



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Stephanie Pollack, MassDOT Secretary and CEO and MPO Chairman
Karl H. Quackenbush, Executive Director, MPO Staff

MEMORANDUM

DATE March 5, 2015
TO Boston Region Metropolitan Planning Organization
FROM Karl H. Quackenbush
CTPS Executive Director
RE Work Program for: Title VI Service Equity Analysis: Methodology
Development

Action Required

Review and approval

Proposed Motion

That the Boston Region Metropolitan Planning Organization vote to approve the work program for Title VI Service Equity Analysis: Methodology Development, presented in this memorandum

Project Identification

Unified Planning Work Program Classification

Technical Support/Operations Analysis Projects

CTPS Project Number

11396

Client

Boston Region Metropolitan Planning Organization

CTPS Project Supervisors

Principal: Annette Demchur

Manager: Nicholas Hart

Funding

MPO §5303 Contract #78922

Impact on MPO Work

This is MPO work and will be carried out in conformance with the priorities established by the MPO.

Background

As a recipient of Federal Transit Administration (FTA) funding, the MBTA is required to comply with Title VI of the Civil Rights Act of 1964. The FTA provides its funding recipients with guidance to carry out the US Department of Transportation's Title VI regulations in FTA Circular 4702.1B, which is dated October 1, 2012. For providers of public transportation that "operate 50 or more fixed-route vehicles in peak service and that are "located in an Urbanized Area (UZA) of 200,000 or more in population," the circular includes a specific requirement of conducting a service equity analysis prior to the implementation of any and all service changes that exceed the transit provider's major service-change threshold. The purpose of the service equity analysis is to determine if the planned service change will have a disparate impact on minority populations and/or if low-income populations will bear a disproportionate burden from the change.

The FTA circular instructs transit providers to develop written procedures for how they will perform the required service equity analysis in conformance with the MBTA's policies on major service changes, disparate impacts, and disproportionate burdens. Additionally, the FTA describes a framework for evaluating the impacts of proposed service changes on both minority and low-income populations. However, the guidance provided in the circular is vague and inconsistent, and the methodological framework presented fails to fully examine the magnitude of the impacts of service changes. As defined by the FTA, the methodology for conducting the disparate-impact and disproportionate burden analyses deals only with the proportion of minority or low-income riders affected, relative to all riders, but does not include an objective methodology for evaluating the relative magnitude of the impacts of the changes.

In this project, staff will develop a methodology for defining and analyzing the effects of major service changes to provide more meaningful information about the magnitude of the effects of those changes on minority and low-income populations and to ensure congruity across all procedures and policies related to Title VI service equity analysis. By completing this work, the MPO will continue to adhere to its commitment to conducting industry-leading Title VI and other transportation-equity-related work.

Objectives

- To review the current state of the practice for Title VI service equity analysis
- To develop an improved approach to Title VI service equity analysis that may be consistently applied to each transit mode and each type of major service change

Work Description

The work required to accomplish the project's objectives will be carried out in the five tasks described below.

Task 1 Review the Current State of the Practice

MPO staff will identify and categorize the strengths and weaknesses of the current state of the practice for conducting Title VI service equity analysis. To accomplish this, staff members will review FTA guidance and requirements, previous analyses of MBTA transit service changes, Title VI analysis procedures used by other agencies, and will conduct a literature review on transportation equity analysis. The findings of this review will be used to identify potential components of the new methodology.

Products of Task 1

An outline of the strengths and weaknesses of the current state of the practice of Title VI service equity analysis

Task 2 Develop Methodology

MPO staff will investigate alternative approaches to conducting Title VI service equity analysis, evaluate the benefits and limitations of each approach, and develop an improved methodology that would mitigate the shortcomings of the existing methodologies that were identified in Task 1. The approaches to be considered will incorporate methods for quantifying the magnitude of the expected benefit or burden based on the type and degree of major service change, and local factors such as the presence of other transit services available to affected riders. Staff will recommend the approach that best accomplishes these improvements while promoting consistency across all transit modes and all types of major service changes.

Products of Task 2

Assessment of the benefits and limitations of several approaches to performing Title VI equity analysis

Task 3 Select Metrics

The selection of metrics to be included in the methodology will depend on the framework of the approach selected in Task 2. Each of the metrics will function

as an indicator of the benefits and burdens associated with a major service change, and the set of metrics included in the methodology will be selected to interact together to indicate the total magnitude of benefits and burdens of each proposed major service change. The selected metrics will promote consistency across all transit modes and all types of major service changes, utilizing available data and resources.

Task 4 Conduct Sensitivity Analyses

MPO staff will conduct sensitivity analyses of the proposed methodology and its metrics to evaluate its appropriateness and to assess the degree of influence each metric has on the estimated total impact when applied to each type of major service change. This will influence the adjustments that may need to be made to the methodology or selection of metrics. Staff will recommend a methodology and will incorporate it into the written procedures of future MBTA Title VI service equity analysis.

Products of Task 4

- Sensitivity analysis of the new methodology and metrics for Title VI service equity analysis
- A written procedure for conducting Title VI service equity analysis using the new methodology

Task 5 Document Findings

The findings and products of Tasks 1–4 will be documented in a technical memorandum.

Products of Task 5

A technical memorandum documenting the major findings of the project

Estimated Schedule

It is estimated that this project will be completed six months after work commences. The proposed schedule, by task, is shown in Exhibit 1.

Estimated Cost

The total cost of this project is estimated to be \$55,000. This includes the cost of 22.3 person-weeks of staff time and overhead at the rate of 91.82 percent. A detailed breakdown of estimated costs is presented in Exhibit 2.

KQ/NH/nh

Exhibit 1
ESTIMATED SCHEDULE
Title VI Service Equity Analysis: Methodology Development

Task	Month					
	1	2	3	4	5	6
1. Review the Current State of the Practice	█					
2. Develop Methodology		█	█			
3. Select Metrics			█	█	█	
4. Conduct Sensitivity Analyses					█	
5. Document Findings						█ A

Products/Milestones

A: Technical memorandum

Exhibit 2
ESTIMATED COST
Title VI Service Equity Analysis: Methodology Development

Direct Salary and Overhead	\$55,000
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Task	Person-Weeks				Direct Salary	Overhead (91.82%)	Total Cost
	M-1	P-4	P-3	Total			
1. Review the Current State of the Practice	0.2	0.0	2.0	2.2	\$2,555	\$2,346	\$4,901
2. Develop Methodology	1.2	0.0	4.5	5.7	\$7,066	\$6,488	\$13,553
3. Select Metrics	1.0	0.0	4.0	5.0	\$6,163	\$5,659	\$11,823
4. Conduct Sensitivity Analyses	1.0	0.0	2.0	3.0	\$3,960	\$3,636	\$7,595
5. Document Findings	2.6	0.8	3.0	6.4	\$8,929	\$8,199	\$17,127
Total	6.0	0.8	15.5	22.3	\$28,673	\$26,327	\$55,000

Other Direct Costs	\$0
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TOTAL COST	\$55,000
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Funding
MPO §5303 Contract #78922