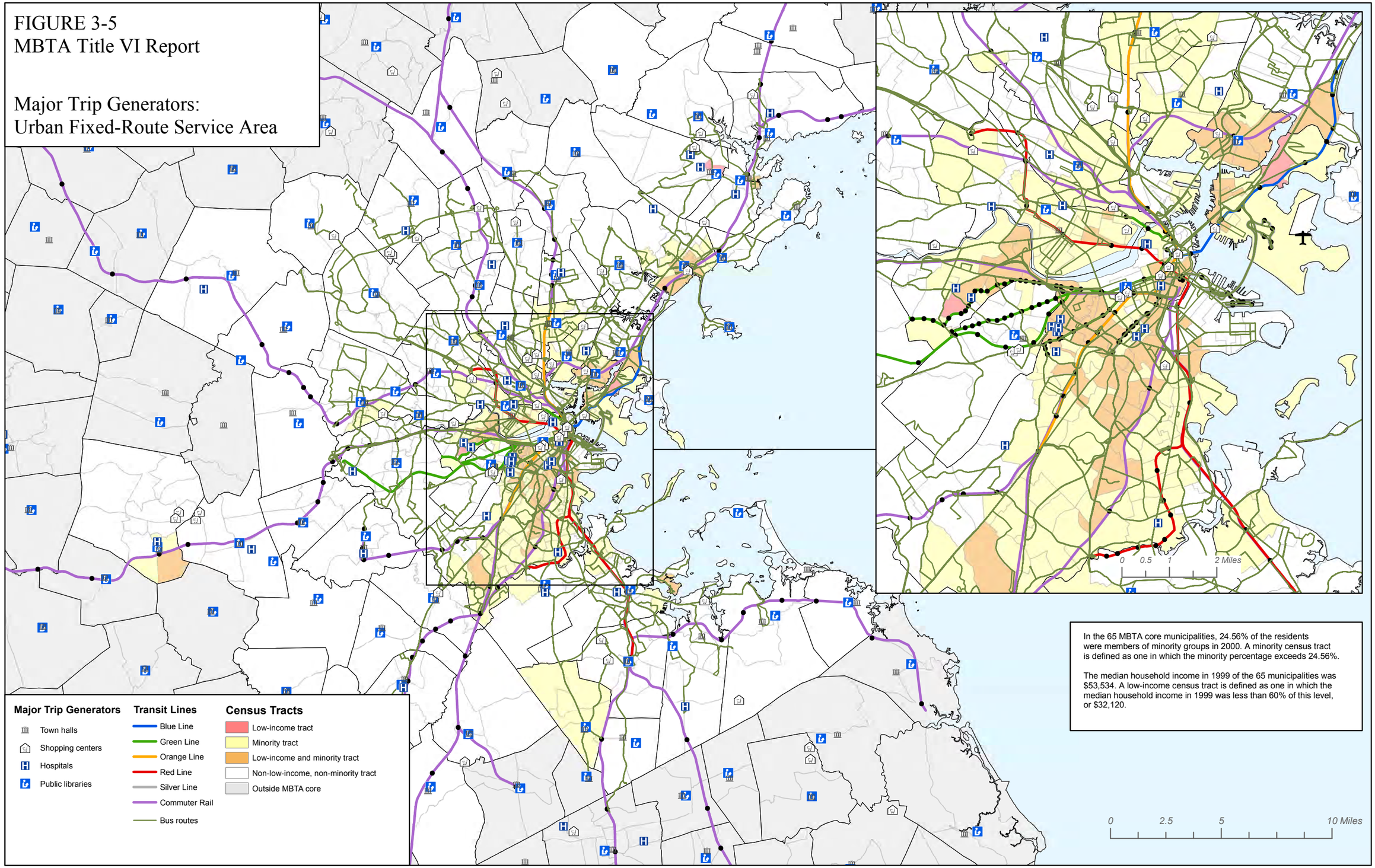
FIGURE 3-5
MBTA Title VI Report

Major Trip Generators:
Urban Fixed-Route Service Area



Major Trip Generators
- Town halls
- Shopping centers
- Hospitals
- Public libraries

Transit Lines
- Blue Line
- Green Line
- Orange Line
- Red Line
- Silver Line
- Commuter Rail
- Bus routes

Census Tracts
- Low-income tract
- Minority tract
- Low-income and minority tract
- Non-low-income, non-minority tract
- Outside MBTA core

In the 65 MBTA core municipalities, 24.56% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 24.56%.

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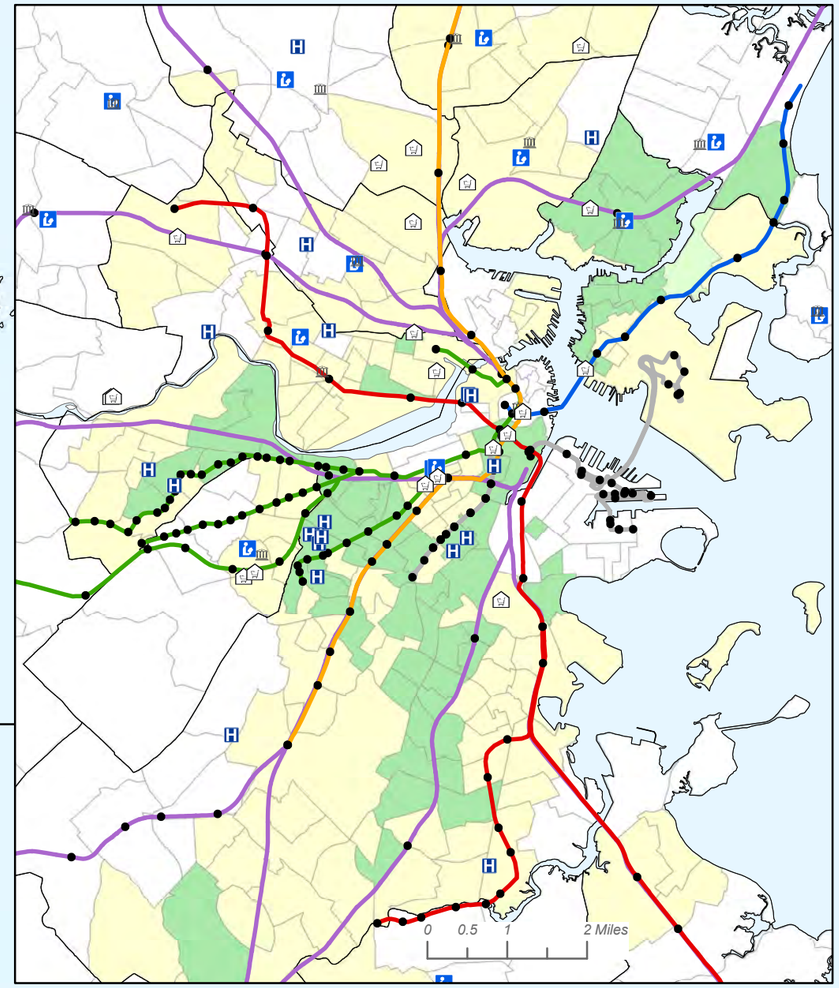
FIGURE 3-6
MBTA Title VI Report

Major Trip Generators:
Commuter Rail Service Area



Major Trip Generators
- Town halls
- Hospitals
- Shopping Centers
- Public libraries

Transit Lines
- Blue Line
- Green Line
- Orange Line
- Red Line
- Silver Line
- Commuter Rail

Census Tracts
- Low-income tract
- Minority tract
- Minority and low-income tract
- Non-minority, non-low-income tract
- Outside MBTA service area

In the 175 MBTA municipalities, 19.93% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 19.93%.

The median household income in 1999 of the 175 municipalities was $54,303. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,582.

0 2.5 5 10 Miles

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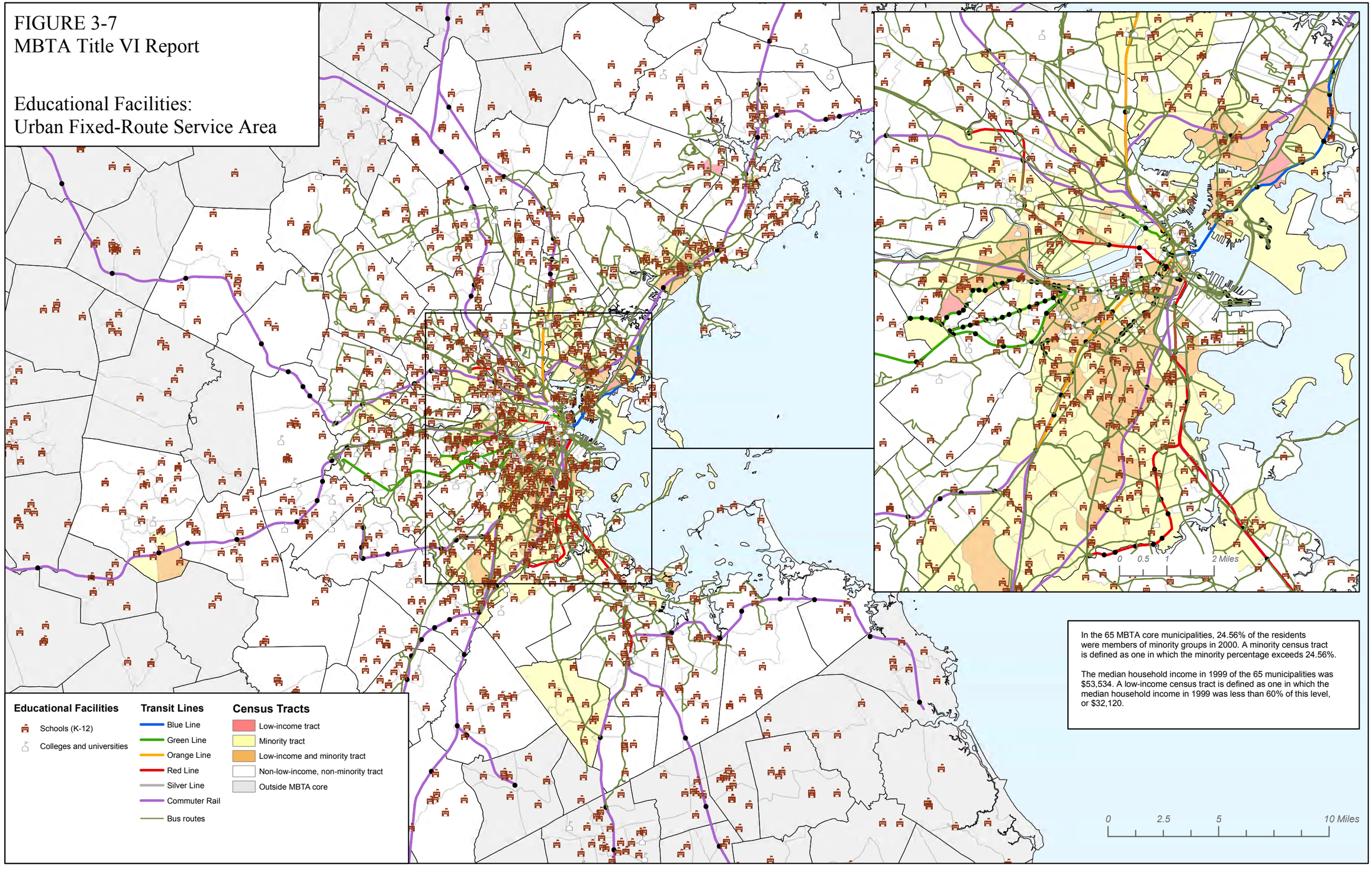
FIGURE 3-7
MBTA Title VI Report

Educational Facilities:
Urban Fixed-Route Service Area



Educational Facilities
- Schools (K-12)
- Colleges and universities

Transit Lines
- Blue Line
- Green Line
- Orange Line
- Red Line
- Silver Line
- Commuter Rail
- Bus routes

Census Tracts
- Low-income tract
- Minority tract
- Low-income and minority tract
- Non-low-income, non-minority tract
- Outside MBTA core

In the 65 MBTA core municipalities, 24.56% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 24.56%.

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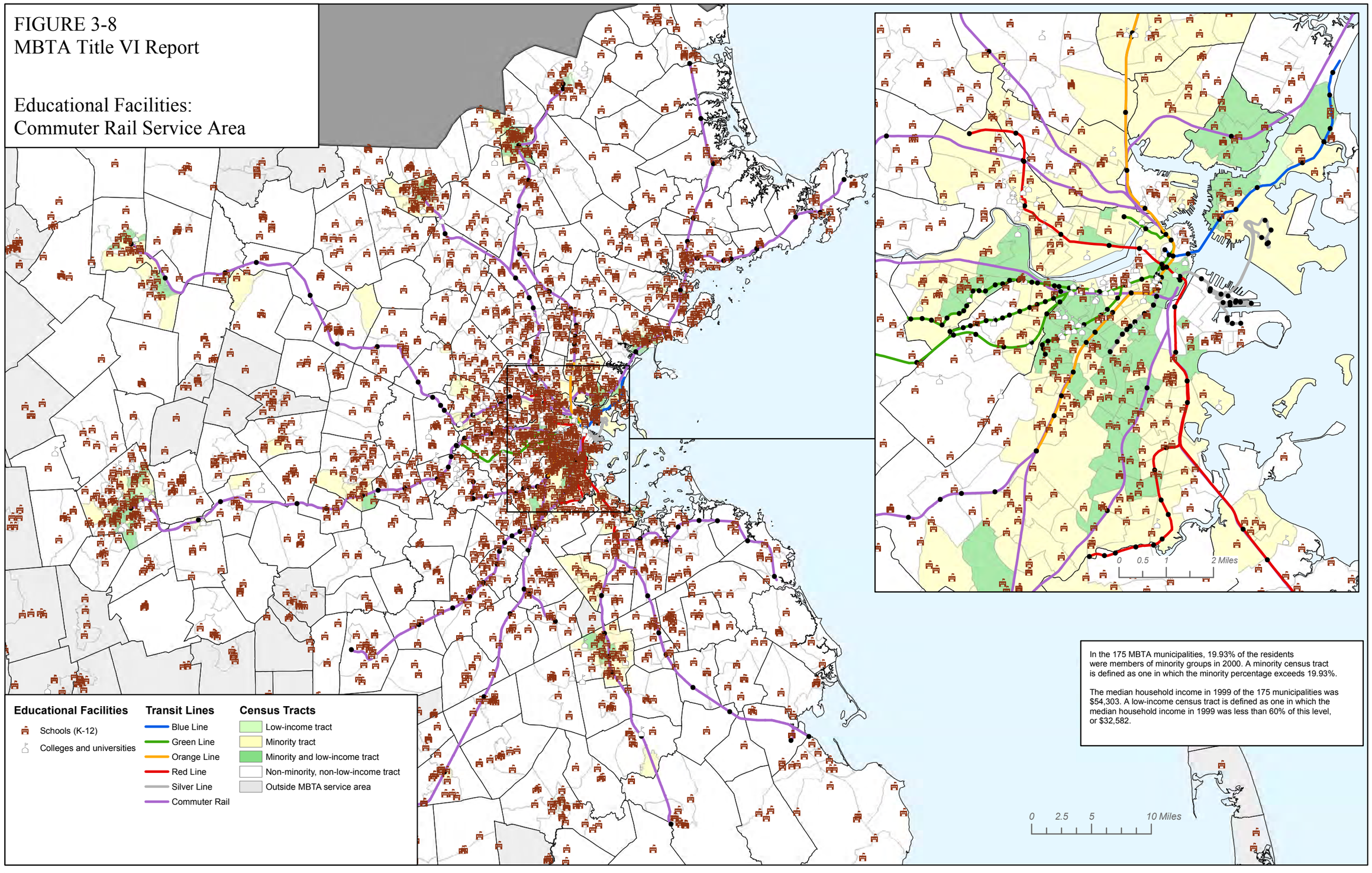
FIGURE 3-8
MBTA Title VI Report

Educational Facilities:
Commuter Rail Service Area



Educational Facilities
- Schools (K-12)
- Colleges and universities

Transit Lines
- Blue Line
- Green Line
- Orange Line
- Red Line
- Silver Line
- Commuter Rail

Census Tracts
- Low-income tract
- Minority tract
- Minority and low-income tract
- Non-minority, non-low-income tract
- Outside MBTA service area

In the 175 MBTA municipalities, 19.93% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 19.93%.

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FIGURE 3-9
MBTA Title VI Report

Major Facility Modernization Projects, SFY 2012-SFY 2016: Urban Fixed-Route Service Area

Haverhill Line Shawsheen River bridge reconstruction

Haverhill Line double-tracking and signal work

Fitchburg Line double-tracking and Littleton Station work

Wedgemere Station accessibility improvements

Fitchburg Line Route 62 bridge reconstruction

Green Line D Branch Langley Road bridge reconstruction

Fairmount Line Neponset River bridge reconstruction

Fairmount Line Neponset River bridge reconstruction

Braintree Station platform repairs

0 2.5 5 10 Miles

EverettShops-Bus

Red Line floating-slab track repairs

Key Route bus stop amenities and customer service enhancements

Green Line D Branch Dean Road bridge reconstruction

New articulated 60' hybrid buses for use on Route 28

Boston

Wonderland Station transit plaza construction

Wonderland Station parking garage construction

OrientHeightsCarhouse

New articulated 60' hybrid buses for use on Silver Line SL5

Silver Line SL4 Essex Street ramp and areaways reconstruction

Silver Line SL4 bus lane, traffic signal priority, and South Station shelter

Back Bay Station roof repair/replacement

Back Bay Station lobby ventilation

New articulated 60' hybrid buses for use on Route 39

Columbia Junction switch, cable, and track module replacements

Dudley Station police kiosk and improvements to lighting, shelter, and signage

Ashmont Station wall, ceiling, and walkway upgrades

North Quincy Station platform repairs

0 0.5 1 2 Miles

In the 65 MBTA core municipalities, 24.56% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 24.56%.

The median household income in 1999 of the 65 municipalites was $53,534. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,120.

Rail Transit
- Blue line
- Green line
- Orange line
- Red line
- Silver line
- Commuter rail

Census Tracts
- Low-income tract
- Minority tract
- Low-income and minority tract
- Non-low-income, non-minority tract
- Outside MBTA core

Major CIP Project Type
- Bridge
- Environmental
- Station Improvement
- Maintenance facility improvements

- Hybrid bus/Key route
- Key Bus Route
- Key route Silver Line
- Rail line improvement

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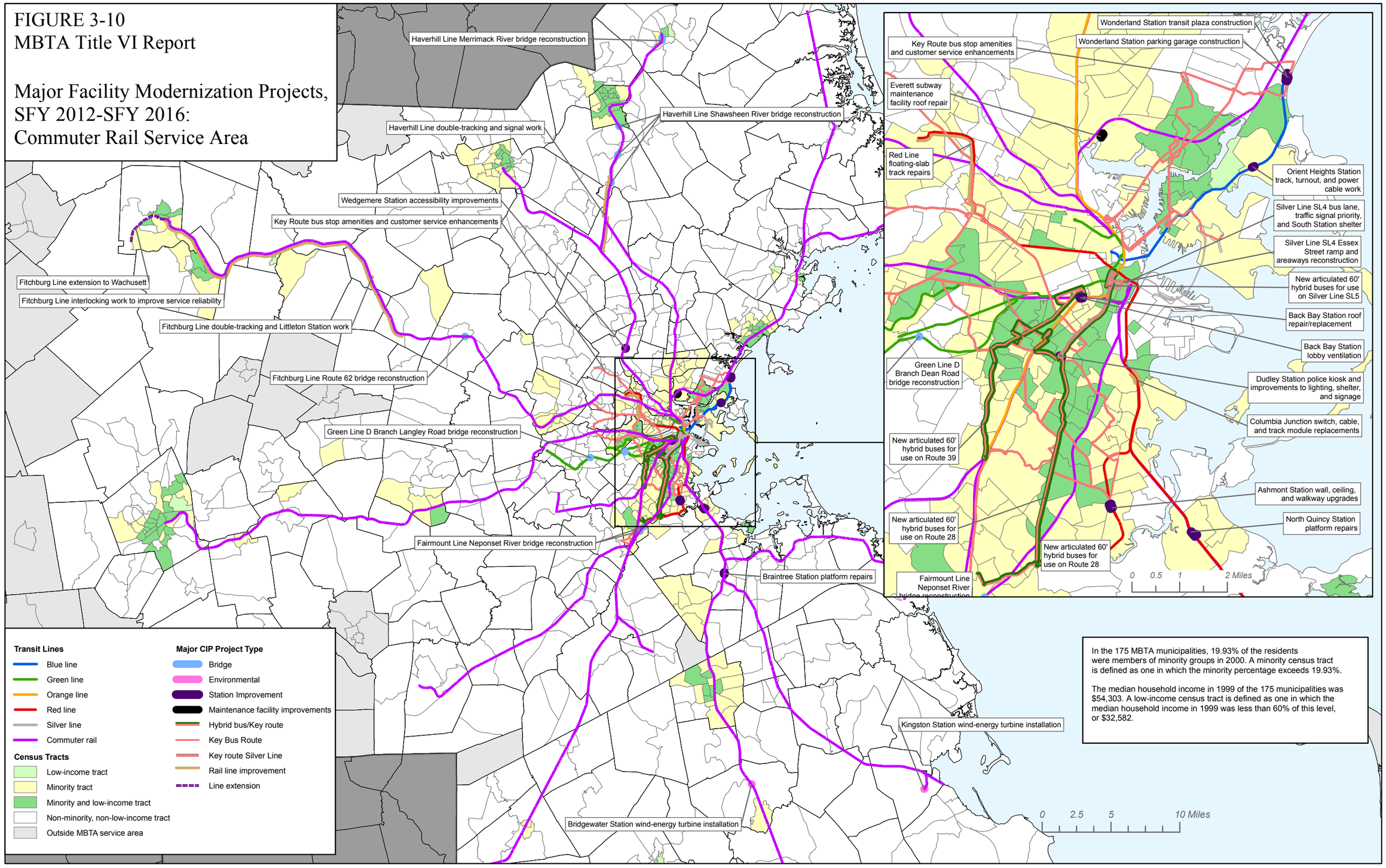
FIGURE 3-10
MBTA Title VI Report

Major Facility Modernization Projects, SFY 2012-SFY 2016: Commuter Rail Service Area



In the 175 MBTA municipalities, 19.93% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 19.93%.

The median household income in 1999 of the 175 municipalities was $54,303. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,582.

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BERTH
3
Route 32
Wolcott Square
Via
Hyde Park Ave.
& Cleary Sq.

Chapter 4

Service Standards and Policies

Systemwide Service Standards [FTA C4702.1A, V. 2.a.]

To guard against discriminatory service design or operation, FTA guidance requires that the MBTA adopt quantitative systemwide service standards and systemwide service policies, which may not be based on a quantitative threshold.

Systemwide standards are required for vehicle load, vehicle headway, on-time performance, service availability, and the distribution of transit amenities. Standards for the first four categories are found in the MBTA's Service Delivery Policy. This policy, first adopted in 1996, was created to implement objective standards and consistent decision-making procedures for evaluating existing and proposed services. Since 1996, the Service Delivery Policy has been revised four times: in 2002, 2004, 2006, and 2008. These revisions were proposed during the development of the 2002, 2004, 2006, and 2008 Service Plans, and were discussed and commented on at the public meetings and hearings that were held for all three service plans. The proposed revisions were also posted on the MBTA's website, through which additional public comments were accepted. All revisions were ultimately approved by the MBTA Board of Directors before taking effect. Any future revisions to the service standards found in the Service Delivery Policy will also undergo a public-review process and MBTA Board approval.

Vehicle Load

The MBTA's vehicle load standard applies to the maximum number of passengers allowed on a service vehicle in order to ensure the safety and comfort of customers. The load standard is expressed as the ratio of passengers to the number of seats on the vehicle, and it varies by mode and by time of day. The following description of vehicle load standards is quoted directly from the *2010 Service Delivery Policy*.

> As indicated in the Frequency of Service Standard, the level of service provided by the MBTA is primarily a function of the demand for that service, as demonstrated through the number of customers utilizing the service at different times during the day. On weekends and during some weekday time periods,

most MBTA services operate with sufficient frequency to provide every passenger with a seat. However, at the heaviest weekday travel times or locations some passengers will need to stand.

During time periods when some passengers will be standing, the MBTA will provide sufficient service so that vehicles are not excessively crowded. The purpose of the Vehicle Load Standard is to define the levels of crowding that are acceptable by mode and time period. The time periods used by the MBTA for all modes, for both the Frequency of Service and Vehicle Load Standards, are defined earlier in this chapter (see Frequency of Service Standard).

Because heavy and light rail in the core area are heavily used throughout the day, some standees can be expected during all time periods. For the purposes of this policy, the core area, as it relates to the heavy rail and light rail Vehicle Load Standard, is defined as follows [Table 9 in the Service Delivery Policy is called Table 4-1 in this report.]:

TABLE 4-1 MBTA Core Area Boundaries : Light Rail & Heavy Rail Core Area
[Table 9 in the Service Delivery Policy]

Blue Line	Bowdoin to Maverick
Orange Line	Back Bay to North Station
Red Line	Kendall to South Station
Green Line	All underground stations as well as Lechmere and Science Park

By mode and time period, the acceptable levels of crowding are shown in the following table. The load standards in the table are expressed as a ratio of the number of passengers on the vehicle to the number of seats on the vehicle. To determine whether a service has an acceptable level of crowding, the vehicle loads are averaged over specified periods of time. Due to scheduling constraints and peaking characteristics, some individual trips may exceed the load levels expressed in the standards.

For most modes the load standards shown represent average maximum loads over any time period on weekdays and over the whole day on weekends. For bus, on weekdays the loads cannot exceed the standard when averaged over any 30-minute segment of an Early AM, AM Peak, Midday School or PM Peak period, or any 60-minute segment of a Midday Base, Evening, Late Evening or Night/Sunrise period. On weekend days, the loads cannot exceed the standard when averaged over any 60-minute segment of the whole service day.

TABLE 4-2 Vehicle Load Standards by Mode

[Table 10 in the Service Delivery Policy]

Mode	Time Period	Passengers / Seats**
Bus*	Early AM, AM Peak, Midday School & PM Peak	140%
	Midday Base, Evening, Late Evening, Night/Sunrise & Weekends	
	Surface routes	100%
	Tunnel portions of BRT routes	140%
Green Line	Early AM, AM Peak, Midday School & PM Peak	225%
	Midday Base, Evening, Late Evening, Night/Sunrise & Weekends	
	Core Area	140%
	Surface	100%
Red Line #1 & 2 Cars	Early AM, AM Peak, Midday School & PM Peak	270%
	Midday Base, Evening, Late Evening, Night/Sunrise & Weekends	
	Core Area	140%
	Outside Core Area	100%
Red Line #3 Cars	Early AM, AM Peak, Midday School & PM Peak	334%
	Midday Base, Evening, Late Evening, Night/Sunrise & Weekends	
	Core Area	174%
	Outside Core Area	100%
Orange Line	Early AM, AM Peak, Midday School & PM Peak	225%
	Midday Base, Evening, Late Evening, Night/Sunrise & Weekends	
	Core Area	140%
	Outside Core Area	100%

TABLE 4-2 Vehicle Load Standards by Mode (cont.)

[Table 10 in the Service Delivery Policy]

Mode	Time Period	Passengers/ Seats**
Blue Line	Early AM, AM Peak, Midday School & PM Peak	225%
	Midday Base, Evening, Late Evening, Night/Sunrise & Weekends	
	Core Area	140%
	Outside Core Area	100%
Commuter Rail	Early AM, AM Peak, Midday School & PM Peak	110%
	Midday Base, Evening, Late Evening, Night/Sunrise & Weekends	100%
Ferry	Inner Harbor – All time periods	125%
	Outer Harbor – All time periods	100%

**For the purposes of the Vehicle Load Standard, "bus" encompasses all rubber-tired vehicles, including diesel, CNG, trackless trolley, dual-mode, etc.*

***For Bus, Light Rail and Heavy Rail, the Vehicle Load Standard is based on the ratio of passengers to seated capacity at maximum load. For Commuter Rail and Ferry services, the load standard is based on the ratio of boarding passengers per vehicle to seated capacity.*

In addition to looking at loads within time periods, the MBTA will routinely evaluate loads at the beginning and end of the service day to determine whether changes in frequency and/or span of service are warranted. The Net Cost/Passenger Standard will be used as one means of flagging routes that may be candidates for such changes.

Vehicle Headway

Vehicle headway—or frequency of service—is an indication of the time interval between vehicles on a route that allows passengers to gauge how long they will have to wait for the next vehicle. Vehicle headway varies by mode and time of day, just as vehicle load does. The following description of frequency-of-service standards is quoted directly from the *2010 Service Delivery Policy*.

> To maintain accessibility to the transportation network within a reasonable waiting period, the MBTA has established minimum frequency of service levels for each mode, by time of day. On less heavily traveled services, these minimum levels dictate the frequency of ser-vice, regardless of customer demand.
>
> Table 4 [called Table 4-3 in this report] shows the weekday Time Period definitions used by the MBTA for all modes for both the Frequency of Service and Vehicle Load Standards. Because travel patterns on the weekend are different than on weekdays, specific time periods are not defined for Saturdays and Sundays. Table 5 [called Table 4-4 in this report] shows the Minimum Frequency of Service levels for each mode by time period.

TABLE 4-3 MBTA Weekday Time Period Definitions
[Table 4 in the Service Delivery Policy]

Time Period	Definition
Early AM	6:00 AM – 6:59 AM
AM Peak	7:00 AM – 8:59 AM
Midday Base	9:00 AM – 1:29 PM
Midday School	1:30 PM – 3:59 PM
PM Peak	4:00 PM – 6:29 PM
Evening	6:30 PM – 9:59 PM
Late Evening	10:00 PM – 11:59 PM
Night/Sunrise	12:00 AM – 5:59 AM

TABLE 4-4 Minimum Frequency of Service Standards

[Table 5 in the Service Delivery Policy]

Mode		Weekday Time Periods	Minimum Frequency*
Bus**	Local/Community Rts.	AM & PM Peak	30-minute headway
		All Other Periods	60-minute headway (Mid-day policy objective of 30-minute headway in high density areas)
		Saturday & Sunday – all day	60-minute headway
	Express/Commuter Rts.	AM Peak	3 trips in the peak direction
		PM Peak	3 trips in the peak direction
	Key Routes	AM & PM Peak	10-minute headway
		Early AM & Midday Base/ School	15-minute headway
		Evening & Late Evening	20-minute headway
		Saturday – all day	20-minute headway
		Sunday – all day	20-minute headway
Light Rail/Heavy Rail		AM & PM Peak Periods	10-minute headway
		All Other Periods	15-minute headway
		Saturday & Sunday – all day	15-minute headway
Commuter Rail		AM & PM Peak Periods	3 trips in peak direction
		All Other Periods	180-minutes in each direction
		Saturday – all day	180-minutes in each direction
Ferry/Commuter Boat		AM & PM Peak Periods	30-minute headway in peak direction
		Off-Peak Periods	120-minute headway

**The Minimum Frequency of Service standards are primarily expressed as "Headways," which indicate the number of minutes scheduled between trips on a route.*

***For the purposes of the Frequency of Service standard, "Bus" encompasses all rubber-tired vehicles, including diesel, CNG, trackless trolley, dual-mode, etc. The definitions of types of bus routes are found in Chapter 2.*

> On heavily used services, the minimum frequency of service levels may not be sufficient to meet customer demand. When load levels indicate that additional service is warranted, as defined in the Vehicle Load Standard, the frequency of service will be increased to provide a sufficient number of vehicles to accommodate passenger demand.

On-Time Performance

In 2006, the bus schedule-adherence standard in the Service Delivery Policy was revamped to make it more useful for effectively diagnosing on-time performance problems. One major addition to the new bus standard was adherence to mid-route timepoints in anticipation of the rollout of CAD/AVL (computer-aided dispatch/automatic vehicle location) equipment, which allows the measurement of multiple timepoints and provides unlimited amounts of data that can be averaged over many days. By 2009, it became evident that the schedule-adherence standard needed to be revised again to take full advantage of the CAD/AVL data. At that time, the requirement that, for any given route, 75 percent of all *trips* must adhere to the arrival/departure standards for a route to be considered on time was changed so that 75 percent of all *timepoints* must adhere to the arrival/departure standards.

The schedule adherence standards for all modes, as they appear in the *2010 Service Delivery Policy*, are quoted below.

> Schedule Adherence Standards vary by mode and provide the tools for evaluating the on-time performance of the individual MBTA routes. The Schedule Adherence Standards also vary, based on frequency of service; because, passengers using high-frequency services are generally more interested in regular, even headways than in strict adherence to published timetables, whereas, on less frequent services passengers expect arrivals/departures to occur as published.
>
> Bus Schedule Adherence Standards: The Schedule Adherence Standards for bus routes are designed to ensure that routes operate as reliably as possible without early departures, chronic delays, or unpredictable wait and/or travel times.
>
> 1. Bus Timepoint Tests: To determine whether a bus is on-time at an individual timepoint, such as the beginning of a route, end of a route, or a scheduled point in between, the MBTA uses two different tests based on service frequency:
>
>   ◊ Scheduled Departure Service: A route is considered to provide scheduled departure service for any part of the day in which it operates less frequently than one trip every 10 minutes (headway ≥10 minutes). For scheduled departure services, customers generally time their arrival at bus stops to correspond with the specific scheduled departure times.

- Walk-Up Service: A route is considered to provide walk-up service for any part of the day in which it operates every 10 minutes or better (headway <10 minutes). For walk-up service, customers can arrive at a stop without looking at a schedule and expect only a brief wait.

A route might operate entirely with walk-up service, entirely with scheduled departure service, or with a combination of both throughout the day. Because any given route may have both types of service, each trip is considered individually to determine whether it represents schedules departure service or walk-up service, and each timepoint crossed on that trip is measured accordingly. Therefore, there are two separate timepoint tests:

- On Time Test for Scheduled Departure Timepoints: To be considered on time, a timepoint crossing of any trip with a leading headway scheduled for 10 minutes or more must meet the relevant condition out of the following:

  - Origin: The trip must leave its origin timepoint between 0 minutes before and 3 minutes after its scheduled departure time.

  - Mid-route timepoint: The trip must leave the route midpoint(s) between 0 minutes before and 7 minutes after its scheduled departure time.

  - Destination: The trip must arrive at its destination between 3 minutes before and 5 minutes after its scheduled arrival time.

- On Time Test for Timepoints on Walk-Up Trips:

  - Origin or mid-route timepoint: To be considered on time, any timepoint of a trip with a leading headway scheduled for less than 10 minutes must leave its origin timepoint or mid-route timepoint within 1.5 times the scheduled headway. For example, if "trip A" is scheduled to start at 7:30 AM and the route's next trip "trip B" is scheduled to start at 7:38 AM, trip B has an 8-minute scheduled headway. Therefore, trip B must start no more than 12 minutes after trip A actually starts to be considered on time.

  - Destination: The actual run time from the origin timepoint to the destination timepoint must be within 20% of the scheduled run time for the destination timepoint to be considered on time.

2. Bus Route Test: The second part of the Bus Schedule Adherence Standard determines whether or not a route is on time, based on the proportion of timepoints on the route that are on time over the entire service day. 75% of all timepoints on the route over the entire service day must pass their on-time tests.

TABLE 4-5 Summary of Bus Schedule Adherence Standard
[Table 6 in the Service Delivery Policy]

Timepoint Test	Origin Timepoint	Mid-Route Time Point(s)	Destination
Scheduled Departure Trips (Headways ≥ 10 minutes):	Start 0 minutes early to 3 minutes late	Depart 0 minutes early to 7 minutes late	Arrive 3 minutes early to 5 minutes late
Walk-up Trips (Headways <10 minutes):	Start within 1.5 times scheduled headway	Leave within 1.5 times scheduled headway	Running time within 20% of scheduled running time
Route Test	For any given bus route to be in compliance with the Schedule Adherence Standard, 75% of all timepoints must be on-time according to the above definitions over the service period measured.		

Exceptions:

- Express routes that serve only two points do not have a midpoint.
- Express routes may arrive more than 3 minutes early at their final destinations.
- A schedule may note that certain trips will not leave until another vehicle arrives and allows passengers to transfer. (For instance, the last bus trip of the day might wait for passengers from the last train of the day.) When applying the standard, these trips are not included.
- The first trip of the day, which does not have a leading headway, is considered a scheduled departure trip.
- If a route does not have published departure times (such as Silver Line Washington Street, which does not need a published timetable because it runs so frequently all day) its trips shall be considered walk-up trips regardless of scheduled headway.

Light Rail & Heavy Rail Schedule Adherence Standards: As with frequent bus services, passengers on light rail and heavy rail do not rely on printed schedules, but expect trains to arrive at prescribed headways. Therefore, schedule adherence for light rail and heavy rail is measured similarly to the way in which frequent bus service is measured. The percent of individual trips that are on time is calculated, based on a measure of how well actual headways correlate to scheduled headways. In addition, the percent of trip times that correspond to scheduled trip times is measured.

Two different measures are used to evaluate headway performance. For surface light rail and heavy rail, Schedule Adherence is measure based on the percent of trips that operate within 1.5 scheduled headways. For example, a trip with a 4-minute headway would be considered late if the observed headway were greater than 6 minutes (1.5 x 4 minutes). Because the headways in the core area for light rail are less than two minutes, Schedule Adherence is measured by the percent of trips with headways less than 3 minutes. Table 7 [called Table 4-6 in this report] provides a summary of the Schedule Adherence standards for Light Rail and Heavy Rail services.

TABLE 4-6 Schedule Adherence Standards for Light Rail & Heavy Rail
[Table 7 in the Service Delivery Policy]

Mode	Headway Performance	Trip Time Performance
Light Rail – Surface	85% of all trips operated within 1.5 scheduled headways over the entire service day.	95% trips operated within 5 minutes of scheduled total trip time over the entire service day.
Light Rail – Subway	95% of all service operated with headways less than 3 minutes over the entire service day.	95% of all trips operated within 5 minutes of scheduled trip time over the entire service day.
Heavy Rail	95% of all trips within 1.5 headways over the entire service day.	95% of all trips operated within 5 minutes of scheduled trip time over the entire service day.

Commuter Rail & Ferry/Commuter Boat: The Schedule Adherence standards for Commuter Rail and Ferry/Commuter Boat measure the percent of trips that depart/arrive within 5 minutes of scheduled departure/arrival times. These standards reflect the long distances and wide station spacing of commuter rail, and the absence of intermediate stations on most boat services. Table 8 [called Table 4-7 in this report] shows the Schedule Adherence standards for Commuter Rail and Ferry/Commuter Boat services.

TABLE 4-7 Schedule Adherence Standards for Commuter Rail & Ferry/Commuter Boat
[Table 8 in the Service Delivery Policy]

Mode	Standard
Commuter Rail	95% of all trips departing and arriving at terminals within 5 minutes of scheduled departure and arrival times
Ferry/Commuter Boat	95% of all trips departing and arriving at ports within 5 minutes of scheduled departure and arrival times

Service Availability (Coverage)

The MBTA's coverage guidelines are only for the bus and rapid transit system service area (the urban fixed-route system), where customers are most likely to walk to transit. The guidelines are established to indicate the maximum distance that a passenger who lives in a densely populated area should need to walk to access some transit service (regardless of the mode). The following description of the coverage guidelines is quoted directly from the Service Delivery Policy.

> An important aspect of providing the region with adequate access to transit services is the geographic coverage of the system. Coverage is expressed as a guideline rather than a standard, because uniform geographic coverage cannot always be achieved due to constraints such as topographical and street network restrictions. In addition, coverage in some areas may not be possible due to the infeasibility of modifying existing routes without negatively affecting their performance.
>
> The Coverage guidelines are established specifically for the service area in which bus, light rail, and heavy rail operate, as riders most frequently begin their trips on these services by foot. Because commuter rail is usually accessed via the automobile, the coverage guidelines do not apply in areas where commuter rail is the only mode provided by the MBTA.

TABLE 4-8 Coverage Guidelines
[Table 2 in the Service Delivery Policy]

Service Days	Minimum Coverage
Weekdays & Saturday	Access to transit service will be provided within a ¼ mile walk to residents of areas served by bus, light rail and/or heavy rail with a population density of greater than 5,000 persons per sq/mile.
Sunday	On Sunday, this range increases to a 1/2 mile walk.

Distribution of Transit Amenities

The FTA Title VI circular requires that the MBTA adopt service standards for the distribution of various transit amenities, including bus shelters, benches, timetables, route maps, trash receptacles, intelligent transportation systems (ITS), elevators, escalators, and park-and-ride facilities. Each of these amenities is described below.

