



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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

MEMORANDUM

DATE February 20, 2014
TO Boston Region Metropolitan Planning Organization
FROM Karl H. Quackenbush
CTPS Executive Director
RE Work Program for: Methodology for Evaluating the Potential for Limited-Stop Service on Transit Routes

Action Required

Review and approval

Proposed Motion

That the Boston Region Metropolitan Planning Organization, vote to approve the work program for Methodology for Evaluating the Potential for Limited-Stop Service on Transit Routes presented in this memorandum

Project Identification

Unified Planning Work Program Classification

Planning Studies

CTPS Project Number

11390

Client

Boston Region MPO

CTPS Project Supervisors

Principal: Annette Demchur

Manager: Jonathan Belcher

Funding

MPO §5303 Contract #78924

Impact on MPO Work

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

Background

The Massachusetts Bay Transportation Authority (MBTA) regularly receives requests from elected officials and the public for limited-stop service in many of its Key Route bus corridors. Limited-stop buses stop less frequently along a route, while a parallel local route serves all stops. Advantages of limited-stop service are shorter in-vehicle travel times for passengers and shorter running times—which enable bus operators to serve more passengers with the same number of vehicles, and reduce operating costs. Limited-stop bus service also offers the potential for greater reliability and decreased crowding. One of the drawbacks of limited-stop service is longer wait and access times for some passengers along the route.

Limited-stop service can be provided by reassigning some of the existing local bus trips or adding limited-stop buses to existing local service. Reassigning existing trips offers the greatest potential for cost savings. However, dividing existing vehicles on a route between limited-stop and local service could result in inadequate levels of service for both types of service.

The goal of this project is to develop criteria for evaluating the potential for limited-stop service on bus routes based on existing and projected ridership demand, operating strategies, roadway characteristics, equipment needs, and costs; apply these criteria to the Key Bus Route¹ corridors; and make recommendations for priority of implementation, within the constraints of available resources. The evaluation criteria could be adapted for use by other regional transit authorities in addition to the MBTA.

Objectives

To produce a set of standard evaluation criteria to evaluate the potential for new limited-stop bus service to supplement heavily used local bus routes.

To apply these criteria to the MBTA's Key Route bus corridors, and recommend priorities for implementing limited-stop service on the Key Routes that could benefit most from this service.

¹The MBTA has designated its 15 busiest bus routes as "Key Bus Routes." Each Key Bus Route operates at a high frequency, 7 days a week, to meet passenger demand along high-density corridors. Service operates at least every 10 minutes during weekday peak periods, every 15 minutes during weekday midday periods, and every 20 minutes during off-peak periods. The 15 Key Bus Routes are: Routes 1, 15, 22, 23, 28, 32, 39, 57, 66, 71, 73, 77, 111, 116, and 117.

Work Description

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

Task 1 Review Past Studies

Staff will review reports of past studies produced by or for the MBTA, or other transit agencies, that pertain to planning new limited-stop bus service. In addition to printed copies of such reports currently in the possession of the staff or the State Transportation Library, reports posted on websites of other transportation agencies and research organizations will be reviewed.

Product of Task 1

Major findings from Task 1 will be summarized in a technical memorandum.

Task 2 Develop Evaluation Criteria for Limited-Stop Bus Routes

Staff will develop a set of evaluation criteria for new limited-stop bus service using a combination of 1) state-of-the-practice methodologies employed in the studies reviewed in Task 1, and 2) new techniques devised by Staff in consultation with the MBTA. These limited-stop services would operate conjointly with existing local bus service and could result from reassigning some local bus trips or providing additional revenue hours of service. Staff also will produce an instruction manual for future application of the criteria by the MBTA, or other regional transit authorities, in order to help them evaluate the potential for limited-stop service on their bus routes.

Product of Task 2

Evaluation criteria developed by Staff—along with instructions for future application of the criteria by the MBTA or other regional transit authorities—will be presented in a technical memorandum.

Task 3 Apply Evaluation Criteria to MBTA Key Route Bus Corridors

Staff will apply the evaluation criteria developed in Task 2 to potential new limited-stop bus service in each of the MBTA Key Route bus corridors. Based on the results, the Key Routes showing the most potential as candidates for this service will be ranked in order of priority for implementation, subject to available funding.

Product of Task 3

The results of the evaluation of each potential new limited-stop route and recommended priorities and strategies for implementation will be presented in a technical memorandum, together with the findings of the previous two tasks. The findings of the study will be presented to the MPO.

Estimated Schedule

It is estimated that this project will be completed five 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 \$52,081. This includes the cost of 20.5 person-weeks of staff time and overhead at the rate of 97.42 percent. A detailed breakdown of estimated costs is presented in Exhibit 2.

KQ/TJH/tjh

Exhibit 1

ESTIMATED SCHEDULE

Methodology for Evaluating the Potential for Limited-Stop Service on Transit Routes

Task	Week																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
1. Review Past Studies	A																							
2. Develop Evaluation Criteria for Limited-Stop Bus Routes							B																	
3. Apply Evaluation Criteria to MBTA Key Route Bus Corridors																		C						

Products/Milestones

- A: Technical Memorandum
- B: Technical Memorandum
- C: Technical Memorandum

Exhibit 2

ESTIMATED COST

Methodology for Evaluating the Potential for Limited-Stop Service on Transit Routes

Direct Salary and Overhead							\$52,081
Task	Person-Weeks				Direct Salary	Overhead (97.42%)	Total Cost
	M-1	P-4	P-3	Total			
1. Review Past Studies	1.4	1.0	2.0	4.4	\$5,769	\$5,620	\$11,390
2. Develop Evaluation Criteria for Limited-Stop Bus Routes	2.0	3.5	4.0	9.5	\$12,074	\$11,763	\$23,837
3. Apply Evaluation Criteria to MBTA Key Route Bus Corridors	1.6	2.5	2.5	6.6	\$8,537	\$8,317	\$16,854
Total	5.0	7.0	8.5	20.5	\$26,381	\$25,700	\$52,081
Other Direct Costs							\$0
TOTAL COST							\$52,081

Funding

MPO §5303 Contract #78924