



## BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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The Boston Region MPO is  
composed of:

Massachusetts Department of  
Transportation

Metropolitan Area Planning Council

Massachusetts Bay Transportation  
Authority Advisory Board

Massachusetts Bay Transportation  
Authority

Massachusetts Port Authority

Regional Transportation Advisory  
Council

City of Boston

City of Beverly

City of Everett

City of Newton

City of Somerville

City of Woburn

Town of Arlington

Town of Bedford

Town of Braintree

Town of Framingham

Town of Lexington

Town of Medway

Town of Norwood

Federal Highway Administration  
(nonvoting)

Federal Transit Administration  
(nonvoting)

### MEMORANDUM

**DATE** March 1, 2012  
**TO** Boston Region Metropolitan Planning Organization  
**FROM** Karl Quackenbush, CTPS Executive Director  
**RE** Work Program for: MBTA 2012 Title VI Program Monitoring

#### ACTION REQUIRED

Review and approval

#### PROPOSED MOTION

That the Boston Region Metropolitan Planning Organization, upon the recommendation of the Massachusetts Department of Transportation, vote to approve the work program for MBTA 2012 Title VI Program Monitoring in the form of the draft dated March 1, 2012.

#### PROJECT IDENTIFICATION

##### Unified Planning Work Program Classification

Technical Support/Operations Analysis Projects

##### CTPS Project Number

11381

##### Client

Massachusetts Bay Transportation Authority

*Project Supervisor:* Joseph Cosgrove

##### CTPS Project Supervisors

*Principal:* Elizabeth M. Moore

*Manager:* Annette Demchur

##### Funding

Future MBTA Contract

## **IMPACT ON MPO WORK**

The MPO staff has sufficient resources to complete this work in a capable and timely manner. By undertaking this work, the MPO staff will neither delay the completion of nor reduce the quality of other work in the UPWP.

## **BACKGROUND**

Every three years, the Massachusetts Bay Transportation Authority (MBTA) is required to submit a report to the Federal Transit Administration (FTA) Office of Civil Rights detailing the MBTA's efforts to comply with Title VI of the Civil Rights Act of 1964. In addition, FTA has at times required the MBTA to provide quarterly reports to more closely track specific elements of Title VI compliance. Currently, FTA also requires the MBTA to conduct some monitoring on an annual basis for internal review and reporting so that any problems can be identified and addressed early.

Title VI reports assess the levels and quality of service on the public transportation network for minority and/or low-income communities compared to other communities based on a defined set of service indicators. FTA Circular 4702.1A instructs transit agencies on how to define "minority" and "low-income," identifies the required service indicators used for demonstrating compliance with Title VI, and requires transit agencies to develop standards or policies against which service indicators are to be measured.

For its ongoing internal reporting, the MBTA has established a monitoring schedule that includes annual data collection and analysis for some service indicators and biennial or triennial for others. When possible, the results of biennial monitoring are folded into subsequent triennial Title VI reports to FTA. The most recent triennial report (which was submitted in 2011) outlined an ongoing process of Title VI data collection and analysis, documented the results of current assessments of compliance, and indicated responsive action that would be taken with respect to Title VI concerns in the interim years before the 2014 report.

CTPS has performed data collection and analysis for MBTA Title VI reporting since the 1980s and was responsible for producing the MBTA's 2005, 2008, and 2011 Title VI triennial reports for submittal to FTA. CTPS has also completed annual internal reports for the MBTA since 2005 and quarterly reporting to FTA, as required. This work program represents a continuation of CTPS involvement in the MBTA's Title VI monitoring efforts and encompasses the data collection, analysis, and reporting for state fiscal year (SFY) 2012.

## **OBJECTIVES**

CTPS will assist the MBTA in data collection and will conduct assessments of performance for specific service indicators based on existing MBTA service standards and policies. CTPS will then compare service performance in communities that are minority and/or low-income

with performance in communities that are neither minority nor low-income, using service indicators that are monitored annually or biennially, as outlined in the MBTA's monitoring schedule. CTPS will also assist the MBTA to develop and/or document required standards and policies if they do not currently exist.

## **WORK DESCRIPTION**

Some background information may be helpful to provide as the context for the tasks listed below. The Title VI Circular identifies a number of service indicators for level-of-service monitoring for which the comparative analysis must be completed. The MBTA monitors some level-of-service indicators annually, including vehicle assignment; passenger security inspections by transit security personnel; and the distribution, operability, and/or utilization of two transit amenities: (1) automated fare collection (AFC) gates, vending machines, and retail sales outlets; and (2) station elevators and escalators. Every two years (in even-numbered years), the MBTA monitors vehicle load, vehicle headway, and on-time performance; service availability; and the distribution and condition of bus shelters. In odd-numbered years, the MBTA monitors station conditions and amenities, the distribution of neighborhood maps, and the distribution and operability of variable-message signs (these indicators will not be monitored this year because 2012 is an even-numbered year).