Bus Shelter Placement

There are essentially three categories of bus shelters in the MBTA system. The first category is MBTA-owned and -managed: shelters that are purchased, installed, and maintained by the MBTA. Historically, most shelters were of this variety. More recently, two other categories of shelters, both of which are privately owned, have been placed at MBTA bus stops. For stops located in the city of Boston, the City entered into a contractual agreement with JCDecaux (formerly Wall USA) to provide shelters that are manufactured, owned, and maintained by JCDecaux. These shelters display advertisements, and the cost of their upkeep is paid for through advertising revenues. Outside of Boston, the MBTA entered into an agreement with a different company, Cemusa, to provide shelters in other municipalities. The manufacture, placement, and maintenance of these shelters are also supported by advertising revenues. Although the MBTA does not set standards for privately owned shelters, it coordinates with both companies to ensure that the placement of their shelters does not disadvantage minority and low-income areas.

In 2005, the MBTA updated its standards for determining the eligibility of bus stops for shelter placements, regardless of the source. The following description of how decisions are made for bus shelter placement is quoted directly from the 2005 Bus Shelter Policy.

A. Purpose

The purpose of this policy is to provide guidance for the placement of MBTA bus shelters and to establish a procedure for evaluating shelter requests. In areas or locations where the MBTA, or its contractors, are the primary suppliers of shelters at bus stops, placements will be evaluated using two steps:

(1) Conformance with eligibility standards, and
(2) a site suitability test.

Central to any placement decision will be a commitment to meeting the requirements of Title VI of 1964 Civil Rights Act as defined in the FTA Circular C 4702.1. Title VI ensures that MBTA services are distributed in such a manner that minority communities receive benefits in the same proportion as the total service area. This policy in no way establishes a requirement for placement, since all placements will be dependent on available resources.

B. Background

The previous shelter policy was established in 1984, having been extracted from the 1977 Service Policy for Surface Public Transportation. This older policy considered three major factors when evaluating stops: number of boardings, frequency of service, and percentage of persons using the stop that were elderly or had disabilities.

The current policy continues to include these important measures; however, it more systematically quantifies each factor in determining eligibility.

C. Evaluation Procedure

MBTA Operations will be responsible for evaluating placement requests and ensuring compliance with Title VI.

The first step in the evaluation process is a determination if the bus stop conforms with shelter eligibility standards. As in the previous shelter policy, the number of boardings at a bus stop is a major determinant for eligibility. As described in the table below, all bus stops that meet the required number of boardings will be eligible. However, a number of other criteria can also be considered. To standardize the process, the various types of criteria have been given values. The following table lists all criteria to be factored into an assessment of eligibility for each bus stop and the value associated with each criterion. A site must receive a total of 70 points to be considered eligible under this policy.

TABLE 4-9 Shelter Eligibility Criteria for MBTA Bus Stops

Eligibility Criteria	Points
60+ Average weekday daily boardings (ADB)	70
50-59 ADB	60
20-49 ADB	40
Less than 20 ADB	30
MBTA initiative to strengthen route identity	20
Seniors, disabled, medical, social service, or key municipal facility in close proximity to stop	15
Official community recommendation	10
Bus route transfer point	10
Infrequent service (minimum of 30-minute peak/ 60-minute off-peak headway)	10
Poor site conditions (weather exposure etc.)	5
Shelter promotes adjacent development/increased ridership	5
Passing Score: 70	

Any bus stop that has more than 60 boardings is eligible for a shelter, with an automatic score of 70 points. For bus stops with fewer boardings, a combination of the factors listed above will be considered in determining eligibility. Operations will keep records of all requests that document the assignment of scores. All bus stops that currently have shelters will be grandfathered into the program without need for additional analysis.

The second step in the evaluation process is the site suitability test. There are physical and practical requirements that must be met before a shelter can be placed. These include:

(1) Property ownership,
(2) abutter approval,
(3) compliance with the Americans with Disabilities Act requirements,
(4) adequate physical space and clearances,
(5) close proximity to an existing bus stop, and
(6) community approval

D. Reporting

The Operations Department will retain the necessary documents to ensure correct application of the policy. The Service Planning Department and CTPS will submit the required Title VI reports. Title VI ensures that MBTA services are distributed in such a manner that minority communities receive benefits in the same proportion as the total service area.

In terms of the shelter policy, once a bus stop is eligible for a shelter it will be included in all analyses for Title VI purposes, until such time that it is indicated otherwise. Consequently, all bus stops with 60 or more boardings will be included in Title VI reports, as well as any bus stops with less than 60 boardings that meet the 70-point eligibility requirement. Any bus stop that meets the eligibility standard, but is found not to meet the site suitability test, will be noted and not included in the analysis. Bus stops in the MBTA service area that have pre-existing shelters, but do not meet the policy requirements, will be noted and included in the total comparisons.

Benches

It is the MBTA's policy that all bus shelters have benches, whether the shelters are provided by the MBTA or through one of the two private companies (JCDecaux and Cemusa) that install shelters under contract to individual municipalities. Benches are also provided at all subway and light rail station platforms, with the exception of certain Green Line surface stops where the platform is too narrow to accommodate a bench.

Timetables and Route Maps

Historically, the MBTA did not post timetables (schedules) in bus shelters; however, the MBTA requires that Cemusa, which provides bus shelters to municipalities outside of Boston, post bus timetables in all of their shelters. In addition, timetables are provided at all bus stops located at terminals, and pole-mounted "tubes" and/or "cubes" with timetable information are located at most stops on Key Bus Routes. Transit maps are provided at all Cemusa and JCDecaux shelters.

Snow Clearance Policy

In response to numerous customer complaints this past winter concerning longstanding snow and ice barriers at bus stops, the MBTA amended its practice of relying on cities and towns for path-of-travel snow clearance at bus stops and curbs. In February 2011, at the direction the General Manager, the MBTA began dedicating considerable manpower resources to snow clearance between bus stops and shelters and curbs at the most heavily used of the more than 8,000 bus stops in the MBTA system. The MBTA is preparing a new standard operating procedure to prioritize clearing snow at bus stops with high ridership and on Key Routes to minimize access barriers to MBTA service during the winter months.

Neighborhood Maps in Rapid Transit Stations

The neighborhood map program involves the placement of two types of maps at rapid transit stations that have bus connections: (1) neighborhood maps, showing major landmarks, bus routes, the street network, the one-half-mile walking radius around the station, green space, pathways, and accessible station entrances; and (2) more detailed maps that show all bus routes that serve a particular station, along with service frequency information.

The objectives that the program hopes to accomplish at each station include: (1) providing route and schedule information for bus routes serving that station, (2) placing the transit station in the context of the surrounding neighborhood, and (3) highlighting the areas around the station that are within easy walking distance.

Where space allows, one or both maps are placed at stations with bus connections. The maps are also generally installed at new or renovated stations, regardless of whether or not a station has bus service. Due to space constraints, maps are not located at many surface Green Line stops.

Intelligent Information Systems (ITS): Automated Fare Collection (AFC) Fare Gates and Fare Vending Machines

The automated-fare-collection system was rolled out during 2006 and was fully implemented on the bus and subway systems at the beginning of 2007. The number and location of fare gates and fare vending machines to be placed at each rapid transit station were determined based on the number of customers entering the station, the number of station entrances, and the general configuration and available space at the station.

Retail sales outlets were initially placed so that they would be convenient to customers who use the Key Bus Routes, as they are the most heavily used routes in the system and operate in the urban core, where minority and low-income populations are most prevalent.

The AFC equipment relays monitoring data on device status to the AFC Central Computer System, which is located at 10 Park Plaza. These data are also available to AFC field technicians via workstations located in each of the booths in the subway system formerly used by toll collectors, and at each of the locations used by AFC farebox technicians to store fares collected on buses and the Green Line.

Each AFC device is monitored for cash and ticket levels so that Revenue Service personnel and management can schedule the necessary resources to maintain the ticket and coin levels in all devices.

The MBTA has established performance metrics that are based on the availability for use of the fare gates and fare vending machines.

- The minimum acceptable device availability threshold is 95 percent.
- The device availability goal is 98 percent.

Intelligent Transportation Systems (ITS): Variable Message Signs (VMS)

The MBTA currently has three different types of electronic message signs in use on the bus rapid transit (BRT), rapid transit, and commuter rail systems. These include: (1) signs that display public-service announcements, (2) signs that alert passengers that trains are approaching and arriving at the station, and (3) signs that count down the number of minutes until the next vehicle arrives at the station.

Bus Rapid Transit VMS

VMS that count down the minutes until the arrival of the next BRT vehicle are placed at 19 of the 23 stops on Silver Line Washington Street. There is one sign at each end of the two routes—one at Dudley Station, one at the Temple Place inbound terminus, and one at the South Station inbound terminus—and one sign at each of the 16 stops (8 per direction) on Washington Street. Eighteen of these VMS were installed as a part of the Washington Street reconstruction/Silver Line ITS project and were bound to the project in two key ways. First, as part of station construction, this project included the construction of kiosks along Washington Street that were used to house the signs. Second, Washington Street service had a dedicated fleet that wirelessly relays vehicle location data to a central computer, so that the arrival time can be displayed on the VMS. The sign at the South Station surface stop was installed as part of the Washington Street South Station Connector Project, and it runs off of the MBTA's general prediction feed.

The MBTA initiated the "T-Tracker Trial" pilot project in 2009. This project included the installation of additional VMS signs to provide countdown information for buses. One VMS sign was installed in Bellingham Square in East Boston for all routes serving that location in the outbound direction, and two LCD displays were installed in the Ruggles and Back Bay Stations to provide countdown information for buses serving these stations.

Rapid Transit VMS

The MBTA has installed VMS at rapid transit stations throughout the system. Through the 2006 agreement between the MBTA and the Boston Center for Independent Living (BCIL), signs are located at each set of fare gates and on inbound and outbound platforms. The exact locations and quantities of signs were determined through field observations of existing conditions and needs at each station.

Two types of VMS are in use: those that display next-train information, and those that display only public-service announcements. All Red, Orange, and Blue Line stations are being equipped with electronic message signs that display "next train approaching" and "next train arriving" messages. The information displayed on these signs is triggered through the train's signal system. Because the Green Line has a different type of signal system than the other rapid transit lines, next-train signs cannot be used at this time on that line. However, VMS that display public-service information have been installed at stations in the Green Line central subway and on the Green Line's D Branch. Due to the lack of power and communications connections to stations on the B, C, and E Branches of the Green Line, no VMS can be used at those stations in the near term.

Commuter Rail VMS

In the early 1990s, "Passenger Information Centers" (blue boxes approximately 2 by 3 feet in size) that displayed a one-line message were installed at stations on the Framingham/Worcester Line. There was only one message center at each station located on or near the inbound platform. These signs were primitive at best and were essentially large pagers.

In 1997, in conjunction with the opening of the Old Colony's Middleborough/Lakeville Line and Kingston/Plymouth Line, "PENTA" LED (light-emitting diode) message boards were installed at all stations on those lines. Although these signs used the current technology of that period, they had limited display capability—only one message at a time could be shown, with no more than 99 characters per message. PENTA signs were also installed at the new stations on the Framingham/Worcester Line west of Framingham, and on the Newburyport/Rockport Line at the new stations in Ipswich, Rowley, and Newburyport.

A project to install new passenger information signs at all commuter rail stations (with the exception of Silver Hill, Plimptonville, and Foxboro) was initiated in 2000. All of the "blue box" passenger information centers were replaced with these newer signs; at least one sign was added on each inbound platform, and, at stations with mini-high platforms, an additional sign was added. The PENTA signs were not replaced, however. The new signs can display multiple messages and have a capacity of up to 1,600 characters. All signs are installed on the inbound platforms in order to serve the greatest number of customers, as they travel inbound during the morning peak period.

The MBTA has implemented a Passenger Train Information System (PTIS), also known as the "Next Train" system, on commuter rail at all stations except those that offer live information (South Station, North Station, and Back Bay Station). The PTIS uses state-of-the-art global-positioning-system (GPS) technology on the trains moving along the line to generate automated messages regarding the arrival of

the next train on the LED signs located on the station platforms. If service is disrupted, the location information is supplemented by a "Console Operator" who monitors the movement of the trains to manually send ad hoc messages as required to the signs. The system also generates automatic station announcements on board the train.

Elevators and Escalators

Elevators and escalators provide vital access to the system, particularly for persons with disabilities. In 2006, the MBTA formalized a partnership with the Boston Center for Independent Living (BCIL) through a consent agreement that sets operational protocols and standards, as well as a proactive agenda for making the transit system more accessible. The MBTA uses the Americans with Disabilities Act (ADA), 49 CFR, Section 37.161 *Maintenance of accessible feature: General*, as its operability standard:

> (a) Public and private entities providing transportation services shall maintain in operative condition those features of facilities and vehicles that are required to make the vehicles and facilities readily accessible to and usable by individuals with disabilities. These features include, but are not limited to, lifts and other means of access to vehicles, securement devices, elevators, signage and systems to facilitate communications with persons with impaired vision or hearing.
>
> (b) Accessibility features shall be repaired promptly if they are damaged or out of order. When an accessibility feature is out of order, the entity shall take reasonable steps to accommodate individuals with disabilities who would otherwise use the feature.
>
> (c) This section does not prohibit isolated or temporary interruptions in service or access due to maintenance or repairs[2].

The MBTA contracts for the complete maintenance, service testing, and inspection of all transit system and facility elevators and escalators. The MBTA's contract imposes penalties if the contractor fails to comply with the ADA requirements. The MBTA has implemented a proactive maintenance program to keep equipment safe and operational. Maintenance specifications are defined to cover all equipment components. The MBTA's Maintenance Control Center (MCC) tracks all elevator and escalator service requests, which are transmitted to the MCC via MBTA personnel and field inspectors. The MCC transmits the service-request information to the elevator/escalator maintenance contractor via a computer terminal, and the contractor then dispatches maintenance personnel to perform repairs. The causes of equipment failures vary, as well as the length of time required to repair them. The MBTA elevators have been reliable 99 percent of the time for the past three years.

[2] *Title 49, U. S. Code of Federal Regulations, § 37.161.*

The MBTA is working toward the goal of making the system a model for accessibility within the U.S. transit industry. More than $271 million is allocated in the Authority's current Capital Investment Program (almost 6 percent of the capital budget) for accessibility enhancements, including redundant elevator installation, completion of the Key Station Plan, elevator/escalator maintenance, and wayfinding improvements. In addition, the MBTA has adopted an organization-wide commitment and desire to comply not only with the letter but also the spirit of the Americans with Disabilities Act, with the complete understanding that all people with disabilities must have every opportunity to be fully participating members of the community and that fundamental to this opportunity is the right and ability to use public transportation in an equitable, effective, and dignified manner. The following 12 stations have been made accessible or have undergone renovations that have improved accessibility since 2008:

- Ashmont
- Mattapan
- Capen Street
- Central Avenue
- Milton
- Butler
- Cedar Grove
- Copley
- Arlington
- Kenmore
- Maverick
- State Street

Seven of these stations are located in minority areas.

Distribution of Station Parking

While the supply of parking is only one element of transit access, it is particularly important in the commuter rail system, where 53 percent of users drive to stations and park to access service. Through the Program for Mass Transportation, the MBTA applied evaluation criteria prioritizing capital improvement parking programs. The evaluation standards are:

- Customer access – Quality of auto access to the station parking lot from major arterial roadways
- Land and air rights – MBTA ownership of (or access to) land and/or air rights for expansion of the parking facility
- Projected demand – Magnitude of expected future demand for parking at the station
- Potential utilization – Ability of potential parking expansion to meet the needs of projected demands

- Cost per parking space – Expected cost per parking space, in either a surface lot or garage
- Environmental status – Barriers to parking expansion resulting from existing environmental issues
- Ease of construction – Barriers to parking expansion resulting from issues such as space constraints, land acquisition issues, and challenging terrain

Systemwide Service Policies [FTA C4702.1A, V. 3.a.]

The circular requires systemwide service policies for vehicle assignment and for transit security. Policies differ from standards in that policies are not necessarily based on a quantitative threshold.

Vehicle Assignment

Vehicle assignment refers to the process by which vehicles are placed in garages and assigned to routes throughout the system. The policies used for vehicle assignment vary by mode and are governed by various operational characteristics and constraints.

Bus Vehicle Assignment

The MBTA's bus fleet consists of 28 electric trackless trolleys; 360 compressed-natural-gas (CNG) vehicles; 32 dual-mode vehicles; 503 emission-control-diesel (ECD) vehicles; 25 hybrid vehicles; and 127 older diesel buses. The MBTA has acquired over 500 clean-fuel vehicles to provide new service on Silver Line Washington Street bus rapid transit (BRT) routes and to replace the oldest diesel vehicles in the fleet. In accordance with the September 1, 2000, Administrative Consent Order, Number ACO-BO-00-7001, issued by the Commonwealth of Massachusetts, the Department of Environmental Protection (DEP), under the Executive Office of Environmental Affairs (now the Executive Office of Energy and Environmental Affairs), the MBTA will, "Insofar as possible, operate lowest emission buses in the fleet in transit dependent, urban areas with highest usage and ridership as the buses enter the MBTA bus fleet." Table 4-10 provides additional information on the vehicles in the bus fleet.

TABLE 4-10 Bus Fleet Roster									
Propulsion	Active Vehicles	Year Built	Air Cond.	Accessible	Over-haul	Length	Width	Seats	Planning Capacity
Straight Electric	28	2003-04	Y	Ramp	None	40’	102”	31	43
Diesel Series 60 500 HP (dual-mode)	24	2004-05	Y	Ramp	None	60’	102”	47	65
	8	2005	Y	Ramp	None	60’	102”	38	65
CNG Cummins C8.3	175	2004	Y	Ramp	None	40’	102”	39	54
	124	2003	Y	Ramp	None	40’	102”	39	54
CNG Series 60 400HP	44	2003	Y	Ramp	None	60’	102”	57	79
CNG Series 50G	15	2001	Y	Ramp	None	40’	102”	39	54
	2	1999	Y	Ramp	None	40’	102”	39	54
Diesel Caterpillar C9	193	2004-05	Y	Ramp	None	40’	102”	38	53
Diesel Series 50	127	1994-95	Y	Lift	2004-05	40’	102”	40	56
Diesel Cummins ISL	155	2006-07	Y	Ramp	None	40’	102”	39	54
Diesel Cummins ISL	155	2008	Y	Ramp	None	40’	102”	39	54
Hybrid	25	2010	Y	Ramp	None	60’	102”	57	79

The MBTA’s policy is to maintain an average age of the bus fleet of eight years or less. In general, each bus is assigned to one of nine MBTA bus storage and maintenance facilities and operates only on routes served by the garage to which it is assigned. Daily, within each garage, individual vehicles are not assigned to specific routes, but circulate among routes based on a number of operating constraints and equipment criteria. The following section summarizes the guidelines used by inspectors when assigning vehicles in the current bus fleet to routes.

28 Trackless Trolleys

The trackless trolley fleet currently consists of 28 new vehicles. These vehicles are limited to use on three routes—in Belmont, Cambridge, and Watertown—where overhead catenary lines provide electric power. The vintage 1976 Flyer vehicles will be retired, except for 5 vehicles that are maintained for contingencies.

360 Compressed-Natural-Gas (CNG) Buses

This fleet is composed of 316 40-foot nonarticulated vehicles and 44 60-foot articulated vehicles. Service is currently provided on Route 39 and Silver Line Washington Street with the 60-foot vehicles, all of which are housed at the Southampton facility; 17 of the 44 60-foot vehicles are dedicated to the Silver Line. Most of the 316 40-foot buses are housed at the Arborway and Cabot garages; they provide service on many routes in the urban core. With the exception of the vehicles at Southampton, which currently serve only three routes, inspectors assign these buses daily, on a random basis, within each garage.

630 Diesel Buses

The diesel buses are assigned to the suburban garages, as well as to the Albany Street and Charlestown garages. Of the 503 new ECDs in the fleet, 310 are New Flyer vehicles and 193 are Neoplan vehicles. These ECDs have been divided among the following facilities: Charlestown (138), Lynn (69), Quincy (64), Fellsway (76), Albany (116), and Cabot (39) garages. The 127 1994/1995 Nova vehicles remain at the Charlestown (82), Lynn (25), and Quincy (20) garages.

32 Diesel-Electric (Dual-Mode) Buses

All of the new 60-foot, articulated dual-mode vehicles are designed for operation on the Waterfront portion of the new Silver Line BRT service between South Station, various locations in South Boston, and Logan Airport.

25 Hybrid Buses

The new 60-foot, articulated hybrid vehicles operate on Routes 28, which operates between Mattapan Station and Ruggles Station via Dudley Station; Silver Line 4 (SL4), which operates between Dudley Station and South Station; and Silver Line 5 (SL5), which operates between Dudley Station and Downtown Crossing.

Light Rail and Heavy Rail Vehicle Assignment

The MBTA operates light rail vehicles on the Ashmont-Mattapan extension of the Red Line—the Mattapan High-Speed Line—and on all four branches of the Green Line: B–Boston College, C–Cleveland Circle, D–Riverside, and E–Heath Street.

Type 7 Green Line vehicles can be operated on any Green Line branch. However, all of the Type 8 cars are currently assigned to the B, C, and E Branches. Type 8 cars will be introduced on the D Branch pending a review of track conditions on the branch by the Department of Public Utilities.

The Mattapan High-Speed Line has weight, curve, and power limitations that prevent the use of current Green Line light rail vehicles. Instead, PCC (President's Conference Committee) cars are used for that line. All of the PCCs have recently undergone extensive rehabilitation, including the replacement of major structural components. These cars were equipped in 2008, for the first time, with air conditioners. Table 4-11 lists the vehicles in the light rail fleet.

TABLE 4-11 Light Rail Fleet Roster

Line	Type / Class of Vehicle	Fleet Size	Year Built	Builder	Length	Width	Seats	Planning Capacity
Mattapan High-Speed Line	"Wartime" PCC	10	1945-46	Pullman Standard (USA)	46'	100"	40	84
Green Line	Type 7 (1)	94	1986-88	Kinki-Sharyo (Japan)	74'	104"	46	104
	Type 7 (2)	20	1997	Kinki-Sharyo (Japan)	74'	104"	46	104
	Type 8	95	1998-2007	Breda (Italy)	74'	104"	44	99

Heavy rail vehicles are operated on the three subway lines: the Red Line, Orange Line, and Blue Line. The specific operating environments of these lines prevents one line's cars from operating on another line; therefore, each line has its own dedicated fleet.

Because there are no branches on the Orange Line or the Blue Line, and there is only one type of Orange Line car and one type of Blue Line car, no distribution guidelines are necessary for either of these lines. The Blue Line introduced a new replacement fleet in 2009. The Red Line has two branches, and operates using three types of cars. There are no set distribution policies for the assignment of Types 1, 2, and 3 cars to the two Red Line branches (Ashmont and Braintree). All three types are put into service on both branches as available. Table 4-12 lists the vehicles that are currently in the heavy rail fleet.

TABLE 4-12 Heavy Rail Fleet Roster								
Line	Type/ Class of Vehicle	Fleet Size	Year Built	Builder	Length	Width	Seats	Planning Capacity
Blue Line	No. 5 East Boston	94	2007/2008	Siemens	48' 10"	111"	42	95
Orange Line	No. 12 Main Line	120	1979-81	Hawker-Siddeley (Canada)	65' 4"	111"	58	131
Red Line	No. 1 Red Line	74	1969-70	Pullman Standard (USA)	69' 9 3/4"	120"	63	167
	No. 2 Red Line	58	1987-89	UTDC (Canada)	69' 9 3/4"	120"	62	167
	No. 3 Red Line	86	1993-94	Bom-bardier (USA)	69' 9 3/4"	120"	52	167

Planning and design are underway for the next generation of vehicles for the Red and Orange Lines, as well as for accommodation of expanded Green Line service associated with the Commonwealth's commitment to extend the Green Line to Somerville and Medford by December 2014.

Commuter Rail Vehicle Assignment

Vehicle assignments are developed based on specific standards of commuter rail service. These standards include providing a minimum number of seats for each scheduled trip, providing one functioning toilet car in each trainset, maintaining the correct train length to accommodate infrastructure constraints, and providing modified vehicles, when necessary, for a specific operating environment. The MBTA strives to assign its vehicles as equitably as possible within the equipment and operational constraints of the system.

Railroad Operations operates a 377-route-mile regional rail system in the Boston metropolitan area composed of 13 lines that serve 125 stations. The existing system consists of two separate rail networks: a five-route northern system, which operates north and east from North Station to terminals at Rockport, Newburyport, Haverhill, Lowell, and Fitchburg; and an eight-route southern system, which operates south and west from South Station to terminals at Worcester, Needham, Franklin, Attleboro, Providence, Stoughton, Readville, Middleborough, Kingston, and Plymouth. Trains operate in a push-pull mode, with the locomotive leading (pull mode) when departing Boston and the control car leading when arriving in Boston.

The commuter rail coach fleet is composed of four types of coaches and two types of locomotives, which are assigned to the 13 commuter rail routes. Both coaches and locomotives have a service life of 25 years. Table 4-13 lists the vehicles in the current fleet.

Train consists are assembled based on minimum seating capacity to meet the morning and evening peak-period requirements. Presently the MBTA commuter rail contract operator is contractually required to have 122 coaches in 22 North Side trains and 213 coaches in 33 South Side trains. Most train consists generally are not dedicated to a specific line, but are cycled throughout the system (either North or South). Every train consist must have a control coach. The following vehicle characteristics must also be considered when assigning vehicles:

- **Kawasaki Coaches (bilevel) –** There is no specific policy restricting the use of these vehicles in the commuter rail system. Currently they are used exclusively in the South Side commuter rail system, since it carries approximately 65 percent of the total boardings of the system. The bilevel coaches offer substantially more seating than the single-level coaches. This allows Railroad Operations to maintain consist seating capacity while minimizing the impacts of platform and layover facility constraints. The MBTA intends to purchase only bilevel coaches in future procurements in order to accommodate increasing ridership demands and to allow for greater flexibility when scheduling vehicle assignments.

- **Messerschmitt-Bolkow-Blohm (MBB) Coaches –** Every train consist has at least one MBB coach equipped with toilet facilities. MBB blind-trailer coaches have also been modified to guarantee priority seating for eight wheelchair spaces on all trains on the Worcester Line in accordance with agreements made at the time of the commuter rail extension to Worcester. There are only 14 trains that are cycled on the Worcester Line daily; however, 33 coaches were modified to provide for greater vehicle assignment flexibility.

- **Old Colony Lines –** The coaches used for service on the Old Colony lines (Middleborough/Lakeville, Kingston/Plymouth, and Greenbush) are equipped with power doors, as all of the stations on these lines have high platforms. This enables a crew member to control the operation of the doors in the consist from any coach via the door control panel. Portions of the Kawasaki, Pullman, and MBB coach fleets have had the power doors activated to meet this requirement.

- **Advanced Civil Speed Enforcement System (ACSES) –** All control coaches and locomotives operating on the Providence Line must be equipped with a functioning ACSES system. ACSES is a Federal Railroad Administration (FRA)–mandated requirement. All locomotives except the GP40 series have ACSES installed and functioning. The GP40 locomotives have ACSES installed but have not yet been qualified to use it. The Bombardier control coaches do not yet have ACSES installed, and therefore are limited to North Side service. There are more locomotives and control coaches equipped with ACSES than are required to meet the daily Attleboro scheduled trips. This provides for greater flexibility in vehicle assignments.

All coaches in the commuter rail fleet are equipped with similar amenities, the exception being the MBB coaches, which are equipped with toilets; therefore, the primary variation among coaches is age. For the purpose of periodic monitoring, an assessment of compliance for vehicle assignment is completed each year based on the average age of a trainset for a specified time period.

TABLE 4-13 Commuter Rail Fleet Roster

Manufacturer	Fleet Size	Date	Classification*	Rebuilt	Seats
Pullman	57	1978–79	BTC-1C	1995–96	114
MBB	33	1987–88	BTC-3	– –	94
MBB	34	1987–88	CTC-3	– –	96
Bombardier A	40	1987	BTC-1A	– –	127
Bombardier B	54	1989–90	BTC-1B	– –	122
Bombardier C	52	1989– 90	CTC-1B	– –	122
Kawasaki	50	1990–91	BTC-4	– –	185
Kawasaki	25	1990–91	CTC-4	– –	175
Kawasaki	17	1997	BTC-4	– –	182
Kawasaki	15	2001–02	BTC-4	– –	182
Kawasaki	33	2005–07	BTC-4C	– –	180

**BTC = Blind Trailer Coach; CTC = Control Trailer Coach*

Modernization of the commuter rail fleet is currently underway through the procurement of 28 locomotives and 75 bilevel coaches that will be delivered in 2012/2013.

Transit Security

This section summarizes the security measures for which the MBTA has developed and implemented policies to protect employees and the public against any intentional act or threat of violence or personal harm, either from criminal activities or terrorist acts.

Placement of Callboxes at Stations

The locations for placement of callboxes at MBTA stations are selected as part of the Crime Prevention Through Environmental Design (CPTED) program, which is governed by the following MBTA guidelines:

> "Crime Prevention Through Environmental Design (CPTED) is the proper design and effective use of the built environment which may lead to a reduction in the fear and incidence of crime, and an improvement of the quality of life."
> – National Crime Prevention Institute

CPTED theories contend that law enforcement officers, architects, transit and city planners, landscape and interior designers, and resident volunteers can create a climate of safety in a community, right from the start. CPTED's goal is to prevent crime through designing a physical environment that positively influences human behavior—people who use the area regularly perceive it as safe, and would-be criminals see the area as a highly risky place to commit crime.

CPTED studies ways to design physical spaces to reduce undesired behavior and crime. It can be used when developing new areas, reviewing plans, or revising existing space. CPTED is helpful with large projects such as multi-unit housing, transit systems, parks, business centers, and shopping centers, as well as single-family homes and offices.

The Four Strategies of CPTED

1. **Natural Surveillance –** A design concept directed primarily at keeping intruders easily observable. This can be promoted by features that maximize visibility of people, parking areas, and building entrances: doors and windows that look out onto streets and parking areas; pedestrian-friendly sidewalks and streets; front porches; adequate nighttime lighting.

2. **Territorial Reinforcement –** Physical design can create or extend a sphere of influence. Users then develop a sense of territorial control while potential offenders, perceiving this control, are discouraged. This can be promoted by features that define property lines and distinguish private spaces from public spaces using landscape plantings, pavement designs, gateway treatments, and "CPTED" fences.

3. **Natural Access Control –** A design concept directed primarily at decreasing crime opportunity by denying access to crime targets and creating in offenders a perception of risk. This can be gained by designing streets, sidewalks, building entrances, and neighborhood gateways to clearly indicate public routes and to discourage access to private areas by using structural elements.

4. **Target Hardening –** Accomplished by features that prohibit entry or access, such as window locks, dead bolts for doors, interior door hinges.

An example of CPTED:

Loitering is not a very common occurrence in Boston, but when it is reported in or around the Massachusetts Bay Transportation Authority's major transportation centers, the MBTA and the MBTA Transit Police address the issue quickly. The MBTA Transit Police Department provides security and law enforcement for the entire MBTA system and works closely with the MBTA in using CPTED methods. An example of this can be seen in making physical changes to bus stops and benches to deter loitering. By adding seat dividers, each individual seated at a bus stop bench has a clearly defined area that temporarily belongs to them, while at the same time the seat dividers deter individuals from taking over an entire bench by sprawling their body across as if to use the bench as a bed. Most implementations of CPTED occur solely within the "built environment" to dissuade offenders from loitering. These tactics have been proven to dissuade those who loiter in and around transportation centers.

Transit Facility Safety and Security Review

The concept of Crime Prevention Through Environmental Design (CPTED) has evolved as a means to reduce the opportunities for crimes to occur. This is accomplished by employing physical design features that discourage crime, while at the same time encouraging legitimate use of the environment. CPTED design considerations, which have been employed in recent years by transit agencies in the design of safer public facilities, such as transit stations and bus stops, can be used to secure and harden elements of an agency's infrastructure from hazards and threats. Major elements of the CPTED concept are defensible space, territoriality, surveillance, lighting, landscaping, and physical security planning. These facilities include transit stops, transit stations, and vehicle storage yards.

- **Access Management**
  Controlling who (or what) may access restricted areas and assets in the system plays an important role in protecting transit infrastructure from all of the major threats identified in this section. A core principle of access management is that valuable assets are protected behind multiple "layers" of secure spaces, with security measures becoming more stringent for deeper layers. Access control may focus on discerning between employees and visitors, on maintaining locks, on screening for weapons, or on

barring unauthorized vehicle entry to a transit property. Access management techniques may include procedures and policies, physical barriers, identification and credentialing technology, security personnel, communications systems, surveillance, and intrusion-detection systems.

- **Surveillance**
  Surveillance can include closed-circuit televisions, security personnel, or vigilant bus operators/drivers or station clerks, who are often the first line in security defense. The presence of agency staff can deter an attack. The presence of surveillance equipment acts as a deterrent not only because an area is being watched remotely, but also because activities are recorded and intruders are aware of the possibility of detection and capture. Surveillance is also useful in warding off attacks upon remote, unmanned infrastructure, such as communications towers and power substations. Transit agencies should consider what combination of equipment and personnel are needed to achieve optimal security coverage. Placement should be based on the volume of human and vehicular traffic, the layout of the watched or guarded asset, as well as the location of any blind spots resulting from overlapping or peripheral areas.

- **Facility Inspection**
  Safety and security reviews should also include inspection of all facilities with special attention directed to:

  - Hazardous materials (storage, security and record-keeping)
  - Fuel storage and servicing
  - Personnel safety equipment (e.g., automatic defibrillators, eyewash stations, first aid and blood borne pathogen kits)
  - Fire prevention (e.g., fire extinguishers, alarms, sprinklers)
  - Maintenance infrastructure (e.g., pits, lifts, electrical feeds, no-walk areas, parts storage)
  - Lighting
  - Entrances, exits, intrusion detection, CCTV
  - Communication equipment
  - Sensitive information on employees and customers
  - High-risk facilities and activities near transit facilities and operations
  - Emergency supply cabinet or shed (food, water, medical, generator)
  - Perimeter fencing, physical barriers, barricades
  - Utility mains/shutoffs
  - Traffic calming

Placement of Surveillance Cameras on Buses

In 2006, the MBTA began placing cameras on some buses for surveillance and crime-prevention purposes. All buses that have been purchased since then are equipped with cameras, and all buses in future procurements will have cameras.

Security Inspection Program

In response to the terrorist attacks of September 11, 2001, in the United States, and subsequent terrorist attacks in other countries, the MBTA Transit Police developed a station inspection program through which searches of passengers' handbags, briefcases, and other carry-on items can be implemented. The Transit Police are currently scheduling random inspections throughout the system. The purpose of this program is to deter passengers from carrying explosives or other weapons onto MBTA vehicles. The full text of the policy, which is spelled out in General Order No. 2009-19, Chapter 152, of the MBTA Transit Police department manual, can be found in Appendix C of this report. Some of the provisions dictated by this policy include the requirement that supervisors record the race and gender of passengers who are inspected to assure that there is no actual or perceived bias-based profiling. In addition, the Police Department must translate information regarding inspections into multiple languages, and will use the Department's contracted "Language Line" interpreter service when inspecting a non-English-speaking passenger.

MBTA Transit Police Standards of Conduct

The MBTA Transit Police department is committed to upholding and protecting the constitutional and civil rights of all people. To this end, the MBTA Transit Police maintains the following policy concerning identification and prevention of bias-based profiling:

> "Except in 'suspect specific incidents', MBTA Transit Police Officers are prohibited from considering the race, gender, sexual orientation, religion, economic status, cultural group, lifestyle (e.g., clothing, personal appearance, etc.), or national or ethnic origin of members of the public in deciding to detain a person or stop a motor vehicle and in deciding upon the scope or substance of any law enforcement action."[3]

The full text of the policy, which is spelled out in General Order No. 2008-60, Chapter 122, of the MBTA Transit Police department manual, can be found in Appendix D of this report.

[3] *MBTA Transit Police Department Manual, Chapter 122.*

MBTA Transit Police Investigation Services

The MBTA Transit Police Department has a Criminal Investigations Unit (CIU). The major objective of this unit is the successful investigation and prosecution of crimes occurring on MBTA property. The Commander of the CIU serves as the Department's Civil Rights Specialist and oversees all investigations and monitors all court cases involving civil rights violations. The procedures for cases involving possible civil rights violations are described in General Order No. 2010-39, Chapter 271, of the MBTA Transit Police department manual, and can be found in Appendix E of this report.


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Chapter 5

Service and Fare Charges

Requirement to Evaluate Service Changes [FTA C4702.1A, IV. 4.a.(1)]

Service Changes Since 2008

The MBTA's Service Delivery Policy, as revised in 2010, defines major service changes as ones that will have a significant effect on riders, resource requirements, route structure, or service delivery, including:

- Major service restructuring
- Implementation of new routes or services
- Elimination of a route or service
- Elimination of part of a route
- Span of service changes greater than one hour
- Route extensions of greater than 1 mile

With the exception of new services associated with a major capital investment, major service changes are generally evaluated and implemented through development of the Biennial Service Plan. As a part of the service-planning process, the MBTA incorporates the Title VI Level-of-Service analysis for vehicle load, vehicle headway, and on-time performance into the evaluation of the changes proposed in each preliminary and final service plan. The quality-of-service analysis is performed before the final service recommendations are implemented to ensure that, overall, the service changes do not disadvantage minority and low-income populations.

The MBTA has not completed a new service plan since the 2008 Title VI report was completed. The 2010 service plan was delayed due to staff shortages and is currently under development. However, the following service changes have been implemented that improve service for minority and low-income areas:

- In October 2008, the MBTA increased Worcester commuter rail service by extending two AM-peak inbound trips, and one afternoon local Framingham round-trip to Worcester. The two morning trains leave Worcester at 4:45 AM and 6:05 AM, and they are scheduled to arrive at

South Station at 6:31 AM and 7:46 AM. The afternoon train is scheduled to depart South Station at 2:40 PM and arrive at Worcester at 4:13 PM, and then depart Worcester at 4:30 and arrive at South Station at 6:05 PM.

- In October 2009, the MBTA expanded service on the Silver Line Washington Street corridor by adding the Silver Line 4 (SL4) route, which operates between Dudley Station and South Station. The existing Silver Line Washington Street route (Dudley Station – Downtown Crossing) was renamed Silver Line 5 (SL5). All existing service to Downtown Crossing was maintained when the new trips were added for the SL4 service.

  In collaboration with the City of Boston, a dedicated bus lane was created on Essex Street for the SL4 route. A street-level station was created at the South Station terminus of SL4 (on Essex Street at Atlantic Avenue); it includes heating, real-time bus arrival information, and a validator for off-board payment. The location of the SL4 station at South Station, allows for connections with the SL1 and SL2 branches of the Silver Line, as well as the Red Line, commuter rail, and Amtrak service.

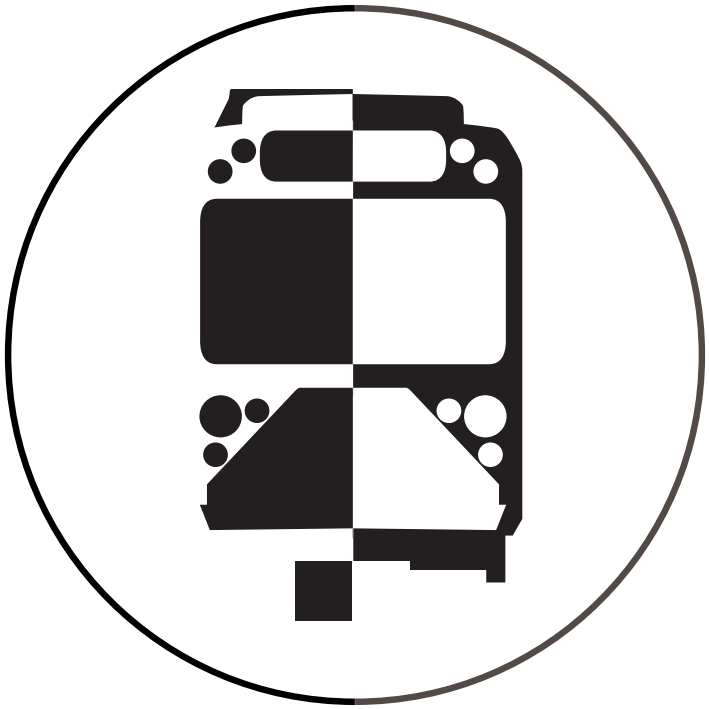
- In June 2010, the MBTA replaced all of the 40-foot buses serving Route 28 (Mattapan Station – Ruggles Station) with new 60-foot articulated diesel-electric hybrid buses (purchased with federal ARRA grant funding) and did not change the frequency. Each of the new buses has 57 seats (compared to 39 seats in the standard 40-foot bus). Because the frequency on Route 28 was maintained during all time periods and the new buses have more seats, crowding problems were alleviated and customer comfort was improved. The increased capacity provided when the 60-foot buses were put into service on Route 28 eliminated the need for Route 25 (which operated 12 scheduled inbound trips on the northernmost segment of Route 28 only during the morning weekday peak period), so it was discontinued.

  The new buses offer improved accessibility; each bus can "kneel" at the curb for easier and faster boarding and alighting, especially for people using wheeled mobility devices. The hybrid propulsion system of the new buses provides environmental benefits to the surrounding neighborhoods by reduced emissions, improved fuel efficiency, and quieter operation. The new vehicles also have bike racks, security cameras, LED lighting, and automated passenger counters.

