



## BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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

## TRANSPORTATION ACCESS STUDIES OF CENTRAL BUSINESS DISTRICTS

NOVEMBER 15, 2018

### 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 14360

Client

Boston Region MPO

Project Supervisors

*Principal:* Katie Pincus Stetner

*Manager:* Andrew Clark

Funding Source

MPO Planning Contract #105757 and MPO §5303 Contract #102694

### Schedule and Budget

**Schedule:** Ten months after work commences

**Budget:** \$85,000

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) 2019. 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, clean air and clean communities, transportation equity, and economic vitality.

## Background

The curbside lane in a municipality's central business district (CBD) has traditionally been used for parking, but recent efforts locally and across the country have aimed to use curbside lanes in other ways. A November 2017 publication by the National Association of City Transportation Officials (NACTO) describes curbside management strategies that support and encourage multimodal access to commercial corridors, including examples from New York City, San Francisco, and Los Angeles. The strategies include improving bus stop locations, giving buses priority treatment, and improving pedestrian and non-motorized vehicle infrastructure.

In the Boston region, dedicated bus lanes have been making headway as a bus priority treatment. Central Transportation Planning Staff (CTPS) has identified roadway segments where bus lanes would provide the greatest benefit to bus passengers, and staff have studied the traffic and parking conditions on those roadways. As the curbside lane is reimagined in the Boston region, it is important to understand the effects on not only traffic and bus riders but also on the businesses that the transportation system serves.

Cities and towns have relatively little information about the characteristics of CBD patrons and, as a result, the transportation planning process for these areas is often governed by perceptions that may or may not be correct. Understanding the transportation access mode, spending patterns, and visitation and demographic characteristics of CBD patrons would help planners in their work to improve transportation access to CBDs. This information can help planners make the case for improving transit and non-motorized vehicle access to the curbside lane. This transportation access study of Boston region CBDs seeks to evaluate how patrons access these CBDs.

## Objectives

The goal of this study is to better understand the transportation access modes of CBD patrons in the Boston region. The findings from this study could be used to inform planning processes that address transportation access of CBDs and the use of the curbside travel lane, and to develop policies that better serve transit and non-motorized modes.

## Work Description

The work will be completed according to the following tasks:

### Task 1 Conduct a Literature Review

Staff will conduct a review of the literature regarding transportation access modes to CBDs nationwide and the perceived versus actual mode splits in CBDs. Staff will investigate factors that may affect the mode choice of CBD patrons, including

characteristics of CBDs such as demographics, transportation infrastructure, and land use. Staff will use the findings of the literature review to identify CBD characteristics that can be used to classify the CBDs in the Boston region, as described in Task 2.

*Product of Task 1*

A memorandum to the project files summarizing the findings of the literature review of transportation access modes to CBDs, which will also be incorporated into the final report

**Task 2 Identify and Classify the CBDs in the Boston Region**

The purpose of this task is to classify the CBDs in the Boston region according to characteristics that may affect access mode choice. To understand the characteristics of the CBDs in the Boston region, particularly those that may affect patrons' mode choices, staff will first identify the CBDs in the Boston region and then classify them into groups based on their characteristics. The classification of CBDs, and the associated characteristics of CBDs in each group, will be used to select a representative sample of CBDs for further study in Task 3. The characterization of each group of CBDs will also provide context for the CBDs studied in Task 3.

*Subtask 2.1 Identify the CBDs in the Boston Region*

As there is no centralized inventory of CBDs in the Boston region, nor a standard definition of a CBD, staff will utilize various data sources to identify them. Staff will compile data on population and employment densities, civic uses, and the street network. In general, CBDs are likely to differ from other areas in a given municipality in the following ways:

- Higher population density relative to the rest of the municipality
- Higher employment density relative to the rest of the municipality
- Higher density of civic uses (for example, town or city halls, public libraries, and public schools) relative to the rest of the municipality
- Higher density of public infrastructure (for example, the street network) relative to the rest of the municipality

Staff initially will identify CBDs in the Boston region based on the locations within a municipality with the highest densities of population, employment, civic uses, and roads. Staff may refine the boundaries of specific CBDs based on additional information, as needed. It is anticipated that some municipalities may not have a CBD, and that some municipalities may have more than one.

