



## BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

---

Gina Fiandaca, MassDOT Secretary and CEO and MPO Chair  
Tegin L. Teich, Executive Director, MPO Staff

### WORK PROGRAM LAB AND MUNICIPAL PARKING STUDY

FEBRUARY 16, 2023

#### 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** 13806

##### Client

Boston Region MPO

##### Project Supervisors

*Principal:* Rebecca Morgan

*Manager:* Rosemary McCarron

##### Funding Source

MPO Combined PL and §5303 Contract #118967

#### Schedule and Budget

**Schedule:** 7 months after work commences

**Budget:** \$80,000

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) 2023. 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 Boston region is experiencing a boom in laboratory and life sciences development. With prices for the necessary real estate rising, development in this category has begun to spread from longstanding centers such as Kendall Square in Cambridge to a diverse set of areas across the region. The Metropolitan Area Planning Council (MAPC) and Central Transportation Planning Staff (CTPS) have heard from numerous stakeholders, especially municipal planners, across the region that there is a need for rigorous research to determine parameters for parking regulation for such developments. MAPC and CTPS propose collaborating on a research study to assess regional parking demand and use at commercial and mixed-use developments, with a particular focus on lab and life science facilities.

This project will provide foundational research on the lab and life sciences developments in the region and how the characteristics of these sites and their occupants influence transportation and parking demand. Proceeding from the basis of this research, the study team will adapt [MAPC's Perfect Fit Parking research](#), which assessed regional parking demand and use at multifamily housing developments, to measure parking utilization at lab and life sciences developments. This methodology will account for specific characteristics of these developments that may include lower worker density per square foot and work hours that do not always fit a 9-to-5 model.

This study will generate a better understanding of the operational characteristics of these developments and how they interact with commercial parking policy. Development of a methodology to assess parking utilization based on these characteristics will support future data collection and analysis that can help prevent the oversupply of parking at new developments. Developers, municipal planners, and policymakers will be able to use the results of this study as guidance when determining appropriate parking supply.

## Objectives

*Objective 1:* Gain a better understanding of the growing lab and life sciences industry in the Boston region. Communicate with stakeholders and those with industry knowledge to learn more about the travel behavior of the workforce and its impacts on regional transportation systems.

*Objective 2:* Expand upon MAPC's Perfect Fit Parking study, which focused on residential parking, to develop a methodology to study supply of and demand for parking at lab and life science facilities.

## Work Description

### **Task 1 Parking Policy Review and Case Studies**

CTPS will gather information about the expanding lab and life sciences industry in the Boston region. CTPS will also conduct a parking policy review to investigate how local municipalities and municipalities across the country regulate parking at lab and life science facilities.

#### ***Subtask 1.1 Growth of Lab and Life Sciences in Massachusetts***

CTPS will explore resources such as MassBio and others to understand important trends in the lab and life sciences industry in the region. CTPS will investigate where existing facilities are located, plans for future lab development, and which companies are driving this growth. These findings will be supplemented with known transportation accessibility information in the region to gain a clearer picture of trip generation in this context. This information will allow us to answer the following questions:

- How far are the nearest train stations or bus stops to existing facilities?
- Is the area served by a Transportation Management Association (TMA)?
- How frequent are trains or buses at these stops, and when are the hours of service?
- Are the existing facilities in walkable areas? Is it safe or feasible to walk from the facilities to other modes of transportation, or is driving necessary?

CTPS will create a map of existing and proposed facilities, as well as transportation infrastructure in surrounding areas, to help visualize this information.

#### ***Subtask 1.2 Parking Policy Review***

CTPS will research both local Massachusetts municipalities and municipalities across the country to learn more about their parking requirements and other parking-related policies that apply to labs or similar commercial uses. CTPS will also review existing trip generation and parking rate guidance provided by the Institute of Transportation Engineers.

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

Locations of existing and future lab and life sciences facilities

Summary of relevant parking policies

### **Task 2 Interviews with Stakeholders and Industry Experts**

CTPS will engage with regional and statewide stakeholders and those with knowledge of the lab and life sciences industry in Massachusetts to learn more about the specific parking opportunities and challenges.

CTPS will interview municipal planners, developers, building managers, and others to gain insight into the travel and parking patterns of those who work in the facilities in the study area. CTPS will ensure the engagement represents a variety of different community types. Questions of interest include the following:

- How do developers determine how much parking to build?
- How full are the parking structures at these facilities on a typical day? What are the peak hours of parking occupancy?
- To what extent are parking patterns related to the availability of public transit?
- How do parking demand and commuting habits differ for those working regular shifts compared to those working off-hours?
- Are some employees able to work from home? How does that affect the demand for parking?
- What other types of land uses are incorporated with lab and life sciences developments (office, manufacturing, or industrial)?
- Is there a prevalence of those workers parking on streets as opposed to the parking structures? What might be the reason for this?

### ***Product of Task 2***

An internal memo summarizing key findings from Tasks 1 and 2.

### **Task 3 Development of Data Collection and Analysis Methodology**

CTPS will take the information gathered from the previous two tasks and apply it to the development of a detailed and robust guide for data collection and analysis.