- The MBTA has established the Key Bus Route Improvement Program to improve the overall quality of service for customers on the 15 busiest bus routes (by reducing trip times; enhancing customer comfort, convenience and safety; and making the bus service more reliable and cost-effective). Of the 15 Key Routes, 12 are minority and 7 low-income.

Requirement to Evaluate Fare Changes [FTA C4702.1A, IV. 4.a.(1)]

The MBTA has not implemented a fare change during the 2008–2011 period of this Title VI report. The most recent system fare increase became effective in January 2007 following an extensive public review and evaluation process that took place in 2006.



Chapter 6

Service Monitoring

Requirement to Monitor Transit Service [FTA C4702.1A, V. 5.]

The revised FTA Circular 4702.1A requires that, to comply with Title VI, recipients must undertake periodic service-monitoring activities to compare the level and quality of service provided to predominantly minority and low-income areas with service provided in other areas. Although the circular requires that monitoring be conducted every three years at a minimum, the MBTA conducts annual monitoring to ensure that potential problems are found and rectified in a timely fashion. Tables 6-1 and 6-2 present the framework for the MBTA's Title VI monitoring procedures. The subsequent text reports the findings of the most recent Title VI data collection and analysis.

TABLE 6-1 MBTA Title VI Level-of-Service Monitoring

Service Indicator	Department(s) Responsible	Planned Frequency of Compliance Assessments	Even Year / Odd Year
1. Vehicle Load, Vehicle Headway, and On-Time Performance			
Bus	Service Planning	Every 2 years	Even
Heavy Rail & Light Rail	Subway Operations & Service Planning	Every 2 years	Even
Commuter Rail	Railroad Operations	Every 2 years	Even
2. Transit Access			
All Modes	Service Planning	Every 2 years	Even

TABLE 6-1 MBTA Title VI Level-of-Service Monitoring (cont.)			
Service Indicator	**Department(s) Responsible**	**Planned Frequency of Compliance Assessments**	**Even Year / Odd Year**
3. Distribution of Transit Amenities			
Bus Shelter	Operations and Services Development	Every 2 years	Even
Station Condition & Amenities	CTPS	Every 2 years	Odd
Neighborhood Maps	Operations and Services Development	Every 2 years	Odd
AFC Fare Gates, Fare Vending Machines, & Retail Sales Terminals	AFC	Annually	N/A
Variable Message Signs	Subway, Silver Line, & Railroad Operations	Every 2 years	Odd
Station Elevator and Escalator Location and Operability	Operations Support	Annually	N/A
Station Parking & Utilization	Planning & Development	Every 3 years	N/A
4. Vehicle Assignment			
Bus	Bus Operations	Annually	N/A
Heavy Rail & Light Rail	Subway Operations	Annually	N/A
Commuter Rail	Railroad Operations	Annually	N/A
5. Transit Security			
Callboxes	Transit Police	Every 3 years	N/A
Surveillance Cameras	Bus Operations & Transit Police	Every 3 years	N/A
Passenger Inspections	Transit Police	Annually	N/A

TABLE 6-2 MBTA Title VI Quality-of-Service Monitoring			
Travel Pattern Analysis	**Department Responsible**	**Planned Frequency of Compliance Assessments**	**Even/Odd**
All Modes	Service Planning	Every 2 years	Even

Level-of-Service Monitoring

For the Level-of-Service monitoring of MBTA services, all bus routes, rapid transit lines, and commuter rail lines must be designated as minority or nonminority and as low-income or non-low-income. In the previous circular (FTA C4702.1), a route was defined as minority if it had one-third of its route-miles in minority census tracts. Using this definition, some express bus routes and commuter rail lines were designated as minority even though they did not stop in the minority census tracts through which they passed. Therefore, the MBTA developed an alternative way of defining minority routes for these services: routes were designated as minority if one-third of the stops/stations were in minority census tracts.

Because the new circular does not specify exactly how routes should be defined as minority and low-income, CTPS explored methods that would avoid the problems encountered when using route-miles. The method selected is based on the percentage of boardings on a route that occur at stops/stations in minority and low-income census tracts. CTPS evaluated different ridership thresholds in several ways, including mapping the routes, comparing the new definitions with the route-mile definitions, relying on a good working knowledge of the system, and applying professional judgment to determine a new threshold. Using this new definition, for the purposes of this report, all bus routes, rapid transit lines, and commuter rail lines are defined as minority or low-income if 40 percent of boardings occur in minority or low-income census tracts, respectively. Appendix F lists all bus, rapid transit, and commuter rail lines and indicates their minority or low-income status.

Vehicle Load, Vehicle Headway, and On-Time Performance

Bus and Trackless Trolley

Through its regular service-planning process, the MBTA Service Planning Department evaluates the performance of all bus routes in relation to the Authority's Service Delivery Policy, which includes service standards for vehicle load, vehicle headway (frequency of service), and on-time performance (schedule adherence). In keeping with the Service Delivery Policy, minor service changes are made routinely in response to changes in service demand, whereas major changes can only be made through a Service Plan. Every two years, all bus routes (with the exception of those that were subject to major restructuring in the previous Service Plan) are evaluated through a comparative analysis for all of the service standards in the Service Delivery Policy. Based on this analysis, proposed changes to existing services, as well as suggestions for new services, are compiled into a Preliminary Service Plan. The goals of the Service Plan are to bring all routes into compliance with the service standards to meet changing demands for transit services.

The draft plan is presented to the public in a variety of ways, including public meetings and hearings. Based on public input, additional service changes may be made before the final recommendations are compiled, approved, and implemented. The MBTA Service Planning Department is currently developing the Preliminary 2010–2011 Service Plan.

Table 6-3 shows the current bus vehicle load and frequency of service performance that will be used in developing the Preliminary 2010–2011 Service Plan. Because all low-income routes are also minority routes, a separate analysis for routes that are both minority and low-income is not necessary.

TABLE 6-3 Bus – Vehicle Load and Frequency of Service

Route Classification	Vehicle Load: % of Routes Passing the Standard			Frequency of Service: % of Routes Passing the Standard		
	Weekday	Saturday	Sunday	Weekday	Saturday	Sunday
Minority	44.2%	54.7%	61.9%	71.6%	86.7%	77.8%
Nonminority	58.1%	75.5%	80.0%	54.1%	61.2%	54.3%
Low-income	22.7%	36.8%	58.8%	72.7%	94.7%	88.2%
Non-low-income	54.4%	67.6%	70.4%	62.6%	73.3%	65.4%
Systemwide	50.3%	62.9%	68.4%	63.9%	76.6%	69.4%

As can be seen in Table 6-3, on weekdays, Saturdays, and Sundays, the percentages of minority and low-income routes that pass the vehicle-load standard are lower than the respective percentages of nonminority and non-low-income routes that pass the standard. For frequency of service, the percentage of routes that pass the standard is higher for minority and low-income routes than for nonminority and non-low-income routes on all days of the week.

When developing the 2011 Service Plan, the MBTA will examine the routes that did not pass the vehicle load standard to look for opportunities to correct deficiencies in this area.

Historically, schedule adherence was determined through direct observation of all scheduled trips. Due to the size of the MBTA bus system, data for each route were collected on only one composite day every two or more years. The installation of a CAD/AVL system on buses allows the MBTA to collect data for each route on a daily basis at multiple timepoints. The Service Planning Department has been using this increased volume of data to refine current public timetables that better reflect actual running times along an entire route to improve the printed schedules used by customers.

The current schedule-adherence standard considers a bus route to perform on-time if 75 percent of all measured timepoints are on time.

Table 6-4 reports the current schedule-adherence performance of all bus routes, showing the percentage of timepoints at which buses were on time. These data will be used to help to identify the service improvements that will be proposed in the Preliminary 2010–2011 Service Plan. Because all low-income routes are also minority routes, a separate analysis for routes that are both minority and low-income is not necessary.

TABLE 6-4 Bus – On-Time Performance

Route Classification	Schedule Adherence: % of Timepoints at Which Routes Are On Time		
	Weekday	Saturday	Sunday
Minority	65.6%	67.1%	67.2%
Nonminority	63.9%	65.7%	64.1%
Low-income	68.3%	67.6%	69.7%
Non-low-income	63.9%	66.3%	64.7%
Systemwide	65.0%	66.7%	66.4%

As can be seen in Table 6-4, on weekdays, Saturdays, and Sundays, both minority and low-income routes outperform nonminority and non-low-income routes, respectively. Ongoing adjustments to the public timetables based on the CAD/AVL data, as well as service changes that will be implemented through the Service Plan, should improve vehicle loads and schedule adherence on all routes.

Heavy and Light Rail

For the purposes of Title VI, the MBTA's three heavy rail lines (Red Line, Blue Line, and Orange Line) are considered minority and non-low-income; therefore, comparative monitoring of minority vs. non-minority and of low-income vs. non-low-income service performance is not necessary.

However, the light rail system, which includes the four branches of the Green Line and the Mattapan High-Speed Line, shows variability in the minority and low-income status, with the Green Line B and E Branches being classified as both minority and low-income, and the C and D Branches being classified as neither minority nor low-income. The Green Line central subway and the Mattapan Line are minority, but are not low-income. Table 6-5 shows the minority and income status of the heavy and light rail lines.

TABLE 6-5 Heavy and Light Rail – Minority and Low-Income Status				
Line	**Branch**	**Minority**	**Low-Income**	**Both**
Light Rail				
Green	B	Y	Y	Y
	C	N	N	N
	D	N	N	N
	E	Y	Y	Y
Mattapan (Red)		Y	N	N
Heavy Rail				
Red		Y	N	N
Blue		Y	N	N
Orange		Y	N	N

To monitor the light rail system, Green Line trains were observed inbound at Copley Station between 6:00 AM and midnight on March 18, 2011, and outbound at Arlington Station between 6:00 AM and midnight on March 8, 2011. The Mattapan High-Speed Line was observed inbound and outbound at Ashmont Station on March 9, 2011.

Vehicle load standards for light rail, as defined in the Service Delivery Policy, allow for loads equal to 225 percent of the seated capacity in the Early AM, AM Peak, Midday School, and PM Peak periods. During all other time periods (Midday Base, Evening, Late Evening, Night/Sunrise, and Weekends), loads in the core area should not exceed 140 percent of seated capacity.

Using a five-point rating system, with "1" equal to an empty train and "5" equal to full crush load, the average observed load for all Green Line branches and the Mattapan High-Speed Line during the peak periods of both days combined was 2.5. During the off-peak period, the average load was 2.2.

Table 6-6 shows that, for minority branches, the average peak load was 2.5 and for low-income branches the average peak-load was 2.7, while for all branches it was 2.5. The average off-peak load for minority branches was 2.2, and the average off-peak load for low-income branches was 2.3, while the average load for all branches was 2.2. Since the 225 percent load factor allowed during peak periods equates roughly to an observed load rating of 4, and the 140 percent load factor allowed during the off-peak period equates roughly to an observed load rating of 3, none of the branches—neither the minority, the low-income, the nonminority, nor the non-low-income branches—exhibits violations of the vehicle load standard.

TABLE 6-6 Light Rail Vehicle Load Average Vehicle Load*		
Line Classification	**Peak Periods**	**Off-Peak Periods**
Minority	2.5	2.2
Nonminority	2.5	2.2
Low-income	2.7	2.3
Non-low-income	2.4	2.1
Systemwide	**2.5**	**2.2**
** Numbers shown are based on observations that use a rating scale of 1 to 5, where 1 equals an empty train and 5 equals full crush load.*		

With respect to scheduled headways, almost all light rail service meets the MBTA service standards for frequency of service. Those standards are headways of 10 minutes or less in the peak, and 15 minutes or less at all other times. The only light rail service that does not meet the frequency standards is the Mattapan High-Speed Line, a minority route. This route operates every 22 minutes on Sunday mornings before 10:00 AM, but is in compliance at all other times. The current headway is just shy of the 20-minute frequency standard, and represents an improvement from the prior 30-minute headway on the line. At this time, ridership levels do not justify the resources required to reduce the headway to 20 minutes. The MBTA will continue to monitor ridership levels to determine if and when adjustment to the headway becomes appropriate (if resources become available).

Schedule adherence policies for surface light rail call for 85 percent of all trips to operate at intervals less than or equal to 1.5 times the scheduled headway. All individual Green Line branches met the schedule-adherence policy based on observations from automatic vehicle identification systems. The Mattapan Line did not meet the schedule-adherence policy; based on pointchecks at Ashmont Station, 81 percent of the trips operated within 1.5 times the scheduled headway.

Schedule adherence policies for surface light rail call for 95 percent of all trips to operate within 5 minutes of the scheduled trip time over the entire service day. The Mattapan High-Speed Line passed the schedule-adherence standard. None of the Green Line branches passed the schedule-adherence standard.

The MBTA is evaluating various approaches to improving schedule adherence on the Mattapan Line and the Green Line branches, including signal changes and fare collection improvements. In addition, the MBTA is considering future initiatives with AVL to improve light rail schedule adherence.

Commuter Rail

As a part of its ongoing planning process, every six months Railroad Operations evaluates the performance of commuter rail services against the MBTA's standards for vehicle load, vehicle headway, and schedule adherence. Through contractual agreement, the commuter rail operating contractor, Massachusetts Bay Commuter Railroad Company (MBCR), provides the data used for this analysis. Based on the analysis, minor schedule changes are implemented to improve service in areas with a demonstrated need. Minor changes may also result from passenger suggestions and can be accomplished by, but are not limited to, one or more of the following: (1) adjusting schedule times, (2) increasing service with additional trips (e.g., express service), and (3) redistribution of equipment. Major service changes, such as service expansion or line extensions, require approval of the MBTA Board of Directors and capital funding prior to implementation.

For the purposes of Title VI monitoring, Railroad Operations completes compliance assessments for vehicle load, vehicle headway, and on-time performance (OTP) twice a year, before implementing the schedule changes that are made as a part of the regular planning process. If the assessment of the proposed changes demonstrates that service on minority routes does not comply with Title VI requirements, Railroad Operations develops, within the operating constraints of commuter rail, a solution that minimizes or eliminates Title VI noncompliance before changes are implemented.

Vehicle Load

The purpose of this assessment was to determine if the service provided for both minority and nonminority users is consistent with our equity policy objectives. The MBTA commuter rail load standard during peak periods, as indicated in the Service Delivery Policy, is 110 percent of the seating capacity. This standard was increased in December 2002, from 100 percent, for improved equity in the stated guidelines of the MBTA.

MBCR utilizes an electronic rail operations management system to provide consist information and ridership details, and to monitor performance. Passenger counts are reported by the train crews for each trip and are entered into the system, along with consist information. This information is independently verified twice annually, as required by the operating contract. This independent audit of passenger counts is generally considered more accurate and was used for this report. This information was summarized to develop vehicle-load percentages for each peak-period train.

The AM and PM peak-period information was collected for the purpose of this analysis. Table 6-7 shows the ratios of passengers to seats on all commuter rail lines. The commuter rail load standard allows up to 110 percent of a seated load during peak hours and assumes that all passengers will have a seat during off-peak. All of the minority and nonminority routes pass the load standard during the peak periods. None of the commuter rail lines is classified as low-income.

TABLE 6-7 Commuter Rail – Vehicle Load Percentage, Fall 2011

Providence Line

AM Peak Period			PM Peak Period		
Train	Arrive South Station	Load Factor	Train	Depart South Station	Load Factor
800	6:20 AM	39.52%	811	4:46 PM	80.38%
802	6:40 AM	48.54%	813	5:42 PM	86.51%
804	7:19 AM	81.86%	815	6:06 PM	93.81%
806	7:45 AM	74.05%	817	6:42 PM	97.70%
832	8:07 AM	71.27%	819	7:11 PM	63.65%
808	8:16 AM	96.03%			
810	8:51 AM	90.32%			
812	9:23 AM	79.53%			

Stoughton Line

AM Peak Period			PM Peak Period		
Train	Arrive South Station	Load Factor	Train	Depart South Station	Load Factor
902	7:04 AM	59.65%	917	4:45 PM	60.23%
904	7:33 AM	70.99%	919	5:30 PM	80.26%
906	8:32 AM	81.86%	921	6:01 PM	91.14%
908	9:03 AM	53.51%	923	6:26 PM	85.38%
			925	7:09 PM	30.06%

Franklin Line

AM Peak Period			PM Peak Period		
Train	Arrive South Station	Load Factor	Train	Depart South Station	Load Factor
702	6:50 AM	39.66%	715	5:02 PM	53.27%
704	7:09 AM	60.55%	717	5:25 PM	80.12%
706	7:41 AM	68.35%	737	5:22 PM	54.24%
708	7:59 AM	78.65%	719	6:19 PM	93.17%
732	8:40 AM	86.99%	721	6:51 PM	91.03%
710	8:54 AM	65.61%	723	7:20 PM	67.83%
734	9:25 AM	18.57%			

Fairmount Line

AM Peak Period			PM Peak Period		
Train	Arrive South Station	Load Factor	Train	Depart South Station	Load Factor
744	7:02 AM	9.65%	761	4:56 PM	3.49%
746	7:42 AM	1.02%	763	5:36 PM	15.19%
748	8:20 AM	16.37%	765	6:11 PM	10.53%
750	9:00 AM	11.26%	767	6:56 PM	5.41%

TABLE 6-7 Commuter Rail – Vehicle Load Percentage, Fall 2011 (cont.)

Needham Line

AM Peak Period			PM Peak Period		
Train	Arrive South Station	Load Factor	Train	Depart South Station	Load Factor
600	6:50 AM	33.04%	619	4:40 PM	23.95%
602	7:29 AM	74.42%	621	5:22 PM	45.78%
604	8:14 AM	66.24%	623	6:06 PM	73.63%
606	8:42 AM	69.15%	625	6:37 PM	72.37%
608	9:13 AM	28.27%	627	7:05 PM	38.01%

Worcester Line

AM Peak Period			PM Peak Period		
Train	Arrive South Station	Load Factor	Train	Depart South Station	Load Factor
500	6:31 AM	32.31%	519	5:24 PM	67.83%
502	7:08 AM	68.46%	521	5:25 PM	65.09%
504	7:46 AM	71.10%	523	6:20 PM	85.88%
506	8:11 AM	84.39%	525	6:13 PM	100.29%
508	8:23 AM	87.48%	527	7:13 PM	83.86%
510	8:56 AM	78.22%	529	7:34 PM	80.59%
512	9:08 AM	85.38%	531	7:28 PM	65.35%
514	9:35 AM	19.09%			

Old Colony Lines

AM Peak Period			PM Peak Period		
Train	Arrive South Station	Load Factor	Train	Depart South Station	Load Factor
002	6:15 AM	28.80%	017	4:41 PM	46.37%
032	6:25 AM	33.11%	043	5:24 PM	49.80%
004	6:55 AM	46.15%	019	5:38 PM	48.87%
034	7:13 AM	65.78%	045	5:56 PM	69.43%
006	7:56 AM	77.21%	021	6:10 PM	59.75%
036	8:12 AM	74.36%	047	6:34 PM	67.36%
008	8:21 AM	60.65%	023	6:55 PM	38.56%
038	8:36 AM	66.37%	049	7:10 PM	44.22%
010	9:06 AM	37.87%			
040	9:34 AM	25.51%			

Greenbush Line

AM Peak Period			PM Peak Period		
Train	Arrive South Station	Load Factor	Train	Depart South Station	Load Factor
070	6:38 AM	27.66%	081	4:58 PM	38.44%
072	7:36 AM	70.07%	083	5:50 PM	54.88%
074	8:03 AM	69.16%	085	6:18 PM	56.01%
076	8:49 AM	50.79%	087	6:43 PM	45.46%
078	9:49 AM	13.95%			

TABLE 6-7 Commuter Rail – Vehicle Load Percentage, Fall 2011 (cont.)

Fitchburg Line

AM Peak Period			PM Peak Period		
Train	Arrive North Station	Load Factor	Train	Depart North Station	Load Factor
404	6:47 AM	54.91%	467	4:00 PM	31.58%
406	7:34 AM	97.37%	425	4:40 PM	96.49%
408	7:50 AM	79.09%	427	4:50 PM	71.05%
410	8:22 AM	96.93%	429	5:20 PM	71.49%
412	8:54 AM	80.35%	431	5:40 PM	70.18%
454	9:32 AM	33.51%	433	6:25 PM	68.42%

Lowell Line

AM Peak Period			PM Peak Period		
Train	Arrive North Station	Load Factor	Train	Depart North Station	Load Factor
302	6:22 AM	40.50%	327	4:10 PM	76.49%
304	7:05 AM	85.09%	359	4:20 PM	17.02%
352	7:22 AM	42.98%	329	4:40 PM	74.56%
306	7:40 AM	74.06%	331	5:10 PM	86.40%
308	8:05 AM	92.25%	333	5:30 PM	82.46%
310	8:26 AM	86.99%	335	5:50 PM	111.93%
356	8:57 AM	21.80%	337	6:25 PM	59.50%
312	9:10 AM	59.12%			

Haverhill Line

AM Peak Period			PM Peak Period		
Train	Arrive North Station	Load Factor	Train	Depart North Station	Load Factor
202	6:14 AM	34.21%	227	4:30 PM	91.75%
204	6:50 AM	53.51%	279	4:49 PM	46.84%
206	7:25 AM	68.86%	231	5:15 PM	89.33%
208	7:48 AM	83.77%	233	5:35 PM	79.82%
258	8:00 AM	81.05%	281	5:55 PM	42.11%
260	8:30 AM	62.11%	235	6:20 PM	59.65%
212	8:39 AM	97.02%			
262	9:00 AM	29.39%			

Newburyport/Rockport Line

AM Peak Period			PM Peak Period		
Train	Arrive North Station	Load Factor	Train	Depart North Station	Load Factor
152	6:27 AM	37.37%	127	4:00 PM	54.39%
154	7:00 AM	79.65%	177	4:25 PM	66.96%
106	7:19 AM	67.19%	67	4:45 PM	46.32%
156	7:38 AM	84.80%	129	5:00 PM	85.96%
108	7:52 AM	93.23%	181	5:10 PM	93.16%
158	8:08 AM	74.81%	131	5:25 PM	79.45%
198	8:25 AM	67.54%	183	5:40 PM	81.83%
110	8:33 AM	105.09%	69	5:55 PM	51.05%
62	8:46 AM	55.96%	133	6:10 PM	79.30%
162	9:00 AM	77.89%	185	6:45 PM	71.93%

Vehicle Headway

All of the commuter rail lines pass the MBTA's frequency of service standard during peak and off-peak periods on weekdays. However, only three of the nonminority lines pass on Saturdays. All of the lines that fail the standard on Saturdays do so because the first trip in the morning does not arrive by 8:00 AM. The Fairmount Line does not have Saturday service. The MBTA commuter rail department will evaluate ways in which to ensure that all routes pass the standard on Saturdays, and will investigate adding Saturday service on the Fairmount Line if additional resources become available.

Schedule Adherence

The MBTA's Service Delivery Policy sets a schedule-adherence standard of 95 percent for all trains arriving at their final terminals within 5 minutes of scheduled arrival times. The Commuter Rail Operating Agreement specifies bench marks for different on-time performance, and subjects the contract operator to a penalty for any train that arrives at its final terminal more than 4 minutes and 59 seconds late when the on-time performance (OTP) for the line on which that train operated is less than 95 percent for that day.

MBCR collects and records the OTP data of all revenue trains on a daily basis and maintains it in the rail operations management system. Reports are generated that provide statistics on trains scheduled, trains operating on time, and OTP each day. Because this information is readily available, the data for the entire 2010 calendar year were reviewed.

As indicated in Table 6-8 below, only the Fairmount Line met or exceeded the schedule-adherence standard of 95 percent for that period. The MBTA will continue working with MBCR to upgrade and purchase equipment, and address mechanical and operational issues, in order to improve schedule adherence on all commuter rail lines.

TABLE 6-8 Commuter Rail – Schedule Adherence, January–December 2010

Status	Line	Percentage of Trips That Pass the Schedule Adherence Standard
Minority	Fairmount	98%
	Middleborough	89%
Nonminority	Rockport	86%
	Newburyport	82%
	Haverhill	81%

TABLE 6-8 Commuter Rail – Schedule Adherence, January–December 2010 (cont.)		
Status	**Line**	**Percentage of Trips That Pass the Schedule Adherence Standard**
Nonminority	Lowell	93%
	Fitchburg	86%
	Worcester	90%
	Needham	77%
	Franklin	89%
	Attleboro	79%
	Kingston	76%
	Stoughton	83%
	Greenbush	91%
Systemwide		**86%**

Silver Line, Washington Street – Vehicle Load and On-Time Performance

On May 29, 2001, the Washington Street Corridor Coalition filed a Title VI complaint with the FTA alleging that the MBTA did not fulfill its commitment to provide replacement service that was "equal to or better than" the original Orange Line, which served a significant minority area. As a result, the Authority has been required to submit quarterly reports regarding Silver Line vehicle loads, vehicle headways, and schedule adherence in the Washington Street corridor. The reports have been compiled quarterly based on pointcheck data collected in both directions at the peak load points (East Berkeley for inbound and Tufts Medical Center for outbound trips).

The vehicle load data for Silver Line Washington Street were evaluated against the MBTA's vehicle load standard, which is found in the Service Delivery Policy and is shown in Table 6-9.

TABLE 6-9 MBTA Bus Vehicle Load Standard		
Mode	**Time Period**	**Passengers / Seats**
Bus & BRT	Early AM, AM Peak, Midday School, & PM Peak	140%
	Midday Base, Evening, Late Evening, Night/Sunrise, & Weekends	100%

Compliance with the standards is calculated by averaging the loads on individual trips over a 30-minute segment during peak periods and over a 60-minute segment during off-peak periods. The time periods are defined in Table 6-10 below.

TABLE 6-10 MBTA Weekday Time Period Definitions	
Time Period	**Definition**
Early AM	6:00 AM – 6:59 AM
AM Peak	7:00 AM – 8:59 AM
Midday Base	9:00 AM – 1:29 PM
Midday School	1:30 PM – 3:59 PM
PM Peak	4:00 PM – 6:29 PM
Evening	6:30 PM – 9:59 PM
Late Evening	10:00 PM – 11:59 PM
Night/Sunrise	12:00 AM – 5:59 AM

The seated capacity of the 60-foot articulated compressed-natural-gas vehicles that operate on Silver Line Washington Street is 57. Therefore, the maximum allowable average load during off-peak periods is 57, and the maximum allowable average load during peak periods is 80 passengers (140% x 57). The overall performance of the Silver Line has consistently exceeded the MBTA vehicle load standards. Figures 6-1 and 6-2 show the average maximum load during the three time periods with the highest maximum loads in the inbound and outbound directions for each quarter since monitoring was initiated in 2007. As shown, the average maximum load never reached the seated capacity. This means that all passengers could find a seat on most trips throughout the day.

The current schedule-adherence standard considers the Silver Line to perform on time if 75 percent of all measured timepoints are on time. Table 6-11 reports the current schedule-adherence performance of the Silver Line Washington Street service, showing the percentage of timepoints at which buses were on time. As the table shows, the Silver Line Washington Street meets the schedule adherence standard.

Figure 6-1 Silver Line Inbound Quarterly Average Peak Load

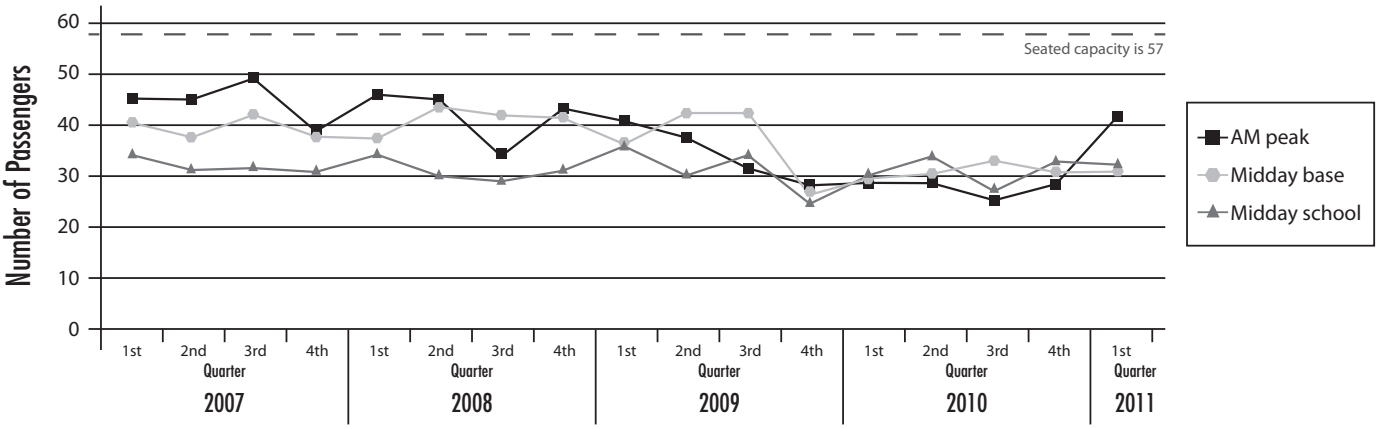


Figure 6-2 Silver Line Outbound Quarterly Average Peak Load

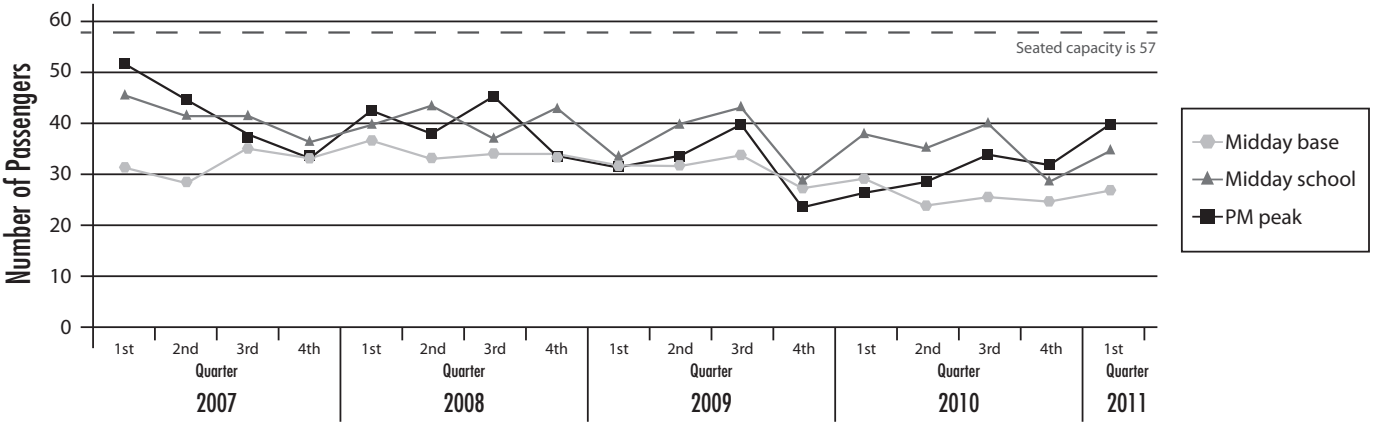


TABLE 6-11 Silver Line Washington Street – On-Time Performance	
Day	% of Timepoints at Which Routes Are On Time
Saturday	82%
Sunday	87%
Weekday	82%

Service Availability (Coverage)

To meet the MBTA's Transit Coverage guideline, in service areas with residential densities greater than 5,000 people per square mile, transit service—of any mode—should be accessible within one-quarter mile. The analysis for this report was completed by measuring one-quarter mile via the street network (rather than "as the crow flies") to realistically assess the distance that an individual might have to walk to access transit service at a bus stop or rail stop/station.

The service availability analysis shows more coverage in areas that are designated as minority and/or low-income than in those that are not so-designated. As can be seen in Table 6-12 below, for high-density census tracts within the Bus/Rapid Transit Service area, 84 percent of street-miles in minority areas meet the Transit Coverage guideline; however, only 67 percent of street miles in nonminority areas meet the coverage guideline. Likewise, 87 percent of street miles in low-income areas meet the coverage guideline, while only 72 percent of street-miles in non-low-income areas meet the guideline, and 88 percent of areas that are both minority and low-income meet the guideline, as compared to 67 percent of areas that are neither minority nor low-income.

Lack of transit coverage in some high-density MBTA service area communities is generally due to operational constraints imposed by street configurations or other physical barriers. Although some high-density nonminority census tracts, such as all of Winthrop and part of Medford, as well as one minority census tract in Milton, appear on the map (Figure 6-3) not to have access to local transit services, these areas are provided with coverage through private contract carriers that are subsidized by the MBTA. Because these routes are not coded in the analysis, the coverage numbers in Table 6-12 appear slightly lower than they should appear.

FIGURE 6-3
MBTA Title VI Report

Transit Accessibility:
Urban Fixed-Route Service Area

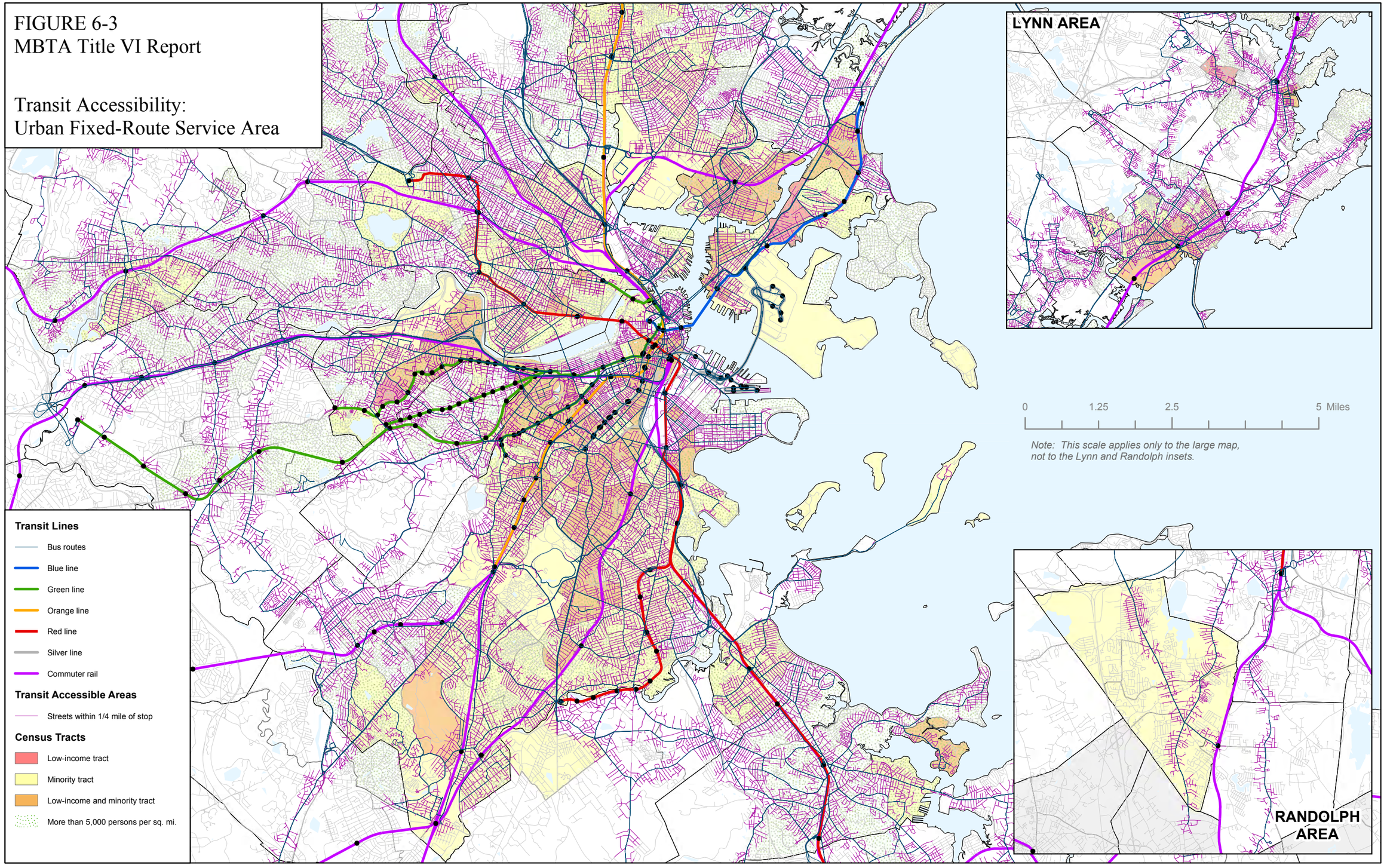


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TABLE 6-12 Transit Coverage within the Bus and Rapid Transit Service Area

Areas with > 5,000 People/Square Mile

Area Classification	Total Street Miles	Bus Market		Subway Market		Bus + Subway Market		Comm. Rail Market		Market - All Modes	
		Street Miles	Percent of Total	Street Miles	Percent of Total	Street Miles	Percent of Total	Street Miles	Percent of Total	Street Miles	Percent of Total
Minority	1,339	1,106	83%	151	11%	1,120	84%	41	3%	1,122	84%
Nonminority	1,867	1,229	66%	82	4%	1,247	67%	46	2%	1,253	67%
Low-income	362	312	86%	60	16%	313	87%	21	6%	314	87%
Non-low-income	2,844	2,024	71%	173	6%	2,054	72%	66	2%	2,060	72%
Both minority & low-income	340	295	87%	58	17%	297	87%	21	6%	298	88%
Not both	1,845	1,213	66%	80	4%	1,231	67%	46	2%	1,236	67%
Total	**3,206**	**2,336**	**73%**	**233**	**7%**	**2,367**	**74%**	**87**	**3%**	**2,375**	**74%**

Distribution of Transit Amenities

Bus Shelters

For the purposes of monitoring Title VI compliance, the Operations and Services Development Department is responsible for the level-of-service assessment for bus shelters. This assessment is completed on an annual basis to evaluate whether the distribution and condition of bus shelters in minority and low-income areas are commensurate with the distribution and condition of shelters in nonminority and non-low-income areas.

Bus Shelter Location

The Operations and Services Development Department maintains records on the location of existing bus shelters and tracks the installation of new ones, including those that are installed by the MBTA, JCDecaux (formerly Wall), and Cemusa. Both JCDecaux and Cemusa are private companies that install bus shelters that they purchase and maintain using revenues earned from the sale of advertising space on the shelters. JCDecaux shelters are located exclusively in the city of Boston, and Cemusa shelters are located in a number of other cities within the MBTA service area. MBTA shelters are sometimes installed at bus stops where advertising is not viable.

For this report, CTPS analyzed the shelter location data provided by Operations and Services Development to evaluate the distribution of shelters in minority areas, low-income areas, and areas that are both minority and low-income. The percentage of bus stops with shelters in each of these three areas is greater than outside the respective areas, and throughout the system as a whole. As shown in Table 6-13, the percent of bus stops with shelters in minority areas (15 percent) is higher than the percent in nonminority areas (5 percent); the percent of bus stops with shelters in low-income areas (22 percent) is higher than in non-low-income areas (7 percent); and the percent of bus stops in areas with shelters that are both minority and low-income (22 percent) is greater than in areas that are not both minority and low-income (7 percent). The locations of bus shelters in the urban fixed-route service area are shown in Figure 6-4.

Under the MBTA's shelter placement policy, any bus stop with average daily boardings greater than 60 is eligible for a new shelter placement. CTPS therefore analyzed data for shelters located at stops that meet this threshold. As can be seen in Table 6-13 below, at bus stops with the policy threshold of greater than 60 average daily boardings, the percentage of minority stops with shelters (36 percent) is higher than the percentage of nonminority stops with shelters (28 percent). Likewise, the percentage of low-income stops with shelters (37 percent) is higher than the percentage of non-low-income stops with shelters (32 percent), and the percentage of stops that are both low-income and minority with shelters (37 percent) is greater than the percentage of stops with shelters that are not both minority and low-income (32 percent).

TABLE 6-13 2011 Bus Shelter Locations – Bus Stops with Shelters

Location Classification	All Bus Stops			Stops with Average Daily Boardings >60		
	Total Stops	Stops with Shelters	% of Stops with Shelters	Total Stops	Stops with Shelters	% of Stops with Shelters
Minority	3,622	559	15%	744	296	36%
Nonminority	5,578	302	5%	346	113	28%
Low-income	989	232	22%	307	123	37%
Non-low-income	8,211	629	7%	783	286	32%
Both minority & low-income	961	227	22%	304	123	37%
Not both	8,239	634	7%	786	286	32%
Systemwide	9,200	861	9%	1,090	409	34%

FIGURE 6-4
MBTA Title VI Report

MBTA Bus Shelters:
Urban Fixed-Route Service Area

Boston

0 1,000 2,000 4,000 Feet

0 1 2 4 Miles

MBTA Bus Shelters by Location

- Not low-income or minority
- Low-income
- Minority
- Minority and low-income
- MBTA bus routes (2009)

Census Tracts

- Low-income tract
- Minority tract
- Low-income and minority tract
- Non-low-income, non-minority tract
- Outside MBTA core

BUS SHELTER LOCATIONS BY AREA DESIGNATION

Not minority or low-income:	201
Low-income:	5
Minority:	223
Minority and low-income:	163
TOTAL BUS STOPS WITH SHELTERS:	**592**

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Bus Shelter Condition

In addition to monitoring the location of bus shelters for the purpose of Title VI, the MBTA also monitors the condition of bus shelters.