*Subtask 2.2 Classify the CBDs in the Boston Region*

Staff will classify the CBDs in the Boston region according to characteristics that may affect patrons' mode choices. The initial classification will reflect the type

and level of transit service available, with one group comprised of CBDs with no transit service. The classification will facilitate the selection of representative CBDs in Task 3.

Staff will refine this initial classification by analyzing relevant data about each CBD, including but not limited to the following:

- Geographic size
- Zoning
- Demographics, including total population, age, employment, education, and household income
- Densities of population, employment, civic uses, and roads

Staff will develop profiles describing the categorization of CBDs based on the data above. As the CBD groupings are characterized, staff may refine the classification of specific CBDs that are outliers in the group in which they were initially classified.

#### *Product of Task 2*

Classification of CBDs in the Boston region, with characterizations of each group of CBDs based on factors that may affect patrons' mode choices

### **Task 3 In Select CBDs, Survey Business Owners and Patrons, and Inventory Curb Lanes and Off-Street Parking**

Staff will use the CBD classifications from Task 2 to select a set of CBDs that represent the different categories of CBDs in the Boston region. Staff will survey a sample of business owners in each of the selected CBDs to ask about the modes that they think their patrons use to access their businesses. Then staff will survey a sample of the patrons of those businesses to ask about their access modes, shopping habits, and demographics.

To collect meaningful mode-choice data, the CBDs selected for this task will be chosen from only those with transit service. Staff will work with municipal staff, chambers of commerce, and business improvement districts in the selected CBDs to invite businesses to participate in the study.

Staff will also inventory existing curb-lane designations and off-street parking near the selected businesses.

#### *Subtask 3.1 Survey Business Owners*

Staff will develop and implement a survey to elicit the following types of information from owners of businesses within the selected CBDs:

- The perceived transportation mode split used by patrons to access the business, and whether that mode split varies based on the day of the week and the time of day
- The temporal and spending habits of patrons, including which days and times of day are busiest for the business, how much time patrons typically spend at the business, and how much money patrons typically spend at the business

Staff will survey the business owners over the phone.

#### *Subtask 3.2 Survey Business Patrons*

Staff will develop and distribute a paper survey to elicit the following types of information from patrons of each business surveyed in Subtask 3.1:

- The transportation mode that they use to access the business
- Their temporal and spending habits at the business
- Their demographic information

Staff will develop a sampling plan to survey patrons at each of the selected businesses. Staff may use the information about the busiest time periods at each business surveyed in Subtask 3.1 when designing the sampling plan to reach the largest number of patrons.

#### *Subtask 3.3 Inventory Existing Curb-Lane Designations*

Staff will inventory existing curb-lane designations within a catchment zone of the businesses surveyed in Subtask 3.1. Staff will identify parking areas, commercial vehicle loading zones, bus stops, bicycle and pedestrian infrastructure, and space used for other purposes. While staff will not monitor actual curb-lane usage, staff will record notable instances where the usage of the curb lane differs from the posted designation during the time of observation—for example, if a vehicle is parked in a bike lane, or if a rideshare pick-up or drop-off occurs at an inappropriate location.

#### *Subtask 3.4 Identify Off-Street Parking*

Because the availability of parking may influence access mode choice, staff will identify off-street parking lots and garages within each selected CBD and note whether the parking at each location is free or paid. A community may be more willing to designate the curbside lane for purposes other than parking if off-street parking is already available. Additional factors, such as existing transit service and land use as analyzed in Task 2, can affect this willingness, as well.

