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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 August 2, 2012
TO Boston Region Metropolitan Planning Organization
FROM Karl H. Quackenbush
CTPS Executive Director
RE Work Program for: Federal Transit Administration Formula
Grant Funding Review

Action Required

Review and approval

Proposed Motion

That the Boston Region Metropolitan Planning Organization, upon the recommendation of the Massachusetts Bay Transportation Authority, vote to approve the work program for Federal Transit Administration Formula Grant Funding Review in the form of the draft dated August 2, 2012.

Project Identification

Unified Planning Work Program Classification

Technical Support/Operations Analysis Projects

CTPS Project Number

14335

Client

Massachusetts Bay Transportation Authority

Project Supervisor: Victor Rivas

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 other work in the UPWP.

Background

Each year, through the Federal Transit Administration (FTA), the federal government releases funds allocated to each urbanized area (UZA) through formula grants. The largest two formula grants are the Urbanized Area Formula Program (§5307) and the recently created State of Good Repair Grants (§5337). Under the recently passed Moving Ahead for Progress in the 21st Century (MAP-21) legislation, the State of Good Repair Grants replaced the Fixed Guideway Modernization formula grants (§5309.b.2). Integral to FTA's calculations for both formula grant programs are data from the census and the National Transit Database (NTD), such as passenger-miles, revenue vehicle-miles, and operating costs, which are used to determine the allocation to specific UZAs. Within the UZA, funds are divided among the recipients, including—in the Boston UZA—the MBTA, based on agreements developed by them.

The entire process—from reporting service data for the NTD to distributing money among agencies within a UZA—is quite complex, and its ramifications for decision making in a given case are often not readily apparent. Translating this process into an easily usable format will help the MBTA and other transit agencies to determine how changes to legislation will affect their annual allocations, to test alternative funding and service scenarios, to anticipate future financial constraints and borrowing needs, and to make sound agency budget decisions.

Objectives

The general purpose of this study is to provide a review of the §5307 and §5337 federal funding programs that will help the MBTA and other transit agencies to gain a greater understanding of how each step in the process affects their capital and operating budgets. The specific objectives are:

1. Provide a clear, straightforward description of the process, from the submission of NTD data to the distribution of funds among transit agencies at the UZA level
2. Provide the MBTA with a spreadsheet model that will help it test scenarios and see how NTD statistics reported by Boston UZA transit agencies affect the allocation of funds to the Boston UZA
3. Test scenarios using the spreadsheet model

Work Description

The work required to accomplish the project objectives will be carried out in three tasks, as described below.

Task 1 Review and Document the Current Federal Funding Allocation Process

CTPS will review the current process used to determine the funds provided to each UZA. This process will start with the NTD data that individual agencies submit and follow that data through to derive the unit values that are used to distribute funds.

Product of Task 1

A memorandum providing a straightforward description of the entire formula grant funding processes for both §5307 and §5337

Task 2 Develop a Model of the Formula Grant Process

Using the information gained in Task 1, CTPS will create a spreadsheet model that will allow the MBTA to understand how the FTA arrives at the numbers it uses for the §5307 and §5337 formula grant allocations to the Boston UZA. The model will demonstrate how the funding provided to the Boston UZA is affected by the NTD data reported by each agency and by changes in the level of federal funding for all UZAs. The MBTA will be able to use this model to test scenarios in order to see how variations in NTD data used in the formula might affect the MBTA's allocation and how potential changes in the overall level of federal funding would affect the Authority's bottom line in future years. The model will also allow the MBTA to test the impact of changes to one or more of the variables used in the formula.

In addition to developing a model with a user-friendly interface, CTPS will provide an easily understandable summary of the formulas for both programs (including the formula inputs) and documentation of how the model works.

Products of Task 2

- A spreadsheet model of the grant-funding allocation process that incorporates the formula calculations for §5307 and §5337 and allows the MBTA to vary the funding scenarios and input variables
- Documentation of the model

Task 3 Generate Formula Funding Estimates Based on Projected Service Statistics

CTPS will use the model developed in Task 2 to show the effects of potential changes in service statistics (and thus in the NTD data submitted) on the grant-funding allocation to the Boston UZA. CTPS will select the specific service statistic scenarios to be used in this task in consultation with the MBTA.

Product of Task 3

Funding estimates based on model runs for various scenarios

Estimated Schedule

It is estimated that this project will be completed nine weeks 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 \$26,877. This includes the cost of 11.2 person-weeks of staff time and overhead at the rate of 96.58 percent. A detailed breakdown of estimated costs is presented in Exhibit 2.

Exhibit 1
 ESTIMATED SCHEDULE
 Federal Transit Administration Formula Grant Funding Review

| Task | Week | | | | | | | | | |
|---|------|---|---|---|---|---|---|---|---|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 1. Review and Document the Current Federal Funding Allocation Process | A | | | | | | | | | |
| 2. Develop a Model of the Formula Grant Process | | | B | | | | | | | |
| 3. Generate Formula Funding Estimates Based on Projected Service Statistics | | | | | | C | | | | |

- Products/Milestones
- A: Memorandum
 - B: Spreadsheet model with documentation
 - C: Funding estimates

Exhibit 2
 ESTIMATED COST
 Federal Transit Administration Formula Grant Funding Review

| | |
|----------------------------|----------|
| Direct Salary and Overhead | \$26,877 |
|----------------------------|----------|

| Task | Person-Weeks | | | Direct Salary | Overhead (@ 96.58%) | Total Cost |
|---|--------------|-----|-------|---------------|---------------------|------------|
| | M-1 | P-3 | Total | | | |
| 1. Review and Document the Current Federal Funding Allocation Process | 0.6 | 3.0 | 3.6 | \$4,159 | \$4,017 | \$8,176 |
| 2. Develop a Model of the Formula Grant Process | 1.2 | 3.0 | 4.2 | \$5,176 | \$4,999 | \$10,174 |
| 3. Generate Formula Funding Estimates Based on Projected Service Statistics | 1.2 | 2.2 | 3.4 | \$4,338 | \$4,189 | \$8,527 |
| Total | 3.0 | 8.2 | 11.2 | \$13,672 | \$13,205 | \$26,877 |

| | |
|--------------------|-----|
| Other Direct Costs | \$0 |
|--------------------|-----|

| | |
|------------|----------|
| TOTAL COST | \$26,877 |
|------------|----------|

Funding
 Future MBTA Contract