JCDecaux and Cemusa inspect and clean their shelters twice a week and make repairs as needed. They both also respond to complaints that are submitted to the MBTA and address each problem within 24 hours. The MBTA assumes no responsibility for these shelters or their maintenance. However, the MBTA is responsible for the condition of shelters it owns. Inspection and maintenance of MBTA shelters occurs on a regular basis, and additional repairs and cleaning are performed by the MBTA in response to customer complaints and bus operator reports.

To ensure Title VI compliance for bus shelter condition, CTPS inspects all shelters annually, regardless of ownership. CTPS collected data throughout the year to evaluate shelters on the following characteristics: roof condition, condition of side panels, presence of graffiti/vandalism, and shelter cleanliness. For every shelter, each characteristic was given a rating of 1 to 3, with 1 representing a "good" condition and 3 representing a "poor" condition. A composite score was then assigned to each shelter based on its worst rating. Thus, if a shelter received ratings of 1 for roof and side-panel condition, 2 for vandalism, and 3 for shelter cleanliness, it would receive a composite score of 3.

As can be seen from the data displayed in Table 6-14, bus shelter conditions in minority, low-income, and both minority and low-income areas are similar for roof condition and graffiti/vandalism to shelters in areas not so designated. However, significant differences exist between minority and nonminority areas for sides condition and between low-income and non-low-income areas for sides condition and shelter cleanliness. Areas that are both minority and low-income also have significant differences for sides condition and shelter cleanliness compared to areas that are not both minority and low-income. These scores result in significant differences between the composite scores for minority compared to non-minority areas, low-income compared to non-low-income areas, and areas that are both minority and low-income compared to areas that are not both minority and low-income.

The MBTA is hiring a new contractor to clean bus shelters that are owned and maintained by the Authority (24 percent). The new contract includes a higher level of cleaning than the previous one. The MBTA will continue to monitor bus shelter conditions to ensure that there are no significant differences in condition between those found in minority, low-income, and both minority and low-income areas and those located in areas which are not minority, not low-income, or not both.

TABLE 6-14 2011 Bus Shelter Conditions – Average Scores for All Shelters					
Location Classification	**Roof Condition**	**Sides Condition**	**Graffiti/ Vandalism**	**Shelter Cleanliness**	**Composite Score**
Minority	1.06	1.17*	1.09	1.15	1.34*
Nonminority	1.04	1.05*	1.10	1.10	1.20*
Low-income	1.07	1.22*	1.09	1.21*	1.43*
Non-low-income	1.05	1.09*	1.09	1.10*	1.24*
Both minority & low-income	1.08	1.23*	1.09	1.21*	1.45*
Not both	1.05	1.09*	1.09	1.10*	1.24*
** Indicates that the difference is statistically significant.*					

Signs, Benches, Timetables, and Route Maps in Shelters

An additional metric of analysis for bus shelter condition is the percentage of shelters with certain amenity features; specifically, whether the following exist at the shelter location: a sign, a bench, a timetable, and a map, as well as whether the map and timetable are legible and current. CTPS collected data for each of these metrics and the results are presented in Table 6-15.

A higher percentage of the shelters in minority, low-income, and both minority and low-income areas had signs than in areas not so designated. There is little difference in the presence of benches in bus shelters in minority compared to nonminority areas. However, low-income and both minority and low-income areas had lower percentages of benches than areas that are not low-income or not both minority and low-income.

A higher percentage of the shelters in minority areas had timetables than those in nonminority areas, and a greater percentage of them were both legible and current than those in nonminority areas. Similarly, in areas designated as low-income and as both minority and low-income, a greater percentage of shelters had timetables than in areas that were not low-income or not both minority and low-income. However, of the timetables found in areas that are designated as low-income and as both minority and low-income, a lower percentage were legible and current than those found in areas that are not low-income or not both minority and low-income.

A higher percentage of the shelters in minority, low-income, and both minority and low-income areas had maps than in areas not so designated. Higher percentages of the maps found in shelters in minority, low-income, and both minority and low-income areas were legible and current than maps in shelters in other areas.

TABLE 6-15 2011 Bus Shelter Conditions – Average Percentages of Shelters								
Location Classification	Sign Exists	Bench Exists	Timetable			Map		
			Exists	Legible	Current	Exists	Legible	Current
Minority	64.1%	96.4%	46.7%	96.7%	53.3%	76.7%	95.6%	53.3%
Nonminority	42.0%	96.9%	38.2%	90.4%	47.9%	58.5%	88.8%	47.9%
Low-income	64.6%	94.4%	44.1%	93.1%	40.3%	77.0%	96.0%	40.3%
Non-low-income	53.5%	97.3%	43.8%	95.6%	56.4%	68.3%	92.7%	56.4%
Both minority & low-income	64.7%	94.3%	44.9%	93.0%	40.8%	76.9%	95.9%	40.8%
Not both	53.6%	97.4%	43.5%	95.6%	56.0 %	68.4%	92.8%	56.0%

Neighborhood Maps at Rapid Transit Stations

Through the neighborhood map program, maps that show bus connections are provided at rapid transit stations with bus service. Neighborhood maps are also generally installed at all new or renovated stations, regardless of the availability or lack of availability of bus service. As can be seen in Table 6-16, the percentage of minority stations that provide neighborhood maps is higher than the percentage of nonminority stations that have maps, and the percentage of low-income stations with maps is lower than the percentage of non-low-income stations in which maps have been placed. The MBTA will evaluate where additional maps can be placed to make the distribution at stations in low-income areas equitable with the distribution at non-low-income stations.

TABLE 6-16 Stations with Neighborhood Maps			
Station Classification	Stations	# with Maps	% with Maps
Minority	84	71	85%
Nonminority	56	40	71%
Low-income	32	23	72%
Non-low-income	108	88	81%
Systemwide	140	111	79%

Rapid Transit, Commuter Rail, and Commuter Boat Stations

Inspection, cleaning, and maintenance of MBTA stations occur on a regular basis. To ensure Title VI compliance for station condition reporting, CTPS collected data in 2009 to evaluate stations on the characteristics listed below for both the interior and the exterior of the stations. For every station, each characteristic was given a rating of 1 to 3, with 1 representing a "good" condition and 3 representing a "poor" condition.

- Exterior Characteristics:
  - Condition of the structure
  - Evidence of vandalism
  - Cleanliness
  - Signage (visibility and condition of station signs)
  - Condition of pedestrian access to the station
  - Condition of the parking facility, including surface, signage, and path from parking to the station

- Interior Characteristics:
  - Condition of the structure
  - Evidence of vandalism
  - Cleanliness
  - Signage
  - Condition of the platform
  - Lighting

In addition, stations were evaluated according to the presence of amenities, including trash receptacles, and the presence of schedules and transfer bus route timetables and maps and how current they are (when relevant).

This is the first time systemwide data has been collected on station conditions. The MBTA is using this data to ensure that station conditions and ammenities are consistent throughout the system, and will correct any deficiencies as resources become available.

Subway Rapid Transit Stations – Exterior Conditions

This section discusses only the underground rapid transit stations. Those that are on the surface are discussed in the following section.

Figure 6-5 and Table 6-17 show the scores for the various exterior station condition characteristics for the MBTA subway system. As can be seen, all stations, regardless of their minority or low-income status, received scores of 1.50 or less on all of the exterior condition characteristics, and there was little difference between the scores. Minority stations scored slightly better than nonminority stations on the structure, cleanliness, signage, and surface-of-the-parking-facility-condition characteristics, and they scored worse

on the vandalism, pedestrian-access, signage-at-the-parking-facility, and path-to-the-station-from-the-parking-facility characteristics. Low-income stations scored better on the cleanliness, signage, pedestrian-access, surface-of-the-parking-facility, and path-to-the-station-from-the-parking-facility characteristics; worse on the structure and vandalism characteristics; and significantly worse on the signage-at-the-parking-facility characteristic. All stations that are classified as low-income are also classified as minority, so it is unnecessary to compare stations that are both minority and low-income to those that are not both.

FIGURE 6-5 Subway Rapid Transit Stations – Exterior Conditions

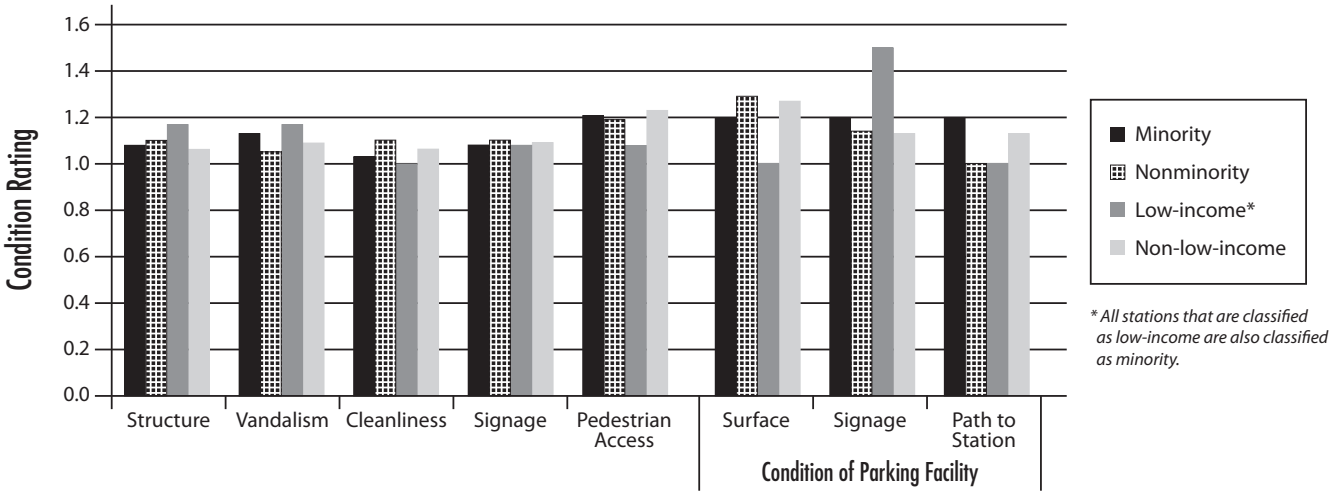


TABLE 6-17 Subway Rapid Transit Stations – Exterior Conditions

Station Classification	Structure	Vandalism	Cleanliness	Signage	Pedestrian Access	Condition of Parking Facility		
						Surface	Signage	Path to Station
Minority	1.08	1.13	1.03	1.08	1.21	1.20	1.20	1.20
Nonminority	1.10	1.05	1.10	1.10	1.19	1.29	1.14	1.00
Low-income*	1.17	1.17	1.00	1.08	1.08	1.00	1.50	1.00
Non-low-income	1.06	1.09	1.06	1.09	1.23	1.27	1.13	1.13

** All stations that are classified as low-income are also classified as minority.*

Subway Rapid Transit Stations – Interior Conditions

Figure 6-6 and Table 6-18 show the scores for the various interior station condition characteristics for the MBTA subway system. As can be seen, all categories of stations received good scores (1.29 or less) on all of the interior condition characteristics. Minority stations scored better than nonminority stations on all characteristics except platform condition and lighting (lights functioning so that there are no dark areas in the station). Low-income stations scored better on all characteristics except cleanliness.

FIGURE 6-6 Subway Rapid Transit Stations – Interior Conditions

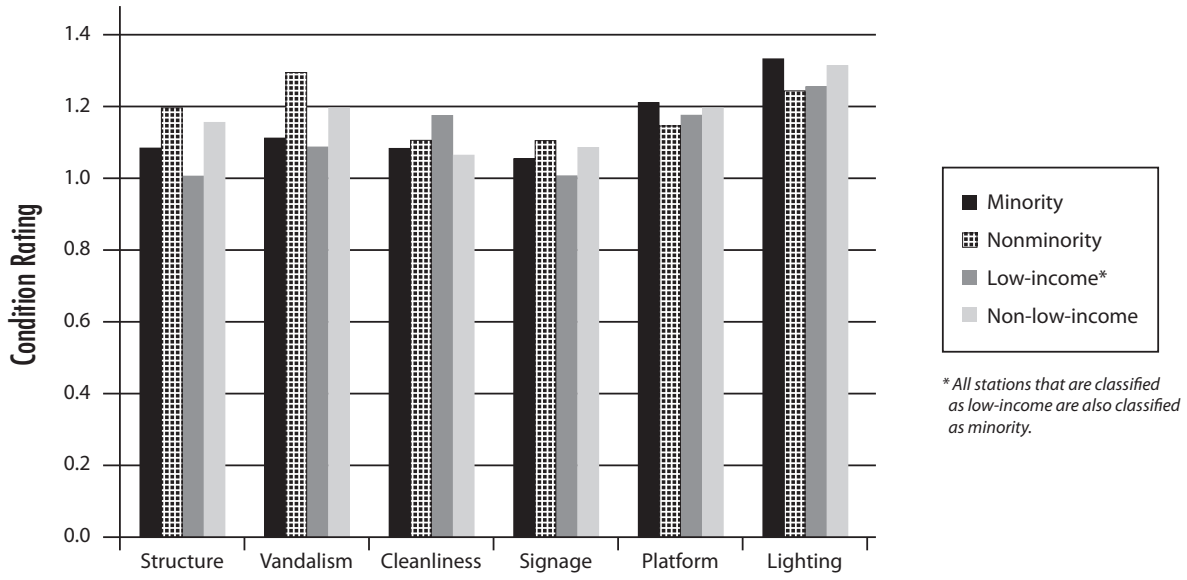


TABLE 6-18 Subway Rapid Transit Stations – Interior Conditions

Station Classification	Structure	Vandalism	Cleanliness	Signage	Platform	Lighting
Minority	1.08	1.11	1.08	1.05	1.21	1.33
Nonminority	1.19	1.29	1.10	1.10	1.14	1.24
Low-income*	1.00	1.08	1.17	1.00	1.17	1.25
Non-low-income	1.15	1.19	1.06	1.08	1.19	1.31

** All stations that are classified as low-income are also classified as minority.*

Subway Rapid Transit Stations – Interior Amenities

Figure 6-7 and Table 6-19 show the percentage of subway stations, by minority and low-income status, that offer various amenities, including benches, trash receptacles, and bus transfer timetables and route maps. They also show what percent of the timetables and maps are legible and current. As shown, a slightly smaller percentage of minority stations have benches, trash receptacles, timetables, and bus route maps than nonminority stations. Additionally, the percentage of timetables and maps that are legible and current is lower in minority stations than in nonminority stations. The percentage of stations that have benches and transfer bus route maps is higher for low-income stations than non-low-income stations, and the percentage of stations that have trash receptacles and timetables is lower for low-income stations than for non-low-income stations. The percentage of maps in low-income stations that are legible and current is higher than in non-low-income stations, and while the percentage of bus route maps that are legible is slightly higher in low-income stations than in non-low-income stations, the percentage that are current is lower.

FIGURE 6-7 Subway Rapid Transit Stations – Interior Amenities

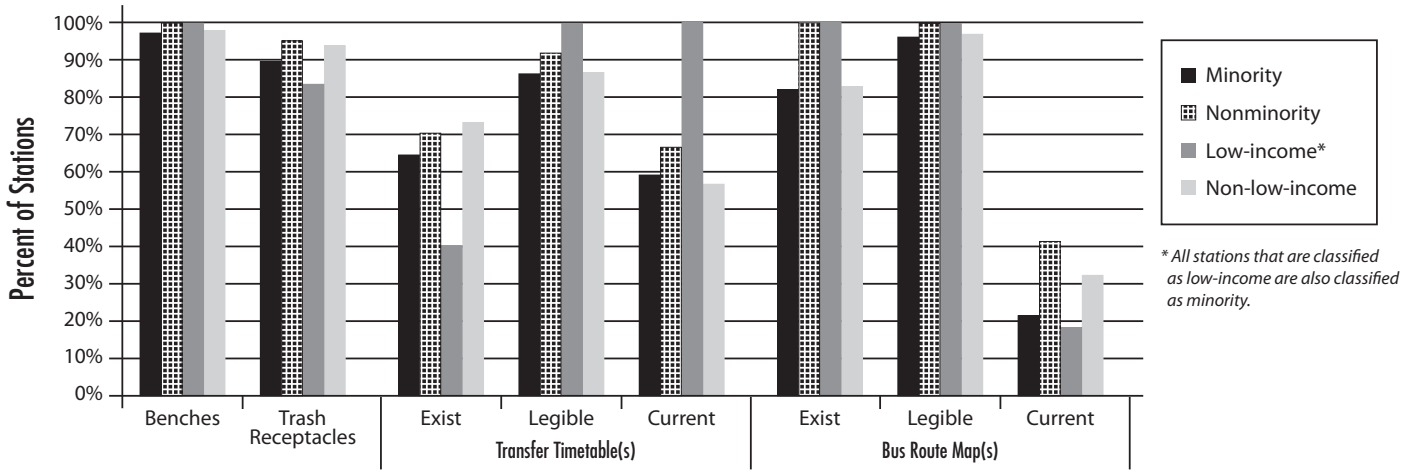


TABLE 6-19 Subway Rapid Transit Stations – Interior Amenities								
Station Classification	Benches	Trash Receptacles	Transfer Timetable(s)			Bus Route Map(s)		
			Exist	Legible	Current	Exist	Legible	Current
Minority	97%	90%	65%	86%	59%	82%	96%	21%
Nonminority	100%	95%	71%	92%	67%	100%	100%	41%
Low-income*	100%	83%	40%	100%	100%	92%	100%	18%
Non-low-income	98%	94%	73%	87%	57%	83%	97%	32%

** All stations that are classified as low-income are also classified as minority.*

Surface Rapid Transit Stations – Exterior Conditions

Figure 6-8 and Table 6-20 show the scores for the various exterior station condition characteristics for the MBTA surface rapid transit system. As can be seen, all categories of surface rapid transit stations received good scores (1.38 or less) on all of the exterior station condition characteristics. All stations received the best possible score (1.00) for condition of the structure, cleanliness, and signage. Minority stations scored better than nonminority stations on the vandalism and pedestrian access characteristics. Since none of the surface rapid transit stations in minority areas have parking facilities, no comparison can be made for this characteristic. Low-income stations scored better than non-low-income stations on the vandalism and pedestrian access characteristics. Since none of the surface rapid transit stations in low-income areas have parking facilities, no comparison can be made for this characteristic. All stations that are classified as low-income are also classified as minority, so it is unnecessary to compare stations that are both minority and low-income to those that are not both.

FIGURE 6-8 Surface Rapid Transit Stations – Exterior Conditions

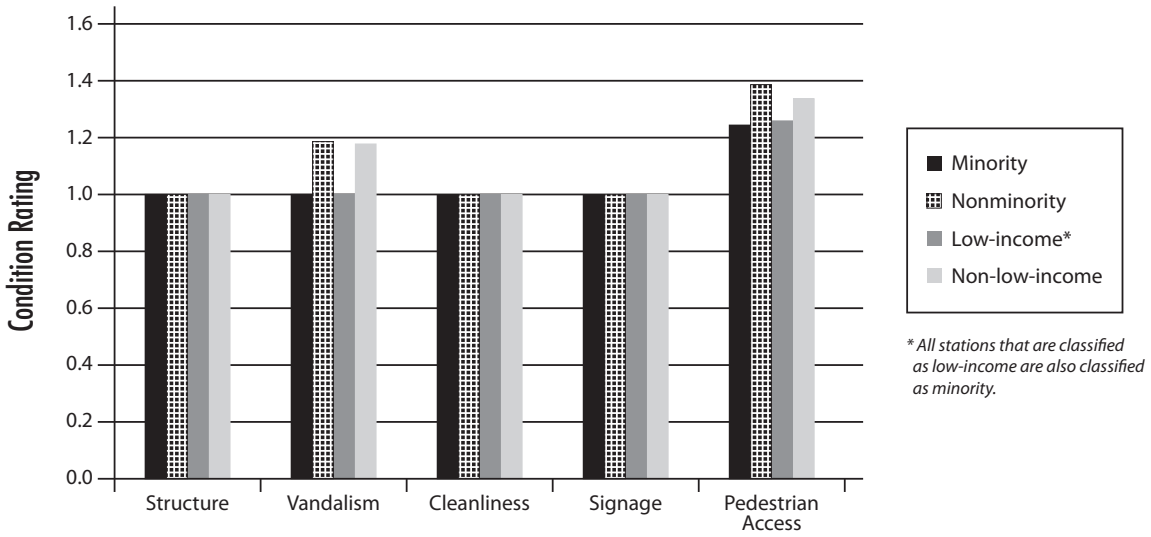


TABLE 6-20 Surface Rapid Transit Stations – Exterior Conditions								
Station Classification	Structure	Vandalism	Cleanliness	Signage	Pedestrian Access	Condition of Parking Facility		
						Surface	Signage	Path to Station
Minority	1.00	1.00	1.00	1.00	1.24	N/A	N/A	N/A
Nonminority	1.00	1.18	1.00	1.00	1.38	1.22	1.11	1.00
Low-income*	1.00	1.00	1.00	1.00	1.25	N/A	N/A	N/A
Non-low-income	1.00	1.17	1.00	1.00	1.33	1.22	1.11	1.00
** All stations that are classified as low-income are also classified as minority.*								

Surface Rapid Transit Stations – Interior Conditions

Figure 6-9 and Table 6-21 show the scores for the various interior station condition characteristics for the MBTA surface rapid transit system. As can be seen, all categories of stations received scores of 1.50 or less on all of the interior condition characteristics. All stations, regardless of category, received the highest score (1.00) on the condition of the structure, cleanliness, and signage characteristics. Minority stations scored better than nonminority stations on the vandalism and condition-of-platform characteristics. Low-income stations scored better than non-low-income stations on the vandalism characteristic, but slightly worse on the condition-of-platform characteristic.

FIGURE 6-9: Surface Rapid Transit Stations - Interior Conditions

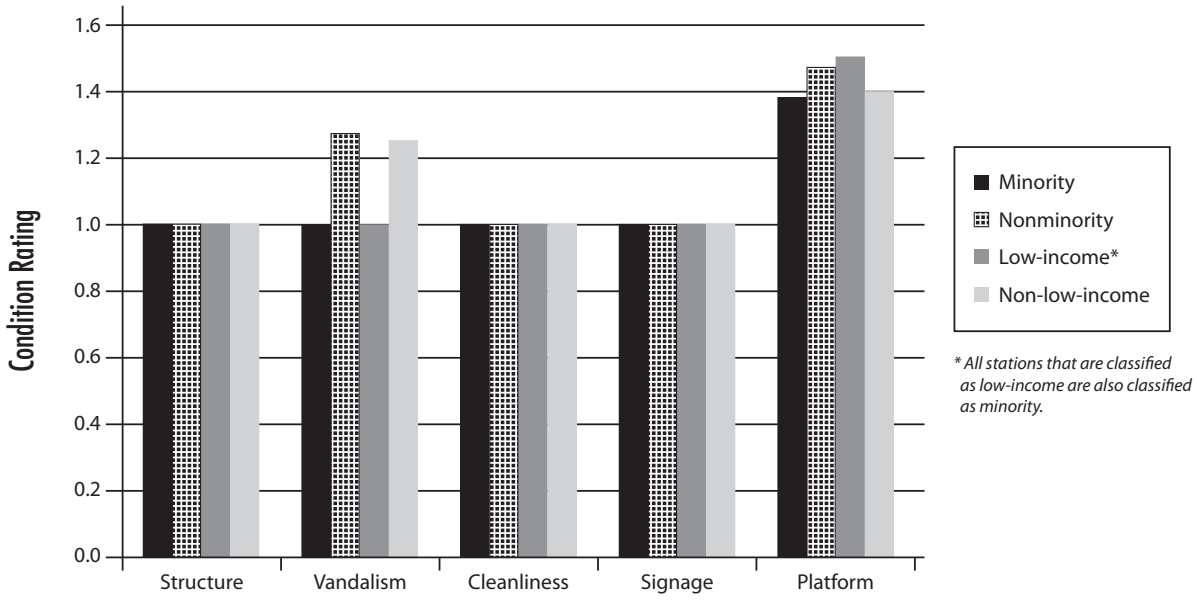


TABLE 6-21 Surface Rapid Transit Stations – Interior Conditions					
Station Classification	**Structure**	**Vandalism**	**Cleanliness**	**Signage**	**Platform**
Minority	1.00	1.00	1.00	1.00	1.38
Nonminority	1.00	1.27	1.00	1.00	1.47
Low-income*	1.00	1.00	1.00	1.00	1.50
Non-low-income	1.00	1.25	1.00	1.00	1.40
** All stations that are classified as low-income are also classified as minority.*					

Surface Rapid Transit Stations – Amenities

Figure 6-10 and Table 6-22 show the percentage of surface rapid transit stations, by minority and low-income status, that offer various amenities, including benches, trash receptacles, and bus transfer timetables and route maps. It also shows what percent of the timetables and maps are legible and current. Some of the surface rapid transit stations have physical constraints (they are located in a narrow strip in the center of a roadway) which prevent the placement of various amenities. As shown, a smaller percentage of minority stations have benches and trash receptacles, and a significantly larger percentage of minority stations have timetables and bus route maps, than nonminority stations. All timetables and maps in surface rapid transit stations are legible. The percentage of timetables that are current is lower in minority stations than in nonminority stations, and the percentage of maps that are current is higher in minority stations than nonminority stations. The percentage of stations that have transfer timetables and bus route maps is higher for low-income stations than non-low-income stations, and the percentage of stations that have benches and trash receptacles is lower for low-income stations than for non-low-income stations. The percentage of maps and timetables that are current is lower in low-income stations than in non-low-income stations.

Since the 2009 data on station condition was collected, the MBTA has added new shelters with benches and all other amenities at two stations that are classified as both minority and low-income.

FIGURE 6-10 Surface Rapid Transit Stations – Amenities

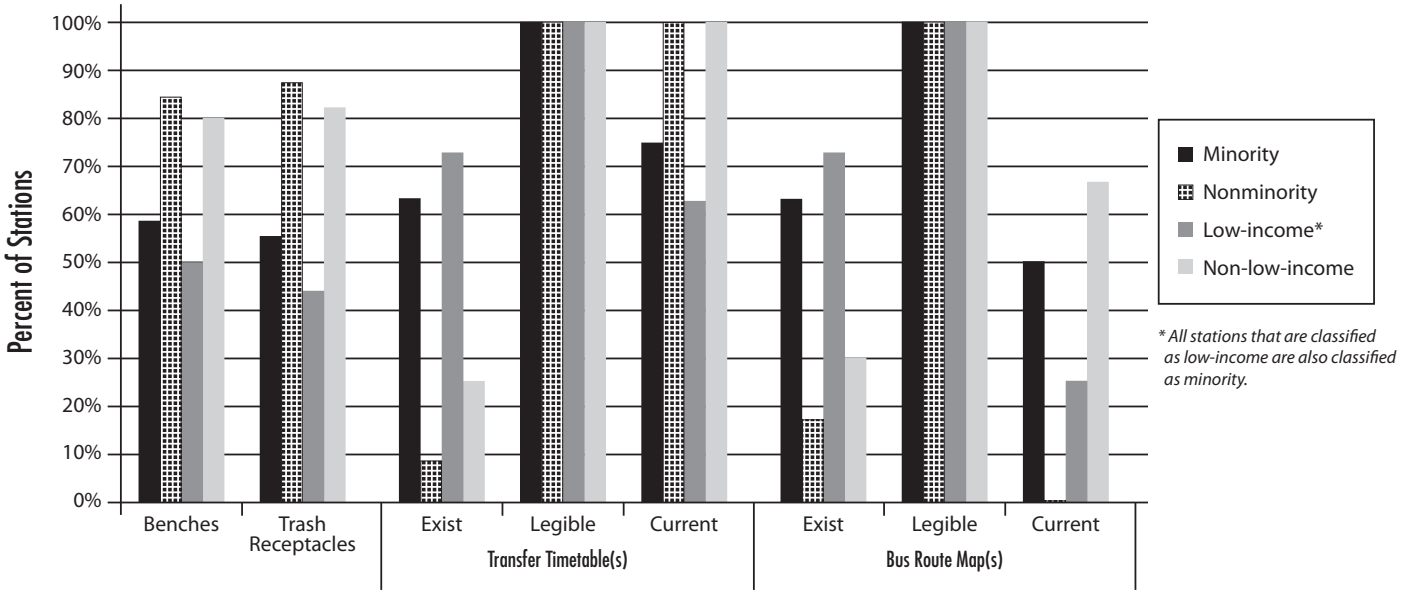


TABLE 6-22 Surface Rapid Transit Stations – Amenities

Station Classification	Benches	Trash Receptacles	Transfer Timetable(s)			Bus Route Map(s)		
			Exist	Legible	Current	Exist	Legible	Current
Minority	59%	55%	63%	100%	75%	63%	100%	50%
Nonminority	84%	88%	8%	100%	100%	17%	100%	0%
Low-income*	50%	44%	73%	100%	63%	73%	100%	25%
Non-low-income	80%	82%	25%	100%	100%	30%	100%	67%

** All stations that are classified as low-income are also classified as minority.*

Commuter Rail Stations – Exterior Conditions

Figure 6-11 and Table 6-23 show the scores for the various exterior station condition characteristics for the MBTA commuter rail network. As can be seen, commuter rail stations received mixed scores on the exterior station condition characteristics. Minority stations scored better than nonminority stations on the structure condition, cleanliness, signage, and pedestrian access characteristics, as well as the surface of the parking facility and the signage in the parking facility. Minority stations scored slightly worse than

nonminority stations on the vandalism and condition of the path from the parking facility to the station. Low-income stations scored better than non-low-income stations on all of the exterior station condition characteristics. All stations that are classified as low-income are also classified as minority, so it is unnecessary to compare stations that are both minority and low-income to those that are not both.

FIGURE 6-11 Commuter Rail Stations – Exterior Conditions

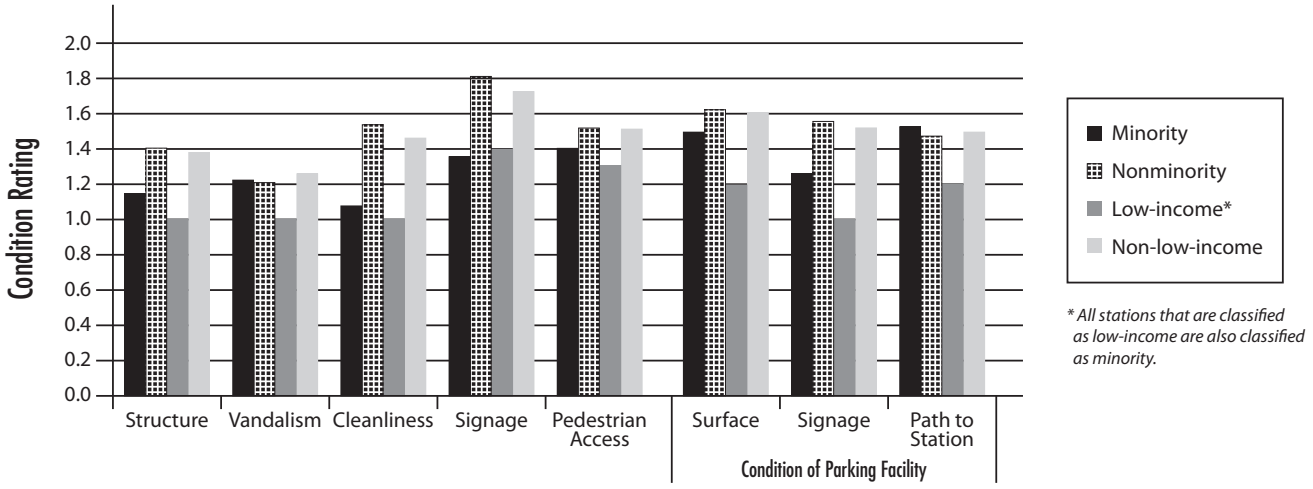


TABLE 6-23 Commuter Rail Stations – Exterior Conditions

Station Classification	Structure	Vandalism	Cleanliness	Signage	Pedestrian Access	Condition of Parking Facility		
						Surface	Signage	Path to Station
Minority	1.15	1.23	1.08	1.36	1.41	1.50	1.26	1.53
Nonminority	1.41	1.21	1.54	1.81	1.52	1.62	1.56	1.48
Low-income*	1.00	1.00	1.00	1.40	1.30	1.20	1.00	1.20
Non-low-income	1.38	1.26	1.46	1.73	1.51	1.61	1.52	1.50

** All stations that are classified as low-income are also classified as minority.*

Commuter Rail Stations – Interior Conditions

Figure 6-12 and Table 6-24 show the scores for the various interior station condition characteristics for the MBTA commuter rail network. As can be seen, minority stations received better scores than nonminority stations and low-income stations received better scores than non-low-income stations for all of the interior condition characteristics.

FIGURE 6-12 Commuter Rail Stations – Interior Conditions

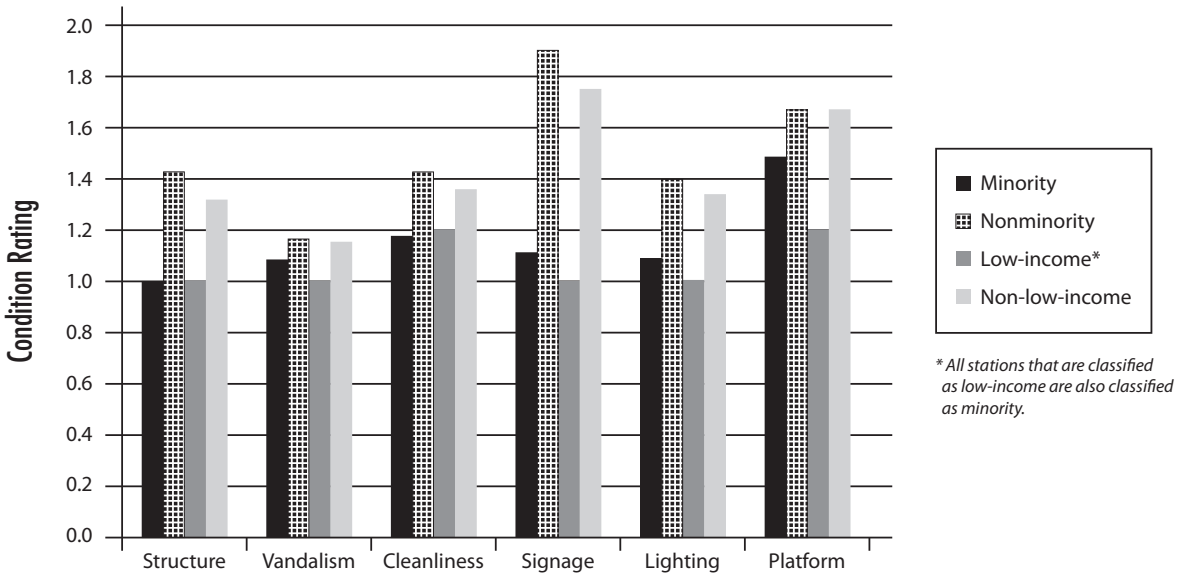


TABLE 6-24 Commuter Rail Stations – Interior Conditions

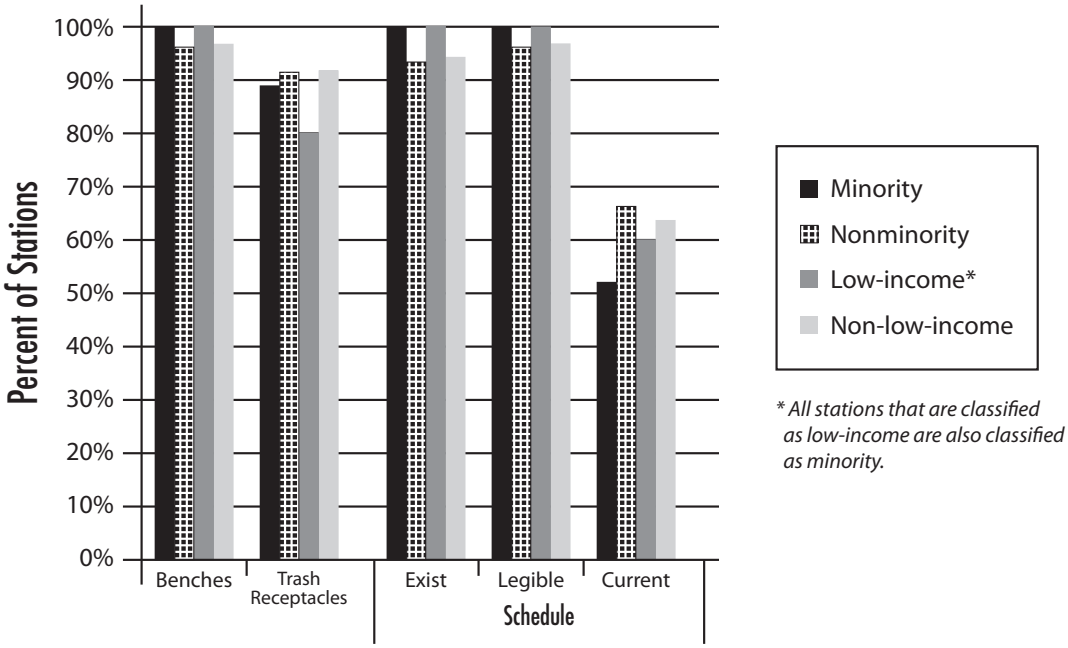
Station Classification	Structure	Vandalism	Cleanliness	Signage	Platform	Lighting
Minority	1.00	1.08	1.17	1.11	1.48	1.09
Nonminority	1.42	1.16	1.42	1.89	1.66	1.39
Low-income*	1.00	1.00	1.20	1.00	1.20	1.00
Non-low-income	1.31	1.15	1.35	1.74	1.66	1.33

** All stations that are classified as low-income are also classified as minority.*

Commuter Rail Stations – Amenities

Figure 6-13 and Table 6-25 show the percentage of commuter rail stations, by minority and low-income status, that offer various amenities, including benches, trash receptacles, and schedules. As shown, a larger percentage of minority stations have benches and schedules than nonminority stations, and a slightly smaller percentage of minority stations have trash receptacles than nonminority stations. The percentage of stations that have benches and schedules is higher for low-income stations than non-low-income stations, and the percentage of stations that have trash receptacles is lower for low-income stations than for non-low-income stations. The MBTA will work with MBCR and/or the appropriate municipality to add trash receptacles where needed.

FIGURE 6-13 Commuter Rail Stations – Amenities



** All stations that are classified as low-income are also classified as minority.*

TABLE 6-25 Commuter Rail Stations – Amenities					
Station Classification	Benches	Trash Receptacles	Schedule		
			Exist	Legible	Current
Minority	100%	89%	100%	100%	52%
Nonminority	96%	91%	93%	96%	66%
Low-income*	100%	80%	100%	100%	60%
Non-low-income	97%	92%	94%	96%	63%
** All stations that are classified as low-income are also classified as minority.*					

Commuter Boat Stations – Exterior Conditions

Figure 6-14 and Table 6-26 show the scores for the various exterior station condition characteristics for the MBTA commuter boat system. No commuter boat stations are classified as low-income, so it is unnecessary to compare stations that are low-income to those that are not or those that are both minority and low-income to those that are not both. As can be seen, all commuter boat stations—minority and nonminority—received the best possible score (1.00) on the exterior station condition characteristics.

