MEMORANDUM

DATE July 9, 2015

TO Boston Region Metropolitan Planning Organization

FROM Karl H. Quackenbush
CTPS Executive Director

RE Work Program for: Everett Transit Needs Study

Action Required

Review and approval

Proposed Motion

That the Boston Region Metropolitan Planning Organization, upon the recommendation of the Massachusetts Department of Transportation, vote to approve the work program for the Everett Transit Needs Study presented in this memorandum

Project Identification

Unified Planning Work Program Classification

Planning Studies

CTPS Project Number

97329

Client

Massachusetts Department of Transportation, Office of Transportation Planning
Project Supervisor: Scott Hamwey

CTPS Project Supervisors

Principal: Scott Peterson
Manager: Bruce Kaplan

Funding

MassDOT SPR Contract #86842

Impact on MPO Work

The MPO staff has sufficient resources to complete this work in a capable and timely manner. By undertaking this work, the MPO staff will neither delay the completion of nor reduce the quality of any work in the UPWP.

Background

Everett, a small, densely populated city located across the Mystic River from Boston, has historically been a working-class community and home to significant industrial manufacturing. Currently, the city is in the process of revitalizing its neighborhoods by attracting new, or expanding existing, industrial and business opportunities, remediating brownfields, enhancing residential quality of life, and improving waterfront access. Many substantial future development and redevelopment projects have been identified by the City of Everett and the Massachusetts Department of Transportation (MassDOT).

The massive changes associated with such development presents the challenge of creating a balanced and integrated multimodal transportation system capable of serving the city for its long-term success. Given the forecast for this future major development, there is a need for a transit-focused transportation plan. To address this, MassDOT is in the process of forming a project team; CTPS staff will be working with this team to provide technical assistance in this planning endeavor.

Objectives

The principal objectives of this work are to:

1. Develop a future land-use build-out scenario for the City of Everett
2. Provide modeling support to the project team to examine existing and future transportation needs in the city of Everett that reflect a proposed major development, such as the Wynn Casino

Work Description

The six tasks in this work program are described below.

Task 1 Perform Base-Year Model Calibration for the Study Area

This task consists of refining and enhancing the Boston Region MPO's regional travel demand model set for the Everett area. CTPS staff will pay particular attention to replicating existing conditions for the study area's transit and roadway networks, and will compile available study-area transit and roadway counts. The results of running the base-year model will be summarized in sufficient detail to provide systemwide statistics and study-area-specific data, such as daily boardings, alightings, and access-mode shares at nearby rapid

transit and commuter rail stations; and boardings on certain bus routes during the AM peak period (6:00 to 9:00 AM) and the PM peak period (3:00 to 6:00 PM).

Product of Task 1

An updated calibrated multimodal travel demand model set for the study area

Task 2 Develop and Model a Short-Term Transit Improvement Scenario and Analyze Results

Based on input from the project team, CTPS staff will model a scenario that examines the impact of transit improvements on Everett's existing conditions. This scenario will build on the base-year scenario and will consist of expanded and enhanced Everett bus service. Staff will summarize these results and compare them with those of the base-year scenario. The results will include roadway and transit volumes in the study area, systemwide person-trips and vehicle-trips by mode by time of day, transit boardings at selected stations, and ridership on selected bus routes.

Products of Task 2

- Short-term transit improvement scenarios
- Graphic and tabular summaries of relevant roadway, nonmotorized, and transit data, including analyses of volume-to-capacity ratios and peak loads

Task 3 Model the 2040 No-Build Scenario

Staff will develop the 2040 no-build scenario for this study after consulting with the City of Everett and the Metropolitan Area Planning Council (MAPC). The no-build scenario will be based on the most recent demographic assumptions and multimodal transportation networks in the Boston Region MPO's Long-Range Transportation Plan. This scenario will include the planned Wynn Casino. A trip table for the year 2040 will be developed from these elements after running the regional travel demand model set's trip generation and trip distribution model routines. The mode choice and assignment components of the model set will be used to prepare the same categories of estimated traffic and transit volumes for this scenario that were generated in Task 1 for the base year so that the base-year and no-build scenarios can be compared.

