



**WORK PLAN**  
**BUS DELAY TOOL ONGOING SUPPORT**

APRIL 14, 2022

**Project Identification**

**Project Number** 11499

**Client**

Eric Burkman, MBTA Director of Transit Priority

**Project Supervisors**

*Principal: Paul Christner*

*Manager: Jonathan Belcher*

**Funding Source**

Future MBTA Contract

**Schedule and Budget**

**Schedule:** 24 months after work commences

**Budget:** \$60,000

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

**Background**

During 2020 and 2021, Central Transportation Planning Staff (CTPS) developed an interactive bus delay tool for the Massachusetts Bay Transportation Authority (MBTA) under Project 11425, Prioritization of Dedicated Bus Lanes II. This proposed project would provide funds to fully activate and maintain the new bus delay tool at regular intervals. Upgrades would be made to match bus schedule and route changes as they occur. Tool components to be maintained would include segment data, corridor data, passenger retention analysis, summaries of the most delayed routes, and signalized intersection delay analysis. Activity required to maintain the tool will vary based on the complexity of MBTA route and service changes.

## Objective(s)

1. Activate the tool for public use and provide five training sessions for users

Complete final database and software updates so that municipal planners and the public can use the tool. Training sessions will be provided for MBTA staff and others requested by MBTA staff.

2. Provide ongoing support to update the tool with travel time, ridership, and route structure changes as requested by the MBTA

The MBTA updates bus schedules quarterly and anticipates future changes to its bus route structure as part of its Bus Network Redesign process. The MBTA also collects bus ridership and bus travel time data on a regular basis. Data provided by the MBTA will be used to update ridership, travel time, and route structure information in the interactive tool at annual or semi-annual intervals.

## Work Description

### **Task 1 Activate the Tool and Train Users**

Final database and software updates will be completed so that municipal planners and the public can use the tool with existing bus delay data from fall 2019. Staff will integrate bus priority project tracking data from the MBTA into the Bus Delay Tool. As part of preparing the tool, staff will conduct targeted user testing to assess usability and design of the tool. Training sessions will be provided for MBTA staff and others requested by MBTA staff.

#### ***Products of Task 1***

The bus delay tool will be fully activated. Up to five training sessions will be provided for MBTA staff and other users.

### **Task 2 Provide Ongoing Support to Upgrade Interactive Tool**

Upgrades will be made to match schedule and route changes as they occur. Ongoing bus delay data including segment data, corridor data, passenger retention analysis, summaries of the most delayed routes, and stop-to-intersection analysis data will be maintained. CTPS staff will report on tool usage and registered users on an annual basis. Funding will provide for two small and two large updates through 2023.

The activity per quarterly schedule change could vary from four person weeks for simple schedule changes to five person weeks if complex route and schedule changes are implemented as part of the MBTA's Bus Network Redesign effort. One week of additional labor is included in the labor estimates to support training sessions for tool users.

The quarterly cost of a simple schedule change (including support for training sessions) would be \$12,000. The quarterly cost for a more extensive upgrade would be \$15,000. The MBTA has requested that CTPS budget for a two-year contract that would include an extensive upgrade in the fall and a smaller one in the spring, which would cost \$60,000.

More frequent updates or additional training beyond that in Task 1 would require additional funding for the project.

***Products of Task 2***

The tool will be updated with route, ridership, and schedule data provided by the MBTA at annual, semi-annual, or quarterly intervals as determined by the MBTA.

**Exhibit 1**  
**ESTIMATED SCHEDULE**  
**Bus Delay Tool Ongoing Support**

Task	Month																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Activate The Tool and Train Users	[Gantt bar from month 1 to 2]																							
2. Provide Ongoing Support to Update Interactive Tool	[Gantt bar from month 3 to 24]																							

Products/Milestones  
 A: Support Tool

**Exhibit 2**  
**ESTIMATED COST**  
**Bus Delay Tool Ongoing Support**

<b>Direct Salary and Overhead</b>	<b>\$60,000</b>
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Task	Person-Weeks					Direct Salary	Overhead (109.09%)	Total Cost
	M-1	P-5	P-3	P-2	Total			
1. Activate The Tool and Train Users	0.8	0.5	1.0	0.2	2.5	\$3,829	\$4,177	\$8,007
2. Provide Ongoing Support to Update Interactive Tool	0.2	1.0	17.5	0.0	18.8	\$24,866	\$27,127	\$51,993
Total	1.0	1.5	18.5	0.2	21.3	\$28,696	\$31,304	\$60,000

<b>Other Direct Costs</b>	<b>\$0</b>
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<b>TOTAL COST</b>	<b>\$60,000</b>
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**Funding**  
 Future MBTA contract

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