FIGURE 6-14 Commuter Boat Stations – Exterior Conditions

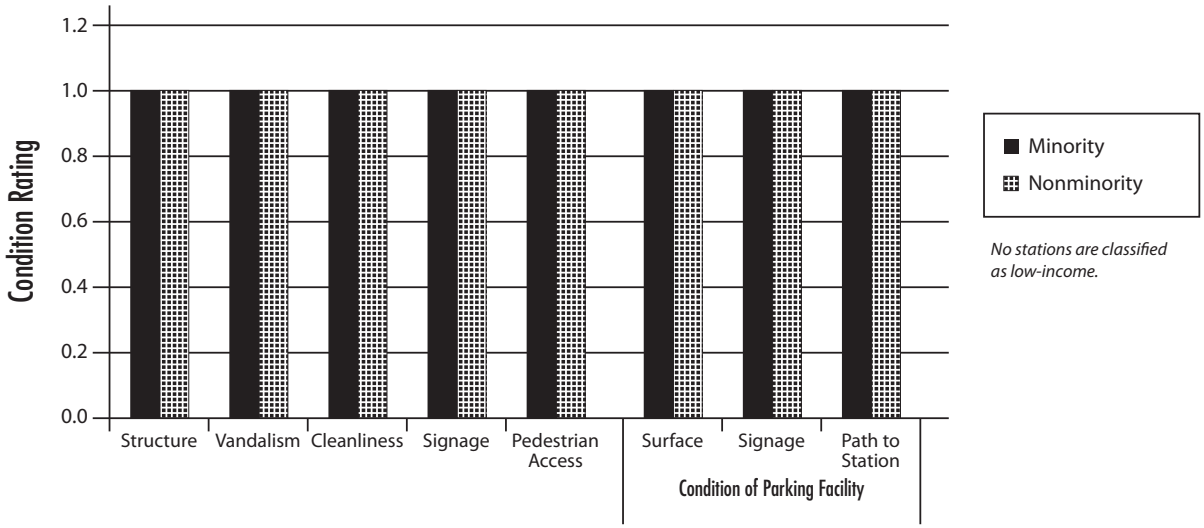


TABLE 6-26 Commuter Boat Stations – Exterior Conditions								
Station Classification*	Structure	Vandalism	Cleanliness	Signage	Pedestrian Access	Condition of Parking Facility		
						Surface	Signage	Path to Station
Minority	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nonminority	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
**No stations are classified as low-income.*								

Commuter Boat Stations – Interior Conditions

Figure 6-15 and Table 6-27 show the scores for the various interior station condition characteristics for the MBTA commuter boat system. As can be seen, all stations received the best possible score for all of the interior condition characteristics.

FIGURE 6-15 Commuter Boat Stations – Interior Conditions

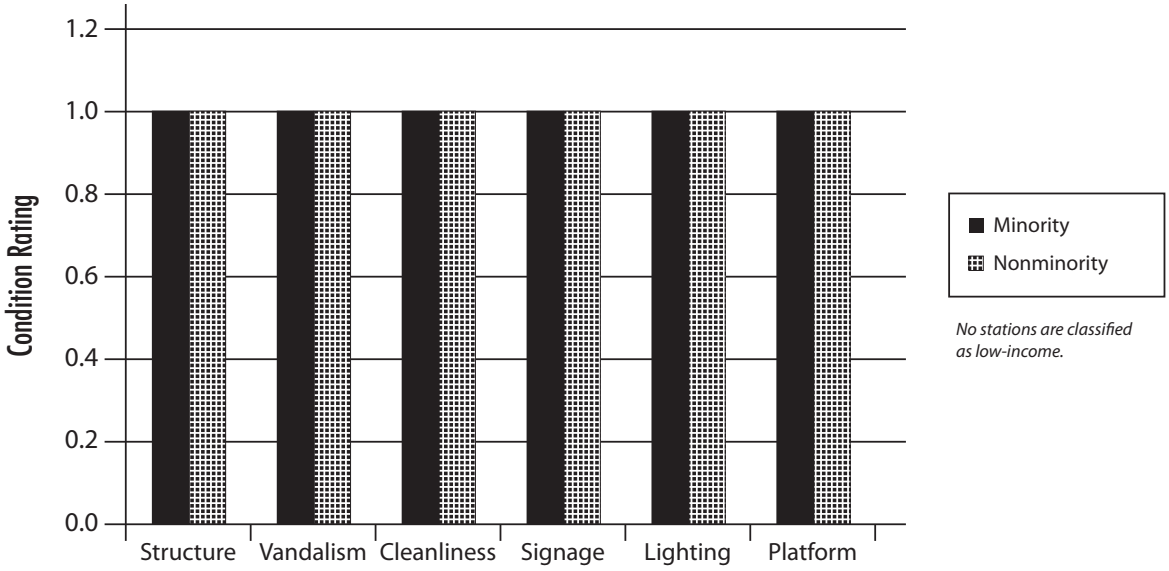


TABLE 6-27 Commuter Boat Stations – Interior Conditions						
Station Classification*	Structure	Vandalism	Cleanliness	Signage	Platform	Lighting
Minority	1.00	1.00	1.00	1.00	1.00	1.00
Nonminority	1.00	1.00	1.00	1.00	1.00	1.00
**No stations are classified as low-income.*						

Commuter Boat Stations – Amenities

Figure 6-16 and Table 6-28 show the percentage of commuter boat stations in each category that offer various amenities, including benches, trash receptacles, and schedules. As can be seen, all stations have benches. The percentage of stations that have trash receptacles is lower for minority stations than for nonminority stations.

FIGURE 6-16 Commuter Boat Stations – Amenities

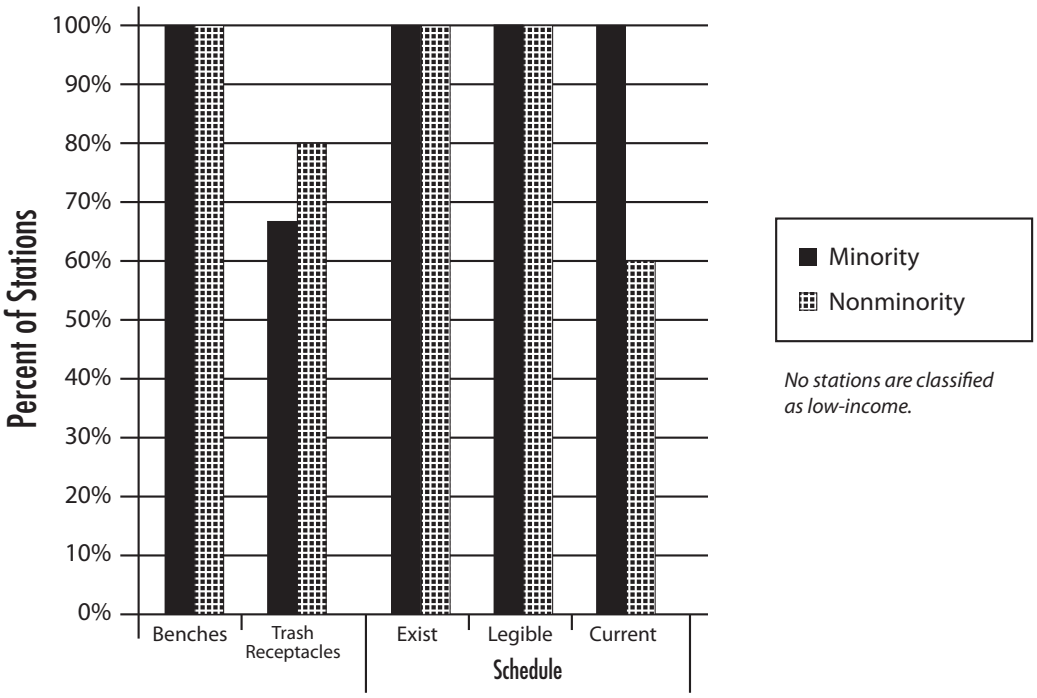


TABLE 6-28 Commuter Boat Stations – Amenities					
Station Classification*	Benches	Trash Receptacles	Schedule		
			Exists	Legible	Current
Minority	100%	67%	100%	100%	100%
Nonminority	100%	80%	100%	100%	60%
**No stations are classified as low-income.*					

Bicycle Parking Facilities

Using American Recovery and Reinvestment Act (ARRA) funding, the MBTA initiated a variety of programs to enhance and expand MBTA bicycle parking facilities. These programs include the construction of new "Pedal & Park" bike cages (enclosed and equipped with video cameras and controlled-door access for safety and security) at eight rapid transit stations, and "BikePorts" (covered bike parking) at 22 rapid transit and 19 commuter rail stations. Table 6-29 shows, by minority and low-income status, the number and percentage of rapid transit stations with each type of bicycle parking facility. As shown, the percentage of rapid transit stations with Pedal & Park facilities is higher in minority areas than in nonminority areas, the percentage of rapid transit stations with BikePort facilities is similar in minority areas to that in nonminority areas, and the percentage of rapid transit stations with either type of bicycle-parking facility is higher in minority areas than in nonminority areas. However, the percentage of rapid transit stations with either Pedal & Park or BikePort facilities is lower in low-income areas than in non-low-income areas.

TABLE 6-29 Bicycle Parking Facilities at Rapid Transit Stations						
Station Classification	Pedal and Park		BikePort		Total	
	Number	Percent	Number	Percent	Number	Percent
Minority	6	9%	12	18%	18	26%
Nonminority	2	4%	10	19%	11	21%
Low-income	1	4%	2	7%	3	11%
Non-low-income	7	8%	20	22%	26	28%

Table 6-30 shows the number and percentage of commuter rail stations in minority, nonminority, low-income, and non-low-income areas with BikePorts (only BikePorts are installed at commuter rail stations). As shown, the percentage of commuter rail stations with BikePorts is the same in minority areas and nonminority areas. However, the percentage of commuter rail stations with BikePorts is lower in low-income areas than in non-low-income areas.

TABLE 6-30 BikePorts at Commuter Rail Stations

Station Classification	Number	Percent
Minority	4	15%
Nonminority	15	15%
Low-income	1	10%
Non-low-income	18	15%

The bicycle parking facility locations were selected based on existing demand at stations and the physical limitations at stations. If additional resources become available, the MBTA will look to increase the number of stations with bicycle parking facilities.

Automated Fare Collection (AFC): Fare Gates and Fare-Vending Machines

All rapid transit stations are equipped with fare gates and fare vending machines (FVMs), and the MBTA has established the following performance metrics that are based on the availability for use of the fare gates and fare vending machines:

- The minimum acceptable device availability threshold is 95 percent.
- The device availability goal is 98 percent.

As can be seen in Table 6-31, the average percentage of device in-service time is lower than the minimum acceptable device availability at all stations for cashless FVM and full-service FVM. For cashless FVM, the average percentage of device in-service time in minority stations and nonminority stations is comparable, and in-service times in low-income and non-low-income stations are also comparable. For full-service FVM, the average percentage of device in-service time is slightly lower in minority than in nonminority stations, but is comparable in low-income and non-low-income stations. Because all low-income areas with cashless FVM are also minority, no additional analysis is necessary to compare the percentage of device in-service times in areas that are both minority and low-income with the percentage in areas that are not both. The average percentage of device in-service time has declined since the last Title VI report,

particularly for full-service FVMs. The MBTA will determine why the cashless FVM and full-service FVM are failing to meet the minimum acceptable device availability threshold, particularly at low-income and minority stations.

The average percentage of device in-service time for high-speed fare gates and ADA-compliant fare gates equals or exceeds the minimum acceptable device availability threshold at all stations, regardless of minority and low-income status. The availability of both of these types of fare gates either remained the same or improved in 2009 for all stations except minority, where the percentage of in-service ADA gates declined slightly in minority stations, and the percentage of in-service high-speed gates declined slightly in low-income stations.

TABLE 6-31 Fare Gate and Fare Vending Machine (FVM) Operability

Device Type	Station Classification	Total Devices	% In Service
Cashless FVM	Minority	111	92%
	Nonminority	46	91%
	Low-income*	45	93%
	Non-low-income	112	91%
	Systemwide	**157**	**92%**
Full-service FVM	Minority	209	82%
	Nonminority	100	86%
	Low-income*	70	83%
	Non-low-income	239	84%
	Systemwide	**309**	**83%**
ADA gates	Minority	93	97%
	Nonminority	39	98%
	Low-income*	36	99%
	Non-low-income	96	97%
	Systemwide	**132**	**97%**

TABLE 6-31 Fare Gate and Fare Vending Machine (FVM) Operability (cont.)			
Device Type	**Station Classification**	**Total Devices**	**% In Service**
High-speed gates	Minority	236	98%
	Nonminority	111	98%
	Low-income*	84	97%
	Non-low-income	263	98%
	Systemwide	**347**	**98%**
** All stations that are classified as low-income are also classified as minority.*			

AFC Retail Sales Terminals

As can be seen in Table 6-32, the percentage of Retail Sales Terminals (RST) in minority areas is higher than the percentage of RST in nonminority areas in both the urban fixed-route service area and the commuter rail service area. While the percentage of RST in low-income areas is lower than the percentage of RST in non-low-income areas, this distribution has improved slightly for the commuter rail service area (from 24 percent in 2009 to 26 percent in 2010). Because all low-income areas with RST are also minority, no additional analysis is necessary to compare the percentage of RST in areas that are both minority and low-income with the percentage in areas that are not both. The MBTA has a standing order for an additional 100 RST, to be sited in 2012. AFC staff will work with Planning/Development and Civil Rights staff to ensure Title VI compliance and that adequate facilities are included at low-income and minority areas. Figure 6-17 shows the distribution of RST in the urban fixed-route service area, and Figure 6-18 shows the distribution of RST in the commuter rail service area.

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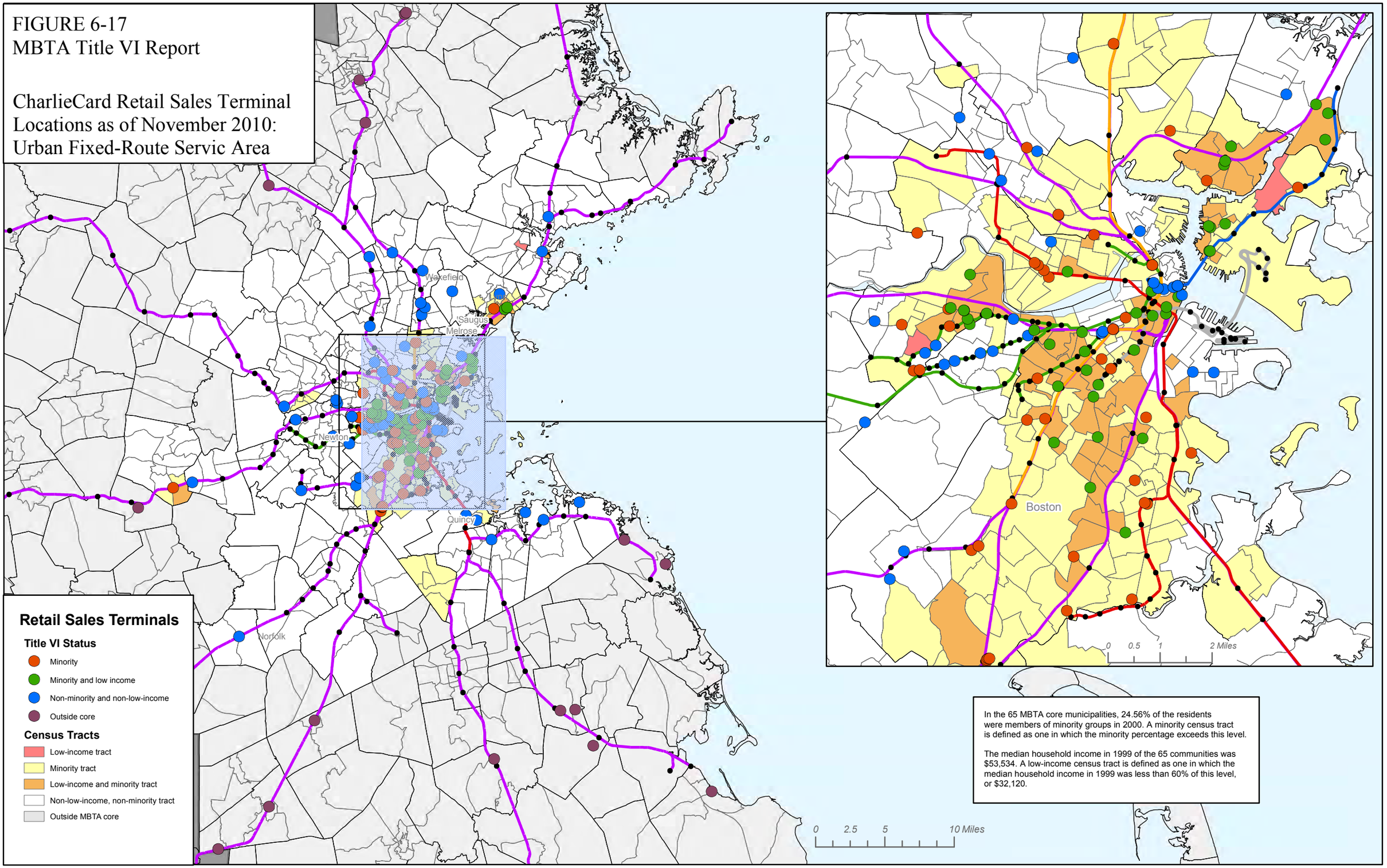
FIGURE 6-17
MBTA Title VI Report

CharlieCard Retail Sales Terminal Locations as of November 2010: Urban Fixed-Route Servic Area



In the 65 MBTA core municipalities, 24.56% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds this level.

The median household income in 1999 of the 65 communities was $53,534. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,120.

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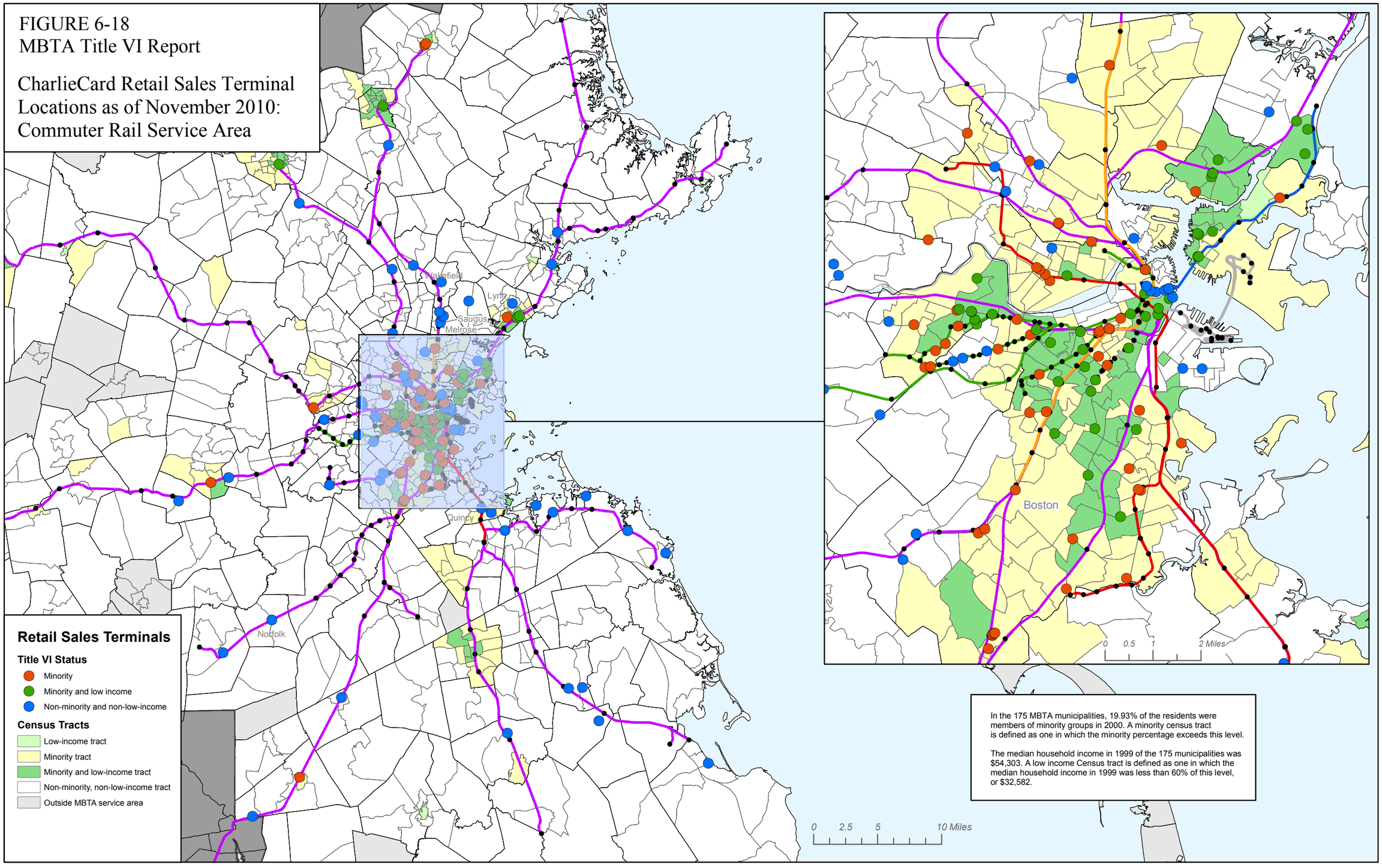
FIGURE 6-18
MBTA Title VI Report

CharlieCard Retail Sales Terminal Locations as of November 2010: Commuter Rail Service Area



Retail Sales Terminals

Title VI Status

- Minority
- Minority and low income
- Non-minority and non-low-income

Census Tracts

- Low-income tract
- Minority tract
- Minority and low-income tract
- Non-minority, non-low-income tract
- Outside MBTA service area

In the 175 MBTA municipalities, 19.93% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds this level.

The median household income in 1999 of the 175 municipalities was $54,303. A low income Census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,582.

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TABLE 6-32 Distribution of Retail Sales Terminals (RST)				
Location Classification	Urban Fixed-Route Service Area		Commuter Rail Service Area	
	# of Locations with RST	% of Total RST Locations	# of Locations with RST	% of Total RST Locations
Minority	90	60%	105	63%
Nonminority	59	40%	63	38%
Low-income*	40	27%	43	26%
Non-low-income	109	73%	125	74%
Total RST locations	**149**		**168**	
** All routes that are classified as low-income are also classified as minority.*				

Variable Message Signs (VMS)

VMS: Bus and Bus Rapid Transit (BRT)

The BRT system in Boston consists of two Silver Line parts: Silver Line Washington Street and Silver Line Waterfront. Taken together, 66 percent of the stations/stops on the Silver Line are in minority census tracts, 28 percent are in low-income tracts, and 28 percent are in census tracts that are both minority and low-income. However, most of the stations that are classified as minority and low-income are on Silver Line Washington Street. In fact, all of the stations on Silver Line Washington Street are in minority census tracts, and half of these are also low-income. Further, the stations that are not classified as being in low-income tracts are directly adjacent to tracts that are low-income.

When taken as a whole, 60 percent of minority stations/stops on the Silver Line have VMS, 67 percent of low-income stations/stops have VMS, and 67 percent of stations/stops that are both minority and low-income are equipped with VMS.

There is one variable message sign in Bellingham Square in East Boston (which is classified as both minority and low-income), and large-format LED displays with bus information are installed in Ruggles Station (which is classified as both minority and low-income) and Back Bay Station (which is classified as minority).

VMS: Rapid Transit

With the exception of three stations that are either under construction or are scheduled to be under construction, all rapid transit stations on the Red Line, Blue Line, and Orange Line have variable-message signs that alert customers to the approach and arrival of trains. Therefore, 100 percent of minority and low-income stations will have VMS once construction is complete.

As is discussed in Chapter 4, the type of signal system used on the Green Line cannot trigger next-train information for display on VMS. However, signs showing public service information have been installed at stations in the Green Line central subway and on the D Branch. Due to the lack of power and communication connections to stations on the B, C, and E Branches of the Green Line, no VMS signs can be used at these stations in the near term.

Table 6-33 below shows minority and low-income analysis of VMS at all rapid transit stations (Red, Blue, Orange, and Green Line). The percentage of minority and low-income stations that have VMS is lower than the percentage of nonminority and non-low-income stations with VMS. However, due to the nature of the signal system on the Green Line, this cannot be resolved in the near term. The MBTA is looking for a long-term solution.

TABLE 6-33 Rapid Transit Stations with VMS

Station Classification	Total	# with VMS	% with VMS
Minority	72	45	63%
Nonminority	55	38	69%
Low-income	30	15	50%
Non-low-income	97	68	70%
Systemwide	**127**	**83**	**65%**

VMS: Commuter Rail

All commuter rail stations have VMS. Therefore, 100 percent of minority and low-income commuter rail stations are equipped with VMS.

Elevators and Escalators

For the purposes of monitoring Title VI compliance, the Operations Support Department is responsible for the Level-of-Service assessment of elevators and escalators. This is completed on an annual basis to evaluate whether the distribution and operability of station elevators and escalators in minority and low-income areas is commensurate with the distribution and operability of station elevators and escalators that are not in minority or low-income areas.

The complete maintenance, service testing, and inspection of all elevators and escalators in the transit system and in other MBTA facilities are outsourced to a private maintenance contractor. Elevator and escalator service requests are transmitted from the MBTA to the contractor, which dispatches maintenance personnel to perform repairs.

Elevator and Escalator Performance

On a daily basis, the Operations Support Department keeps records of station escalator and elevator maintenance activity and hours of operation. In an effort to determine the average length of time each elevator and escalator was out of service, CTPS examined the data provided by Operations Support on equipment failure service calls that were placed between April 1, 2010, and March 31, 2011. Equipment failures vary in cause and in the length of repair time required. Primary reasons for the length of time an elevator or escalator is out of service include the waiting time for specific replacement parts from manufacturers, the complexity of the repair, and the need for investigation due to an accident.

Tables 6-34 and 6-35 present data concerning elevator and escalator repair time, out-of-service time, and incident rates for minority compared to nonminority stations and for low-income compared to non-low-income stations. Because all stations that are in low-income areas are also minority, no additional analysis is necessary to compare the performance of elevators and escalators in areas that are both minority and low-income with the percentage in areas that are not both.

- The average repair time per incident (the total amount of revenue-hours between the out-of-service and return-to-service times[4] for each service call).

- The average number of incidents per elevator (or escalator) and per station.

- The average out-of-service time per elevator (or escalator) and per station. Out-of-service time differs from repair time in that it equals the total number of revenue-hours between the went-out-of-service and returned-to-service times for all overlapping groups of incidents, while repair time is a per-incident measure.[5] Average repair time is the appropriate measure on a per-incident basis, while average out-of-service time is the appropriate measure on a per-elevator or per-station basis.

- The median out-of-service time, to indicate the extent to which outliers affect the average (mean).

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[4] *Out-of-service time is defined as the total number of revenue-hours an elevator (or escalator) was out of service, meaning that it does not include the 4.5 hours of non-revenue time, from approximately 1:00 A.M. to 5:30 A.M.*

[5] *For example, if one elevator (or escalator) is out of service from 1:00 PM until 3:00 PM, and another elevator (or escalator) at the same station is out of service from 2:00 PM until 4:00 PM, the repair time for each incident is two hours, but the out-of-service time for the station is three hours (since the two incidents overlap each other).*

Elevators

Elevators in stations designated as minority had, on average, longer average repair times per incident than those at stations not so designated, and elevators in stations designated as low-income had shorter average repair times per incident than those at stations not so designated. Both minority and low-income stations had a higher average rate of incidents per elevator and per station than nonminority and non-low-income stations. As a result, both minority and low-income stations had higher average out-of-service times per elevator and per station. Figure 6-19 shows the "out-of-service" hours for elevators in the urban fixed-route service area.

TABLE 6-34 Elevators Out of Service – April 1, 2010, through March 31, 2011

Station Classification	Average # of Hours to Repair	Average # of Incidents		Average # of Hours Out of Service		Median # of Hours Out of Service
	Per Incident	Per Elevator	Per Station	Per Elevator	Per Station	Per Station
Minority	4.9	7.9	20.8	34.5	90.9	53.0
Nonminority	4.4	7.6	19.5	30.4	77.8	50.4
Low-income*	4.6	10.8	31.2	44.7	129.6	47.3
Non-low-income	4.8	6.7	17.7	28.7	75.7	53.0
All stations	4.7	7.6	20.4	32.1	86.3	53.0

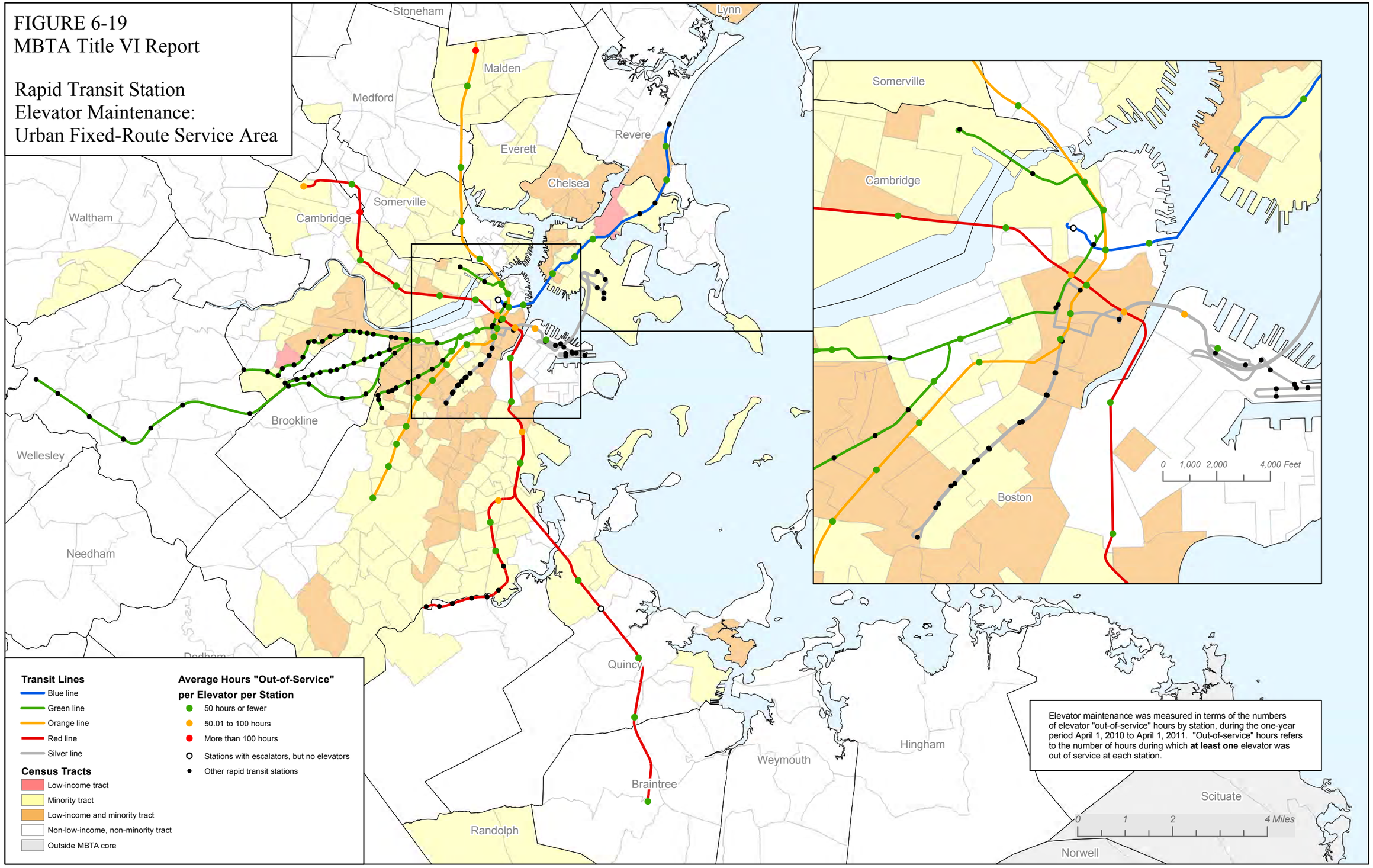
** All stations that are classified as low-income are also classified as minority.*

The five stations with the greatest rates of incidents per elevator were Porter (31.0), Park Street (26.0), Harvard (19.0), Davis (14.5), and Chinatown (14.0). Two of these stations are both minority and low-income (Park Street and Chinatown), and one is minority and non-low-income (Harvard). The median numbers of hours out-of-service per station are significantly less than the respective averages, indicating that these high station incident rates, particularly for Park Street, significantly raised the averages for the station classifications to which these stations belong.

In general, for all stations, repair and out-of-service times and incident rates worsened in comparison to the previous year. The MBTA will determine why the average repair time per incident at minority stations is longer than the average for nonminority stations, as well as why there are greater rates of incidents in minority and low-income elevators and stations than in other stations. The MBTA will endeavor to maintain the lower average repair times per incident at low-income stations. Over the past three years, the MBTA has had 99% operability of elevators systemwide and consequently has received few complaints about elevator unavailability. The MBTA is installing redundant elevators at key stations. The three stations with the highest incident rates (Porter, Park Street, and Harvard) are currently having redundant elevators installed.

FIGURE 6-19
MBTA Title VI Report

Rapid Transit Station
Elevator Maintenance:
Urban Fixed-Route Service Area



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Escalators

Escalators in stations designated as minority or low-income had, on average, longer repair times per incident than those at stations not so designated. Minority and low-income stations also both had higher average rates of incidents per escalator and per station, and longer average out-of-service times per escalator and per station. Figure 6-20 shows the "out-of-service" hours for escalators in the urban fixed-route service area.

TABLE 6-35 Escalators Out of Service – April 1, 2010, through March 31, 2011

Station Classification	Average # of Hours to Repair	Average # of Incidents		Average # of Hours Out of Service		Median # of Hours Out of Service
	Per Incident	Per Escalator	Per Station	Per Escalator	Per Station	Per Station
Minority	13.9	11.1	32.9	149.5	443.9	280.1
Nonminority	9.5	8.0	26.4	71.5	234.8	142.3
Low-income*	13.1	10.2	36.2	129.7	459.8	310.0
Non-low-income	12.2	9.7	28.9	113.5	337.8	245.9
All stations	12.4	9.8	30.4	117.3	326.6	256.4

** All stations that are classified as low-income are also classified as minority.*

The five stations with the greatest rates of incidents per escalator are North Station (75.0), Airport (27.75), Ashmont (26.0), Maverick (22.75), and Savin Hill (21.0). All of these stations are minority and non-low-income. The median out-of-service times per station are significantly less than the respective averages, indicating that these high station incident rates, significantly raised the averages for the station classifications to which these stations belong.

In general, for all stations, repair and out-of-service times and incident rates worsened in comparison to the previous year. The MBTA will determine why there are greater rates of incidents and longer average repair times for minority and low-income escalators and stations.

Over the past three years, the MBTA has had 99% operability of escalators systemwide and consequently has received few complaints about escalator unavailability.

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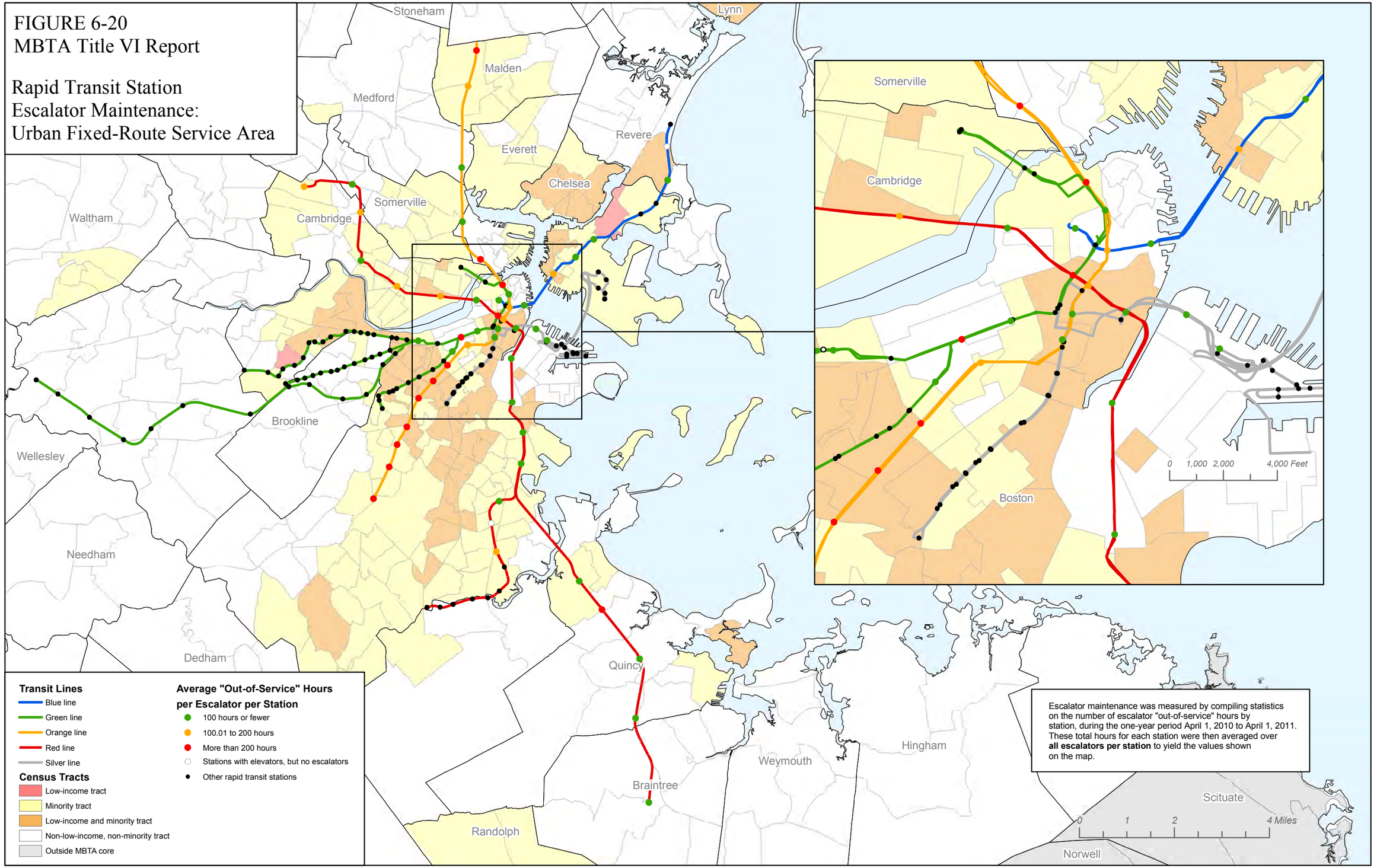
FIGURE 6-20
MBTA Title VI Report

Rapid Transit Station
Escalator Maintenance:
Urban Fixed-Route Service Area



Transit Lines
- Blue line
- Green line
- Orange line
- Red line
- Silver line

Census Tracts
- Low-income tract
- Minority tract
- Low-income and minority tract
- Non-low-income, non-minority tract
- Outside MBTA core

Average "Out-of-Service" Hours per Escalator per Station
- 100 hours or fewer
- 100.01 to 200 hours
- More than 200 hours
- Stations with elevators, but no escalators
- Other rapid transit stations

Escalator maintenance was measured by compiling statistics on the number of escalator "out-of-service" hours by station, during the one-year period April 1, 2010 to April 1, 2011. These total hours for each station were then averaged over **all escalators per station** to yield the values shown on the map.

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Station Parking Distribution and Utilization

For the purpose of monitoring Title VI compliance, the MBTA Development Department is responsible for the level-of-service assessment of station parking. This monitoring evaluates whether the distribution, utilization, and condition of station parking in minority areas is commensurate with the distribution, utilization, and condition of station parking throughout the system. If a disparity is found in the parking supply, the Title VI Working Group coordinates with Planning and other relevant MBTA departments to develop a plan for future remediation, taking into account numerous, spatial and other constraints at MBTA stations.

Parking at MBTA stations and terminals can benefit the community by making access to transit more convenient. Lack of parking or inadequate parking can make transit difficult to access, especially in nonurban communities, where population and housing densities do not allow most residents to access the MBTA by walking or bicycling. Conversely, parking can also negatively impact a community in terms of creating increased auto trips, which can contribute to congestion and air quality deterioration. The MBTA, in its capital planning, recognizes the need for a balanced parking program that takes into account demand, the variety of parking facility functions (regional collector, intercommunity, local/neighborhood, and urban central), environmental and neighborhood impacts, and the need to promote transit-access alternatives to the automobile. Across the entire MBTA system, according to the Program for Mass Transportation, 84 percent of transit users bike or walk to stations. Within the commuter rail system, 54 percent of users drive automobiles to stations and other transit services. Title VI analysis includes assessing how parking functions and supply are distributed throughout the service area and identifying whether there is an imbalance between the siting of parking facilities in low-income-minority and minority neighborhoods and the siting of parking in nonminority neighborhoods.

Parking Distribution

There have been no changes in the MBTA's station parking since the last Title VI report (2008), which demonstrated that there are no major differences in the quantity and types of parking facilities distributed throughout the MBTA system when considering the density of development and population in an area. Figure 6-21 shows the distribution of parking facilities in the urban fixed-route service area, and Figure 6-22 shows the distribution of parking facilities in the commuter rail service area.