*Products of Task 3*

Survey data about business owners' perceptions of patrons' transportation access modes, visitation patterns, and spending habits, and survey data about business patrons' actual access modes, visitation patterns, spending habits, and demographics

Graphics summarizing the location of surveyed businesses, curb-lane designations near the surveyed businesses, and off-street parking options for each CBD

**Task 4 Produce a Final Report**

Staff will produce a final report documenting the methodologies and results of the study. The report will include relevant material from the previous tasks, including a summary of the literature regarding transportation access modes from Task 1, the identification and classification of CBDs in the Boston region from Task 2, and the methodology used to select CBDs and businesses for the surveys in Task 3. The report will describe the similarities and differences between the perceived and actual access modes of CBD patrons based on the results of the surveys. The report will also summarize the similarities and differences in access modes among the selected CBDs and explain how the access modes may be related to the characteristics of the CBDs. Figures showing the existing curb-lane designations and off-street parking for the selected CBDs will be included, as well as a summary of observations about where curb-lane usage differs from the posted designation.

The findings from this study could help inform planning processes related to the use of the curb lane. In particular, the access mode splits will provide data about transportation access needs in CBDs. While this study will present the results of the surveys for a selection of CBDs, the classification of CBDs could help planners in other municipalities identify similarities between the CBDs studied and CBDs in their municipalities. This study could also serve as a model for conducting surveys of CBD business owners and patrons in other locations.

The results of this study will be used in the subsequent *Future of the Curb* study, which will explore current demands on the curbside lane, the ways progressive regions are repurposing the lane, and potential considerations for usage of the curb in the future.

*Product of Task 4*

Final report

**Task 5 Present Findings to the Boston Region MPO**

Staff will present the findings of the study to the Boston Region MPO board.

*Product of Task 5*

Presentation to the MPO board

**Exhibit 1**  
**ESTIMATED SCHEDULE**  
**Transportation Access Studies of Central Business Districts**

Task	Month										
	1	2	3	4	5	6	7	8	9	10	
1. Conduct a literature review	A										
2. Identify and classify the CBDs in the Boston region		B									
3. In select CBDs, survey business owners and patrons, and inventory curb lanes and off-street parking				C							
4. Produce a final report						D					
5. Present findings to the Boston Region MPO										E	

Products/Milestones

- A: Literature review memorandum
- B: Classification of CBDs
- C: Surveys completed
- D: Final report
- E: Presentation to MPO

**Exhibit 2****ESTIMATED COST****Transportation Access Studies of Central Business Districts****Direct Salary and Overhead** **\$70,000**

Task	Person-Weeks							Direct Salary	Overhead (99.00%)	Total Cost
	M-1	P-5	P-4	P-2	P-1	Temp	Total			
1. Conduct a literature review	0.5	0.0	0.0	2.0	0.0	0.0	2.5	\$3,205	\$3,173	\$6,379
2. Identify and classify the CBDs in the Boston region	0.3	0.2	0.2	2.0	0.0	0.0	2.8	\$3,681	\$3,644	\$7,325
3. In select CBDs, survey business owners and patrons, and inventory curb lanes and off-street parking	2.8	1.0	0.6	7.5	1.0	3.2	16.1	\$19,111	\$18,920	\$38,031
4. Produce a final report	2.2	0.2	0.0	3.0	0.0	0.0	5.4	\$7,871	\$7,792	\$15,663
5. Present findings to the Boston Region MPO	0.4	0.0	0.0	0.5	0.0	0.0	0.9	\$1,308	\$1,295	\$2,602
Total	6.2	1.4	0.8	15.0	1.0	3.2	27.7	\$35,176	\$34,824	\$70,000

**Other Direct Costs** **\$15,000**

Travel	\$200
Other (printing and translations)	\$14,800

**TOTAL COST** **\$85,000****Funding**

MPO Planning Contract #105757

MPO §5303 Contract #102694