



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Jamey Tesler, MassDOT Secretary and CEO and MPO Chair
Tegin L. Teich, Executive Director, MPO Staff

WORK PROGRAM

BICYCLE AND PEDESTRIAN COUNT DATABASE UPDATE

JANUARY 5, 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 13803

Client

Boston Region MPO

Project Supervisors

Principal: Rebecca Morgan

Manager: Casey Cooper

Funding Source

FFY 2023 MPO Combined 3C and PL Contract #118967

Schedule and Budget

Schedule: Nine 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: safety, system preservation, capacity management and mobility, clean air and clean communities, transportation equity, economic vitality.

Background

The Boston Region MPO collects data about the number of people who are biking and walking at locations throughout the region. The data inform transportation planning decisions and can be used to evaluate long-term volume trends, estimate bicycle and pedestrian demand, and assess changes in usage before and after projects are implemented. This information can support transportation planners' and government officials' decisions regarding bicycle and pedestrian projects, such as how projects are prioritized and how funding is allocated. The data also help to justify investment in bicycle and pedestrian facilities as an integral component of the region's transportation network.

Although the MPO organizes counts only for the Boston region, it has served as a repository for counts gathered from throughout the state. Counts typically occur during the months of May and September and are generally collected by volunteers, municipalities, and advocacy organizations. The count data are publicly available on the online Bicycle and Pedestrian Count Database, which can be accessed from the MPO's website. The information in the database stretches back to 1974 and contains data from more than 1,250 unique count sessions.

The database stores the bicycle and pedestrian count data and allows for the data to be shared with municipalities, regional stakeholders, MassDOT, and members of the public. The existing web application was implemented in 2009 and needs an updated platform to make the data more accessible to a variety of users. Additionally, the strategy for bicycle and pedestrian counting efforts needs to be evaluated to ensure data collection is meeting the needs of the MPO and its municipalities. The Bicycle and Pedestrian Count Database Update project will address both needs by redeveloping the database application and reevaluating which locations to prioritize for bicycle and pedestrian counts in the Boston region.

Objectives

There are two primary objectives of this study:

1. Create a bicycle and pedestrian count database application that meets the Boston region's needs and vision.

This work will include building a new user interface on the MPO's website for the Boston region's bicycle and pedestrian counts that is more user friendly and meets the needs of various users, including members of the public.

2. Update the Boston region's current bicycle and pedestrian count practices.

Staff will assess existing and potential data collection strategies to plan future collection efforts and identify locations where they should be focused.

Work Description

Task 1 Identify Needs and Requirements for the Bicycle and Pedestrian Count Database Application

MPO staff will begin this project by identifying the updates required for the Bicycle and Pedestrian Count Database application. Staff will survey the public and meet both internally and with external stakeholders to learn what features would be most beneficial to users, identify how municipalities and MassDOT apply count data in project development to ensure the application includes essential elements for those uses, and determine what is necessary for database and application maintenance and functionality.

Subtask 1.1 Needs Assessment

MPO staff will review the current Bicycle and Pedestrian Count Database application to identify features that should be maintained and elements that need improvement. MPO staff will also share a survey with the public to learn about the existing components that users value and their desired capabilities for the updated application.

Subtask 1.2 Functional Requirements and Testing Checklist

MPO staff will compile a list of technical parameters that the application must meet and outline how the new product will be tested.

Products of Task 1

Needs statements.

Functional requirements and testing checklist.

Task 2 Assess the State of the Practice

MPO staff will identify how peer metropolitan planning organizations (MPOs) and other regional planning agencies throughout the United States collect, document, and share bicycle and pedestrian count information. This will allow staff to learn from what has worked for other entities and help staff identify elements to include in the updated application to better fit the needs of the Boston region.

Subtask 2.1 Identify Application Features to Incorporate

MPO staff will consider the various approaches used by planning agencies across the country to share their bicycle and pedestrian count information. Those features deemed the most useful, comprehensible, aesthetic, and implementable will be incorporated into the Boston Region MPO's updated Bicycle and Pedestrian Count Database application.

Products of Task 2

List of desired database features with level of effort estimates.

Task 3 Update the Boston Region Bicycle and Pedestrian Count Database Application

MPO staff will design and develop a new Bicycle and Pedestrian Count Database application based on the needs and requirements identified in Task 1. This process will require several steps, outlined below.