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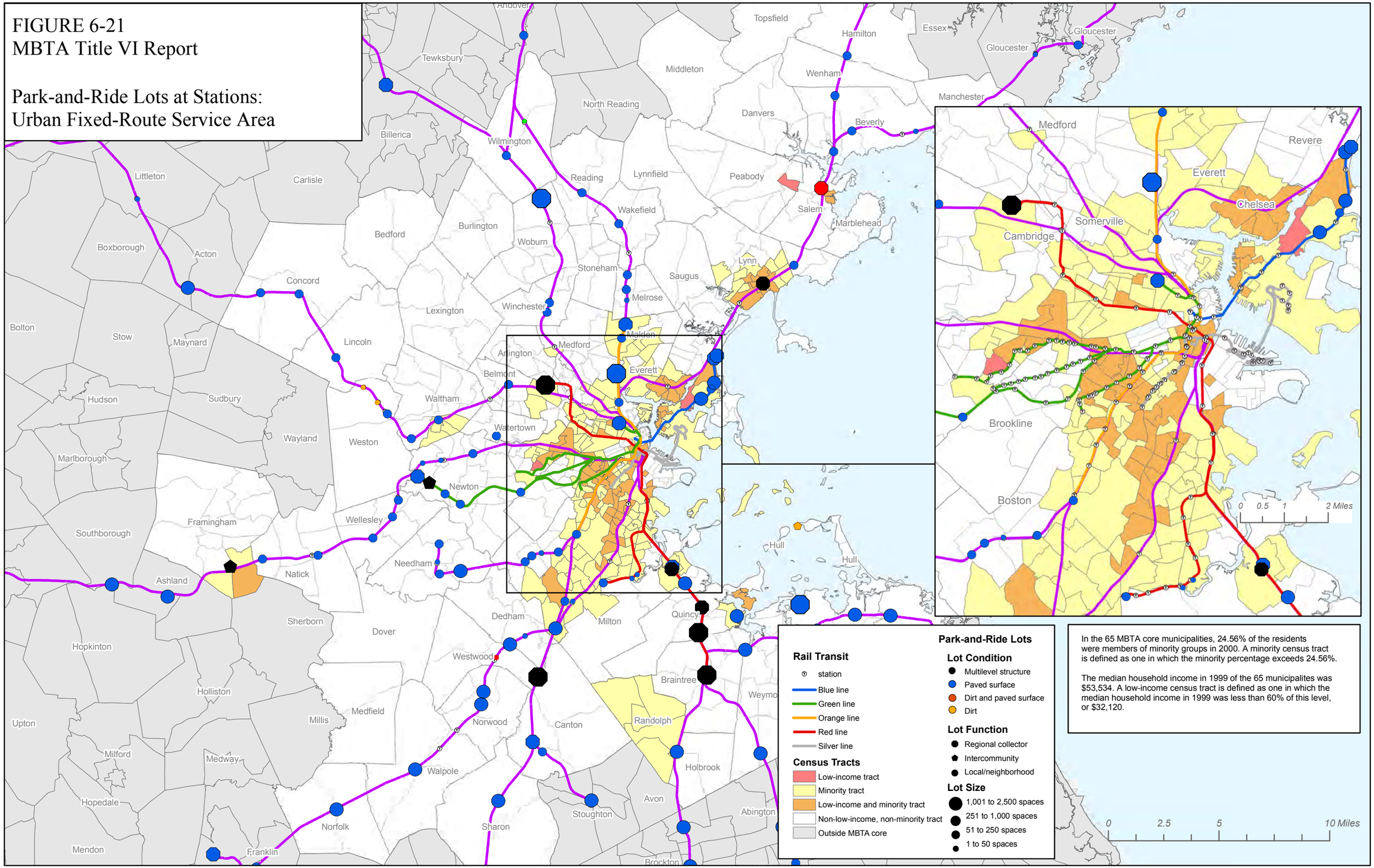
FIGURE 6-21
MBTA Title VI Report

Park-and-Ride Lots at Stations:
Urban Fixed-Route Service Area



In the 65 MBTA core municipalities, 24.56% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 24.56%.

The median household income in 1999 of the 65 municipalites was $53,534. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,120.

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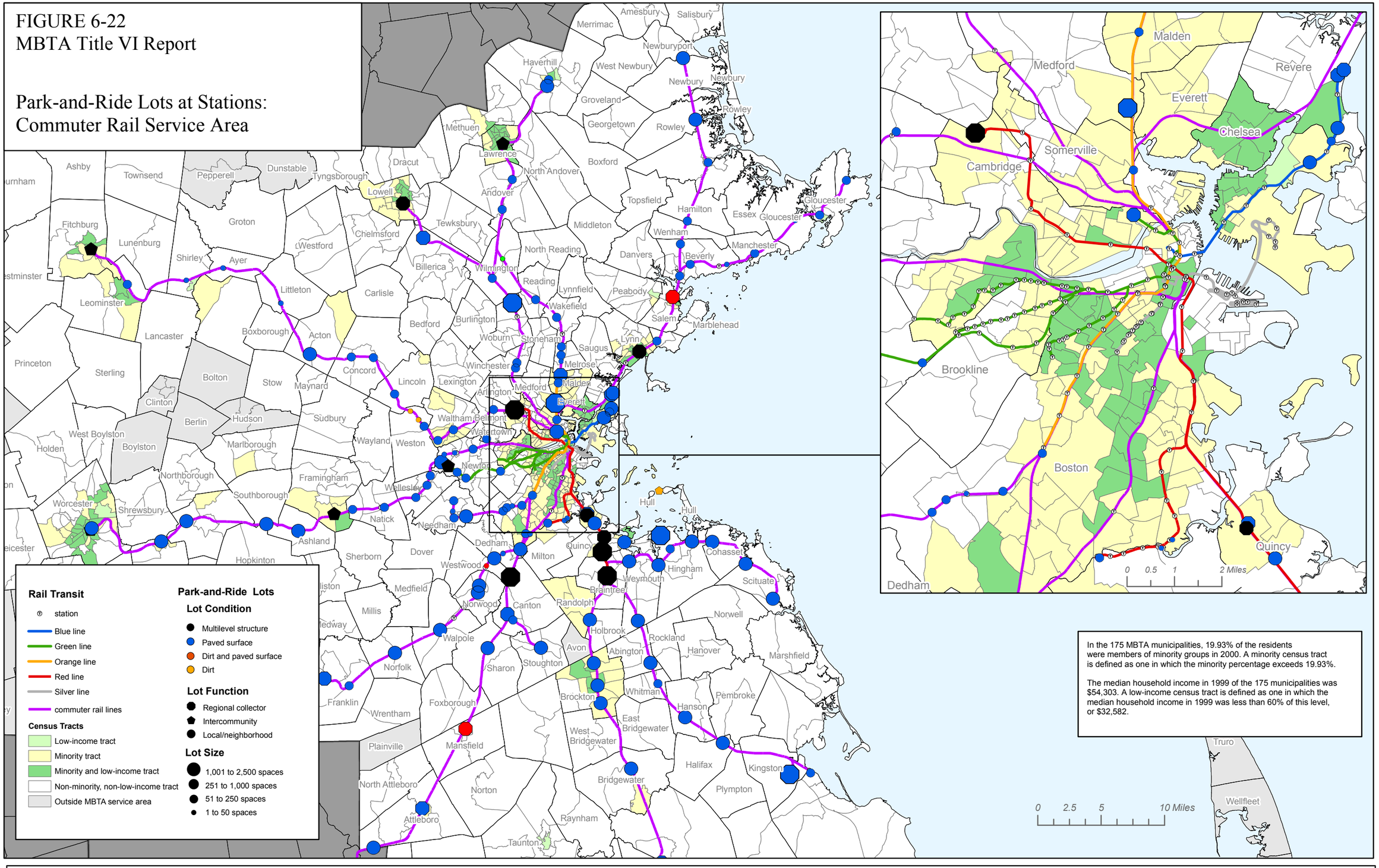
FIGURE 6-22
MBTA Title VI Report

Park-and-Ride Lots at Stations: Commuter Rail Service Area



In the 175 MBTA municipalities, 19.93% of the residents were members of minority groups in 2000. A minority census tract is defined as one in which the minority percentage exceeds 19.93%.

The median household income in 1999 of the 175 municipalities was $54,303. A low-income census tract is defined as one in which the median household income in 1999 was less than 60% of this level, or $32,582.

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Parking Utilization

The analysis of parking facility utilization is based on data collected by the MBTA Revenue Department for MBTA-owned and operated lots (100 of a total 143 lots), and by the MBTA Planning and Development Department, regional transit authorities, and host municipalities for facilities owned by other entities. Utilization rates of parking lots were compared to assess whether there were disparities between parking facilities in low-income and minority and non-low-income and nonminority neighborhoods, respectively, in terms of parking supply relative to parking needs. Facilities utilized at less than 50 percent of capacity are considered to have an excess of parking. Facilities with parking usage over 85 percent are considered to be approaching over-capacity. Table 6-36 shows the breakdown of parking facility utilization across the system.

TABLE 6-36 Parking Facility Utilization

Utilization Rate	Total		Low-Income*		Non-Low-Income		Minority		Nonminority	
	# of Facilities	% of Total Facilities	# of Facilities	% of Low-Income Facilities	# of Facilities	% of Non-Low-Income Facilities	# of Facilities	% of Minority Facilities	# of Facilities	% of Non-minority Facilities
Less than 50%	58	41%	3	38%	55	41%	2	29%	43	57%
50% to 85%	42	29%	4	50%	38	28%	3	43%	33	43%
Greater than 85%	43	30%	1	13%	42	31%	2	29%	0	0%

** All stations that are classified as low-income are also classified as minority.*

Analysis of utilization rates shows that 30 percent of all facilities systemwide are over 85 percent full. Only one of the facilities in low-income areas (13 percent) is over 85 percent full, while 31 percent in non-low-income areas are over 85 percent full; however, while no facilities in nonminority areas are over 85 percent full, 29 percent of facilities in minority areas are over 85 percent full.

Thirty-eight percent of all parking facilities in low-income areas have less than 50 percent utilization, compared to 41 percent in non-low-income areas, 29 percent in minority areas, 57 percent in nonminority areas, and 41 percent systemwide. Regardless of neighborhood classification, the percentage of facilities that were underutilized was much higher than the rates reported for 2008.

The average weekday utilization of parking facilities by mode is distributed as follows:

- 59 percent at commuter rail stations
- 87 percent at rapid transit stations
- 38 percent at commuter boat stations
- 46 percent at express bus stations

The utilization rates show that the parking supply is relatively constrained at rapid transit stations, while ample for the most part at commuter rail, commuter boat, and express bus facilities. It is likely that the economic recession and increased parking rates have contributed to the low utilization rates.

Vehicle Assignment

Bus Vehicle Assignment

For the purposes of monitoring Title VI compliance, the Bus Operations Department is responsible for the Level of Service assessment of bus vehicle assignment, which is performed on an annual basis. It involves evaluating the operational distribution of buses throughout the system based on vehicle age and the functionality of air-conditioning.

In general, buses are assigned to one of the eight MBTA bus storage and maintenance facilities, and operate only on routes served by that garage. Daily, within each garage, individual vehicles are not assigned to specific routes, but circulate among routes based on a number of operating constraints and equipment criteria.

To complete the annual bus vehicle assignment monitoring for Title VI, Bus Operations collects data on a summer day using bus pull-out and swing-on sheets, which display information pertaining to the operator, the bus, and the route number. These data are used to determine both the average age and the status of air-conditioning functionality of the vehicles assigned to each route. Analysis is then completed to compare the average age and proportion of air-conditioner failures on routes that serve minority areas and low-income areas with the data for routes that serve nonminority and non-low-income areas.

If the data demonstrate any adverse disparities between vehicle assignments on routes serving minority or low-income areas from those not serving those areas, data from two additional days of monitoring are collected and analyzed to determine whether the data for the first day are truly representative. If a disparity is again demonstrated, the Bus Operations Department reviews both the distribution of vehicles by facility and the manner in which vehicles are assigned within each facility to evaluate the source of the problem. Appropriate actions are then taken to modify either the distribution of vehicles to facilities or the route assignments of vehicles within each facility. Follow-up monitoring is conducted six months later to determine whether the disparity has been rectified.

For the purposes of this report, the Bus Operations Department collected vehicle assignment data on three unusually warm days (to ensure an accurate assessment of air-conditioner functionality) in the summer of 2010 (July 6, September 2, and September 3). To determine vehicle age, CTPS analyzed the pull-out data that identify (by vehicle number) which bus was assigned to each operator run to match the bus type to each trip operated on each route. An average vehicle age was then calculated for each route. In addition, CTPS examined maintenance logs for the same day to determine which buses had been flagged as having defective air-conditioning systems.

As shown in the Table 6-37, the average age for the entire bus fleet was 6.57 years, the average age for buses operating on minority routes was 6.57 years, and the average age for buses operating on low-income routes was 5.73 years; all of these are below the age of the MBTA policy's average age of the bus fleet of eight years or less. CTPS then determined, for each trip, if an assigned bus was equipped with air-conditioning (based on bus number) and, if so equipped, whether the air-conditioning system had been marked in the maintenance-reporting database as defective. It was found that 95 percent of buses on minority routes, 96 percent of buses on low-income routes, and 96 percent of buses on routes systemwide were identified as having working air-conditioning.

TABLE 6-37 Bus Vehicle Assignment

Route Classification	Average Vehicle Age (Years)	% of Buses with Functional A/C
Minority	6.57	95%
Nonminority	6.56	98%
Low-income*	5.73	96%
Non-low-income	6.78	96%
Systemwide	**6.57**	**96%**

** All routes that are classified as low-income are also classified as minority.*

Heavy Rail and Light Rail Vehicle Assignment

For the purposes of monitoring Title VI compliance, Subway Operations is responsible for the Level-of-Service assessment of vehicle assignments on light and heavy rail routes. This is completed on an annual basis to evaluate the distribution of rail vehicles throughout the system based on vehicle age.

Each of the three heavy rail lines (Red Line, Blue Line, and Orange Line) operates with dedicated equipment, meaning that the equipment on one line is not interchangeable with equipment on any of the other lines. In addition, all three heavy rail lines are defined as minority and as non-low-income routes under Title VI guidelines. Therefore, an analysis of minority compared to nonminority routes or low-income compared to non-low-income routes is not possible for the heavy rail system.

Light rail consists of the Green Line and the Mattapan High-Speed Line. The Mattapan Line operates as a short, stand-alone, light-rail extension of the Red Line's Ashmont Branch, with a dedicated fleet; its equipment cannot be used elsewhere in the system. The Green Line, however, is an extensive light-rail system, with four branches (B, C, D, and E) that feed into a core service. For Title VI, the B and E Branches are defined as both minority and low-income routes, and the C and D Branches are defined as both nonminority and non-low-income. The Mattapan Line is minority, but is not low-income. Periodic Title VI monitoring is therefore necessary for vehicle assignment on light rail.

To complete the annual light-rail vehicle assignment monitoring for Title VI, Subway Operations collects data on at least one sample spring weekday. If analysis of these data shows disparities between light-rail vehicle assignments on routes that serve minority areas and assignments for all light rail lines, Subway Operations works in conjunction with Service Planning to resolve them, and a subsequent analysis is completed six months later in order to monitor whether the remediation eliminated the problem.

For the purposes of this report, CTPS analyzed Green Line vehicle assignments by branch, using data provided by Subway Operations for a randomly chosen day in March 2011. The age of each car for each trip on all four Green Line branches was calculated. An average age was then calculated for those lines considered minority and low-income (Green Line Branches B and E) and those considered nonminority and non-low-income (Green Line Branches C and D).

Table 6-38 shows that the average age per car-trip of light-rail equipment operated on minority and low-income Green Line routes was 13.6 years, and the average age for all Green Line routes was 13.7 years.

TABLE 6-38 Light Rail Vehicle Assignment	
Line Classification	**Average Vehicle Age (Years)**
Minority and Low-income	13.6
Nonminority and Non-low-income	13.8
Minority and Low-income	13.6
Nonminority and Non-low-income	13.8
Systemwide	**13.7**

The Mattapan High-Speed line vehicles were not included in the Green Line vehicle assignment analysis because the Mattapan Line is an isolated light-rail service and its equipment cannot be used elsewhere in the system. The Mattapan fleet consists of 10 historic President's Conference Committee (PCC) cars that were built in 1945 and extensively rebuilt between 1999 and 2005. The 10 PCC cars were also equipped with air-conditioning systems in 2008.

Commuter Rail Vehicle Assignment

For the purposes of monitoring Title VI compliance, Railroad Operations is responsible for the Level-of-Service assessment of vehicle assignments on commuter rail routes. This assessment is completed on an annual basis to evaluate the distribution of commuter rail vehicles throughout the system based on vehicle age.

Vehicle assignments are developed to correspond with specific characteristics of commuter rail service. These characteristics include minimum seating requirements for each scheduled trip, one functioning toilet car in each trainset, a train length consistent with infrastructure constraints, and modified equipment for a specific operating environment, such as the power doors on the Old Colony trains. In order to optimize coach utilization and the requirements for the train characteristics stated above, the bilevel coaches are operated on trains with the largest volume of ridership.

All coaches in the commuter rail fleet are equipped with similar amenities (such as air-conditioning), with the primary variation among coaches being age. To determine the average age of a trainset, Railroad Operations looks at a sample of consist utilization summary reports. Within the operating constraints of the commuter rail system, Railroad Operations works to alleviate any Title VI vehicle-assignment disparities found in the analysis.

For this report, Railroad Operations collected consist data for every train that operated on each line on March 30, 2011. CTPS then developed a consist summary report to determine the average age of the equipment by line. The data are summarized in Table 6-39. It should be noted that no commuter rail line is classified as low-income. Therefore, only a comparison of minority with nonminority is reported.

TABLE 6-39 Commuter Rail Vehicle Assignment

Line Classification	Line	Average Coach Age (years)
Minority	Middleborough	19.55
	Fairmount	23.64
Nonminority	Kingston	18.26
	Providence	19.83
	Greenbush	20.46
	Stoughton	20.74
	Franklin	21.27
	Worcester	22.13
	Needham	22.83
	Rockport	23.58
	Fitchburg	23.68
	Newburyport	23.77
	Lowell	24.58
	Haverhill	24.78
Average Age: Minority Routes		**21.59**
Average Age: Nonminority Routes		**22.06**
Average Age: All Routes		**22.08**

The analysis shows that newer vehicles are generally assigned to the South Side operation, where all the minority routes are located. All commuter rail coaches purchased since 1991 are high-capacity, bilevel coaches. These coaches are utilized on the South Side lines, as they have the heaviest ridership in the system, and also because several tracks at South Station can only accommodate six-car trains. The average age of the coaches on one of the two minority lines (the Middleborough/Lakeville Line) is less than or equal to the average age for the system, as bilevel equipment must be used on the Middleborough/Lakeville Line to accommodate both heavy demand and track constraints at South Station. Only one minority line, Fairmount, exceeded the average age for nonminority lines. This is consistent with the present allocation of equipment, as the Fairmount Line (like the North Side lines) has lower ridership and therefore utilizes more of the lower-capacity single-level coaches, which are older than the high-capacity, bilevel cars.

Transit Security

Placement of Callboxes at Stations

As discussed in Chapter 4, the MBTA has placed emergency callboxes in its stations in accordance with its program on crime prevention through environmental design. Table 6-40 shows an analysis of the number and percentage of callboxes at minority, nonminority, low-income, and non-low-income stations. As can be seen in the table, the percentage of callboxes at minority stations is higher than at nonminority stations, and the percentage of callboxes is also higher at low-income stations than at non-low-income stations.

TABLE 6-40 Placement of Callboxes at Stations

Station Classification	Stations	# of Stations with Callboxes	% of Stations with Callboxes
Minority	84	49	58%
Nonminority	56	15	27%
Low-income	32	16	50%
Non-low-income	108	48	44%
Systemwide	140	64	46%

Placement of Surveillance Cameras on Buses

Currently, 375 buses at five MBTA garages are equipped with surveillance cameras, as shown in Table 6-41. The MBTA plans to add 90 more on-board cameras to buses this coming year.

TABLE 6-41 Surveillance Cameras on MBTA Buses		
Garage	**Buses with Cameras**	**Total Buses at Garage**
Quincy	64	82
Lynn	69	88
Charlestown	141	225
Cabot	66	200
Southampton	25	118
Total	**365**	**713**

There are no cameras on the 615 buses at the other four MBTA bus garages: Albany, Arborway, Fellsway, and North Cambridge.

Some routes that serve minority and low-income areas operate out of each of the above garages. Due to the way in which bus vehicle assignments occur (see Chapter 4), all or most minority and low-income routes will have buses with cameras operating on them some of the time. Upon request, the vehicles with cameras can, and have been, assigned to routes with high crime rates.

Station Security Inspections

The MBTA conducts periodic, random station inspections in which passengers' handbags, briefcases, and other carry-on items are searched to deter passengers from carrying explosives or other weapons onto MBTA vehicles. The analysis shown in Table 6-42 indicates that a higher percentage of all station inspections has occurred at minority stations than at nonminority stations, and a lower percentage of all station inspections has occurred at low-income stations than at stations that are classified as non-low-income. The rate of inspection (the number of inspections divided by the number of stations) is significantly higher at minority stations (52 percent) than nonminority stations (27 percent). Also, while the percentage of total inspections at low-income stations is lower than at non-low-income stations, since only 16 percent of all stations are low-income, the rate of inspection at low-income stations (42 percent) is higher than the rate at non-low-income stations (36 percent). Because all stations that are in low-income areas are also minority, no additional analysis is necessary to compare the rate of security inspections in areas that are both minority and low-income with the percentage in areas that are not both.

TABLE 6-42 Station Security Inspections, July 2010				
Station Classification	**# of Station Inspections**	**% of Total Station Inspections**	**% of Total Stations**	**Inspection Rate (% of stations in classification)**
Minority	58	57%	41%	52%
Nonminority	44	43%	59%	27%
Low-income*	19	19%	16%	42%
Non-low-income	83	81%	84%	36%
Systemwide	**102**			**37%**
** All stations that are classified as low-income are also classified as minority.*				

Quality-of-Service Monitoring

The quality-of-service analysis entails comparison of travel times, number of transfers required, cost, and cost per mile for both peak and off-peak trips from census tracts representing a cross-section of the service-area population to the three most-frequently traveled destinations. In order to conduct the quality-of-service assessment, trip origins were selected from the 10 most densely populated minority census tracts and the 10 most densely populated nonminority census tracts in the MBTA service area. Table 6-43 shows the 10 minority and 10 nonminority origins and indicates whether each is also low-income.

TABLE 6-43 Quality-of-Service Origins					
Minority Neighborhood			**Nonminority Neighborhood**		
Tract	**Origin**	**Low-Income?**	**Tract**	**Origin**	**Low-Income?**
90100	Grove Hall (Dorchester)	Y	60300	South Boston	N
101102	Wellington Hill (Dorchester)	Y	30100	North End	N
70200	Chinatown	Y	20100	Beacon Hill	N
91800	Bowdoin/Geneva (Dorchester)	N	350400	Somerville Powderhouse Square	N

TABLE 6-43 Quality-of-Service Origins (cont.)					
Minority Neighborhood			Nonminority Neighborhood		
Tract	Origin	Low-Income?	Tract	Origin	Low-Income?
81200	Mission Hill	Y	400500	Brookline Washington Square	N
81300	Eggleston Square (Roxbury)	Y	352900	Mid-Cambridge	N
160100	Chelsea (East Side)	Y	70600	South End (North of Tremont)	N
50300	East Boston Central Square	Y	401	Brighton Center	Y
110401	Roslindale Square	N	354500	Cambridge Avon Hill	N
354900	Cambridge Rindge Towers	N	351000	Somerville Spring Hill	N

The three census tracts with the highest densities of work-trip attractions were selected for the trip destinations, with the stipulation that the tracts would be in three different neighborhoods. Two additional major regional employment destinations were included in the analysis—Logan Airport and the South Shore Plaza. Logan was selected because of the large and varied number of services it provides, and the South Shore Plaza was selected based on its suburban location and its role as a regional trip generator. Table 6-44 shows the five destinations and indicates the minority and income status of each.

TABLE 6-44 Quality-of-Service Destinations			
Tract	Destinations	Minority?	Low-Income?
30300	State Station	N	N
10700	Copley Square	N	N
81000	Longwood Medical Area	Y	Y
51200	Logan Airport	Y	N
419100	South Shore Plaza	N	N

While the selection methodology for destination zones was designed to be unbiased, one might expect some differences between the work trips attracted to these five selected zones, given that three of the zones—Longwood Medical Area, Logan Airport, and the South Shore Plaza—are likely to contain a higher proportion of lower-income jobs.

The quality-of-service analysis was completed using the MBTA's Web-based trip-planning tool to measure individual transit-trip times, transfers, and costs.[6] The results of the quality-of-service analysis for peak-period trips are shown in Table 6-45, and the results of the quality-of-service analysis for off-peak-period trips are shown in Table 6-46.

For trips taken during the peak time period, minority areas have longer travel times and shorter trip lengths, resulting in slower travel speeds compared to nonminority areas; this difference is statistically significant at the 95 percent confidence level. The difference between minority and nonminority areas is also statistically significant for the number of transfers per trip and per mile, with minority areas having greater transfer rates. While minority areas have higher trip fares than nonminority areas, this difference is not statistically significant. When trip cost is normalized for distance, the trip cost/mile is slightly lower for minority areas.

The only difference between minority and nonminority areas for trips taken during the off-peak time period that is statistically significant is for travel speeds, which are slower for the minority areas.

For trips taken during the peak time period, the differences between low-income and non-low-income areas for quality-of-service measures are similar to those between minority and nonminority areas. None of the differences are statistically significant at the 95 percent confidence level, however, except for the number of transfers per mile, which are greater for low-income areas. For trips not taken during the peak time period, while the differences between low-income and non-low-income areas are similar to those between minority and nonminority areas, none of these differences are statistically significant at the 95 percent confidence level.

All neighborhoods designated as low-income are also designated as minority, meaning that a separate analysis for trips that are from neighborhoods designated as both minority and low-income is not necessary.

The MBTA will look at demand for all destinations as it develops the 2011 Service Plan, to see where transfers can be reduced by using strategies such as route interlining. In addition, the MBTA is using the systemwide AFC data to study where transfers are required to complete a trip. This information will be used in the future to modify route designs to reduce transfers as resources become available. The MBTA Key Bus Route Improvement Program is designed to improve service quality by improving service reliability, offering faster trip times, and providing better amenities. Of the 15 Key Bus Routes, 12 are designated minority and 7 are designated as both minority and low-income.

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6 *The current AFC equipment allows only one free transfer; passengers making trips that require more than one transfer are charged additional fares*

TABLE 6-45 Average Peak-Period Quality-of-Service Measures							
Average Performance	Travel Time (min.)	Trip Length (mi.)	Travel Speed (mph)	Transfers / Trip	Transfers / Mile	Trip Cost	Trip Cost / Mile
Minority	50.43	7.48	8.29	1.50	0.22	$1.91	$0.33
Nonminority	44.65	7.81	9.90	1.10	0.14	$1.77	$0.34
Difference	+5.78	-0.34	-1.61*	+0.40*	+0.08*	+$0.14	-$0.01
Low-income	47.83	7.34	8.40	1.43	0.21	$1.87	$0.35
Non-low-income	43.89	7.43	9.50	1.13	0.15	$1.78	$0.36
Difference	+3.94	-0.08	-1.10	+0.30	+0.07*	+$0.10	-$0.01
** Indicates that difference is statistically significant.*							

TABLE 6-46 Average Off-Peak-Period Quality-of-Service Measures							
Average Performance	Travel Time (min.)	Trip Length (mi.)	Travel Speed (mph)	Transfers / Trip	Transfers / Mile	Trip Cost	Trip Cost / Mile
Minority	50.81	7.53	8.30	1.42	0.19	$1.76	$0.31
Non-minority	44.65	7.44	9.45	1.14	0.15	$1.79	$0.36
Difference	+6.16	+0.08	-1.15*	+0.28	+0.04	-$0.03	-$0.05
Low-income	48.00	7.42	8.45	1.31	0.17	$1.68	$0.32
Non-low-income	43.89	7.25	9.30	1.13	0.15	$1.79	$0.37
Difference	+4.11	+0.16	-0.86	+0.18	+0.01	-$0.11	-$0.05
** Indicates that difference is statistically significant.*							

Title VI Analysis of Customer Survey

In 2008–09 the Central Transportation Planning Staff (CTPS) conducted a systemwide survey of Massachusetts Bay Transportation Authority (MBTA) riders. The most recent comparable systemwide passenger survey was conducted during 1993–2000. Surveys of the Silver Line Washington Street and Silver Line Waterfront bus rapid transit services had been conducted in 2005 and 2006, respectively; therefore, the new survey omitted that mode. It covered 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 characteristics of the survey respondents were presented in Chapter 2.

This section of the report provides a summary of the customer responses to questions concerning the following aspects of service quality:

- Reliability (on-time performance)
- Safety and security
- Cleanliness/condition of vehicles
- Courtesy of drivers/train crews
- Announcement of stops/stations
- Availability of seating on buses/trains
- Frequency of service
- Travel time/speed
- Parking availability
- Stop/station amenities
- Fare collection system (bus and rapid transit)
- Signage on vehicles (bus)

Customers were asked to rate each of these factors on a scale from 1 to 5 (with 1 representing poor and 5 representing excellent). As with all surveys of this nature, the responses to these questions are subjective, as are the individuals' opinions of the value for each rating level.

Table 6-47 compares the average ratings for each factor from bus customers who identify themselves as minority to those who do not; those who identify themselves as low-income (household income is less than $30,000) to those who do not; and those who identify themselves as both minority and low-income to those who do not. As shown in Table 6-47, minority passengers rated most of the measures of service quality lower than nonminority passengers, and they rated parking availability and stop amenities the same as nonminority passengers. Low-income passengers rated 7 of the 12 measures of service quality lower than non-low-income passengers, three of the measures (stop announcements, service frequency, and travel time) the same as non-low-income passengers, and two of the measures (parking availability and stop amenities) higher than non-low-income passengers. Passengers who identified themselves as both minority and low-income rated all of the measures of service quality (with the exception of service frequency) lower than passengers who did not identify themselves as both minority and low-income; both categories of passengers rated the frequency of service 2.9.

TABLE 6-47 MBTA Bus Customer Survey – Service Quality Ratings						
Service Quality Factor	Minority	Nonminority	Low-Income	Non-Low-Income	Minority & Low-Income	Nonminority & Non-Low-Income
Reliability	2.8	3.0	2.9	3.0	2.8	3.0
Safety & security	3.5	3.8	3.5	3.7	3.4	3.9
Vehicle cleanliness/ condition	3.0	3.3	3.1	3.2	2.9	3.3
Courtesy of drivers	3.1	3.6	3.3	3.4	3.1	3.6
Stop announcements	3.6	3.7	3.7	3.7	3.6	3.7
Seating availability	3.1	3.4	3.2	3.3	3.1	3.3
Frequency of service	2.8	2.9	2.9	2.9	2.9	2.9
Travel time/speed	3.2	3.4	3.3	3.3	3.2	3.4
Parking availability	3.1	3.1	3.2	3.0	3.2	3.0
Stop amenities	2.7	2.7	2.8	2.7	2.8	2.7
Fare collection system	3.4	3.7	3.4	3.6	3.3	3.8
Vehicle signage	3.5	3.7	3.5	3.6	3.4	3.7

Table 6-48 compares the average ratings for each factor from rapid transit customers who identify themselves as minority to those who do not; those who identify themselves as low-income (household income is less than $30,000) to those who do not; and those who identify themselves as both minority and low-income to those who do not. As shown in Table 6-48, minority passengers rated most of the measures of service quality lower than nonminority passengers, but they rated frequency of service and parking availability the same as nonminority passengers, and they rated seating availability and station amenities higher. Low-income passengers rated 4 of the 11 measures of service quality (station announcements, seating availability, parking availability, and station amenities) lower than non-low-income passengers, 4 of the measures (vehicle cleanliness, safety and security, service frequency, and travel time) the same as

non-low-income passengers, and 3 of the measures (reliability, courtesy of the crew, and fare collection system) higher than non-low-income passengers. Passengers who identified themselves as both minority and low-income rated 5 of the measures of service quality (reliability, safety and security, vehicle cleanliness, and crew courtesy) lower than passengers who did not identify themselves as both minority and low-income; both categories of passengers had the same ratings for the frequency of service and travel time; and passengers who identified themselves as both minority and low-income rated 4 of the measures (station announcements, seating availability, parking availability, and station amenities) higher than passengers who did not identify themselves as both minority and low-income.

TABLE 6-48 MBTA Rapid Transit Customer Survey – Service Quality Ratings

Service Quality Factor	Minority	Nonminority	Low-Income	Non-Low-Income	Minority & Low-Income	Nonminority & Non-Low-Income
Reliability	3.1	3.2	3.1	3.2	3.1	3.2
Safety & security	3.5	3.7	3.6	3.6	3.6	3.7
Vehicle cleanliness/ condition	3.0	3.1	3.1	3.0	3.0	3.1
Courtesy of train crews	3.2	3.3	3.3	3.3	3.2	3.3
Station announcements	3.5	3.4	3.6	3.4	3.7	3.4
Seating availability	3.0	2.9	3.0	3.0	3.1	2.9
Frequency of service	3.1	3.1	3.0	3.1	3.1	3.1
Travel time/speed	3.2	3.3	3.3	3.3	3.3	3.3
Parking availability	2.9	2.9	2.9	2.9	3.0	2.9
Station amenities	2.8	2.6	2.8	2.6	2.9	2.6
Fare collection system	3.5	3.6	3.5	3.6	3.4	3.6

Table 6-49 compares the average ratings for each factor from commuter rail customers who identify themselves as minority to those who do not; those who identify themselves as low-income (household income is less than $30,000) to those who do not; and those who identify themselves as both minority and low-income to those who do not. As shown in Table 6-49, minority passengers rated most of the measures of service higher than nonminority passengers, but they rated crew courtesy and parking availability the same as nonminority passengers, and they rated frequency of service and travel time lower. Low-income passengers rated all of the measures of service quality higher than non-low-income passengers. Passengers who identified themselves as both minority and low-income rated all of the measures of service quality higher than passengers who did not identify themselves as both minority and low-income, except travel time, which they rated the same.

TABLE 6-49 MBTA Commuter Rail Customer Survey – Service Quality Ratings

Service Quality Factor	Minority	Nonminority	Low-Income	Non-Low-Income	Minority & Low-Income	Nonminority & Non-Low-Income
Reliability	3.4	3.3	3.8	3.3	3.7	3.3
Safety & security	4.0	3.9	4.2	3.9	4.1	3.9
Vehicle cleanliness/ condition	3.4	3.1	3.5	3.2	3.6	3.1
Courtesy of train crews	3.9	3.9	4.1	3.9	4.0	3.9
Station announcements	3.2	3.1	3.4	3.1	3.5	3.1
Seating availability	3.4	3.3	3.8	3.3	3.8	3.3
Frequency of service	3.1	3.2	3.3	3.2	3.4	3.3
Travel time/speed	3.6	3.7	3.9	3.7	3.7	3.7
Parking availability	3.4	3.4	3.5	3.4	3.5	3.4
Station amenities	2.7	2.6	2.9	2.6	2.9	2.6

The MBTA is taking numerous steps to improve the rider experience systemwide. Reliability issues are being addressed on several fronts. Data from the CAD/AVL system on buses is being used to refine public timetables to better reflect actual running times along routes and improve the printed schedules used by customers. The MBTA has released real-time and schedule data, and developers have built numerous innovative applications that make riding the system easier. The Key Bus Route Improvement Program is directed at improving overall service, including reliability, on these routes. As resources allow, the MBTA will look to make similar improvements on other heavily traveled bus routes.

The MBTA has instituted a mandatory training program for employees – "How Can I Help You Today?" – that focuses on courtesy and sensitivity. MBCR (the MBTA's commuter rail contractor) employees are also required to participate in this training. In addition, the MBTA has undercover monitors who ride the system to check on vehicle signage, announcement of stops, and employee courtesy. Furthermore, the MBTA solicits customer feedback by telephone (including TTY), U.S. mail, and the MBTA website.

The MBTA has several initiatives to improve safety and security. Safety Department officials are constantly in the field inspecting stations, buses, subways, trains, rails, and boats to ensure the safest possible environment. All stations and vehicles have direct communication lines to the MBTA's Operations Control Center, and stations are getting upgraded with modernized public address systems and closed-circuit television camera systems. MBTA personnel are thoroughly trained in emergency response and the Authority's Safety Program (coordinated with local, state, and federal law enforcement agencies, as well as the MBTA Police) includes a rigorous schedule of simulated emergency response exercises geared toward achieving state-of-the-art emergency response techniques. The MBTA has a "See Something, Say Something" campaign, designed to encourage passengers who observe activities or things that seem out of place or out of the ordinary to report such instances to MBTA employees or call the MBTA Police. The MBTA is also installing an additional 90 cameras on buses, and has initiated a pilot program to install cameras on Orange Line cars.

Over the past year, the MBTA General Manager has solicited feedback from customers through "Join the GM" sessions at T stations throughout the system. During these sessions, the General Manager and management staff have interacted with customers and listened to their concerns and their recommendations on how to improve service. Customer feedback about service, vehicle and station cleanliness, employee courtesy, and other issues has enabled T staff to make adjustments to service, address station maintenance concerns, and improve the overall customer experience on the system. The MBTA continues to make every effort to provide the highest quality service to all of its customers, regardless of minority or income status.

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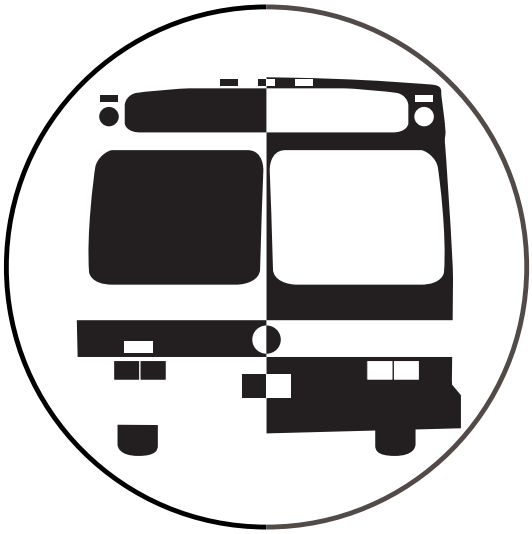

Appendix A

MBTA Limited English Proficiency (LEP) Policy and Procedure

SUBJECT: LEP Policy and Procedure	AFFECTED PERSONNEL:	STATUS & DATE:
DOCUMENT #:	ISSUED BY: ODCR	SUPERCEDES:

1.0 PURPOSE

This document serves as the Policy and Procedure and Plan of Action for the Massachusetts Bay Transportation Authority ("MBTA") or ("the Authority") to provide services to individuals with limited English proficiency. The purpose is to provide a framework for the provision of timely and reasonable language assistance to persons whose primary language is not English, or to those who are limited in speaking, reading, writing or understanding the English language. It demonstrates the MBTA's best efforts in providing excellent customer service and ensuring meaningful access to all its customers as we continue to build a premier world class transit system.

The MBTA's LEP Policy and Procedure is in compliance with Title VI of the Civil Rights Act of 1964. It is also in accordance with Federal guidelines that require recipients of federal financial assistance to take adequate steps to ensure that persons with limited English proficiency receive appropriate language assistance. Additionally, it is a proactive way of meeting customer needs, and is consistent with the Authority's objective to improve overall customer satisfaction.

2.0 DEFINITION OF TERMS

2.1.1 *Title VI of the Civil Rights Act of 1964* – was enacted as part of the landmark Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from discriminating based on race, color or national origin by, among other things, failing to provide meaningful access to individuals who are limited English proficient.

2.1.2 *Individuals with Limited English Proficiency* - individuals who do not speak English as their primary language and who have a limited ability to read, write, speak, or understand English.

2.1.3. *Federal financial assistance* – any federal funds in the form of grants, loans or any other assistance that an agency receives towards any program, project, service or activity.

2.1.4. *Recipients* – all entities (such as the MBTA) that receive Federal financial assistance, either directly or indirectly, through a grant, contract or some other agreement.

2.1.5. *Meaningful access* – the obligation to provide meaningful access is fact-dependent. A person has meaningful access when he or she is able to obtain important communications and information without barriers in a timely and accurate way.

2.1.6. *Vital document* – whether or not a document is "vital" may depend upon the importance of the program, information, encounter, or service involved, and the consequence to the person with LEP if the information in question is not provided accurately or in a timely manner. Vital documents could include, for example, information regarding critical change to service or material with potential for important health, safety and security consequences.

2.1.7. *Language assistance* – the MBTA may provide interpretation, translation and other language services to customers who are limited English proficient based on the need, activity or encounters. There is no "one size fits all solution" for providing assistance and assessments will be made on a case-by-case basis.

2.1.8. *Universal symbols* – pictorial symbols that are used internationally to guide passengers through transportation facilities and are cross-culturally recognized.

2.1.9. *Oral translation* – the act of translating spoken words from one language to another.

2.1.10. *Written translation* – the act of translating written words from one language to another.

2.1.11. *Interpretation* – the unrehearsed transmitting of a spoken or signed message from one language to another.

3.0 SCOPE

This policy establishes the framework and guidelines by which the Authority's departments will meet the requirements of Title VI and related Federal regulations. It ensures effective communication by developing a comprehensive written language assistance program so that all customers including those who are not proficient in English can have meaningful access to the Authority's programs and activities, as required under the regulations. The scope of the policy covers a range of language assistance programs including the translation of certain written materials, the provision of oral language assistance and interpretation, public

announcements and the provision of universal symbols and permanent signs in LEP languages for guidance.

