



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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

MEMORANDUM

DATE December 3, 2015
TO Boston Region Metropolitan Planning Organization
FROM Karl H. Quackenbush
CTPS Executive Director
RE Work Program for: Pedestrian Level-of-Service Metric Development

Action Required

Review and approval

Proposed Motion

That the Boston Region Metropolitan Planning Organization vote to approve the work program for Pedestrian Level-of-Service Metric Development presented in this memorandum

Project Identification

Unified Planning Work Program Classification

Technical Support/Operations Analysis Projects

CTPS Project Number

13273

Client

Boston Region Metropolitan Planning Organization

CTPS Project Supervisors

Principal: Mark Abbott

Manager: Ryan Hicks

Funding

MPO Planning Contract #89787

Impact on MPO Work

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

Background

The Boston region currently has an extensive bicycle and pedestrian network. It would be beneficial to the region if the bicycle and pedestrian facilities were rated based on their condition and efficiency. Currently, there are several new metrics (pavement condition, pedestrian volumes, and crash rate) available for measuring the extent to which infrastructure supports pedestrian travel and comfort, known as “pedestrian level of service.” However, it has yet to be seen if these metrics would be applicable to the Boston region.

In this project, MPO staff will formulate a plan for developing and applying pedestrian level-of-service (LOS) metrics. These metrics may consist of information collected from various sources, including intersection surveys and pedestrian counts. This information could help transportation planners and government officials make decisions about pedestrian programs, including prioritizing projects and allocating funding.

The anticipated result of this project is recommended pedestrian LOS metrics that the MPO could use in its planning and monitoring processes. A pedestrian LOS rating index will be a useful tool for maintaining a multimodal congestion management process.

Using the LOS rating metrics that will be developed in this study, MPO staff may seek to create an interactive tool that could analyze pedestrian facilities in the region. This tool would be located in the applications section of the Boston Region MPO’s website.

Objectives

The objectives of this project are to develop a method for calculating the pedestrian LOS in the Boston Region MPO area and to provide guidance for its implementation. This project supports two of the MPO’s Long-Range Transportation Plan goals: maintaining the transportation system and using the capacity of existing facilities more efficiently.

Work Description

Task 1 Conduct a Literature Review of Existing Pedestrian LOS Criteria

MPO staff will conduct a literature review of existing pedestrian LOS criteria and identify best practices. Resources will include the Transportation Research Board’s 2010 Highway Capacity Manual, transportation departments in other

states, and other MPOs. Staff will include the literature review of the best practices for rating pedestrian LOS in a memorandum (Task 6).

Product of Task 1

A brief literature review

Task 2 Interview Local and State Entities to Determine What Pedestrian Data Are Currently Available

MPO staff will contact local communities, the Massachusetts Bay Transportation Authority (MBTA), the Massachusetts Department of Transportation (MassDOT), and other transportation entities in Massachusetts to determine what data are readily available. Staff will also analyze their data inventories to see what existing data can be used to monitor pedestrian LOS. Relevant data include, but are not limited to, pedestrian counts, pedestrian travel speeds, crash data, pavement conditions, street slope, and the presence or absence of pedestrian signals. Staff will not conduct data collection or surveying for this project.

Staff will also coordinate with MassDOT on its effort to update the Statewide Pedestrian Plan.

Product of Task 2

List of relevant available data sources that can be used for calculating pedestrian LOS

Task 3 Develop a Plan for Aggregating Data

MPO staff will determine a plan for aggregating data from non-MPO sources, such as MassDOT, the MBTA, and municipalities, that might be useful for calculating pedestrian LOS.

Product of Task 3

A plan for obtaining and aggregating data from non-MPO sources

Task 4 Determine Criteria for Evaluating Pedestrian Facilities

Once the available data sources have been identified, MPO staff will determine what criteria to use for evaluating pedestrian facilities in the Boston Region MPO area. These criteria will be used to determine pedestrian LOS.

Product of Task 4

Pedestrian LOS criteria

Task 5 Recommend the Next Steps for Applying Pedestrian LOS Metrics

MPO staff will develop an implementation plan for incorporating the metrics into the Boston Region MPO's planning and monitoring process. The recommended implementation methods may include mapping or incorporating pedestrian LOS

into the Congestion Management Process, the Long-Range Transportation Plan, and the Transportation Improvement Program's scoring criteria.

Product of Task 5

Recommendations of implementation methods

Task 6 Produce a Memorandum Documenting the Results of the Study

MPO staff will produce a memorandum that documents the results of the literature review (Task 1), the LOS metrics developed in Task 4, and the recommendations for future use of the metrics by the MPO (Task 5).

Product of Task 6

Memorandum

Estimated Schedule

It is estimated that this project will be completed seven 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 \$45,000. This includes the cost of 17.3 person-weeks of staff time, overhead at the rate of 98.88 percent, and travel. A detailed breakdown of estimated costs is presented in Exhibit 2.

KQ/RH/MSA/rh/msa

Exhibit 1
ESTIMATED SCHEDULE
Pedestrian Level-of-Service Metric Development

Task	Month						
	1	2	3	4	5	6	7
1. Conduct a Literature Review of Existing Pedestrian LOS Criteria	■						
2. Interview Local and State Entities to Determine What Pedestrian Data Are Currently Available		■					
3. Develop a Plan for Aggregating Data			■				
4. Determine Criteria for Evaluating Pedestrian Facilities				■			
5. Recommend the Next Steps for Applying Pedestrian LOS Metrics					■		
6. Produce a Memorandum Documenting the Results of the Study						■	■

Exhibit 2
ESTIMATED COST
Pedestrian Level-of-Service Metric Development

Direct Salary and Overhead							\$44,875
Task	Person-Weeks				Direct Salary	Overhead (98.88%)	Total Cost
	M-1	P-5	P-3	Total			
1. Conduct a Literature Review of Existing Pedestrian LOS Criteria	0.4	0.2	1.2	1.8	\$2,401	\$2,374	\$4,775
2. Interview Local and State Entities to Determine What Pedestrian Data Are Currently Available	0.4	0.2	1.2	1.8	\$2,401	\$2,374	\$4,775
3. Develop a Plan for Aggregating Data	0.4	0.2	1.2	1.8	\$2,401	\$2,374	\$4,775
4. Determine Criteria for Evaluating Pedestrian Facilities	0.4	0.2	3.1	3.7	\$4,538	\$4,487	\$9,026
5. Recommend the Next Steps for Applying Pedestrian LOS Metrics	0.4	0.2	1.0	1.6	\$2,176	\$2,151	\$4,327
6. Produce a Memorandum Documenting the Results of the Study	1.6	0.4	4.6	6.6	\$8,647	\$8,550	\$17,198
Total	3.6	1.4	12.3	17.3	\$22,564	\$22,311	\$44,875
Other Direct Costs							\$125
Travel							\$125
TOTAL COST							\$45,000

Funding
MPO Planning Contract #89787