BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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

MEMORANDUM

DATE **January 19, 2017**
TO **Boston Region Metropolitan Planning Organization**
FROM **Karl H. Quackenbush, Executive Director**
RE **Work Program for the Study of Promising GHG-Reduction Strategies**

Action Required

Review and approval

Proposed Motion

That the Boston Region Metropolitan Planning Organization (MPO), upon the recommendation of the Massachusetts Department of Transportation, vote to approve the work program for the Study of Promising GHG-Reduction Strategies, presented in this memorandum

Project Identification

Unified Planning Work Program Classification

Boston Region MPO Planning Studies and Technical Analyses

CTPS Project Number

13279

Client

Boston Region MPO

CTPS Project Supervisors

Principal: Scott Peterson
Manager: Bruce Kaplan

Funding

MPO Planning Contract #95411 and MPO §5303 Contract #98873

Impact on MPO Work

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

Background

One of the goals of the Boston Region MPO's most recently adopted Long-Range Transportation Plan (LRTP), *Charting Progress to 2040*, is to create an environmentally friendly transportation system. An objective of this Clean Air and Clean Communities goal is to "reduce greenhouse gases [GHGs] generated in the Boston region by all transportation modes as outlined in the Global Warming Solutions Act [GWSA]." In 2008, the Commonwealth of Massachusetts enacted the GWSA, aiming to create a framework for reducing GHGs to levels believed to be relatively benign in terms of climate change effects. Because reducing GHG emissions is an important goal of the MPO, the MPO staff is undertaking this study to identify cost-effective GHG reduction strategies that can help inform the MPO's investment decisions.

Currently, the MPO staff tracks the projected GHG emissions that would be produced in the region from infrastructure projects implemented through the LRTP and the emissions resulting from individual projects implemented through the Transportation Improvement Program (TIP). Staff also performs GHG and cost-effectiveness analyses for all TIP projects.

This study will build upon the *Greenhouse Gas Reduction Strategy Alternatives: Cost-Effectiveness Analysis* report that staff prepared in January 2016. That recent study identified 14 promising strategies that the MPO could either support through funding in the LRTP and TIP; study through the Unified Planning Work Program (UPWP) for eventual funding and implementation; or publicize through public outreach activities. The study examined these approaches based on national data, but staff did not investigate their potential based on regional data. This new study will examine a subset of these strategies at a more granular level in an effort to understand their potential for cost-effective implementation, contribution to GHG reduction, and other mobility, equity, and safety impacts for our region.

Objectives

The objectives of this project are as follows:

- Determine a subset of the promising strategies from the *Greenhouse Gas Reduction Strategy Alternatives: Cost-Effectiveness Analysis* study for evaluation at the regional level
- Review approaches to calculating GHG emissions

- Recommend MPO actions for funding, future study, or implementation

Work Description

Task 1 Selection of Subset of Strategies

Staff will review the findings of the January 2016 *Greenhouse Gas Reduction Strategy Alternatives: Cost-Effectiveness Analysis* study regarding cost-effective GHG reduction strategies and the 14 recommended approaches. Staff will select a subset of these 14 strategies for additional analysis. Priority will be given to the strategies that the MPO has the ability to implement through its own funding programs or those strategies that could be advanced by other entities in the region with encouragement from the MPO.

Product of Task 1

An informal document identifying a subset of the 14 national GHG reduction strategies recommended in the January 2016 study

Task 2 Review Experience of Other Agencies

MPO staff will survey other governmental agencies in the northeastern United States to learn of their experiences with GHG reduction strategies and, specifically, to see if any agencies have actually implemented any of the subset of 14 promising national strategies identified in Task 1 and, if so, what resulted. Staff will gather available information and data on the strategies that have been implemented—particularly by agencies in Massachusetts—to evaluate their regional impact. Additionally, attention will be paid to how agencies use these strategies in scenario planning, project evaluation, and decision-making. These observations will be documented for use in Task 3 when staff considers how various practices could be adapted for use in the Boston region.

Product of Task 2

Documentation of the empirical experience with the selected GHG reduction strategies

Task 3 Analysis and Recommendations

MPO staff will evaluate the research collected in Task 2 to determine which GHG reduction strategies best suit the MPO in terms of cost-effectiveness, implementation, impact, and ease of incorporation into the MPO planning and decision-making processes. Then, staff will present a summary of the most promising set of recommended practices, policies, and approaches to GHG reduction for consideration by the MPO board.

Products of Task 3

- An informal memorandum (which will be incorporated into the final report) summarizing the evaluation of the data collected in previous tasks and further analysis of the subset of 14 promising strategies

Task 4 Prepare a Final Report

MPO staff will produce a final white paper or report for this UPWP project, summarizing the study's research and findings. Staff will present the report and its recommendations to the MPO

Product of Task 4

- White paper or report based on the informal documents produced in the preceding tasks
- Presentation of findings to the MPO board

Estimated Schedule

It is estimated that this project will be completed eight 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 $55,055. This includes the cost of 14.7 person-weeks of staff time and overhead at the rate of 102.7 percent. A detailed breakdown of estimated costs is presented in Exhibit 2.

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Exhibit 1
ESTIMATED SCHEDULE
Study of Promising GHG-Reduction Strategies

Task	Month							
	1	2	3	4	5	6	7	8
1. Selection of Subset of Strategies								
2. Review Experience of other Agencies								
3. Analysis and Recommendations								
4. Prepare a Final Report								

Exhibit 2
ESTIMATED COST
Study of Promising GHG-Reduction Strategies

Direct Salary and Overhead	**$55,055**

Task	Person-Weeks M-1	Person-Weeks P-5	Person-Weeks Total	Direct Salary	Overhead (102.70%)	Total Cost
1. Selection of Subset of Strategies	0.5	1.0	1.5	$2,763	$2,837	$5,600
2. Review Experience of other Agencies	0.5	4.5	5.0	$9,270	$9,520	$18,789
3. Analysis and Recommendations	1.2	3.5	4.8	$8,766	$9,003	$17,769
4. Prepare a Final Report	1.0	2.4	3.4	$6,362	$6,534	$12,896
Total	3.2	11.4	14.7	$27,161	$27,894	$55,055

Other Direct Costs	**$0**

TOTAL COST	**$55,055**

Funding

MPO Planning Contract #95411 and MPO §5303 Contract #98873