4.0 RESPONSIBILITIES

The LEP policy and procedure is an authority-wide initiative requiring active participation and involvement from various departments within the MBTA including ODCR, Operations, Customer Communications, Marketing, Public Affairs and others with responsibility for serving this community. ODCR is responsible for monitoring, reporting and overall coordination of the program and will collaborate with relevant departments to ensure effective and efficient implementation.

5.0 MEANINGFUL ACCESS POLICY

Federal standards require that any agency receiving federal funds must provide meaningful access to its services, programs and activities for customers who have limited English proficiency. A person has meaningful access when he or she is able to obtain important communications and information without barriers in a timely and accurate way. To ensure that the Authority is providing meaningful access, language assistance services will be offered as required.

5.0(A) Language Needs Assessment

The Authority will apply the following four factors to determine meaningful access and when assessing customer language needs:

1. The number and proportion of persons of limited English proficiency eligible or likely to be served or encountered by a program, activity, or services;
2. The frequency with which persons with limited English proficiency come into contact with the program or service;
3. The nature and importance of the program, activity, or service provided to people's lives;
4. The resources available to the recipient.

The greater the number of persons with LEP, the greater the frequency they will have contact with services, and the greater the programs and activities, the more likely enhanced service will be needed.

5.0(B) Identification of Language Needs in Service Areas

The Authority, in collaboration with Central Transportation Planning Services ("CTPS"), evaluated MBTA customer neighborhoods, stations,

bus routes, and subway and commuter rail lines to identify language dominances, other than English, in those areas. Under the regulation criteria, the primary languages break down as follows for the Authority's customers:

- Spanish 6.1%
- Chinese 2.1%
- Cape Verdean Creole/Portuguese 2.0%
- Italian 1.9%
- Haitian Creole/French 1.5%

For the purpose of this policy, Cape Verdean Creole and Haitian Creole are the preferred languages for translation. However, if translation and/or interpretation services for Cape Verdean Creole and Haitian Creole are not accessible, then the Authority may choose to authorize Portuguese and French as acceptable substitutes.

6.0 LANGUAGE ASSISTANCE

Communication with limited English proficient customers in a timely and accurate manner is critical when providing meaningful language assistance. As such, the MBTA will provide interpretation and translation services to assist with language assistance needs. This can be done by contracting with outside language service organizations; engaging qualified bilingual staff to assist; offer language training to essential employees to better prepare them to effectively communicate; community outreach efforts; distributing materials in the dominant LEP languages; and by screening customer feedback for language related issues and concerns.

6.1(A) Oral Translation/Interpretation Services

The Authority will make reasonable efforts to provide oral translation and interpreting services when necessary to facilitate MBTA projects and initiatives so as to accurately communicate important and relevant information to customers that have a limited ability to speak, write, read, and understand English.

Additionally, oral translation/interpretation services will be provided at public hearings and other pertinent events as necessary. Oral translation may include voice announcements, and interpretation services that will be provided for telephone conversations regarding critical matters involving safety, security, and emergency.

6.1(A)1 Procedure for Accessing Oral Translation/Interpretation Services

The MBTA has contracted with a language assistance firm to provide professional oral translation and interpretation services. Persons requesting translation services can make request in person, by telephone or fax, E-mail, or in writing. The authorization for translation services will be made by the Department requesting the services. The Office of Diversity and Civil Rights, Public Affairs, Marketing, and Customer Communications may also be used to assist in processing requests made by other departments as well. The following are appropriate contacts based on the need for obtaining services or assistance:

- ***ODCR (Government Compliance)*** - general assistance and request for information (617) 222 3305;
- ***Public Affairs*** - assistance regarding public meetings and/or customer support (617) 222- 3304;
- ***Marketing*** - assistance regarding marketing materials and/or printed communications (617) 222-5470;
- ***Customer Communications (CC)*** - assistance regarding translation services for direct customer telephone contact, communications and complaints (617) 222-3200.

6.1(A)2 Interpreters for meetings/public hearings:

Upon request, staff from Marketing, ODCR or CC will coordinate language requests between the MBTA and vendor. The firm will request the Authority's language needs, the date, time, place and general purpose of the meeting or event. The MBTA's requests for interpreters should be submitted at least 5 business days prior to public hearing/meeting.

6.1(A)3 Telephone Interpreter:

MBTA will contact the language assistance firm to request an interpreter for telephone communications as necessary. The firm will require that the Authority's language needs be identified prior to being contacted. As an example, this can be achieved by MBTA staff utilizing "I Speak Calling Cards" printed in various languages for the customer to identify his or her spoken languages (i.e. "I speak Spanish") translated in the Spanish language. The department requesting the services will be charged for the translations.

6.1(B) Written Translation Services

The Authority will make every effort to translate documents or use universal symbols and signs for its customers with limited English proficiency, and in doing so, the Authority will take into consideration the importance, benefits, costs, and feasibility of translating such materials.

6.1(B)1 Vital materials

For the purpose of this policy, vital materials are defined as information or documents that are critical for accessing MBTA services, programs and activities. Vital documents may include, but are not limited to:

- communications affecting health and safety;
- security announcements and signage;
- emergency related public announcements;
- public participation in the decision making processes involving the Authority;
- public meeting translations (advance notice will be given 48 hours before event);
- materials regarding Title VI Rights and complaint procedures;
- materials concerning major Authority-wide initiatives that affect customer services (e.g. AFC);
- information affecting a rider's ability to access and use the system safely and effectively (e.g. major station changes, renovations, permanent changes in service or service routes).

6.1(B)2 Non-vital materials

Less vital materials, that may not be subject to translation include, but are not limited to:

- train and bus schedules;
- information regarding schedules, trip-planning, inquiries, and customer feedback;
- paper and/or Charlie card tickets;
- general advertisements;
- general announcements; and,
- publications of internal major Authority policies and procedures.

6.1(B)3 Signage and Universal Symbols

A vital part of a well-functioning LEP compliance program includes having effective non-verbal communication such as signage, and electronic messaging and related methods for informing customers of Limited English Proficiency of basic communications. The Authority will assess, post and maintain signs in regularly encountered languages other than English in trains, buses, stations and other appropriate Authority property where deemed beneficial or necessary as an effective way of communicating frequently recurring messages necessary for customer safety and service.

The lack of space or feasibility of translated signage or electronic messaging may sometimes hinder where signs are placed. In some cases, universal symbols will be used as appropriate. Priority areas for signage and universal symbols may include, but are not limited to:

- Accessibility/Priority seating
- Do Not Enter
- Do Not Leave Bags Unattended
- Elevator/Escalator
- Emergency Brake
- Emergency Exit
- Danger
- No Smoking
- In Case of Emergency, Press Button
- Hazardous
- Stand Behind Yellow Line
- Third Rail

6.1(C) Procedure for Accessing Written Translation Services

As indicated on pages two and three, departments requiring assistance will initiate service request through ODCR, Marketing or CC based on kind of assistance needed. The MBTA will send documentation to the language assistance firm for written translation services. The language assistance firm will review the request and submit a cost estimate for the requested services back to the MBTA. The department ordering the services will be charged for the translations.

After the MBTA approves the translation costs for the materials, the firm will then proceed with the translation and store materials as an electronic file that will be emailed back to the originating MBTA department.

6.1(D) How To Access MBTA Translation Services

To request services, based on need, departments may contact the Office of Diversity and Civil Rights (ODCR) at 617-222-3305, Marketing at 617-222-5470, Public Affairs at 617-222-3304 or Customer Communications (CC) at 617-222-3200.

7.0 TRAINING

The MBTA will train its workforce, especially its managers and employees who interact with the Authority's customers and are responsible for implementation of program, to ensure that they are knowledgeable and aware of the MBTA's Limited English Proficiency (LEP) Policy and Procedure. Trainings will be conducted in coordination through HR, ODCR, Marketing, and CC. Other employee trainings will be implemented through the following:

- New hire orientation and policy training sessions for supervisors and other staff who are responsible for implementing LEP policy.
- Language courses will be encouraged and reimbursable under the MBTA's Tuition Reimbursement program (these courses must be taken on employees' own time.)
- Training and written information on the scope and nature of available language assistance services.

8.0 OUTREACH

The Authority through ODCR, Marketing, CC, Public Affairs and other departments will ensure that its Limited English Proficiency (LEP) Program reaches out to communities, especially those with high levels of populations with Limited English Proficiency. This can be achieved by holding public meetings, written communications, and by inviting members of the community with Limited English Proficiency to identify needs, provide feedback, and to make suggestions on how the MBTA can improve its language services. Additional outreach efforts may include, but are not limited to:

- Title VI brochures
- Publication of notices in newspapers;
- Radio and TV stations that serve limited English proficiency groups; and

- Discussions with community organizations regarding problems and solutions

9.0 MONITORING AND REPORTING

ODCR in conjunction with Customer Communications Department (CC), Public Affairs and Marketing will monitor, review and amend, if necessary, the MBTA's Limited English Proficiency (LEP) Policy & Procedure through consideration given to the following:

- Reports and observations from the Customer Communications Department;
- Changes in demographics that trigger consideration of translation language;
- Analysis of staff requests for translations services, needs and costs; and
- FTA reviews of the Title VI Program and LEP Plan;
- Customer feedback
- ODCR in collaboration with other departments will include progress on implementation of the program in its Quarter GM and other reports.

10.0 POLICY DISTRIBUTION

This Limited English Proficiency (LEP) Policy and Procedure will be distributed to all MBTA supervisors and all departments. Additionally, the policy will be available at:

New hire orientation and training;
Human Resources;
Office of Diversity and Civil Rights (ODCR)
Customer Communications (CC)
Marketing

11.0 REFERENCE DOCUMENTATION

11.1 Circular FTA C4702.1A
11.2 Executive Order 13166
11.3 Title VI of the Civil Rights Act of 1964

Appendix B

MBTA Transit Police Community Outreach

MBTA Transit Police

To: JOSEPH O'CONNOR
Deputy Chief

From: Robert Lenehan
Lieutenant Commander
TPSA 2

Date: October 12, 2010

Subject: ***TPSA 2 COMMUNITY OUTREACH***

Sir:

The following is a synopsis of community outreach that the officers assigned to TPSA 2 have engaged in over the past year.

1. We have continued our leadership role of the informally named "Red Line North Bike Theft Information Sharing Group." Agencies that have joined the partnership include the municipal police departments of Arlington, Belmont, Cambridge, and Somerville, as well as the campus police departments from Harvard University, the Massachusetts Institute of Technology, and Tufts University. We also enjoy periodic participation from the Massachusetts State Police and the New England States Police Information network (NESPIN). The group not only shares information pertaining to bike theft, but also engages in public outreach for bike theft prevention and bicycle safety. At other times, joint enforcement operations are conducted with shared resources from participating agencies.
2. A public outreach was initiated in late spring of 2010 in the city of Lynn. The program, which initially was designed to serve as a sounding board and resource referral point for the neighbors of Lynn Station, has grown to an actively involved community group and a renewed focus on joint cooperation between the MBTA Transit Police, the city of Lynn Police, and the North Shore Community College Campus Police Department.
3. P.O. William Bice continues to serve as an Operation Lifesaver resource for the Department and our communities. In addition, he serves on the Executive Board of Massachusetts Operation Lifesaver. He has presented for community groups, business groups, and in classroom settings.
4. The leadership of TPSA 2 fully participates in the Cambridge Public Safety and Private Security Association. These meetings, which are held bi-monthly, create a collaborative environment between the many businesses based in the city of Cambridge and the police and fire agencies which provide public safety services to them.
5. The Central Square Business Association, which meets quarterly, serves the interests of the entire central square, Cambridge community, including the businesses based there. As such, the officers of TPSA 2 regularly attend their meetings in order to provide input and to hear of concerns pertaining to public safety and public transportation.

Finally, weekly and on a daily basis, leadership members of TPSA 2 meet informally with police managers, security directors, MBTA and contract employees of the Authority, and the general public to stay abreast and informed of issues arising. In the construction fields, CPTED suggestions are made. Traffic improvements are suggested for busways and bus stops. Our daily activities are driven by community outreach, including engaging the riding public in conversation and small talk during casual encounters.

Respectfully submitted,

\\signed

ROBERT E. LENEHAN, JR.
Lieutenant Commander
Transit Police Service Area 5

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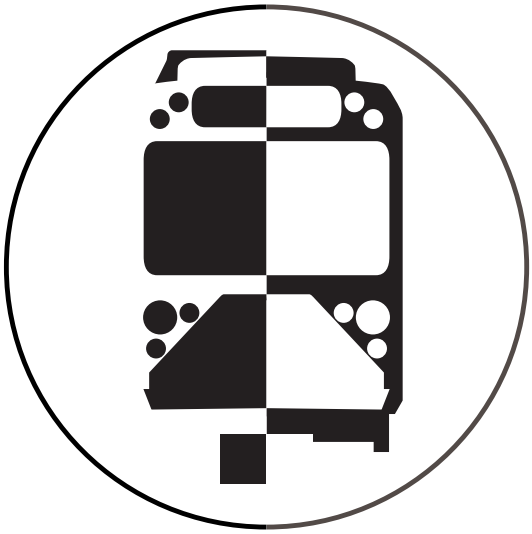


Appendix C

MBTA Security Inspection Program

MBTA Transit Police

DEPARTMENT MANUAL

CHAPTER 152

General Order No. 2009-19

DATE OF ISSUE	EFFECTIVE DATE
10/14/2009	10/21/2009

SUBJECT
PATROL
Security Inspection Program

REFERENCES

PAGE
1 OF 9

ISSUING STATUS

☐ NEW
☒ AMENDS
☐ RESCINDS

ISSUING AUTHORITY

Paul S. MacMillan
Chief of Police

1.0 **BACKGROUND.** The United States Department of Homeland Security warns that the nation's mass transit systems – part of America's "critical infrastructure" – are at high risk of being targeted by terrorist groups determined to carry out mass destruction/casualty attacks. The MBTA Transit Police Department is committed to maintaining a safe mass transit system by instituting procedures designed to prevent potential attacks while honoring the spirit and the letter of the United States Constitution and the Constitution of the Commonwealth of Massachusetts. To accomplish these goals, the Department will implement a number of carefully designed, supervised, and documented security measures, including security inspections of persons' handbags, briefcases, and other carry-on items. The purpose of these measures is to deter persons from carrying explosives or other weapons aboard MBTA vehicles, and thereby to prevent an attack from occurring on the MBTA transit system. In implementing these measures, the Department is taking all reasonable steps to protect the privacy interests of MBTA passengers and to minimize the intrusion caused by the increased security measures.

2.0 **DEFINITIONS.**

2.1 **EXPLOSIVE DETECTION DOGS (EDD).** Police canines that have been trained in the detection of explosive materials based on their distinctive odors. Department EDD's are certified by either the North American Police Work Dog Association (NAPWDA) or the Transportation Security Administration (TSA) in explosives detection before their assignment in the field.

2.2 **EXPLOSIVE TRACE DETECTION (ETD)/EXPLOSIVE DETECTION SYSTEM (EDS).** Electronic equipment designed to detect and identify the presence of explosive materials based on chemical signatures and/or other unique core characteristics.

2.3 **IMPROVISED EXPLOSIVE DEVICE (IED).** A non-military, non-commercial, or modified explosive device designed by the builder with available knowledge and materials. Contains an explosive charge, fusing system and optional container. (FBI definition)

2.4 **NON-INTRUSIVE INSPECTION.** A security inspection performed on an unopened handbag, briefcase or other carry-on item by means of an EDD or ETD/EDS equipment.

2.5 **PHYSICAL INSPECTION.** The examination of a handbag, briefcase, or other carry-on item conducted by a Transit Police Officer.

2.6 **PROHIBITED ITEM.** Any unlawfully possessed firearm or ammunition; explosives (including but not limited to dynamite, nitroglycerin, black powder, fireworks, plastic explosives or blasting caps); inflammable or combustible liquid; acid; poisonous substance, liquid or gas; radioactive article, substance or material; biological or hazardous material; or any kind of device or substance that could be used as a wea-

pon to kill or injure one or more victims on the mass transit system, or that in the manner in which it is being transported poses an unreasonable danger to persons or to the property, equipment or facilities of the mass transit system.

2.7 **SECURITY INSPECTIONS.** The inspection of handbags, briefcases, and other carry-on items by ETD, EDS, EDD or physical examination for the primary purpose of preventing the carrying or placement of any prohibited item on the transit system.

2.8 **SECURITY INSPECTION PROGRAM INSPECTION SEQUENCE MEMO.** The internal memo issued by the Patrol Operations Division Commander that designates the sequence for conducting Pre-Entrance Security Inspections for a specific date and time period. The Inspection Sequence Memo pre-identifies by number those passengers that are to be selected for security inspection of their handbags, briefcases or other carry-on items based on the passenger count at that location. Passangers to be selected will be pre-determined by a computer generated random sequence. The sequence frequency may be increased or decreased according to the current threat level.

3.0 **POLICY.** Security inspections of handbags, briefcases and other carry-on items possessed by MBTA passengers are for the purpose of preventing a terrorist attack on the transit system by deterring persons from carrying prohibited items aboard MBTA vehicles.

3.1 All security inspections will be done pursuant to selection criteria in accordance with Sections 4.3 and 4.4. Nothing in this General Order will be construed in any way to preclude, prevent or otherwise limit the authority of a Transit Police Officer to initiate a threshold inquiry based upon a reasonable and articulable suspicion to believe that a particular individual may be engaged in criminal activity, or a lawful arrest and/or search based upon probable cause.

3.2 All Security inspections of passengers' handbags, briefcases, and other carry-on items will be supervised and documented.

3.3 No Officer will rely to any extent upon a person's race, ethnicity or apparent religious faith or affiliation in conducting a security inspection, except when responding to a suspect-specific "Be on the Lookout" (B.O.L.O.) alert. It is a violation of this policy for any Officer to treat a person differently based on his or her race, ethnicity or apparent religious faith or affiliation.

3.4 Security inspections are to be conducted in a manner designed to minimize intrusion into the privacy interests of MBTA passengers while preventing/deterring acts of terrorism. Whenever possible, security inspections will be performed by means of electronic ETD or EDS equipment or by the use of EDDs. Security inspections will be conducted in strict observance of the Constitutional rights of the parties, with due regard for the safety of all Officers, other persons, and property involved.

4.0 **OPERATIONAL GUIDELINES.** Security inspections will be conducted in accordance with the following operational guidelines:

4.1 **NOTICE.** In 2004, The MBTA advised patrons via a media campaign and the posting of signs in conspicuous locations at station entrances, within transit vehicles, and at other locations on MBTA property that all persons choosing to use the MBTA transit system will be subject to security inspection of their handbags, briefcases and other carry-on items. Such notices will remain posted for as long as the Department conducts security inspections.

4.2 **APPEARANCE.** Security inspections will be performed by uniformed personnel or Detectives or plainclothes Officers wearing an article of clothing that clearly identifies them as MBTA Transit Police Officers and conspicuously displays their badges. Uniformed Transportation Security Administration (TSA) Transportation Security Officers (TSO) may assist Transit Police in conducting Security Inspections.

4.3 **PRE-ENTRANCE SECURITY INSPECTIONS.** Pre-Entrance Security Inspections will be conducted where practical before persons proceed through the "paid" entrance area of an MBTA station. A Transit Police Supervisor and a minimum of three (3) Transit Police Officers will be assigned to conduct pre-entrance Security Inspections. Prior to the commencement of the security inspection process, the Supervisor will be provided with a printed copy of the Security Inspection Program Inspection Sequence Memo establishing the inspection sequence for that specific date and time frame. Supervisors will use hand counters to verify the passenger count and select the passengers pre-identified for inspection based on the number sequence established in the Inspection Sequence Memo.

4.3.1 **NON-DISCRETIONARY APPLICATION.** Pre-Entrance Security Inspections will be conducted only pursuant to this policy, and Officers will not be permitted to exercise discretion to inspect the carry-on items of any passenger out of the established inspection sequence absent the existence of probable cause or some other constitutional or legal justification.

4.3.2 **REPORT/CAD RECORD.** A Security Inspection Program (code 4095) entry will be made in the CAD system noting the time the Transit Police Supervisor and Officers arrive at the inspection site, the location where Pre-Entrance Security Inspections are to be conducted, the Officers assigned and the time that the program is completed.

4.3.3 **RACE/GENDER REPORT.** Supervisors will submit a Security Inspection Recording Sheet for each Pre-Entrance Security Inspection. The completed Security Inspection Recording Sheet will contain the following information:

- the number of passengers selected for Pre-Entrance Security Inspection;
- the total number of passengers entering the station during the inspection period;
- the number and type of inspections performed;
- the number of passengers selected for inspection without carry-on bags;
- the number of refused inspections;
- inspection results; and
- the number of FIOs conducted.

Additionally, the race and gender of each passenger who was selected for inspection will be recorded to assure that there is no actual or perceived bias-based profiling. A copy of the Security Inspection Program Inspec-

tion Sequence Memo for that date will be attached to the Security Inspection Recording Sheet.

4.3.4 **PASSENGER COOPERATION.** Pre-Entrance Security Inspections are only to be conducted of persons choosing to use the MBTA transit system. Consequently, a person may avoid a Pre-Entrance Security Inspection by electing not to board an MBTA vehicle or enter MBTA property. A person's refusal to allow a Pre-Entrance Security Inspection does not alone constitute probable cause or reasonable suspicion. Therefore, absent other factors that would justify a search based on probable cause or a threshold inquiry based on reasonable suspicion, a person who refuses to allow a Pre-Entrance Security Inspection will not be detained or questioned. Rather, such person will be denied access to the MBTA transit system and requested to leave MBTA property.

4.3.5 **LANGUAGE BARRIER.** The Department will provide public information relative to Pre-Entrance Safety Inspections in multiple languages with the assistance of both private and public organizations dedicated to services to non-English speaking populations. Nevertheless, Officers conducting inspections may encounter a non-English speaking passenger with whom the Officers have difficulty communicating. In that case, the Officers will use the Department's contracted "Language Line" interpreter service.

4.3.6 **ITEMS TO BE INSPECTED.** Officers are authorized to inspect passengers' handbags, briefcases, and any other carry-on items.

4.3.7 **REFUSAL.** In the event that a person refuses to allow a Pre-Entrance Security Inspection of his or her handbag, briefcase, or other carry-on item, he or she will either be denied entry or requested to leave MBTA property. If the person persists in his or her demand to enter the system, the Supervisor must intervene and explain the policy of the MBTA in this area and reiterate that entrance is dependant upon compliance with the policy. If the passenger continues to refuse to leave the system, the Supervisor will warn that a continued presence on MBTA property may result in the arrest of the passenger for the criminal offense of Trespass pursuant to Massachusetts General Law Chapter (M.G.L.) 266, §120.

- **REFUSAL REPORT.** Whenever a passenger who refuses to permit a Pre-Entrance Security Inspection attempts to enter the system or refuses to leave the system, an FIO - Security Inspection (code 2905) entry will be made in the journal system. A narrative noting the passenger's attempts to enter the station or refusal to leave the system and the actions taken, as well as all other pertinent information, must be included for each entry. The case number for each FIO/entry will be noted on the Security Inspection Recording Sheet.

4.4 **CRITICAL INFRASTRUCTURE SECURITY INSPECTIONS.** Critical Infrastructure Security Inspections will be conducted at strategic locations within the MBTA transit system. Critical Infrastructure Security Inspections will involve the inspection of all packages of a size equal to or larger than a standard airline carry-on bag (approximately 22" by 14" by 9") being transported on board an MBTA vehicle entering areas of the transit system identified by DHS/TSA as requiring special security measures. A Transit Police Supervisor will oversee and coordinate the activities of

all Transit Police Officers and/or MBTA Transportation Officials assigned to conduct Critical Infrastructure Security Inspections.

4.4.1 **NON-DISCRETIONARY APPLICATION.** Critical Infrastructure Security Inspections will be conducted only pursuant to this policy. Unless otherwise directed by the Patrol Operations Division Commander, Officers will inspect all carry-on items that are equal to or larger than the size noted above.

4.4.2 **REPORT/CAD RECORD.** A Security Inspection Program (code 4095) entry will be made in the CAD system noting the location where Critical Infrastructure Security Inspections are being conducted, the time the program is initiated, the names of the Transit Police Supervisor and Officers and MBTA Transportation Officials assigned and the time of completion.

4.4.3 **RACE/GENDER REPORT.** Supervisors will submit a Security Inspection Recording Sheet for each Critical Infrastructure Security Inspection location. The completed Security Inspection Recording Sheet will contain the following information:

- the total number of Critical Infrastructure Security Inspections performed;
- the number of refused inspections;
- inspection results; and
- the number of FIOs conducted.

Additionally, the race and gender of each passenger who was the subject of an inspection will be recorded to assure that there is no actual or perceived bias-based profiling.

4.4.4 **PASSENGER COOPERATION.** Critical Infrastructure Security Inspections are only to be conducted on carry-on packages of a size equal to or larger than a standard airline carry-on bag (approximately 22” by 14” by 9”). Consequently, a person in possession of a carry-on package equal to or larger than noted above may avoid a Critical Infrastructure Security Inspection by electing to leave MBTA property. A person’s refusal to allow a Critical Infrastructure Security Inspection does not alone constitute probable cause or reasonable suspicion. Therefore, absent other factors that would justify a search based on probable cause or a threshold inquiry based on reasonable suspicion, a person who refuses to allow a Critical Infrastructure Security Inspection will not be detained or questioned. Rather, such person will not be allowed to travel beyond the inspection location and will be instructed to immediately leave MBTA property. .

4.4.5 **LANGUAGE BARRIER.** The Department will provide public information relative to Critical Infrastructure Safety Inspections in multiple languages with the assistance of both private and public organizations dedicated to services to non-English speaking populations. Nevertheless, Officers conducting inspections may encounter a non-English speaking passenger with whom the Officers have difficulty communicating. In that case, the Officers will use the Department’s contracted “Language Line” interpreter service.

4.4.6 **ITEMS TO BE INSPECTED.** All carry-on items that are of a size equal to or larger than a standard airline carry-on bag (approximately 22" by 14" by 9") are subject to Critical Infrastructure Security Inspections.

4.4.7 **REFUSAL.** In the event that a person refuses to allow a Critical Infrastructure Security Inspection of any carry-on item that is of a size equal to or larger than a standard airline carry-on bag, he or she will be denied further travel on the transit system and requested to leave MBTA property. If the person persists in his or her demand to travel on the transit system, the Supervisor must intervene and explain the policy of the MBTA in this area and reiterate that continued travel is dependent upon compliance with the policy. If the passenger continues to refuse to leave the system, the Supervisor will warn that a continued presence on MBTA property may result in the arrest of the passenger for the criminal offense of Trespass pursuant to Massachusetts General Law Chapter (M.G.L.) 266, §120.

- **REFUSAL REPORT.** Whenever a passenger who refuses to permit a Critical Infrastructure Security Inspection attempts to continue to travel on the system or refuses to leave the system, an FIO - Security Inspection (code 2905) entry will be made in the journal system. A narrative noting the passenger's refusal to leave the system and the actions taken, as well as all other pertinent information, must be included for each entry. The case number for each FIO/entry will be noted on the Security Inspection Recording Sheet.

4.5 **DURATION OF INSPECTION.** The duration of each inspection will be no longer than necessary to inspect the passenger's handbag, briefcase, or other carry-on item(s). The Department pledges to perform all inspections in as efficient and expeditious manner as possible so as not to cause customers or transportation services undue delay.

4.6 **SCOPE OF INSPECTION.** The inspection of carry-on items will be limited to what is minimally necessary to determine whether the item being inspected contains any prohibited items.

4.7 **METHOD OF INSPECTIONS.** The primary means for conducting Critical Infrastructure Security Inspections are EDDs, electronic ETD equipment or EDS equipment. If none of these resources are available, a Physical Inspection will be conducted.

4.8 **EXPLOSIVE DETECTION CANINE INSPECTIONS.** Explosive Detection Unit (EDU) personnel will conduct Critical Infrastructure Security Inspection by having EDD check carry-on bags for the presence of an explosive odor. In all other respects, including reporting under Section 4.3.6 and Section 4.4.6 of this chapter, the protocol for EDU personnel conducting Security Inspections will remain the same.

4.9 **ETD/EDS INSPECTIONS.** Officers will conduct Critical Infrastructure Security Inspections by utilizing electronic ETD/ EDS equipment when available. In all other respects, including reporting under Section 4.3.6 and Section 4.4.6 of this chapter, the protocol for personnel conducting Security Inspections will remain the same.

4.10 **PHYSICAL INSPECTIONS.** In the event that neither an ETD, EDS nor EDD is available, a Physical Inspection will be conducted by having the passenger open the carry-on item for inspection. The Officer conducting the Physical Inspection may carefully move, manipulate, or remove as necessary the contents of the carry-on

item in order to reveal and expose to view other items contained therein that may constitute a Prohibited Item. In the event that an article of baggage is found to contain another closed container or compartment that, by its shape, size, design, or weight may conceal a Prohibited Item, the Officer may proceed to open that interior container or compartment to inspect for Prohibited Items.

5.0 **RESPONSIBILITIES.** In order to implement an effective Security Inspection Policy that complies with prevailing state and federal constitutional law, specific duties are assigned to the Administrative Services Division, the Patrol Operations Division, Supervisors, and all MBTA Transit Police personnel.

5.1 **ADMINISTRATIVE SERVICES DIVISION.** The Administrative Services Division Commander will:

- utilize appropriate citizen complaint procedures to document and investigate allegations of deviation from Department policy or prevailing law in this area;
- recommend immediate and appropriate corrective measures if deviations from law or policy occur;
- develop and utilize procedures for the proactive review of performance, complaint, and other employment information to assist Supervisors in identifying and modifying potentially problematic behavior and to promote professionalism throughout the Department;
- ensure that all Officers receive training in the definition and practical application of a security inspection, its uses and its limitations under the law; and
- ensure that the Patrol Operations Division is provided with all information requisite to contacting and utilizing the Department's contracted "Language Line" service.

5.2 **PATROL OPERATIONS DIVISION.** The Patrol Operations Division Commander will:

- coordinate the implementation of a comprehensive public information program that will include advertising in both print and electronic media and the installation of notices in accordance with Section 4.1 above with the MBTA General Manager, the Chief Operating Officer, the Director of Marketing Communications, and other appropriate offices of the Authority;
- ensure that Supervisors are consistently assigned to oversee implementation of Pre Entrance and Critical Infrastructure Security Inspections;
- notify the Administrative Services Division Commander of any complaints he/she has received alleging any deviation or violation of Department policy or the law relative to Security Inspections;
- monitor the scheduling of security inspections and ensure that the locations and rates of Critical Infrastructure Security Inspections and Pre-Entrance Security Inspections conducted are appropriate for the existing Department of Homeland Security alert level and/or current intelligence information;

- issue an internal Security Inspection Program Inspection Sequence Memo pre-identifying by number each passenger to be selected for security inspection of their handbags, briefcases or other carry-on items during the Pre-Entrance Security Inspection; and

- ensure that all Supervisors have been trained in the protocol for use of the Department's "Language Line" service and possess the requisite equipment and information to access that service.

5.3 **SUPERVISORS.** All Supervisors will:

- ensure that a sufficient number of Officers are assigned to conduct security inspections at locations and times determined by the Patrol Operations Division Commander;

- inspect transit stations where security inspections are to be conducted to ensure that conspicuous signs are posted notifying persons that they will be subject to a Security Inspection if they choose to enter or continue to use the MBTA transit system;

- ensure that they have in their possession a printed copy of the Security Inspection Program Inspection Sequence Memo issued by the Patrol Operations Division Commander designating the inspection sequence to be utilized for Pre-Entrance Security Inspections for the date and time of the inspection;

- ensure that a sufficient number of cotton and/or latex gloves are available to Officers conducting security inspections;

- call in a Code 4095 when the security inspection is initiated and provide the Dispatcher with the computer ID number of all assigned personnel, and clear all units once the security inspection is completed;

- ensure that all Transit Police Officers, MBTA Transportation Officials and other support personnel assigned comport their conduct to the Department's rules and regulations and the core values of integrity, courtesy and professionalism while conducting security inspections, and that all reporting requirements are met;

- ensure that every passenger selected for inspection is given a briefing card explaining the policy of security inspections. If asked, Supervisors will identify a contact from the Patrol Operations Division Command should there be any further questions or concerns;

- ensure that a separate incident-based journal system entry is made for any law enforcement actions (FIO, arrest, ejection, etc.) that may be initiated as a result of an incident that is observed/occurs during the course of a security inspection;

- ensure that they are in possession of the written instructions for use of the "Language Line" interpreter service and all necessary information to access that service (e.g., Department's client i.d. number and personal code); and

- ensure that a cellular telephone is available with a speakerphone capability in the event that the inspection team needs to contact the Department's contracted "Language Line" interpreter service. If the location of the security inspection does not allow the use of a cellular phone, then the Supervisor must identify the location of a "land line" telephone for use in the event that the "Language Line" service is to be utilized.

6.0 **WEAPON AND EXPLOSIVE PROTOCOL.** In the event that an ETD/EDS indicates a positive finding, an EDD alerts on a carry-on item or person, or an Officer observes what he or she believes to be an IED or other type of Prohibited Item during a security inspection, the following procedures will be initiated:

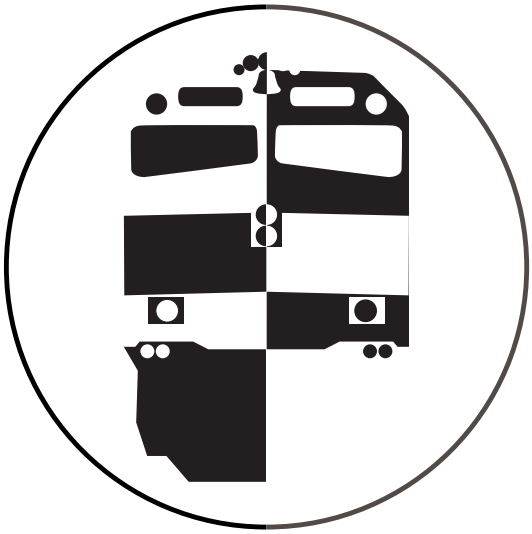
6.1 The Supervisor will instruct the person to step away from the carry-on item and initiate the clearance protocol. If appropriate, based on the totality of the circumstances involved, the Supervisor will instruct the Officers to both secure the item and clear any other patrons or employees from the immediate area and direct an Officer to contact the Dispatch Supervisor by phone and advise him/her of the situation.

6.2 The Supervisor will conduct a threshold inquiry of the person to determine if any additional information can be obtained regarding the source of the positive reading or suspected device. The FIO will be entered into the Journal System under Code 2905: FIO – Security Inspection. A narrative noting that a positive reading occurred, the substance identified and the actions taken as well as any other pertinent information must be included for each entry. The case number for each FIO/entry will be noted on the Security Inspection Recording Sheet.

6.3 If the Supervisor is not satisfied with the apparent reason for the positive reading or is unable to determine the exact nature of the device and/or weapon, the item in question will be treated as a possible IED and Officers will initiate the safety and response procedures outlined in sections, 4.0, 5.0, and 6.0 of Chapter 252, Explosive Detection Unit.

7.0 **INVESTIGATIONS NOT GOVERNED BY THIS POLICY.** The terms and conditions of this Chapter govern minimally invasive security inspections that are designed to protect the system and its riders, to deter terrorism and not to gather evidence of criminal conduct. Notwithstanding that imperative, nothing in this chapter limits or expands the statutory and common law authority of Transit Police Officers to initiate and pursue investigations and conduct searches based upon reasonable suspicion, probable cause, or any recognized exception to the probable cause requirement. See M.G.L. c. 41, §98; M.G.L. c. 276, §1; and Terry v. Ohio, 392 U.S. 1 (1968). See also Searches, Chapter 147 of the Department Manual.

Sections 2.8, 4.6 – 4.9 revised, 6/2009



Appendix D

MBTA Transit Police
Standards of Conduct

MBTA Transit Police

DEPARTMENT MANUAL

CHAPTER 122

General Order No. 2008-60

DATE OF ISSUE	EFFECTIVE DATE
11/24/2008	11/28/2008

SUBJECT
STANDARDS OF CONDUCT
Identification and Prevention of Bias Based Profiling

ISSUING STATUS
☐ NEW
☒ AMENDS
☐ RESCINDS

ISSUING AUTHORITY

Paul S. MacMillan
Chief of Police

REFERENCES
CALEA 1.2.9

PAGE
1 OF 4

1.0 **BACKGROUND.** Allegations of bias based profiling or discriminatory practices, real or perceived, are detrimental to the relationship between police and the communities they protect and serve, because they strike at the basic foundation of public trust. This trust is essential to effective community policing. Bias based profiling is an illegal and ineffective method of law enforcement. Bias based profiling results in increased safety risks to Officers and citizens, and the misuse of valuable police resources. More importantly, such improper methods violate the civil rights of members of the public and may lead to increased exposure to civil and criminal liability, as well as requests for civilian oversight of police activities. Bias based profiling is prohibited in any police action (e.g. traffic contacts, field contacts, asset seizure and forfeiture efforts, etc.). The MBTA Transit Police Department does not endorse, train, teach, support, or condone any type of stereotyping or bias based profiling by their Officers. While recognizing that most Police Officers perform their duties in a professional, ethical, and impartial manner, the Department is committed to upholding and protecting the constitutional and civil rights of all citizens. {1.2.9 a}

2.0 **DEFINITIONS:**

2.1 **BIAS BASED PROFILING:** The practice of detaining or stopping a suspect based on a broad set of criteria which cast suspicion on an entire class of people without any individualized suspicion of the particular person being stopped.

2.2 **SUSPECT SPECIFIC INCIDENT:** An incident in which an MBTA Transit Police Officer(s) is lawfully attempting to detain, apprehend, or otherwise be on the lookout for one or more specific suspects who have been identified or described in part by national or ethnic origin, gender or race, etc. However, race, gender, and/or ethnic origin, etc., can never be used as the sole basis for probable cause or reasonable suspicion.

3.0 **POLICY:** Except in "suspect specific incidents", MBTA Transit Police Officers are prohibited from considering the race, gender, sexual orientation, religion, economic status, cultural group, lifestyle (e.g., clothing, personal appearance, etc.), national or ethnic origin of members of the public in deciding to detain a person or stop a motor vehicle and in deciding upon the scope or substance of any law enforcement action. {1.2.9 a}

4.0 **RESPONSIBILITIES:** In order to prevent incidents of bias based profiling and to comply with state law, all Officers will:

- provide all people within the Commonwealth fair and impartial police services consistent with constitutional and statutory mandates, and the policies and procedures of the Department;
- respect the diversity and the cultural differences of all citizens; and
- continue their commitment to community policing and problem solving, including lawful and non-discriminatory law enforcement that promotes public safety and strengthens public trust, confidence, and awareness.

4.1 **ADMINISTRATIVE SERVICES DIVISION:** The Administrative Services Division Commander will:

- utilize appropriate citizen complaint procedures to document and investigate allegations of bias based profiling;
- investigate referrals from the Massachusetts Commission Against Discrimination (MCAD), the Executive Office of Public Safety and Security (EOPSS) statewide toll free complaint number, the MBTA Department of Organizational Diversity/Civil Rights, or any other referral source;
- notify the MBTA Department of Organizational Diversity/Civil Rights concerning any allegation or complaint within which an internal MBTA violation of civil rights is alleged;
- recommend appropriate corrective measures if bias based profiling occurs; (See section 6.0.) {1.2.9 c}
- develop and utilize procedures for the proactive review of performance, complaint and other employment information to assist supervisors in identifying and modifying potentially problematic behavior and to promote professionalism throughout the Department;
- ensure that Police Officers receive training, at least annually, on bias based profiling practices and the standards established by this policy, including legal aspects (e.g., traffic stops, search issues, interview techniques, etc.); and {1.2.9 b}
- conduct an annual administrative review of agency's practices, including citizen concerns. {1.2.9 d}

4.2 **SUPERVISORS:** MBTA Transit Police Supervisors will:

- monitor Officer conduct to ensure that the standards of this policy are being fulfilled;
- ensure that Officers collect data on race, gender, subsequent searches, and other information in accordance with the law, the established protocol of EOPSS, and/or the policies and procedures of the Department; and

- take positive steps to identify, prevent and eliminate any instances of bias based profiling by Officers of the Department.

4.3 **MBTA TRANSIT POLICE PERSONNEL:** The following responsibilities are required by all Officers who conduct either a motor vehicle stop or a Terry type stop.

4.3.1 All Officers will collect data on race, gender, subsequent searches and other information pursuant to the protocol established by the Commonwealth of Massachusetts for the Uniform Citation, and the policies, rules and procedures of the Department. This information will be noted on the motor vehicle citation and/or on the FIO form.

4.3.2 All Officers will notify the Transit Police Dispatcher by radio when they stop a motor vehicle. Initially, all Officers, will inform dispatch by radio of the following:

- location of the stop;
- registration number of the vehicle stopped; and
- number of persons in the vehicle.

The Transit Police Dispatcher will create a CAD system entry relative to the stop.

