



## BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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

### MEMORANDUM

**DATE** May 18, 2017  
**TO** Boston Region Metropolitan Planning Organization  
**FROM** Karl H. Quackenbush, Executive Director  
**RE** Work Program for Support for MBTA Service Standards Development

#### Action Required

Review and approval

#### Proposed Motion

That the Boston Region Metropolitan Planning Organization (MPO), upon the recommendation of the Massachusetts Bay Transportation Authority (MBTA), vote to approve the work program for Support for MBTA Service Standards Development, presented in this memorandum

#### Project Identification

##### Unified Planning Work Program Classification

Agency and Other Client Transportation Planning Studies and Technical Analyses

##### CTPS Project Number

11414

##### Client

MBTA

*Project Supervisor:* Laurel Paget-Seekins

##### CTPS Project Supervisors

*Principal:* Annette Demchur

*Manager:* Steven Andrews

##### 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 any work in the Unified Planning Work Program.

## Background

Recently, the Central Transportation Planning Staff (CTPS) assisted the MBTA in a two-phase study to update the MBTA's Service Delivery Policy, the primary tool that the MBTA uses to guide the design and evaluation of transit services to meet the needs of the transit-riding public. In Phase I of the study, CTPS updated some of the data sources used for service planning and evaluation, and developed some new tools to process and analyze data. In Phase 2 of the study, CTPS worked with the MBTA and two advisory groups to revise the MBTA's service standards to reflect the enhanced capabilities for collecting and analyzing data, and to revise the service evaluation process. Some of the service standards and associated metrics and thresholds proposed by the Service Delivery Policy Working Group require further development and refinement. The MBTA's Fiscal and Management Control Board approved the revised Service Delivery Policy, with the understanding that the Service Delivery Policy is a living document and that work would continue to refine the existing metrics and to develop new metrics.

## Objective

The primary objective of this study is to work with the MBTA and other partners to refine the existing service standards and metrics, develop new metrics, and automate the calculation of service performance on some of the existing metrics.

## Work Description

### Task 1 Develop and Evaluate New Metrics

The Service Delivery Policy Working Group identified several potential service metrics that were not included in the final Service Delivery Policy because the MBTA did not have the data or processes set up to calculate the metrics. CTPS will evaluate some of these unused metrics to determine if they should be included in a future revision to the Service Delivery Policy.

#### *Products of Task 1*

New metrics

### Task 2 Refine Existing Metrics and Methodologies

In some cases, the adopted metrics need additional refinement—for example, the MBTA may want to continue reviewing different implementations of the cost-

benefit ratio measure. In other cases, the MBTA may want to review additional datasets to improve the accuracy of existing metrics.

***Product of Task 2***

Refined metrics and methodologies

**Task 3 Automate Frequency-of-Service and Span-of-Service Metric Calculation**

The calculation of service performance for the minimum frequency-of-service and span-of-service metrics could be automated using easily accessible, publicly available data. In this task, to the extent feasible, CTPS will automate the calculation of each metric.

***Products of Task 3***

Tools to automate metric calculations

**Estimated Schedule**

It is estimated that this project will be completed 12 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 \$30,000. This includes the cost of 10.4 person-weeks of staff time and overhead at the rate of 102.70 percent. A detailed breakdown of estimated costs is presented in Exhibit 2.

KQ/SAP/sap

**Exhibit 1**  
**ESTIMATED SCHEDULE**  
**Support for MBTA Service Standards Development**

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Develop and Evaluate New Metrics	[Task duration bar]											
2. Refine Existing Metrics and Methodologies	[Task duration bar]											
3. Automate Frequency-of-Service and Span-of-Service Metric Calculation	[Task duration bar]											

**Exhibit 2**  
**ESTIMATED COST**  
**Support for MBTA Service Standards Development**

<b>Direct Salary and Overhead</b>							<b>\$30,000</b>
Task	Person-Weeks			Direct Salary	Overhead (102.70%)	Total Cost	
	M-1	P-4	Total				
1. Develop and Evaluate New Metrics	0.5	3.0	3.5	\$4,965	\$5,099	\$10,065	
2. Refine Existing Metrics and Methodologies	0.5	2.9	3.4	\$4,869	\$5,001	\$9,870	
3. Automate Frequency-of-Service and Span-of-Service Metric Calculation	0.5	3.0	3.5	\$4,965	\$5,099	\$10,065	
Total	1.5	8.9	10.4	\$14,800	\$15,200	\$30,000	
<b>Other Direct Costs</b>							<b>\$0</b>
<b>TOTAL COST</b>							<b>\$30,000</b>

**Funding**  
 Future MBTA Contract