



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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

WORK PROGRAM

SOUTH COAST RAIL BUZZARDS BAY COMMUTER RAIL PILOT STUDY

MAY 3, 2018

Proposed Motion

The Boston Region Metropolitan Planning Organization (MPO) votes to approve this work program.

Project Identification

Unified Planning Work Program (UPWP) Classification

Boston Region MPO Planning Studies and Technical Analyses

Project Number 22212

Client

Boston Region MPO

Project Supervisors

Principal: Scott Peterson

Manager: Ben Dowling

Funding Source

MassDOT Contract

Schedule and Budget

Schedule: 11 weeks after work commences

Budget: \$48,000

Schedule and budget details are shown in Exhibits 1 and 2, respectively.

Relationship to MPO Goals

The Boston Region MPO elected to fund this study with its federally allocated metropolitan planning funds during federal fiscal year (FFY) 2018. The work completed through this study will address the following goal area(s) established in the MPO's Long-Range Transportation Plan: mobility.

Background

The Massachusetts Department of Transportation (MassDOT) is considering the implementation of year-round commuter rail service from Boston to Buzzards Bay. The route under consideration covers part of the same route used for seasonal summer service to Cape Cod. Central Transportation Planning Staff (CTPS) has conducted or participated in several studies of potential railroad passenger service extensions to Cape Cod towns in the recent past. MassDOT has asked CTPS to assist in analyzing the latest proposal to extend commuter rail to Buzzards Bay.

Objective(s)

The objective of this study is to support MassDOT in its effort to plan for the future of commuter rail service to Buzzards Bay. To provide this support, CTPS will work towards the following two objectives:

1. Provide data support and analysis to MassDOT and its consultants and partners
2. Provide modeling support to the project team including MassDOT and its consultants and partners

Work Description

The following tasks describe the work that CTPS will perform for this study.

Task 1 Review Background Documentation and Site Visit

CTPS will review previously conducted studies to analyze the extension of commuter rail service to Buzzards Bay. CTPS will review studies that it has performed and contributed to and studies conducted by the Cape Cod Commission and MassDOT to gain an understanding of project background and context. CTPS will also perform a site visit of the study area to gain a more comprehensive understanding of the operational context of the project.

Product of Task 1

Review and analysis of previously conducted studies to understand project background and context

Task 2 Calibrate Base-Year Model

The study area geography for this project is where the South Shore, the South Coast, and Cape Cod meet. CTPS will use its statewide model to perform this analysis because it covers that entire geography and will calibrate that model to the existing characteristics of the commuter rail system. CTPS will calibrate the base-year model, comprised of transportation networks and trip tables, reflective of year 2016 conditions, to accurately reflect mode splits and traffic and transit volumes in the study area, with particular attention given to the Middleborough and Plymouth

commuter rail lines. CTPS will calibrate this model to commuter rail lines and major roadways in the study area during the peak periods of travel between 6 AM to 9 AM and 3 PM to 6 PM.

Product of Task 2

A fully functioning four-step statewide travel demand model calibrated to the study area

Task 3 Model Future-Year No-Build

CTPS will develop and model a no-build scenario for the year 2030. The transportation network used for this scenario will assume the implementation of transportation projects and programs as documented in the Boston MPO's current Long-Range Transportation Plan (LRTP), *Charting Progress to 2040*. The no-build scenario will include South Coast Rail Phase 1. CTPS will also consult the LRTPs of the Southeastern Regional Planning and Economic Development District and of the Cape Cod Commission to ensure the networks used in the model reflect anticipated 2030 conditions in the study area. Because of the compressed project timeline, CTPS will base the land use for the future no-build scenario and the build scenarios on the community level land-use assumptions adopted for the LRTP and adjust downward from the year 2040 to the horizon year of 2030.

Products of Task 3

- No-build scenario for the year 2030
- Tabular summaries of ridership for system and lines to include boardings and alightings by direction

Task 4 Model Two Future-Year Build Scenarios

CTPS will model up to two build scenarios in the year 2030. MassDOT or its consultants will provide the service plans to be included in the build scenarios. CTPS will work with MassDOT and its consultants to define the scenarios, including the frequency of the trains, the stations, the runtimes of the trains, and parking and fares. CTPS anticipates that these scenarios may involve a shuttle option to connect Buzzards Bay communities to South Coast Rail Phase 1 service. The project team is interested in understanding the market demand between Buzzards Bay communities and New Bedford and Fall River.

Products of Task 4

- Tabular summaries of commuter rail ridership summarized at the line and station levels to include boardings and alightings by direction
- Select line analysis

Task 5 Analysis of Model Output

The goal of this project is to analyze extending commuter rail service to Buzzards Bay. CTPS will work with MassDOT and its consultants to provide the most value-added travel demand modeling insight possible for each of the identified service

alternatives. CTPS will focus on ridership, mode of access, and traffic and auto use. CTPS will examine system-level auto diversions associated with the proposed alternatives and an analysis of how the proposed alternatives may affect South Coast Rail Phase 1.

Products of Task 5

- Coordination with MassDOT and its project consultants to extract the best quality insights from the travel demand modeling work
- Air quality analysis for highway and transit

Task 6 Coordinate with Project Team

CTPS will work with the MassDOT project team throughout the study, with an anticipated time frame of three months for the modeling work. In addition, CTPS will fulfill data requests from the project team when the data are readily available.

Product of Task 6

Coordination and consultation with the project team, review of models, and other assistance, as needed

Task 7 Project Documentation

CTPS will produce a memorandum summarizing the modeling methodology and the results of the analysis. The memorandum will be sent to MassDOT and its consultants.

Product of Task 7

Memorandum

Exhibit 2
ESTIMATED COST
Buzzards Bay Commuter Rail Pilot Study

Direct Salary and Overhead	\$48,000
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Task	Person-Weeks				Direct Salary	Overhead (105.66%)	Total Cost
	M-1	P-5	P-4	Total			
1. Review Background Documentation and Site Visit	0.0	0.0	0.8	0.8	\$1,051	\$1,111	\$2,162
2. Calibrate Base-Year Model	0.0	0.0	1.0	1.0	\$1,392	\$1,471	\$2,863
3. Model Future-Year No-Build	0.0	1.0	1.0	2.0	\$3,296	\$3,483	\$6,779
4. Model Two Future-Year Build Scenarios	0.0	2.4	4.0	6.4	\$10,173	\$10,749	\$20,921
5. Analysis of Model Output	0.0	0.0	2.0	2.0	\$2,785	\$2,942	\$5,727
6. Coordinate with Project Team	1.0	0.0	1.0	2.0	\$3,250	\$3,434	\$6,684
7. Project Documentation	0.0	0.0	1.0	1.0	\$1,392	\$1,471	\$2,863
Total	1.0	3.4	10.8	15.2	\$23,339	\$24,660	\$48,000

Other Direct Costs	\$0
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TOTAL COST	\$48,000
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Funding
 MassDOT Contract