4.3.3 At the conclusion of the stop, all Officers will inform the Transit Police Dispatcher by radio of the following:

- race and gender of the driver of the vehicle;
- reason for the stop (traffic infraction);
- whether a non-inventory search of the vehicle was conducted by the Officer; and
- whether the stop resulted in a warning, citation or arrest.

The Transit Police Dispatcher will update the CAD system entry with all the above information.

If Officers conduct a traffic stop while off-duty or while on a detail, they are to inform the Transit Police Dispatcher by radio of all of the above information as well as the date, time and location of the traffic stop as soon as practicable. If the Officer is off duty and does not have a police radio, the Officer should communicate the above information to the Transit Police Dispatcher by telephone as soon as possible.

All citations and warnings will be completed in compliance with the Registry of Motor Vehicles Protocol.

4.3.4 **SEARCHES.** Consent searches must be conducted in accordance with Chapter 147 of this manual. Officers are reminded they may conduct consent searches provided that they can articulate a reasonable suspicion that the search may reveal contraband or evidence of a crime. Officers will cease searching if and when consent is withdrawn, except in a situation where the results of the consensual search already performed provides probable cause for the continued search.

Inventory searches will be conducted in accordance with Chapter 222 of this manual.

All other searches will be consistent with Chapter 147 of this manual. Officers are reminded that searches conducted by Officers must be based on the following:

- articulable suspicion;
- probable cause;
- search incident to arrest; or
- plain view.

Officers who conduct a non-inventory search will report on the FIO form, the following information:

- nature of search;
- person, vehicle or both;
- reason for search (consent, articulable suspicion, probable cause, search incident to arrest, plain view);
- whether car or driver or passengers were searched;
- outcome of search (nothing found, money, alcohol, drugs, weapons, or other). Check all that apply; and
- location where found (person/car).

5.0 **PREVENTION OF PROFILING:** To prevent bias based profiling, the Department will:

- provide training programs to help ensure that employees receive appropriate training on bias based profiling practices and the standards established by this policy, including the legal aspects; {1.2.9 b}

- ensure that this policy is disseminated to all Officers of the Department;

- continuously review and, where appropriate, revise all procedures that involve the stop, detention, apprehension, or search of individuals to ensure that such procedures are in compliance with the provisions of the law and MBTA Transit Police policies and procedures; and

- continuously review performance recognition and evaluation systems, training curricula, policies and customs of the Department to determine if any practice encourages conduct that may support or lead to bias based profiling and take appropriate and timely measures to correct any problems that are identified.

6.0 **ENFORCEMENT OF PROFILING POLICY:** To enforce the provisions of this policy, the Department will:

- take appropriate and timely action to address allegations of bias based profiling, to include remedial training, counseling, and/or progressive discipline; and {1.2.9 c}

- take appropriate and timely measures to affirmatively correct any institutional practice or policy that may support or lead to the use of bias based profiling. {1.2.9 c}

Sections 3.0, 4.1 revised 11/2008

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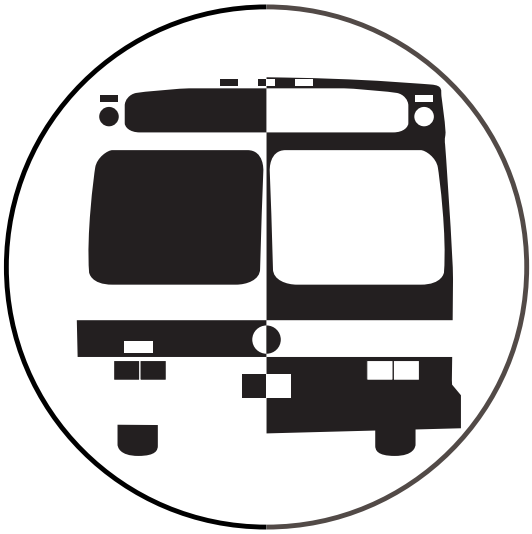

Appendix E

MBTA Transit Police Procedures for Cases Involving Possible Civil Rights Violations

MBTA Transit Police

DEPARTMENT MANUAL

CHAPTER 271

General Order No. 2010-39

DATE OF ISSUE	EFFECTIVE DATE
10/28/2010	11/03/2010

SUBJECT
INVESTIGATIVE SERVICES
Criminal Investigations Unit

REFERENCES
CALEA 42.1.2-4, 42.2.1-4, 55.2.4

PAGE
1 OF 6

ISSUING STATUS
☐ NEW
☒ AMENDS
☐ RESCINDS

ISSUING AUTHORITY
Paul S. MacMillan
Chief of Police

1.0 **BACKGROUND.** The major objective of the Criminal Investigations Unit (CIU) is the successful investigation and prosecution of crimes occurring on MBTA property. Each incident is reviewed by Detective Supervisors for the presence of solvability factors and/or other special circumstances to assist in determining whether the incident warrants a follow-up investigation and, if so, to what extent. {42.1.4}

2.0 **CASE ASSIGNMENT FACTORS.** The assignment of cases to be investigated is the responsibility of the Detective Supervisors. The Detective Supervisor will review and evaluate each case to determine the need for and the extent of a follow-up investigation. {42.1.2, 42.1.4}

2.1 When reviewing each case, the following factors will be considered:

- the seriousness of the offense;
- the length of time between the time of occurrence, the initial report and the preliminary investigation;
- the willingness of the victim(s) to cooperate;
- the credibility of the victim(s);
- the media and community response; and
- the responding Officer's journal narrative or to/from report.

2.2 **SOLVABILITY FACTORS.** The following solvability factors will also be considered:

- the suspect can be named;
- the suspect can be identified;
- the suspect's address is known;
- the suspect can be located;
- the suspect's motor vehicle registration number is known;
- the motor vehicle can be identified;

- there is a significant method of operation;
- available information pertaining to MBTA Automated Fare Collection (AFC) Revenue Audit Reports;
- existence of witnesses;
- existence of evidence;
- traceable property was stolen;
- identifiable latent prints were recovered at the scene; and
- public interest in the investigation is likely to assist in developing leads.

2.3 **INVESTIGATIVE PROCEDURES.** Detectives will use the following investigative procedures as appropriate during criminal investigations, especially those cases that do not originate from Patrol or routine calls for service: {42.2.1}

- identify the purpose of the investigation;
- identify potential sources of information; {42.2.1 a}
- develop the information through victims, witnesses, informants, and other sources;
- utilize the MBTA AFC Revenue Audit Reports if applicable;
- interview and/or interrogate victims, witnesses, suspects, etc. (see Department Manual, Chapter 280); {42.2.1 b}
- collect and preserve physical evidence (see Department Manual, Chapter 283); {42.2.1 c}
- use physical evidence to support the prosecution's case (physical evidence linking a suspect to a crime/crime scene can be an integral part of the case and care must be taken to properly process, store, and document the evidence to maximize the likelihood that the evidence will be admissible in court);
- execute background investigations, including, but not limited to intelligence, white collar crime, organized crime, drug and vice activities; and {42.2.1 d}
- surveillance (see Department Manual, Chapter 281). {42.2.1 e}

3.0 **INVESTIGATIVE LOG.** Each case, with a solvability factor, assigned for follow-up investigation will be given an investigative case number. The case number will be recorded in the investigative log along with whom the investigation was assigned to as well as the date and location of the crime. The first Detective listed on the investigative log will be designated as the primary Detective of the case. {42.1.3 a}

4.0 **INVESTIGATOR ASSIGNMENT.** Detective Supervisors will assign case investigations in a manner that ensures investigative personnel are being utilized to their fullest potential. Investigations will be assigned based on the expertise, specialized skills, knowledge and/or abilities of the individuals assigned to CIU. {42.1.4}

The Detective Supervisors will determine whether additional resources are needed (e.g. other outside agency having a particular expertise relevant to the investigation.)

5.0 **REPORT RECORD.** Detective Supervisors shall enter all assigned Detectives into the Department's record management system as a supplemental Officer. An individual detective case load log will be maintained and disseminated to all CIU personnel. The log will also be posted on the CIU bulletin board. {42.1.3 a}

6.0 **INVESTIGATOR'S CHECKLIST.** The Investigator's Checklist is a guide to assist Detectives in the systematic collection of all information and/or evidence available. All Detectives and CIU personnel will familiarize themselves with this guide and will utilize it as the basis for their investigations. {42.2.4}

7.0 **FOLLOW-UP INVESTIGATION ACTIVITIES.** Detectives will be responsible for conducting the following activities during criminal investigations: {42.2.3, 42.1.4}

- collecting physical evidence; {42.2.3 d}
- reviewing and analyzing all previous reports prepared in the preliminary phase; {42.2.3 a}
- reviewing Department records; {42.2.3 a}
- reviewing the results from laboratory examinations; {42.2.3 a}
- seeking additional information (from Patrol Officers, informants, etc.); {42.2.3 c}
- conducting additional interviews and interrogations as needed; {42.2.3 b}
- planning, organizing, and conducting searches; {42.2.3 d}
- identifying and apprehending suspects; {42.2.3 e}
- checking suspects' criminal history; {42.2.3 g}
- determining involvement of suspects in other crimes; {42.2.3 f}
- arranging for dissemination of information as appropriate;
- preparing cases for court presentation; and {42.2.3 h}
- assisting in prosecution.

7.1 **TWENTY-FOUR (24) HOUR ON CALL SCHEDULES FOR INVESTIGATIVE SERVICES DIVISION (ISD).** A schedule shall be maintained at the Dispatch Supervisor's desk noting the Detective Supervisor, Crime Scene Services (CSS) Supervisor, Intelligence Unit, and the Internal Security Unit (ISU) Supervisor or the appropriate designated Detective on call twenty-four (24) hours each day for serious investigations or incidents. A copy of the schedule will be forwarded to the Patrol Operations Division Commander. {42.1.1}

8.0 **CIVIL RIGHTS (CR) SPECIALIST.** The Commander of the CIU will be designated as the Department's CR Specialist. He/she will oversee all investigations and monitor all court cases involving CR Violations. If the CR Specialist is unavailable, the Detective Supervisor will be in charge of the preliminary investigation.

9.0 **CIVIL RIGHTS (CR) INVESTIGATIONS.** In all cases involving possible CR Violations, the following procedures shall be adhered to by the CR Specialist, he/she will:

- review the incident reports and submit a copy of the reports, with an appropriate recommendation to the Chief of Police and the ISD Commander;
- work with and apprise the Civil Rights Division of the Attorney General's Office of the incident;
- ensure that all reports are forwarded to the District Attorney's designee in the appropriate county;
- forward a copy of all initial reports and any subsequent reports of incidents occurring within the City of Boston to the Boston Police Department's Community Disorders Unit whenever appropriate; and
- whenever practicable, be assigned the investigation of cases where CR Violations are known or suspected.

10.0 **VICTIM/WITNESS CONTACT.** The Detective will ensure that the victim receives any services required by the Massachusetts Victim Bill of Rights. Copies of Victim Bill of Rights and the Guide to Victim Rights and Services will be available in CIU. The Detective assigned to a case will ensure that a second contact is made with the victim(s) and/or witness (es), and as often as appropriate, but at a minimum will: {55.1.3 a, 55.2.4}

- re-contact the victim/witness periodically to determine whether needs are being met, if in the opinion of the Officer/Detective, the impact of a crime on a victim/witness has been unusually severe and has triggered above-average need for victim/witness assistance; {55.2.4 a}
- explain to victims/witnesses the procedures involved in the prosecution of their cases and their role in those procedures, if not an endangerment to the successful prosecution of the case; {55.2.4 b}
- schedule line-ups, interviews, and other required appearances at the convenience of the victim/witness; {55.2.4 c}
- provide transportation where a transportation issue is identified; {55.2.4 c}
- promptly return victim/witness property taken as evidence (except for contraband, disputed property, and weapons used in the course of the crime), where permitted by law or rules of evidence; and {55.2.4 d}
- direct the victim/witness to the court's victim advocate office. {55.2.4 e}

11.0 **STATUS CHANGE.** Each time there is a change in the status of a case, the Detective will ensure that all victims, witnesses, and primary Officer(s) receive a status update. This notice will be made in addition to the written notification of court appearance dates to civilian victims/witnesses as required by the Commonwealth of Massachusetts' Victim/Witness Program.

12.0 **DAILY ACTIVITY REPORT.** On a daily basis, the CIU Commander will maintain an activity report and attach it to the monthly report.

13.0 **MONTHLY REPORTS.** Monthly reports will be submitted to the ISD Commander by the Commanders of each investigative unit.

14.0 **INVESTIGATIVE REPORT.** The Detective Supervisor will review the all investigative reports and make a determination as to the need for and extent of any further investigation of the case.

14.0 **CASE CONFERENCE.** A conference between the Detective and the Detective Supervisor will be held on all cases not cleared within a thirty (30) day period. As a result of this conference, the case will be given one of the following classifications. {42.1.3 a, b}

OPEN. Investigative efforts are active and continuing.

SUSPENDED. The victim(s) and witnesses have been interviewed with negative results, physical evidence found at the scene is inconclusive, and all other sources of information have been exhausted (e.g. Department records, outside agencies, etc.).

CLOSED. A case will be deemed closed when:

- suspects have been identified and either a warrant or summons has been sought;
- suspects have been identified, but the victim is unwilling to participate in prosecution (at which time the case will be "Exceptionally Cleared");
- the victim(s) is uncooperative and will not assist in the investigation; and/or
- the case is deemed to be unfounded.

14.1 Investigative efforts will not be suspended prior to this conference without the consent of the Detective Supervisor.

14.2 Once the conference is concluded, the Detective will submit the entire investigative file to the Detective Supervisor for final review and filing.

15.0 **RECORDS AND CASE TRACKING.** Detective Supervisors will be responsible for maintaining investigative files and tracking all assigned cases.

15.1 **FILE SECURITY/MAINTENANCE AND CONFIDENTIALITY.** CIU will maintain files on all active cases. To ensure the confidentiality of investigative records, the records will be maintained in a secure area and access will be limited to personnel in the CIU. Each file will contain all pertinent reports and notes (a copy of the preliminary investigative report, records of statements, results of examinations of physical evidence, case status reports, and other reports and records needed for investigative purposes). When the case is closed, the Detective Supervisor will forward the case file to Central Records. {42.1.3 c, d, e}

15.2 **COMPUTER JOURNAL SYSTEM.** Investigatory updates on non-confidential cases will be entered in the Department's Computer Journal System and in the Detective's case files by the Detective.

16.0 **WARRANT PRIORITY.** Members of CIU are responsible for initiating the service of warrants. The Patrol Operations Division will assist in serving warrants, as necessary. {74.3.1}

16.1 Warrants will be served in the following priority order:

(1) Felonies, including default warrants.

(2) Criminal misdemeanors, including default warrants.

(3) Traffic misdemeanors, including default warrants.

17.0 **WARRANT SERVICE.** To insure the safety of Officers involved in a warrant service, a warrant service packet must be completed to determine the level of force required to affect the apprehension of the wanted suspect. The packet must be reviewed by the appropriate Division Commander or his/her designee. The packet is located on the "O" Drive (Warrant Service Packet). Warrants will be served in the following manner: {74.3.1}

- a minimum of four (4) Officers shall be mandatory for attempted service;
- Officers will wear the soft body armor issued by the Department; {41.3.6}
- Officers will notify the Dispatcher of their status (on warrant service) and their location (address);
- when service is attempted outside of the City of Boston but within MBTA Transit Police jurisdiction, the Dispatcher shall notify the appropriate local police agency;
- when service will be attempted outside MBTA Transit Police jurisdiction, the Officers will contact the local police agency and request that a member of that department assist in serving the warrant;
- the Dispatcher will enter a data block for "attempted warrant service" at the address given. Officers will notify the Dispatcher when they have cleared; and
- if an arrest is made, the Officer will notify the Dispatcher who will modify the data block to reflect the warrant arrest.

18.0 **INVESTIGATIVE TASK FORCE.** The Department may form an investigative task force or take part in a multi-jurisdictional task force as a means to address a specific type of crime or series of incidents. When a task force has been formed, the Chief of Police will issue a Memo to advise all personnel of the following: {42.2.7}

- the reason and purpose for the creation of the task force;
- the activities that the task force is expected to perform;
- the authority and responsibilities of the task force;
- the Superior Officer who is designated as the Officer-in-Charge of the task force, and to whom he/she will report;
- the number of personnel on the task force and other resources to be used in the effort; and
- the date upon which task force activities will begin and the anticipated duration of the program.

At the conclusion of the task force, the Officer-In-Charge shall submit a report evaluating the results of the task force to the ISD Commander.

Entire chapter revised 10/28/2010

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Appendix F

MBTA Bus Routes:
Minority and Low-Income Status

MBTA Rapid Transit Lines and Stations:
Minority and Low-Income Status

MBTA Commuter Rail Lines and Stations:
Minority and Low-Income Status

Bus Routes: Minority and Low-Income Status

Based on 40% boardings at minority and/or low-income stops, using primary route variations

Route	Route Name	Minority	Low-Income	Minority & Low-Income
1	Harvard/Holyoke Gate - Dudley via BU Medical Area	Y	N	N
4	North Station - World Trade Center	N	N	N
5	City Point - McCormick Housing	N	N	N
7	City Point - Otis & Summer Sts. via Summer St.	N	N	N
8	Harbor Pt/UMass - Kenmore via S. Bay & BU Medical Area	Y	Y	Y
9	City Point - Copley	N	N	N
10	City Point - St. Copley via S. Bay Mall	Y	N	N
11	City Point - Bedford & Chauncy Sts.	N	N	N
14	Roslindale Sq. - Heath St. via Dudley	Y	Y	Y
15	Kane Sq. - Ruggles	Y	Y	Y
16	Forest Hills - UMass Campus via JFK & S. Bay	Y	N	N
17	Fields Corner - Andrew via Uphams Corner	Y	N	N
18	Ashmont - Andrew	Y	N	N
19	Fields Corner - Kenmore	Y	Y	Y
21	Ashmont - Forest Hills	Y	N	N
22	Ashmont - Ruggles via Jackson Sq.	Y	Y	Y
23	Ashmont - Ruggles via Washington	Y	Y	Y
24	Wakefield Ave./Truman Pkwy. - Mattapan	Y	N	N
26	Ashmont - Norfolk St. Loop via Norfolk	Y	N	N
27	Mattapan - Ashmont	Y	N	N
28	Mattapan - Ruggles via Dudley	Y	Y	Y
29	Mattapan Sq. - Jackson Sq.	Y	Y	Y
30	Mattapan - Forest Hills via Roslindale Sq.	Y	N	N
31	Mattapan Sq. - Forest Hills	Y	N	N
32	Wolcott Sq. - Forest Hills via Cleary Sq.	Y	N	N
33	River & Milton Sts., Dedham - Mattapan	Y	N	N
34	Dedham Line - Forest Hills via Washington	Y	N	N
34	Walpole Center - Forest Hills via Dedham Mall (local)	N	N	N
35	Dedham Mall - Forest Hills via Centre & Belgrade	Y	N	N
36	VA Hospital, W. Roxbury - Forest Hills via Charles	N	N	N
37	Baker & Vermont Sts. - Forest Hills	N	N	N
38	Wren St. - Forest Hills	Y	N	N
39	Forest Hills - Back Bay	Y	N	N
40	Georgetown - Forest Hills via Alwin St.	Y	N	N
41	Center & Elliott Sts. - JFK Umass via Dudley	Y	Y	Y
42	Forest Hills - Dudley	Y	N	N
43	Ruggles - Park & Tremont Sts.	Y	Y	Y
44	Jackson Sq. - Ruggles via Seaver St.	Y	Y	Y
45	Franklin Park - Ruggles via Grove Hall	Y	Y	Y
47	Central Sq., Cambridge - Broadway	Y	Y	Y
48	Centre & South Sts. - Jackson Sq.	Y	N	N
50	Cleary Sq. - Forest Hills	Y	N	N
51	Reservoir - Forest Hills	N	N	N
52	Dedham Mall - Watertown via Oak Hill	N	N	N
55	Jersey & Queensbury - Park & Tremont Sts.	Y	Y	Y
57	Watertown Bus Yard - Kenmore Sq.	Y	N	N
59	Needham Junction - Watertown Sq.	N	N	N
60	Chestnut Hill - Kenmore Sq.	N	N	N
62	Bedford VA Hosp - Alewife via Lexington Center	N	N	N
64	Oak Sq. - Kendall/MIT via Union & Central	Y	N	N
65	Brighton Center - Kenmore Sq.	Y	N	N
66	Harvard - Dudley via Union Sq., Allston	Y	Y	Y
67	Turkey Hill - Alewife via Arlington Center	N	N	N
68	Harvard - Kendall	Y	N	N

Bus Routes: Minority and Low-Income Status

Based on 40% boardings at minority and/or low-income stops, using primary route variations

Route	Route Name	Minority	Low-Income	Minority & Low-Income
69	Harvard - Lechmere	Y	N	N
70	N. Waltham - University Park via Central Sq., Waltham	N	N	N
70	Cedarwood - University Park via Central Sq., Waltham	Y	N	N
71	Watertown Sq. - Harvard via Mt. Auburn St.	N	N	N
72	Aberdeen Ave. & Mt. Auburn St. - Harvard via Huron Ave.	N	N	N
73	Waverly Sq. - Harvard Subway via Belmont	N	N	N
74	Belmont Center - Harvard Alley	Y	N	N
75	Belmont Center - Harvard Alley via Huron Towers	Y	N	N
76	Lincoln Labs - Alewife via Hanscom (inbound)	N	N	N
77	Arlington Heights - Harvard	N	N	N
78	Arlmont Village - Harvard	N	N	N
79	Arlington Heights - Alewife	N	N	N
80	Arlington Center - Lechmere	Y	N	N
83	Rindge Ave. - Central Sq., Cambridge	Y	N	N
84	Alewife - Alewife via Arlmont Loop	N	N	N
85	Spring Hill - Kendall	Y	N	N
86	Sullivan - Cleveland Circle	Y	N	N
87	Arlington Center - Lechmere	Y	N	N
88	Clarendon Hill - Lechmere via Highland Ave.	Y	N	N
89	Clarendon Hill - Sullivan	Y	N	N
90	Davis - Wellington via Sullivan	Y	N	N
91	Central Sq., Cambridge - Sullivan	Y	N	N
92	Assembly Sq. Mall - Franklin St. via Sullivan	N	N	N
93	Sullivan - Downtown Boston via Bunker Hill	N	N	N
94	Medford Sq. - Davis Sq. via West Medford	N	N	N
95	West Medford - Sullivan via Mystic Ave.	N	N	N
96	Medford Sq. - Harvard via Davis Sq. & George St.	N	N	N
97	Malden - Wellington via Commercial St.	Y	N	N
99	Boston Regional Medical Center - Wellington	Y	N	N
100	Elm St. - Wellington via Fellsway	N	N	N
101	Malden Center - Sullivan via Winter Hill	Y	N	N
104	Malden Center - Sullivan	Y	N	N
105	Malden - Sullivan via Newland St. Housing	Y	N	N
106	Lebanon Loop - Wellington via Malden	Y	N	N
108	Linden Sq. - Wellington via Malden	Y	N	N
109	Linden Sq. - Sullivan via Broadway	Y	N	N
110	Wonderland - Wellington via Woodlawn	Y	N	N
111	Woodlawn - Haymarket via Bellingham Sq.	Y	N	Y
112	Wellington - Wood Island via Mystic Mall	Y	N	N
114	Bellingham Sq. - Maverick	Y	Y	Y
116	Wonderland - Maverick via Revere St.	Y	Y	Y
117	Wonderland - Maverick via Beach St.	Y	Y	Y
119	Northgate Shopping Center - Beachmont	N	N	N
120	Orient Heights - Maverick	Y	N	N
121	Wood Island - Maverick via Lexington St.	Y	N	Y
131	Melrose Highland - Oak Grove via East Side	N	N	N
132	Redstone Shopping Plaza - Malden	N	N	N
134	N. Woburn - Wellington via Riverside Ave.	N	N	N
136	Reading Depot - Malden Center	N	N	N
137	Reading Depot - Malden Center	N	N	N
170	Oakpark - Dudley via Waltham & Back Bay (outbound)	N	N	N
171	Logan Airport - Dudley via Andrew &Terminals (outbound)	Y	N	N
191	Mattapan - Haymarket	Y	N	N
192	Cleary Sq. - Haymarket via Forest Hills	Y	N	N

Bus Routes: Minority and Low-Income Status

Based on 40% boardings at minority and/or low-income stops, using primary route variations

Route	Route Name	Minority	Low-Income	Minority & Low-Income
193	Watertown Sq. - Haymarket Sq.	Y	N	N
194	Clarendon Hill - Haymarket via Sullivan	Y	N	N
201	Fields Corner Loop via Neponset Ave.	Y	N	N
202	Fields Corner Loop via Adams St.	Y	N	N
210	Quincy Center - Fields Corner	Y	N	N
211	Quincy Center - Squantum via N. Quincy	Y	N	N
212	Quincy Center - N. Quincy	N	N	N
214	Quincy Center - Germantown	N	N	N
215	Qunicy Center - Ashmont via W. Quincy	N	N	N
216	Quincy Center - Hough's Neck	N	N	N
217	Quincy Center - Ashmont	N	N	N
220	Quincy Center - Hingham Center via Old Center	N	N	N
221	Quincy Center - Fort Point via N. Weymouth	N	N	N
222	Quincy Center - East Weymouth	N	N	N
225	Quincy Center - Weymouth Landing via Des Moines Rd.	N	N	N
230	Quincy Center - Montello Commuter Rail via Braintree	N	N	N
236	Quincy Center - S. Shore Plaza via Braintree	N	N	N
238	Quincy Center - Holbrook/Randolph Station	N	N	N
240	Avon Sq. - Ashmont	Y	N	N
245	Quincy Center - Mattapan via Quarry St. & Edgehill Rd.	N	N	N
325	Elm St. - Haymarket (PM Version)	N	N	N
326	West Medford - Haymarket	N	N	N
350	Chestnut Ave., Burlington - Alewife	N	N	N
351	Oak Park/Bedfd Wds. - Alewife via Mall Rd.	N	N	N
352	Chestnut Ave., Burlington - State St., Boston	N	N	N
354	Woburn Line - State St., Boston	N	N	N
355	Mishwaum - Government Center	N	N	N
411	Jack Satter House, Revere - Malden	N	N	N
424	Eastern Ave./Essex St. - Haymarket (outbound)	Y	N	N
426	Central Sq., Lynn - Haymarket via Cliftondale Sq.	Y	N	N
428	Oaklandvale - Haymarket via Granada Highlands	N	N	N
429	Northgate Shopping Center - Central Sq., Lynn	N	N	N
430	Saugus Center - Malden	N	N	N
431	Neptune Towers - Central Sq.	Y	Y	Y
434	Main St., Peabody - Haymarket via Goodwin Circle	N	N	N
435	Liberty Tree Mall - Central Sq., Lynn via Peabody Sq.	N	N	N
436	Liberty Tree Mall - Central Sq., Lynn via Goodwin Circle	N	N	N
439	Nahant - Central Sq., Lynn	N	N	N
441	Marblehead - Haymarket via Central Sq. & Paradise Rd.	N	N	N
442	Marblehead - Haymarket via Central Sq. & Humphrey St.	N	N	N
448	Marblehead - Downtown Crossing Express via Paradise Rd.	Y	N	N
449	Marblehead - Downtown Crossing Express via Humphrey	Y	N	N
450	Salem Center - Haymarket Sq. via Western Ave.	N	N	N
451	N. Beverly - Salem via Dodge St. & Cummings Office Park	N	N	N
455	Salem Depot - Haymarket via Central Sq., Lynn	Y	N	N
456	Salem - Central Sq., Lynn via Highland & Eastern	N	N	N
459	Salem Depot - Downtown Crossing via Logan Airport	Y	N	N
465	Danvers Sq. - Salem Dpt via Liberty Tree Mall	N	N	N
468	Danvers - Salem Depot via North St.	N	N	N
500	Riverside - Federal & Franklin St.	N	N	N
501	Brighton - Federal & Franklin St.	Y	N	N
502	Watertown Sq. - Copley Sq.	Y	N	N
503	Brighton - Copley Sq.	Y	N	N
504	Watertown Sq. - Federal & Franklin Sts.	Y	N	N

Bus Routes: Minority and Low-Income Status

Based on 40% boardings at minority and/or low-income stops, using primary route variations

Route	Route Name	Minority	Low-Income	Minority & Low-Income
505	Waltham Center - Federal & Franklin Sts.	Y	N	N
553	Roberts - Federal & Franklin Sts.	Y	N	N
554	Waverly Sq. - Federal & Franklin Sts.	N	N	N
555	Riverside - Federal & Franklin Sts.	N	N	N
556	Waltham Hghlands - Federal & Franklin Sts.	Y	N	N
558	Riverside - Federal & Franklin Sts.	Y	N	N
701	CT-1: Central Sq., Cambridge - BU Medical Area	Y	N	N
708	Longwood Medical Area - Andrew	Y	Y	Y
741	Silver Line Waterfront, SL1: Airport - South Station	Y	N	N
742	Silver Line Waterfront, SL2: BMIP - South Station	N	N	N
746	Silver Line Waterfront: South Station - Silver Line Way	N	N	N
747/748	CT2: Sullivan - Ruggles	Y	N	N
749	Silver Line Washington St.: Dudley - Downtown Boston	Y	Y	Y

Rapid Transit Lines and Stations: Minority and Low-Income Status

Station status based on census tracts
Line status based on 40% boardings at minority and/or low-income stations

Rapid Transit		Minority	Low-income	Minority & Low-income
Major Transfer Stations				
(not included in boarding calculations for line status)				
	State Street: Blue & Orange Lines	N	N	N
	Government Center: Blue & Green Lines	N	N	N
	Downtown Crossing: Orange & Red Lines	Y	Y	Y
	Haymarket: Green & Orange Lines	Y	N	N
	North Station: Green & Orange Lines	Y	N	N
	Park Street: Green & Red Lines	Y	Y	Y
	South Station: Red Line & Silver Line Waterfront	Y	Y	Y
Blue Line		Y	N	N
	Wonderland	N	N	N
	Revere Beach	N	N	N
	Beachmont	Y	Y	Y
	Suffolk Downs	Y	Y	Y
	Orient Heights	Y	N	N
	Wood Island	Y	N	N
	Airport	Y	N	N
	Maverick	Y	N	N
	Aquarium	N	N	N
	State Street	N	N	N
	Government Center	N	N	N
	Bowdoin	N	N	N
Orange Line		Y	N	N
	Forest Hills	Y	N	N
	Green Street	Y	N	N
	Stony Brook	Y	N	N
	Jackson Square	Y	Y	Y
	Roxbury Crossing	Y	Y	Y
	Ruggles	Y	Y	Y
	Massachusetts Ave.	Y	N	N
	Back Bay	Y	N	N
	New England Medical Center	Y	Y	Y
	Chinatown	Y	Y	Y
	Downtown Crossing	Y	Y	Y
	Haymarket	Y	N	N
	State Street	N	N	N
	North Station	Y	N	N
	Community College	N	N	N
	Sullivan	N	N	N
	Wellington	N	N	N
	Malden Center	Y	N	N
	Oak Grove	Y	N	N

Rapid Transit Lines and Stations: Minority and Low-Income Status

Station status based on census tracts
Line status based on 40% boardings at minority and/or low-income stations

Rapid Transit	Minority	Low-income	Minority & Low-income
Red Line	Y	N	N
Ashmont	Y	N	N
Shawmut	Y	N	N
Fields Corner	Y	N	N
Savin Hill	Y	N	N
Braintree	N	N	N
Quincy Adams	N	N	N
Quincy Center	N	N	N
Wollaston	N	N	N
North Quincy	Y	N	N
JFK/UMass	Y	N	N
Andrew	N	N	N
Broadway	N	N	N
South Station	Y	Y	Y
Park Street	Y	Y	Y
Charles	N	N	N
Kendall	Y	Y	Y
Central	Y	N	N
Harvard	Y	N	N
Porter	N	N	N
Davis	N	N	N
Alewife	Y	N	N
Green Line - B Branch	Y	Y	Y
Blandford St.	Y	Y	Y
BU East	Y	Y	Y
BU Central	Y	Y	Y
BU West	Y	Y	Y
Saint Paul St.	Y	Y	Y
Pleasant St.	Y	Y	Y
Babcock St.	Y	Y	Y
Packards Corner	Y	Y	Y
Harvard Ave.	Y	Y	Y
Griggs St.	Y	Y	Y
Allston St.	Y	N	N
Warren St.	Y	N	N
Washington St.	N	N	N
Sutherland Rd.	N	N	N
Chiswick Rd.	N	N	N
Chestnut Hill Ave.	N	N	N
South St.	N	N	N
Boston College	N	N	N

Rapid Transit Lines and Stations: Minority and Low-Income Status

Station status based on census tracts
Line status based on 40% boardings at minority and/or low-income stations

Rapid Transit	Minority	Low-income	Minority & Low-income
Green Line - C Branch	N	N	N
Saint Mary's St.	N	N	N
Hawes St.	N	N	N
Kent St.	N	N	N
Saint Paul St.	N	N	N
Coolidge Corner	Y	N	N
Winchester St.	N	N	N
Brandon Hall	N	N	N
Fairbanks St.	N	N	N
Washington Square	N	N	N
Tappan St.	N	N	N
Dean Rd.	N	N	N
Englewood Ave.	N	N	N
Cleveland Circle	Y	N	N
Green Line - D Branch	N	N	N
Fenway	Y	Y	Y
Longwood Avenue	N	N	N
Brookline Village	Y	N	N
Brookline Hills	N	N	N
Beaconsfield	N	N	N
Reservoir	N	N	N
Chestnut Hill Station	N	N	N
Newton Centre	N	N	N
Newton Highlands	N	N	N
Eliot	N	N	N
Waban	N	N	N
Woodland	N	N	N
Riverside	N	N	N
Green Line - E Branch	Y	Y	Y
Northeastern	Y	Y	Y
Museum of Fine Arts	Y	Y	Y
Longwood Medical Area	Y	Y	Y
Brigham Circle	Y	N	N
Fenwood Rd.	Y	Y	Y
Mission Park	Y	Y	Y
Riverway	Y	N	N
Back of the Hill	Y	N	N
Heath Street	Y	N	N

Rapid Transit Lines and Stations: Minority and Low-Income Status

Station status based on census tracts
Line status based on 40% boardings at minority and/or low-income stations

Rapid Transit	Minority	Low-income	Minority & Low-income
Green Line - Central Subway			
Kenmore	Y	N	N
Hynes Convention Center	N	N	N
Symphony	Y	N	N
Prudential	N	N	N
Copley	N	N	N
Arlington	Y	N	N
Boylston	Y	Y	Y
Science Park	Y	N	N
Lechmere	Y	N	N
Mattapan High Speed Line	Y	N	N
Mattapan	Y	N	N
Capen St.	N	N	N
Valley Rd.	N	N	N
Central Ave.	N	N	N
Milton	N	N	N
Butler	Y	N	N
Cedar Grove	Y	N	N
Ashmont	Y	N	N

Commuter Rail Lines and Stations: Minority and Low-Income Status

Station status based on census tracts

Line status based on 40% boardings at minority and/or low-income stations

Northside Commuter Rail	Minority	Low-Income	Minority & Low-Income
Rockport/Newburyport Line	**N**	**N**	**N**
Rockport	N	N	N
Gloucester	N	N	N
West Gloucester	N	N	N
Manchester	N	N	N
Beverly Farms	N	N	N
Prides Crossing	N	N	N
Montserrat	N	N	N
Newburyport	N	N	N
Rowley	N	N	N
Ipswich	N	N	N
Hamilton/Wenham	N	N	N
North Beverly	N	N	N
Beverly	N	N	N
Salem	N	N	N
Swampscott	N	N	N
Lynn	Y	Y	Y
River Works	Y	Y	Y
Chelsea	Y	Y	Y
Haverhill Line	**N**	**N**	**N**
Haverhill	Y	N	N
Bradford	N	N	N
Lawrence	Y	Y	Y
Andover	N	N	N
Ballardvale	N	N	N
North Wilmington	N	N	N
Reading	N	N	N
Wakefield	N	N	N
Greenwood	N	N	N
Melrose Highlands	N	N	N
Melrose/Cedar Park	N	N	N
Wyoming Hill	N	N	N
Malden Center	Y	N	N
Lowell Line	**N**	**N**	**N**
Lowell	Y	N	N
N. Billerica	N	N	N
Wilmington	N	N	N
Anderson/Woburn	N	N	N
Mishawum	N	N	N
Winchester	N	N	N
Wedgemere	N	N	N
West Medford	N	N	N

Commuter Rail Lines and Stations: Minority and Low-Income Status

Station status based on census tracts

Line status based on 40% boardings at minority and/or low-income stations

Northside Commuter Rail	Minority	Low-Income	Minority & Low-Income
Fitchburg Line	**N**	**N**	**N**
Fitchburg	Y	Y	Y
North Leominster	N	N	N
Shirley	N	N	N
Ayer	N	N	N
Littleton	N	N	N
S. Acton	N	N	N
West Concord	N	N	N
Concord	N	N	N
Lincoln	N	N	N
Silver Hill	N	N	N
Hastings	N	N	N
Kendal Green	N	N	N
Brandeis/Roberts	Y	N	N
Waltham	Y	N	N
Waverley	N	N	N
Belmont	N	N	N
Porter Square	N	N	N

Commuter Rail Lines and Stations: Minority and Low-Income Status

Station status based on census tracts
Line status based on 40% boardings at minority and/or low-income stations

Southside Commuter Rail	Minority	Low-Income	Minority & Low-Income
Framingham/Worcester Line	**N**	**N**	**N**
Worcester	Y	Y	Y
Grafton	Y	N	N
Westborough	N	N	N
Southborough	N	N	N
Ashland	N	N	N
Framingham	Y	N	N
W. Natick	N	N	N
Natick	N	N	N
Wellesley Square	N	N	N
Wellesley Hills	N	N	N
Wellesley Farms	N	N	N
Auburndale	N	N	N
West Newton	N	N	N
Newtonville	N	N	N
Yawkey	Y	Y	Y
Back Bay	Y	N	N
Needham Line	**N**	**N**	**N**
Needham Heights	N	N	N
Needham Center	N	N	N
Needham Junction	N	N	N
Hersey	N	N	N
W. Roxbury	N	N	N
Highland	N	N	N
Bellevue	N	N	N
Roslindale	N	N	N
Forest Hills	Y	N	N
Ruggles	Y	Y	Y
Back Bay	Y	N	N
Franklin Line	**N**	**N**	**N**
Forge Park	N	N	N
Franklin	N	N	N
Norfolk	N	N	N
Walpole	N	N	N
Plimptonville	N	N	N
Windsor Gardens	N	N	N
Norwood Central	N	N	N
Norwood Depot	N	N	N
Islington	N	N	N
Dedham Corp.	N	N	N
Endicott	N	N	N
Readville	Y	N	N
Hyde Park	Y	N	N
Ruggles	Y	Y	Y
Back Bay	Y	N	N

Commuter Rail Lines and Stations: Minority and Low-Income Status

Station status based on census tracts

Line status based on 40% boardings at minority and/or low-income stations

Southside Commuter Rail	Minority	Low-Income	Minority & Low-Income
Fairmount/Readville Line	**Y**	**N**	**N**
Readville	Y	N	N
Fairmount	Y	N	N
Morton St.	Y	N	N
Uphams Corner	Y	Y	Y
Attleboro/Stoughton Line	**N**	**N**	**N**
South Attleboro	N	N	N
Attleboro	Y	N	N
Mansfield	N	N	N
Sharon	N	N	N
Stoughton	N	N	N
Canton Center	N	N	N
Canton Junction	N	N	N
Route 128	N	N	N
Hyde Park	Y	N	N
Ruggles	Y	Y	Y
Back Bay	Y	N	N
Middleborough/Lakeville Line	**Y**	**N**	**N**
Middleborough/Lakeville	N	N	N
Bridgewater	N	N	N
Campello	Y	N	N
Brockton	Y	Y	Y
Montello	Y	N	N
Holbrook/Randolph	Y	N	N
Braintree	N	N	N
Quincy Center	N	N	N
JFK/Umass	Y	N	N
Kingston/Plymouth Line	**N**	**N**	**N**
Plymouth	N	N	N
Kingston	N	N	N
Halifax	N	N	N
Hanson	N	N	N
Whitman	N	N	N
Abington	N	N	N
South Weymouth	N	N	N
Braintree	N	N	N
Quincy Center	N	N	N
JFK/Umass	Y	N	N

Commuter Rail Lines and Stations: Minority and Low-Income Status

Station status based on census tracts

Line status based on 40% boardings at minority and/or low-income stations

Southside Commuter Rail	Minority	Low-Income	Minority & Low-Income
Greenbush Line	**N**	**N**	**N**
Greenbush	N	N	N
N. Scituate	N	N	N
Cohasset	N	N	N
Nantasket Junction	N	N	N
W. Hingham	N	N	N
E. Weymouth	N	N	N
Weymouth Landing	N	N	N
Quincy Center	N	N	N
JFK/Umass	Y	N	N