



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Richard A. Davey, MassDOT Secretary and CEO and MPO Chairman
Karl H. Quackenbush, Executive Director, MPO Staff

MEMORANDUM

DATE October 18, 2012
TO Boston Region Metropolitan Planning Organization
FROM Karl H. Quackenbush
CTPS Executive Director
RE Work Program for: MASCO Bus Routes Study

Action Required

Review and approval

Proposed Motion

That the Boston Region Metropolitan Planning Organization, upon the recommendation of MASCO, vote to approve the work program for MASCO Bus Routes Study in the form of the draft dated 10/18/2012.

Project Identification

Unified Planning Work Program Classification

Planning Studies

CTPS Project Number

23323

Clients

Medical Academic and Scientific Community Organization, Inc. (MASCO)
Project Supervisor: Sarah Hamilton

CTPS Project Supervisors

Principal: Karl H. Quackenbush
Manager: Bruce Kaplan

Funding

New MASCO funds

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 nor reduce the quality of other work in the UPWP.

Background

The Medical Academic and Scientific Community Organization, Inc. (MASCO), and its consultant team are presently investigating modifications to existing MBTA bus routes serving the Longwood Medical Area (LMA) with an eye towards improving efficiency and boosting ridership. Following consultation with the cities of Boston, Cambridge, and Somerville, MASCO and its consulting team have recommended several specific service alterations regarding MBTA routes CT2 and CT3. These include both potential route realignments and potential frequency changes. MASCO is interested in having CTPS use the MPO's regional travel demand model set and planning expertise to evaluate the benefits of such proposed service modifications and enhancements.

Objectives

The principal objectives of this work program are:

1. To assist in the evaluation of proposed service changes to MBTA bus routes CT2 and CT3
2. To support the project team

Work Description

The regional travel demand model set will be used to produce ridership and other important data to be used for the evaluation of proposed service alternatives. These include cost and revenue estimates, ridership projections, and environmental justice analyses.

Task 1 Review and Code Alternatives

CTPS will review and code up to four proposed service alternatives. Issues such as stop locations, service frequencies, run times, and route alignments will be clarified with the project team consultant. Additional concerns will be addressed to ensure proper representation of these alternatives in the regional travel demand model set.

Product(s) of Task 1

Coded service alternatives in the regional travel demand model set

Task 2 Perform Base-Year Model Calibration

CTPS will use the latest version of its base-year model, which is for the year 2009. Specific attention will be paid to further calibrating study area transit and roadway networks to closely replicate existing conditions. The results of running the base-year model will be summarized in sufficient detail to provide certain systemwide statistics, as well as study-area-specific data.

Product of Task 2

A well-calibrated travel demand model set for the study area

Task 3 Update Land Use Assumptions

CTPS will forecast for the 2035 horizon year. Model inputs—socioeconomic data, congested highway travel times, auto operating costs, CBD parking costs, transit fares, and travel times—will be consistent with the land use and background transportation projects assumed in the latest adopted Long-Range Transportation Plan (LRTP) for the region. However, MASCO has indicated that it has more recent data regarding future LMA and East Cambridge developments than is detailed in the LRTP. MAPC and MASCO will be consulted about the best demographic and land use assumptions to use in this planning effort. Employing these assumptions will necessitate altering the existing model set at slightly earlier steps (trip generation and trip distribution) than is typically done following base-year calibration.

Product(s) of Task 3

Updated horizon-year trip tables

Task 4 Run Model for Proposed Alternatives

The proposed alternatives, as well as a no-build alternative, will be analyzed for the 2035 horizon year. Mode choice and highway assignment results will be summarized in tabular form. Aggregate statistics such as total linked and unlinked transit trips will be summarized by submode. These statistics will form the basis for determining the utilization of the proposed services.

Product(s) of Task 4

A complete summary of travel forecasts for the scenarios

Task 5 Estimate Project Revenue and Costs

Travel model results will serve as the starting point for estimating likely passenger revenue associated with each scenario. CTPS will also estimate the operating and capital costs associated with each scenario.

Product(s) of Task 5

Estimates of passenger revenue and project costs for each scenario

Task 6 Perform Environmental-Justice Analyses

CTPS will conduct environmental-justice analyses for the tested service strategies. After identifying communities of concern, performance measures—accessibility to health care, higher education, and jobs; mobility and congestion; and environmental impacts—will be used as indicators of benefits and burdens for environmental-justice and non-environmental-justice communities.