Most of the level-of-service analyses rely on up-to-date data coverages of MBTA transit routes and amenities in the geographic information system (GIS) database maintained by CTPS. These coverages, which have been updated using 2010 census data, allow CTPS to identify amenities located in and routes serving predominantly minority and/or low-income areas.

FTA requires transit providers to employ specific standards or policies against which service performance is measured. While the MBTA has developed numerous standards and policies, it has not specifically documented or developed all required policies, including those for some transit amenities. In addition, based on supplemental guidance issued by FTA in 2011, transit agencies are instructed to develop policies to define what they would deem to be a "disparate impact" on minority and/or low-income populations when evaluating fare and major service changes. CTPS will assist the MBTA in documenting and/or developing needed service policies and defining "disparate impact" thresholds for the MBTA's fare and service change policy.

### **Task 1 Develop Policies for Siting Transit Amenities and Determining Disparate Impacts**

This task is composed of two subtasks, developing policies for siting transit amenities and developing a draft policy for determining what constitutes disparate impacts in relation to fare and service changes.

***Subtask 1.1 Develop Policies for Siting Transit Amenities***

FTA requires transit agencies to develop policies that govern the siting of various kinds of transit amenities. In instances where transit amenity siting policies do not yet exist or have not been documented, CTPS will work with the MBTA to develop/document the needed policies. Approval and adoption of such policies will be the responsibility of the MBTA.

***Subtask 1.2 Develop Draft Policy for Determining Disparate Impacts***

FTA requires that agencies develop “disparate impact” policies for fare and service changes. In this subtask, CTPS will assist the MBTA in developing draft thresholds (in terms of absolute numbers or proportions) for identifying disparate impacts on the basis of race, color, or national origin. FTA also requires that agencies seek public input regarding their disparate impact policies. The MBTA will be responsible for implementing the public process through which the draft disparate impact policy will be reviewed.

***Products of Task 1***

Policies for siting transit amenities and draft policy for determining disparate impacts.

**Task 2 Collect and/or Analyze Level-of-Service Data**

The first step in the level-of-service monitoring is to assess the performance of specified services against the established service standards and policies. The performance of the services provided for predominantly minority and/or low-income areas is then compared with the performance of services provided for other areas. The service indicators for which CTPS will collect and/or analyze data, and the associated work that will be performed by CTPS, are described below.

- **Vehicle Load, Vehicle Headway, and On-Time Performance:** The MBTA reports on vehicle loads, vehicle headways, and on-time performance on all modes every two years. Data for the Green Line will be collected by CTPS through field observations. Data for all other modes will be provided to CTPS by the MBTA. CTPS will conduct analyses comparing the vehicle loads, frequency of service, and schedule adherence of those routes identified as being in minority and/or low-income areas to routes in other areas.
- **Service Availability:** Using its GIS database, CTPS will determine the distances that customers in all areas must travel to access a transit service (of any mode). Those distances will be evaluated against the MBTA’s coverage standard (which applies to the urban fixed-route service area), and levels of compliance with the standard in predominantly minority and low-income areas will be compared with levels in other areas.

- **Distribution of Transit Amenities:** CTPS will conduct monitoring of the following transit amenities in the context of this work program: the location and condition of bus shelters, as well as the benches, timetables, and route maps that are provided in the shelters; the distribution and/or operability of AFC fare gates, fare vending machines, and retail sales terminals; and the distribution and operability of station elevators and escalators. Monitoring data for the bus shelters and related amenities will be collected by CTPS through field observations. Data on all other amenities will be provided to CTPS by the MBTA. For each amenity, the condition and/or operability of those found in predominantly minority and/or low-income areas or stations will be compared to the condition and/or operability of those found in other areas or stations.
- **Vehicle Assignment:** For bus vehicle assignment, CTPS will obtain and analyze Bus Operations garage pullout and maintenance records for at least one hot day during the summer. Using these data, CTPS will analyze the functionality of air conditioning and the vehicle age for buses on routes that serve predominantly minority and/or low-income areas compared to buses on routes that serve other areas. For rapid transit and commuter rail operations, a vehicle assignment analysis, for vehicle age only, will be conducted using data collected through CTPS field observations and/or provided by the MBTA; again, this analysis will compare findings for predominantly minority and/or low-income areas with those for other areas.
- **Transit Security:** Using data provided by the MBTA, CTPS will compare the percentage of passenger inspections at transit stations in minority and/or low-income areas with the percentage at stations in other areas throughout the system.

