



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Monica Tibbits-Nutt, MPO Chair | Secretary and CEO, Massachusetts Department of Transportation
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WORK PROGRAM

IMPACT OF BUS PRIORITY LANES ON EMERGENCY SERVICES

JUNE 20, 2024

Proposed Motion

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

Project Identification

Unified Planning Work Program (UPWP) Classification

Agency and Other Client Transportation Planning Studies and Technical Analyses

Project Number 13823

Client

MassDOT

Client Supervisor: Arnav Chatterjee

Project Supervisors

Principal: Rosemary McCarron

Manager: Steven Andrews

Funding Source

MassDOT-Directed PL Funds

Schedule and Budget

Schedule: 12 months from notice to proceed

Budget: \$100,000

Schedule and budget details are shown in Exhibits 1 and 2, respectively. This project is scheduled to be started in federal fiscal year (FFY) 2024 and completed in FFY 2025.

Relationship to MPO Work

This study is supported in full with non-MPO funding. Committing MPO staff to this project will not impinge on the quality or timeliness of MPO-funded work.

Background

Since 2018, the Massachusetts Bay Transportation Authority (MBTA) and its municipal partners have added more than 40 miles of bus priority infrastructure to the MBTA service area. These lanes protect MBTA buses and other high-capacity vehicles from traffic, improving their speed and reliability even as population and car ownership increase in the region. With plans to add dozens of additional lane miles annually over the next five to seven years, it is important to quantify the impact of this work for roadway users outside the traditionally considered motorists and transit users.

This work program will research the impact of this priority infrastructure on the response times of emergency medical services (EMS) and other emergency services throughout the region to better understand the ancillary impacts of the MBTA's Transit Priority Program.

Objective

The objective of this work is to research and document the ancillary impacts of bus priority lanes on emergency response travel times both from the perspective of emergency service drivers and via an analysis of emergency response times. The results of this study are expected to provide planners and the public with more information about the societal effects of bus priority infrastructure.

Work Description

Work will take place over a series of tasks starting from selecting the project's geographic scope and identifying key corridors; developing, distributing, and summarizing a survey of EMS drivers; reviewing available datasets; performing data analysis using those datasets; and culminating with a final report synthesizing the information gathered along the way.

Task 1 Develop Project Methodology

Staff will work with project stakeholders to clarify the specific parameters of the study. In this task, staff will define the geographic scope of the project, identify key bus priority corridors, and develop the methodology for surveying EMS drivers about their experiences with bus lanes.

Product of Task 1

Survey instrument

Task 2 Conduct the Survey and Summarize Results

Staff will work with project stakeholders to create a list of survey participants. Staff will distribute the survey to those participants and summarize the results.

Products of Task 2

Technical memorandum summarizing the survey results, including information about the potential and actual survey participants

Raw and processed survey data

Task 3 Summarize Available Data

In preparation for Task 4, staff will review available data sources that can support analysis of emergency service response times. Specific insights from the survey completed in Task 2 will inform this review.

Product of Task 3

Technical memorandum summarizing available data resources.

Task 4 Analyze Emergency Service Response Times

Staff will use the resources identified in Task 3 to conduct an analysis of emergency service response times. This analysis may require the use of travel routing algorithms, vehicle response times, locations of health and safety infrastructure, among other datasets and tools.

Products of Task 4

Technical memorandum summarizing results of data analysis

Technical documentation of data analysis methodology

Task 5 Synthesize Previous Tasks into a Final Document

Staff will synthesize the previous technical memoranda created throughout this work into a single cohesive document. Staff will package and deliver the datasets, files, and documentation used to conduct the analysis.

Products of Task 5

Report synthesizing the previous technical memoranda

Packaged project materials

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Boston, MA 02116

Phone: 857.702.3700

Email: civilrights@ctps.org

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Exhibit 1
ESTIMATED SCHEDULE
Impact of Bus Priority Lanes on Emergency Services

Task	Month												
	1	2	3	4	5	6	7	8	9	10	11	12	
1. Develop Project Methodology	█												
2. Conduct the Survey and Summarize Results			█				A						
3. Summarize Available Data						█		B					
4. Analyze Emergency Service Response Times						█						C	
5. Synthesize Previous Tasks into a Final Document											█		D

Products/Milestones

- A: Technical memorandum no. 1
- B: Technical memorandum no. 2
- C: Technical memorandum no. 3
- D: Final Report

Exhibit 2
ESTIMATED COST
Impact of Bus Priority Lanes on Emergency Services

Direct Salary and Overhead								\$99,500
Task	Person-Weeks by Pay Grade					Direct Salary	Overhead (120.3%)	Total Cost
	G-9	G-8	G-7	G-6	Total			
1. Develop Project Methodology	0.1	0.1	1.0	1.0	2.2	\$3,893	\$4,684	\$8,577
2. Conduct the Survey and Summarize Results	0.0	0.2	2.0	4.4	6.6	\$10,595	\$12,745	\$23,340
3. Summarize Available Data	0.0	0.1	0.6	0.8	1.5	\$2,547	\$3,063	\$5,610
4. Analyze Emergency Service Response Times	0.0	0.2	5.0	5.4	10.6	\$17,779	\$21,388	\$39,168
5. Synthesize Previous Tasks into a Final Document	0.2	0.3	2.0	3.6	6.1	\$10,352	\$12,453	\$22,805
Total	0.3	0.9	10.6	15.2	27.0	\$45,165	\$54,334	\$99,500
Other Direct Costs								\$500
Routing API Calls								\$500
TOTAL COST								\$100,000

Funding
 MassDOT Directed-PL