



## BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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

### *MEMORANDUM*

**DATE** December 1, 2016  
**TO** Boston Region Metropolitan Planning Organization  
**FROM** Karl H. Quackenbush, Executive Director  
**RE** Work Program for Freight Planning Support: FFY 2017

#### **Action Required**

Review and approval

#### **Proposed Motion**

That the Boston Region Metropolitan Planning Organization (MPO) vote to approve the work program for Freight Planning Support: FFY 2017, presented in this memorandum

#### **Project Identification**

##### **Unified Planning Work Program Classification**

Certification Requirements

##### **CTPS Project Number**

11145

##### **Client**

Boston Region MPO

##### **CTPS Project Supervisors**

*Principal:* Mark Abbott

*Manager:* William S. Kuttner

##### **Funding**

MPO Planning Contract #95411

## Impact on MPO Work

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

## Background

The Boston Region MPO established a formal freight planning program that began in federal fiscal year (FFY) 2014. The MPO anticipates that freight analysis within the framework of this multiyear program will be ongoing, given the importance of freight transportation and the unique challenges that comprehensive freight analysis entails.

The goals of the program are as follows:

- Fulfill the Boston Region MPO's freight planning needs
- Complement state and other official planning efforts
- Study specific freight-related issues
- Fulfill new requirements of the current federal surface transportation legislation for data analysis
- Address the lack of freight data for the Boston Region MPO's planning area, and the need to develop enhanced technical capabilities for the MPO's staff to use in estimating freight demand

Prior to the inception of the program, the MPO directed its staff to develop an action plan that would further the MPO's freight planning goals. The action plan was presented to the Boston Region MPO's board on September 12, 2013 by MPO staff member William Kuttner and documented in his memorandum titled, "Proposed Freight Planning Action Plan for the Boston Region MPO: Meeting the Goals and Addressing the Issues." The memorandum proposed several studies that would inform one or more of the MPO's goals. As envisioned, the studies would be ongoing multiyear efforts and the analyses and recommendations from them would be far-reaching, possibly considering areas outside the Boston region.

Among the subjects recommended for study were truck traffic and related logistic issues, such as types of cargoes, in Everett, Chelsea, and the South Boston waterfront. The plan also recommended evaluating the adequacy of rest area locations for truckers in and near the Boston Region MPO area. These studies were undertaken in FFYs 2014, 2015 and 2016.

Other recommended study topics included dedicated truck routes, hazardous cargoes, and substandard interchanges, but publications for these remaining topics have not been prepared. Instead, important information related to hazardous

cargoes and dedicated truck routes was obtained during the studies in Everett, Chelsea, and South Boston, and information on substandard interchanges was developed in freight analyses conducted in support of ongoing project evaluation work related to the MPO's Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP).

The Boston Region MPO freight program will now move into a new phase. The acquisition of regional truck flow data has been ongoing and these data are now available for improving the MPO's regional travel demand model. In FFY 2017, the MPO staff proposed organizing these data and using them to develop maps of the underlying industrial geography and road network capabilities of the region.

## Objectives

The principal objectives of this work program are as follows:

1. Coordinate MPO planning efforts with regional freight stakeholders
2. Examine the impact restrictions—specifically cargo limitations and weight and height restrictions—have on truck travel in the region and identify what, if any, corridors or geographies have the potential to be improved by projects funded through the TIP process
3. Continue developing region-wide freight flow data for trucking and other modes, and configure these data for use in travel demand model development

## Work Description

### **Task 1 Coordinate MPO Efforts with Freight Stakeholders and Neighboring MPOs**

The MPO staff will maintain an ongoing, collaborative relationship with the freight stakeholders who are affected by freight movement in the Boston Region MPO area. Some of the activities of this work program will involve MPO staff members attending and making presentations at meetings and conferences, some of which will be sponsored by the MPO. Recruiting regional freight stakeholders and encouraging them to be involved in activities of the MPO and its committees will also be a valuable part of outreach activities.

