



# BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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Stephanie Pollack, MassDOT Secretary and CEO and MPO Chair  
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## *WORK PROGRAM*

### INNOVATIONS IN ESTIMATING TRIP GENERATION RATES

JUNE 11, 2020

#### Proposed Motion

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

#### Project Identification

Unified Planning Work Program (UPWP) Classification

Boston Region MPO Planning Studies and Technical Analyses

Project Number 13295

Client

Boston Region MPO

Project Supervisors

*Principal:* Paul Christner

*Manager:* Bradley Putnam

Funding Source

MPO Planning and §5303 Contract #108217

#### Schedule and Budget

Schedule: 3 months after work commences

Budget: \$30,000

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

#### Relationship to MPO Goals

The Boston Region MPO elected to fund this study with its federally allocated metropolitan planning funds during federal fiscal year (FFY) 2020. The work completed through this study will address the following goal areas established in the MPO's Long-Range Transportation Plan: capacity management and mobility, transportation equity, and economic vitality.

## Background

An important step in understanding the impacts that a new development will have on its surroundings and the transportation network at large is estimating the number of new trips it will generate. Traditionally, trip generation rates for different land use types are provided by the Institute of Transportation Engineers' (ITE) Trip Generation Manual. However, the data for this manual is generally collected from suburban, single-use sites, and it tends to overestimate vehicle trips and excludes trips by transit, biking, or walking, particularly for mixed-use developments and in urban areas.

There are some efforts underway across the country to develop trip generation rates by other means than the ITE manual. These methodologies typically involve gathering characteristics about the development, including neighborhood density, household incomes, availability of transit service, and other demographic data. MPO staff believe a more thorough investigation into these methodologies would be beneficial to the Boston region.

In this study, staff will research innovative approaches to estimating trip generation and best practices for developing trip generation rates for urban areas that better account for non-auto (transit, bicycle, and pedestrian) trips. This research will inform and support a number of ongoing and upcoming efforts in the region to improve the trip generation rates used to project travel by all modes. Some examples of the other efforts mainly focused on collecting and using local data to adjust ITE rates for the Greater Boston context are as follows:

1. MPO staff will undertake a UPWP study next year to examine the applicability of ITE rates to the Boston region based on recently completed development impact studies for different types of developments in the area and household survey data.
2. The Metropolitan Area Planning Council (MAPC) has been collecting and analyzing before-and-after data from recently completed projects to assess the ITE rates.
3. MAPC has been working with the Massachusetts Department of Transportation to submit Massachusetts data to ITE.
4. The University of Massachusetts Lowell is proposing a study of technology to monitor person-trip activity at developments and create custom trip generation rates specific to certain land uses in Massachusetts.

## Objectives

The primary objectives of this project are as follows:

1. To identify innovative approaches from around the country for estimating trip generation rates, including transit, bicycle, and pedestrian trips, for new developments in urban areas
2. To inform ongoing work in the region on this topic

## Work Description

Work will be completed according to the following tasks:

### Task 1 Conduct a literature review

Staff will review the literature to identify innovative approaches to estimating trip generation for urban areas that better account for non-auto (transit, bicycle, and pedestrian) trips. When promising innovative approaches are found, staff will attempt to identify and reach out to relevant parties to obtain more detailed information.

#### *Product of Task 1*

A technical memorandum documenting the results of the literature review

### Task 2 Present the findings to the MPO board

Staff will present the findings of the literature review to the MPO board

#### *Product of Task 2*

A presentation to the MPO board

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**Exhibit 1**  
**ESTIMATED SCHEDULE**  
**Innovations in Estimating Trip Generation**

| Task                                     | Month |   |   |
|--|-------|---|---|
|  | 1     | 2 | 3 |
| 1. Conduct a literature review           |       |   | A |
| 2. Present the findings to the MPO board |       |   | B |

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Products/Milestones

- A: Literature review technical memorandum
- B: Presentation to MPO board

**Exhibit 2**  
**ESTIMATED COST**  
**Innovations in Estimating Trip Generation**

|                                   |                 |
|-----------------------------------|-----------------|
| <b>Direct Salary and Overhead</b> | <b>\$30,000</b> |
|-----------------------------------|-----------------|

| Task                                     | Person-Weeks |     |     |       | Direct<br>Salary | Overhea<br>(102.11%) | Total<br>Cost |
|--|--------------|-----|-----|-------|------------------|----------------------|---------------|
|  | M-1          | P-5 | P-2 | Total |                  |                      |               |
| 1. Conduct a literature review           | 2.0          | 0.0 | 7.0 | 9.0   | \$11,465         | \$11,707             | \$23,172      |
| 2. Present the findings to the MPO board | 0.8          | 0.2 | 1.3 | 2.3   | \$3,378          | \$3,450              | \$6,828       |
| Total                                    | 2.8          | 0.2 | 8.3 | 11.3  | \$14,843         | \$15,157             | \$30,000      |

|                           |            |
|---------------------------|------------|
| <b>Other Direct Costs</b> | <b>\$0</b> |
|---------------------------|------------|

|                   |                 |
|-------------------|-----------------|
| <b>TOTAL COST</b> | <b>\$30,000</b> |
|-------------------|-----------------|

**Funding**

MPO Planning and §5303 Contract #108217