



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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

MEMORANDUM

DATE December 21, 2017
TO Boston Region Metropolitan Planning Organization
FROM Karl H. Quackenbush, Executive Director
RE Work Program for Freight Planning Support: FFY 2018

Action Required

Review and approval

Proposed Motion

That the Boston Region Metropolitan Planning Organization votes to approve the work program for *Freight Planning Support: FFY 2018*, presented in this memorandum

Project Identification

Unified Planning Work Program Classification

Certification Requirements

CTPS Project Number

2218

Client

Boston Region Metropolitan Planning Organization

CTPS Project Supervisors

Principal: Mark Abbott

Manager: William S. Kuttner

Funding

MPO Planning Contract #101725

Impact on MPO Work

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

Background

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

In FFY 2013, the MPO staff was directed to develop an “action plan” for this program that would further the MPO’s freight-planning goals. The action plan details the following goals:

- Fulfilling the Boston Region MPO’s freight-planning needs
- Complementing state and other regional freight-planning efforts
- Studying specific freight-related issues
- Fulfilling new data-analysis requirements of the current federal surface transportation legislation
- Addressing the lack of freight data for the Boston region, including developing enhanced technical capabilities for MPO staff to use for estimating freight demand

The action plan was presented in a memorandum from William Kuttner, MPO staff, to the Boston Region MPO, dated September 12, 2013, and titled “Proposed Freight Planning Action Plan for the Boston Region MPO: Meeting the Goals and Addressing the Issues.” The memorandum presented several ideas for potential studies that would address one or more of those goals and that are within the capabilities of MPO staff. These study options were far-reaching and were envisioned as ongoing, multiyear efforts.

The action plan recommended studying truck and logistic issues in Everett, Chelsea, and the South Boston waterfront. It also recommended evaluating the adequacy of rest areas for truckers in and near the Boston region. Studies that focused on these topics were undertaken in FFYs 2014, 2015, and 2016. Other action plan topics included dedicated truck routes, hazardous cargoes, and substandard interchanges. Important findings related to these topics were developed as part of the three studies mentioned above and ongoing project evaluation work that takes place during the

development of the MPO's Long-Range Transportation Plan and Transportation Improvement Program.

In FFY 2017, the Boston Region MPO's freight program entered a new phase, addressing new topics and considering new analytical approaches. MPO staff identified important freight corridors in the region and recommended that the MPO designate these corridors as Critical Urban Freight Corridors, and that the Massachusetts Department of Transportation (MassDOT) submit these corridors to the Federal Highway Administration (FHWA) for incorporation into the mandated National Highway Freight Network. Also, MPO staff identified bridges in the Boston region with height and weight restrictions and assessed how these restrictions affect truck traffic.

For FFY 2018, staff proposes to begin organizing data and developing maps of the industrial geography of the region. This work will complement efforts currently underway at FHWA to expand and improve its Freight Analysis Framework (FAF) capabilities. The FHWA has made available some of its initial planning products and has indicated that it would welcome input from states and MPOs to improve these resources. Staff's efforts will focus on the industrial geography of the Boston region, but also will consider other locations in Massachusetts that affect freight movement in the region. Ultimately, data developed in this effort will be used to estimate truck trip generation in the Boston region and to identify opportunities to introduce or expand rail freight services.

Objectives

The principal objectives of this work program are as follows:

1. To coordinate MPO planning efforts with regional freight stakeholders
2. To develop data and graphical depictions of large- and medium-sized regional industrial and logistic centers and, when possible, to estimate the amount of truck and rail freight activity at these locations
3. To continue developing region-wide freight-flow data for trucking and other modes, and configure these data for use in the development of the MPO's regional travel demand model

Work Description

Task 1 Coordinate MPO Efforts with Freight Stakeholders

MPO staff will maintain an ongoing, collaborative relationship with the freight stakeholders who are affected by freight movement in the Boston region. Some of the activities will involve MPO staff 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 this outreach. MassDOT and the Massachusetts Port Authority (Massport) will be involved in the MPO's outreach.

The FFY 2016 study on the adequacy of rest areas, the proposed industrial geography work, and ongoing freight-flow data collection all relate explicitly to MPOs which border on the Boston region. Joint efforts to work with neighboring MPOs on these or other freight issues will be proposed when practical. Staff anticipates that some follow-on efforts relating to truck rest area locations may be requested by regional stakeholders.

Task 2 Develop and Map a Freight Logistics Database

The geographic information system (GIS) resources available to the MPO staff now include parcel-level information, including zoning. These data can serve as a starting point for developing a regional freight logistics database. Aerial photos and internet research will supplement this GIS database and allow for characterizing data. Reconciling these data with analogous data being developed for the FAF will be the initial concern, and detail will be added as resources permit.

These data will be gathered, characterized, and depicted on a regional basis both by parcel and by transportation analysis zone (TAZ). The data organized by TAZ could supplement the MPO's employment database for the purposes of truck trip generation. Key connections between the industrial parcels and the road network and the modeled road network links will also be determined. Restrictions and deficiencies of the road network in the vicinity of industrial areas will also be noted.

Products of Task 2

- TAZ-based freight logistics database
- Technical memorandum documenting the freight logistics database
- Parcel- and TAZ-based graphics of major regional freight logistic locations

Task 3 Develop Additional Freight Data Sources

The freight program produces data that are useful for developing the MPO's regional travel demand model. Truck-volume data collection is ongoing, and data collection efforts in the Everett-Chelsea and South Boston waterfront studies were specifically designed to provide useful data for the model. Developing data tailored for model improvement will continue in FFY 2018.

Staff expects to expand the collection of truck-volume data for tolled facilities in FFY 2018. During FFY 2017, the system of toll plazas on the western part of Interstate 90 was replaced by a new system of all-electronic tolling gantries,

which were erected over selected sections of tolled mainlines. Vehicle-type data are collected differently in the new system than in the earlier ticket-based systems. Initial efforts to derive the required truck volumes from gantry counts have been undertaken for the Boston Harbor crossings. These initial efforts will be expanded to include all tolled facilities.

Products of Task 3

- Parallel toll plaza and gantry-based truck volumes on toll facilities, organized in electronic tables
- Truck trip generation associated with selected logistic database locations, organized in electronic tables

Estimated Schedule

It is estimated that this project will be completed 9 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 \$55,600. This includes the cost of 14.8 person-weeks of staff time, overhead at the rate of 105.66 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 2018

Task	Month								
	1	2	3	4	5	6	7	8	9
1. Coordinate MPO Efforts with Freight Stakeholders									
2. Develop and Map a Freight Logistics Database									A
3. Develop Additional Freight Data Sources									

Products/Milestones
 A: Technical Memorandum
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Exhibit 2
ESTIMATED COST
Freight Planning Support: FFY 2018

Direct Salary and Overhead	\$55,600
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Task	Person-Weeks				Direct Salary	Overhead (105.66%)	Total Cost
	M-1	P-5	P-4	Total			
1. Coordinate MPO Efforts with Freight Stakeholders	0.0	1.2	0.0	1.2	\$2,285	\$2,414	\$4,699
2. Develop and Map a Freight Logistics Database	1.5	8.0	2.1	11.6	\$20,943	\$22,128	\$43,070
3. Develop Additional Freight Data Sources	0.0	2.0	0.0	2.0	\$3,808	\$4,023	\$7,831
Total	1.5	11.2	2.1	14.8	\$27,035	\$28,565	\$55,600

Other Direct Costs	\$0
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TOTAL COST	\$55,600
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Funding

MPO Planning Contract #101725