The rest area location study that was completed in FFY 2016, the proposed mapping of the region's industrial geography, and the ongoing gathering of freight flow data all relate explicitly to MPOs which border on the Boston Region MPO's planning area. Joint efforts to work with neighboring MPOs on these or other freight issues will be proposed whenever practical. The MPO staff

anticipates that some follow-up efforts relating to truck rest area locations may be requested by regional stakeholders.

## **Task 2 Analysis of Truck Route Restrictions**

Using geographic information system (GIS) resources and input from municipalities in the Boston Region MPO area, the MPO staff will create a spatial database for eastern Massachusetts of roadways that have restrictions based on vehicle type, size, and height that will limit the routes available to the trucking industry in their daily operations.

The data from this exercise will be examined and used to help identify corridors or geographies that restrict or limit the amount of truck access. Some of these roadways might be ripe for improvement and may lend themselves as candidates for TIP projects that redesign and/or upgrade the infrastructure.

This information will be used to help prioritize investment strategies that may improve truck routings and flows through the region, while taking into account local policy concerns and restrictions based on roadway safety, roadway functional class, and land use type. Safety restrictions, for example, prohibit hazardous cargo from tunnels; roadway functional class matters because of the desire to keep big trucks on interstates if possible; and land use is considered because of local concerns about keeping truck traffic out of residential areas whenever possible.

### ***Products of Task 2***

- A spatial database of roadways that have different types of restrictions placed on them that may influence truck travel patterns
- Technical memorandum documenting the corridors and geographies that may influence and limit truck routings that can be used to inform the TIP process and evaluate project ideas

## **Task 3 Develop Additional Freight Data Sources**

Data collection efforts in the Everett, Chelsea, and South Boston waterfront studies were designed to provide useful data for making improvements to the Boston Region MPO's regional travel demand model. Further truck volume data collection is still ongoing. A task in the FFY 2017 work program will develop some of this data specifically for the purpose of model improvement.

Early in FFY 2017, toll booths on the western part of Interstate 90 were replaced by an all-electronic tolling system. Drivers no longer stop at toll booths to collect tickets and pay tolls. Vehicles now pass under gantries which can read vehicle transponders or capture license plate images for later billing. This new tolling system will be an important source for new data.

***Products of Task 3***

- Direct comparisons of toll plaza and gantry-based truck volumes on tolled facilities
- Truck trip generation estimates associated with selected logistic database locations
- Technical memorandum documenting efforts and findings associated with expanding freight data sources

**Estimated Schedule**

It is estimated that this project will be completed 11 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 \$51,200. This includes the cost of 14.8 person-weeks of staff time, overhead at the rate of 102.70 percent, and travel direct costs. A detailed breakdown of estimated costs is presented in Exhibit 2.

KQ/WSK/wsk

**Exhibit 1**  
**ESTIMATED SCHEDULE**  
**Freight Planning Support: FFY 2017**

Task	Month										
	1	2	3	4	5	6	7	8	9	10	
1. Coordinate MPO Efforts with Freight Stakeholders and Neighboring MPOs											
2. Analysis of Truck Route Restrictions										A	
3. Develop Additional Freight Data Sources											B

Products/Milestones

- A: Technical memorandum
- B: Technical memorandum

**Exhibit 2**  
**ESTIMATED COST**  
**Freight Planning Support: FFY 2017**

<b>Direct Salary and Overhead</b>							<b>\$51,027</b>
Task	Person-Weeks				Direct Salary	Overhead (102.70%)	Total Cost
	M-1	P-5	P-4	Total			
1. Coordinate MPO Efforts with Freight Stakeholders and Neighboring MPOs	0.0	1.5	0.0	1.5	\$2,789	\$2,864	\$5,652
2. Analysis of Truck Route Restrictions	1.3	6.0	4.5	11.8	\$19,597	\$20,126	\$39,722
3. Develop Additional Freight Data Sources	0.0	1.5	0.0	1.5	\$2,789	\$2,864	\$5,652
Total	1.3	9.0	4.5	14.8	\$25,174	\$25,853	\$51,027
<b>Other Direct Costs</b>							<b>\$173</b>
Travel							\$173
<b>TOTAL COST</b>							<b>\$51,200</b>

**Funding**  
MPO Planning Contract #95411