Product(s) of Task 6

Memorandum documenting the environmental-justice analyses

Task 7 Produce a Technical Memorandum

A technical memorandum documenting all of the model methodology, assumptions, and results and the analysis findings will be provided to MASCO and MassDOT.

Product(s) of Task 7

A technical memorandum documenting the project

Estimated Schedule

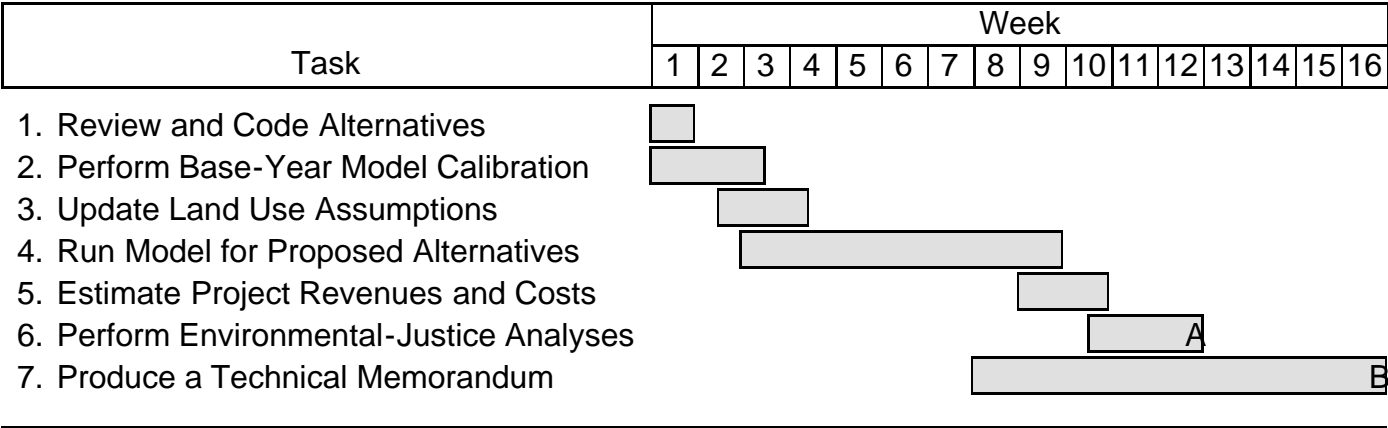
It is estimated that this project will be completed four months after the notice to proceed is received. The proposed schedule, by task, is shown in Exhibit 1.

Estimated Cost

The total cost of this project is estimated to be \$40,000. This includes the cost of 15.3 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.

KQ/BK/bk

Exhibit 1
ESTIMATED SCHEDULE
MASCO Bus Routes Study



Products/Milestones
 A: Environmental-justice memorandum
 B: Technical Memorandum

Exhibit 2
ESTIMATED COST
MASCO Bus Routes Study

Direct Salary and Overhead	\$40,000
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Task	Person-Weeks				Direct Salary	Overhead (96.58%)	Total Cost
	M-1	P-5	P-4	Total			
1. Review and Code Alternatives	0.2	0.0	1.0	1.2	\$1,601	\$1,546	\$3,147
2. Perform Base-Year Model Calibration	0.0	0.5	1.0	1.5	\$2,101	\$2,029	\$4,130
3. Update Land Use Assumptions	0.0	0.2	1.3	1.5	\$2,010	\$1,941	\$3,950
4. Run Model for Proposed Alternatives	0.2	0.0	4.9	5.1	\$6,573	\$6,348	\$12,921
5. Estimate Project Revenues and Costs	0.2	0.0	0.8	1.0	\$1,353	\$1,307	\$2,660
6. Perform Environmental-Justice Analyses	0.2	0.0	1.2	1.4	\$1,853	\$1,790	\$3,643
7. Produce a Technical Memorandum	1.0	0.0	2.5	3.5	\$4,858	\$4,692	\$9,550
Total	1.8	0.7	12.8	15.3	\$20,348	\$19,652	\$40,000

Other Direct Costs	\$0
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TOTAL COST	\$40,000
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Funding
 New MASCO Funds