#### ***Subtask 3.1 Designation of Potential Study Locations***

Based on the literature review and interviews conducted in the previous tasks, a number of sites will be selected for future data collection. These sites should be representative of lab and life sciences facilities in the Boston region, which vary in size, access to transit, populations served, and types of parking structures available. The number of sites chosen should be large enough to achieve that representation, but not so large that it becomes infeasible to collect the data needed.

#### ***Subtask 3.2 Data Collection Materials***

CTPS will determine the methodology for collecting data and produce materials for the data collectors to use during their collection. The foundational research completed in Tasks 1 and 2 will inform these materials. To develop these materials CTPS will consider the following:

- What preliminary information about each collection site must be recorded?
- What time(s) of the day will data collection take place? How often will data be collected? Will data collection span different periods of transit service time?
- How will the type of parking available affect the data collection process?

- How will street parking be recorded as opposed to on-site parking?
- What instructions do the data collectors need? Should they be provided with maps, step-by-step instructions, etc.?
- What specific information should be collected?

### ***Subtask 3.3 Develop Methodology for Analysis***

CTPS will develop a methodology for analyzing parking supply and demand for lab and life science facilities in the Boston region. The analysis method will include descriptive statistics and potentially a statistical model to describe the relationships between different variables that could influence parking utilization.

### ***Products of Task 3***

List of potential data collection sites

Data collection materials

Preliminary data analysis methodology

## **Task 4 Project Documentation**

CTPS will produce a technical memorandum that summarizes the findings from the study and recommends a methodology for conducting parking utilization studies at lab and life science facilities.

### ***Product of Task 4***

Technical memorandum

**Exhibit 1**  
**ESTIMATED SCHEDULE**  
**Lab and Municipal Parking Study**

Task	Month						
	1	2	3	4	5	6	7
1. Parking Policy Review and Case Studies	█						
2. Interviews with Stakeholders and Industry Experts		█					
3. Development of Data Collection and Analysis Methodology				█			
4. Project Documentation	█						

Products/Milestones

A: Technical memorandum

**Exhibit 2**  
**ESTIMATED COST**  
**Lab and Municipal Parking Study**

<b>Direct Salary and Overhead</b>	<b>\$80,000</b>
-----------------------------------	-----------------

Task	Person-Weeks			Direct Salary	Overhead (119.34%)	Total Cost
	M-1	P-2	Total			
1. Parking Policy Review and Case Studies	1.2	5.0	6.2	\$8,425	\$10,054	\$18,479
2. Interviews with Stakeholders and Industry Experts	2.0	7.0	9.0	\$12,298	\$14,677	\$26,975
3. Development of Data Collection and Analysis Methodology	1.2	7.0	8.2	\$10,904	\$13,013	\$23,916
4. Project Documentation	1.2	2.0	3.2	\$4,846	\$5,783	\$10,630
Total	5.7	21.0	26.7	\$36,473	\$43,527	\$80,000

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

<b>TOTAL COST</b>	<b>\$80,000</b>
-------------------	-----------------

**Funding**  
MPO Combined PL and §5303 Contract #118967

The Boston Region Metropolitan Planning Organization (MPO) operates its programs, services, and activities in compliance with federal nondiscrimination laws including Title VI of the Civil Rights Act of 1964 (Title VI), the Civil Rights Restoration Act of 1987, and related statutes and regulations. Title VI prohibits discrimination in federally assisted programs and requires that no person in the United States of America shall, on the grounds of race, color, or national origin (including limited English proficiency), be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination under any program or activity that receives federal assistance. Related federal nondiscrimination laws administered by the Federal Highway Administration, Federal Transit Administration, or both, prohibit discrimination on the basis of age, sex, and disability. The Boston Region MPO considers these protected populations in its Title VI Programs, consistent with federal interpretation and administration. In addition, the Boston Region MPO provides meaningful access to its programs, services, and activities to individuals with limited English proficiency, in compliance with U.S. Department of Transportation policy and guidance on federal Executive Order 13166.

The Boston Region MPO also complies with the Massachusetts Public Accommodation Law, M.G.L. c 272 sections 92a, 98, 98a, which prohibits making any distinction, discrimination, or restriction in admission to, or treatment in a place of public accommodation based on race, color, religious creed, national origin, sex, sexual orientation, disability, or ancestry. Likewise, the Boston Region MPO complies with the Governor's Executive Order 526, section 4, which requires that all programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background.

A complaint form and additional information can be obtained by contacting the MPO or at [http://www.bostonmpo.org/mpo\\_non\\_discrimination](http://www.bostonmpo.org/mpo_non_discrimination). To request this information in a different language or in an accessible format, please contact

Title VI Specialist  
Boston Region MPO  
10 Park Plaza, Suite 2150  
Boston, MA 02116  
[civilrights@ctps.org](mailto:civilrights@ctps.org)

**By Telephone:**

857.702.3700 (voice)

For people with hearing or speaking difficulties, connect through the state MassRelay service:

- **Relay Using TTY or Hearing Carry-over:** 800.439.2370
- **Relay Using Voice Carry-over:** 866.887.6619
- **Relay Using Text to Speech:** 866.645.9870

For more information, including numbers for Spanish speakers, visit <https://www.mass.gov/massrelay>.