Subtask 3.1 Select Platform and Begin Product Design

MPO staff will determine the type of platform that would best suit the needs of the Boston Region's Bicycle and Pedestrian Count Database application. Once staff understand the parameters of the platform they have chosen, they will start the process of planning how the application and its user interface will look and function.

Subtask 3.2 Develop Bicycle and Pedestrian Count Database Application and User Interface

MPO staff will create a prototype of the updated application. Staff will assess the prototype to ensure it meets the stated needs, allows for ease of use, and provides data access. If needed, staff will update the design developed in Subtask 3.1 based on prototype feedback. Staff will then develop the application.

Subtask 3.3 Test Bicycle and Pedestrian Count Database Application

MPO staff will use the functional requirements and testing checklist developed in Task 1 to assess whether the Bicycle and Pedestrian Count Database application is prepared for publication. Staff will make adjustments to the application to ensure requirements are met and will ask external stakeholders for feedback.

Subtask 3.4 Deploy Updated Bicycle and Pedestrian Count Database Application

MPO staff will publish the updated Bicycle and Pedestrian Count Database application.

Product of Task 3

Updated Boston Region MPO Bicycle and Pedestrian Count Database application.

Task 4 Update Current Counting Practices

The MPO's existing bicycle and pedestrian count program is dependent on volunteer data collection efforts. The current structure of the program prevents consistent collection of count information at selected locations within the region, which limits users' ability to analyze travel trends of people walking and bicycling in the region. MPO staff will address these limitations of the existing bicycle and pedestrian count

data program by creating new guidance about how and where the Boston Region MPO collects data on people walking and bicycling.

Subtask 4.1 Assess Count Collection Methods and Recommend Strategy

MPO staff will evaluate MassDOT's recommendations and the count methodologies used by planning agencies throughout the United States to identify an approach that works for the Boston region. This approach may require hiring data collectors to manually count bicyclists and pedestrians at selected locations or incorporate automatic counters. Any approach that does not fully rely upon the contributions of volunteers will require greater investment of MPO funds for the Boston region's bicycle and pedestrian data collection efforts. This consideration will be incorporated into the assessment of potential approaches.

Subtask 4.2 Evaluate Count Locations

MPO staff will identify gaps in data collection and determine locations with a variety of roadway typologies where bicycle and pedestrian count data can consistently be collected every year. MPO staff will then determine which locations in the Boston region would provide the greatest benefit to the public if consistently monitored over several years.

Product of Task 4

Recommendations for bicycle and pedestrian data collection practices, including updates to the locations where information is gathered about people walking and bicycling.

Exhibit 1
ESTIMATED SCHEDULE
Bicycle and Pedestrian Count Database Update

Task	Month									
	1	2	3	4	5	6	7	8	9	
1. Identify Needs and Requirements	A									
2. Assess the State of the Practice		B								
3. Update the Count Database Application			C							
4. Update Current Counting Practices	D									

Products/Milestones

- A: Needs Statements and Functional Requirements Checklist
- B: List of Desired Database Features
- C: Updated Boston Region MPO Bicycle and Pedestrian Count Database Application
- D: Bicycle and Pedestrian Data Collection Recommendations

Exhibit 2
ESTIMATED COST
Bicycle and Pedestrian Count Database Update

Direct Salary and Overhead	\$79,858
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Task	Person-Weeks					Direct Salary	Overhead (119.34%)	Total Cost
	M-1	P-5	P-4	P-2	Total			
1. Identify Needs and Requirements	0.2	0.6	0.8	0.0	1.6	\$2,563	\$3,059	\$5,621
2. Assess the State of the Practice	0.0	0.0	0.8	0.4	1.2	\$1,597	\$1,906	\$3,503
3. Update the Count Database Application	0.7	5.6	0.2	12.8	19.3	\$28,570	\$34,096	\$62,666
4. Update Current Counting Practices	0.1	0.0	2.5	0.0	2.6	\$3,678	\$4,390	\$8,068
Total	1.0	6.2	4.3	13.2	24.8	\$36,408	\$43,450	\$79,858

Other Direct Costs	\$142
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Travel	\$142
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TOTAL COST	\$80,000
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Funding

FFY 2023 MPO Combined 3C and PL 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. 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

By Telephone:

857.702.3700 (voice)

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- **Relay Using TTY or Hearing Carry-over:** 800.439.2370
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