### ***Products of Task 2***

- Level-of-service summaries showing the vehicle loads, vehicle headway, and on-time performance of routes in predominantly minority and/or low-income areas and in other areas.
- Level-of-service summaries showing the service availability in predominantly minority and/or low-income areas and in other areas.
- Level-of-service summaries showing the distribution of transit amenities and passenger security inspections in predominantly minority and/or low-income areas and in other areas.
- Level-of-service summaries by route for vehicle assignment in terms of vehicle age and air conditioning, with an indication of which routes serve predominantly minority and/or low-income areas.

### **Task 3 Prepare Internal Report for the MBTA**

CTPS will compile the results of the level-of-service analyses into an SFY 2012 report to the MBTA. This report will provide the data needed for the MBTA to determine whether

any corrective actions need to be taken to ensure that services in minority and/or low-income areas are comparable to those in other areas.

***Product of Task 3***

SFY 2012 report for MBTA.

**Task 4 Provide Technical Support to the MBTA**

CTPS staff will provide technical assistance to the MBTA to address Title VI issues as necessary.

***Product of Task 4***

Technical support provided to the MBTA as necessary.

**ESTIMATED SCHEDULE**

It is estimated that this project will be completed seven months after the notice to proceed is received. The proposed schedule, by task, is shown in Exhibit 1.

**ESTIMATED COST**

The total cost of this project is estimated to be \$61,200. This includes the cost of 27.3 person-weeks of staff time, overhead at the rate of 94.57 percent, and travel. A detailed breakdown of estimated costs is presented in Exhibit 2.

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Exhibit 1  
 ESTIMATED SCHEDULE  
 MBTA 2012 Title VI Program Monitoring

| Task                              | Month        |   |   |   |   |   |   |
|-----------------------------------|--------------|---|---|---|---|---|---|
|                                   | 1            | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Development of Needed Policies |              |   |   | A |   |   |   |
| 2. Level-of-Service Monitoring    | B            |   |   |   |   |   |   |
| 3. Internal Report for MBTA       |              |   |   |   |   | C |   |
| 4. Technical Support to MBTA      | [Shaded bar] |   |   |   |   |   |   |

Products/Milestones

- A: Policies for the placement of transit amenities and Draft Disparate Impact Policy
- B: Level-of-service summaries
- C: Annual report to MBTA on level-of-service monitoring

Exhibit 2  
 ESTIMATED COST  
 MBTA 2012 Title VI Program Monitoring

|                                   |                 |
|-----------------------------------|-----------------|
| <b>Direct Salary and Overhead</b> | <b>\$60,700</b> |
|-----------------------------------|-----------------|

| Task                              | Person-Weeks |     |      |     |      |      |       | Direct Salary | Overhead (@ 94.57%) | Total Cost |
|-----------------------------------|--------------|-----|------|-----|------|------|-------|---------------|---------------------|------------|
|                                   | M-1          | P-5 | P-4  | P-3 | SP-3 | Temp | Total |               |                     |            |
| 1. Development of Needed Policies | 0.2          | 0.2 | 0.4  | 0.5 | 0.0  | 0.0  | 1.3   | \$1,658       | \$1,568             | \$3,227    |
| 2. Level-of-Service Monitoring    | 1.0          | 2.0 | 6.0  | 2.0 | 3.3  | 3.2  | 17.5  | \$18,464      | \$17,462            | \$35,926   |
| 3. Internal Report for MBTA       | 1.5          | 0.0 | 2.0  | 0.0 | 0.0  | 0.0  | 3.5   | \$4,927       | \$4,660             | \$9,587    |
| 4. Technical Support to MBTA      | 1.0          | 0.0 | 2.0  | 2.0 | 0.0  | 0.0  | 5.0   | \$6,147       | \$5,813             | \$11,960   |
| Total                             | 3.7          | 2.2 | 10.4 | 4.5 | 3.3  | 3.2  | 27.3  | \$31,197      | \$29,503            | \$60,700   |

|                           |              |
|---------------------------|--------------|
| <b>Other Direct Costs</b> | <b>\$500</b> |
|---------------------------|--------------|

|        |       |
|--------|-------|
| Travel | \$500 |
|--------|-------|

|                   |                 |
|-------------------|-----------------|
| <b>TOTAL COST</b> | <b>\$61,200</b> |
|-------------------|-----------------|

*Funding*  
*Future MBTA Contract*