Products of Task 3

- 2040 no-build scenario
- Graphic and tabular summaries of relevant roadway, nonmotorized, and transit data, including analyses of volume-to-capacity ratios and peak loads

Task 4 Develop and Model the 2040 Build-Out Land Use Scenario and Quantify Its Impact on the Transportation System

CTPS staff will meet with the City of Everett and other project stakeholders to develop a build-out 2040 land-use scenario for Everett that will assume the

maximum proposed development. The regional travel demand model set will be used to prepare the same categories of estimated traffic and transit volumes from this build-out scenario as were generated in Task 3. Staff will summarize these results and compare them with those of the base-year and 2040 no-build model runs. The results will include roadway and transit volumes in the study area, systemwide person-trips and vehicle-trips by mode by time of day, transit boardings at selected stations, and ridership on selected bus routes.

Products of Task 4

- 2040 build-out land-use scenario
- Graphic and tabular summaries of relevant roadway, nonmotorized, and transit data, including analyses of volume-to-capacity ratios and peak loads

Task 5 Model Transit Improvement Scenarios and Analyze Results

Based on input from the project team, staff will model two transit improvement scenarios for both the full-build and no-build scenarios, and will summarize the results in the same fashion as in Task 4.

Products of Task 5

- Two build scenarios
- Graphic and tabular summaries of relevant roadway, nonmotorized, and transit data, including analyses of volume-to-capacity ratios and peak loads

Task 6 Document Methodology and Results

CTPS staff will produce a memorandum that will summarize the methodology and findings of the project. Staff also will assist the project team with products connected to the modeling results.

Product of Task 6

Brief memorandum documenting the project's methodology and results

Estimated Schedule

It is estimated that this project will be completed 18 weeks 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 $50,000. This includes the cost of 18.2 person-weeks of staff time and overhead at the rate of 98.88 percent. A detailed breakdown of estimated costs is presented in Exhibit 2.

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Exhibit 1
ESTIMATED SCHEDULE
Everett Transit Needs Study

Task	Week																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Perform Base-Year Model Calibration for the Study Area																		
2. Develop and Model a Short-Term Transit Improvement Scenario and Analyze Results																		
3. Model the 2040 No-Build Scenario																		
4. Develop and Model 2040 Build-Out Land Use Scenario and Quantify Its Impact on the Transportation System																		
5. Model Transit Improvement Scenarios and Analyze Results																		
6. Document Methodology and Results																		

Exhibit 2
ESTIMATED COST
Everett Transit Needs Study

Direct Salary and Overhead	**$50,000**

Task	Person-Weeks M-1	Person-Weeks P-4	Person-Weeks Total	Direct Salary	Overhead (98.88%)	Total Cost
1. Perform Base-Year Model Calibration for the Study Area	0.5	2.0	2.5	$3,511	$3,471	$6,982
2. Develop and Model a Short-Term Transit Improvement Scenario and Analyze Results	0.5	2.0	2.5	$3,511	$3,471	$6,982
3. Model the 2040 No-Build Scenario	0.0	2.0	2.0	$2,654	$2,624	$5,278
4. Develop and Model 2040 Build-Out Land Use Scenario and Quantify Its Impact on the Transportation System	1.0	2.5	3.5	$5,031	$4,974	$10,005
5. Model Transit Improvement Scenarios and Analyze Results	0.5	6.8	7.2	$9,813	$9,704	$19,517
6. Document Methodology and Results	0.0	0.5	0.5	$622	$615	$1,236
Total	2.5	15.7	18.2	$25,141	$24,859	$50,000

Other Direct Costs	**$0**

TOTAL COST	**$50,000**

Funding

MassDOT SPR Contract #86842