



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Richard A. Davey, MassDOT Secretary and CEO and MPO Chairman
Karl H. Quackenbush, Executive Director, MPO Staff

DRAFT MEMORANDUM

DATE June 6, 2013
TO Boston Region Metropolitan Planning Organization
FROM Karl H. Quackenbush
CTPS Executive Director
RE Work Program for: Land Use and Traffic Impacts Study of Potential Development
along Needham Street in Newton

Action Required

Review and approval

Proposed Motion

That the Boston Region Metropolitan Planning Organization vote to approve the work program for Land Use and Traffic Impacts Study of Potential Development along Needham Street in Newton in the form of the draft dated June 6, 2013.

Project Identification

Unified Planning Work Program Classification

Technical Support/Operations Analysis

CTPS Project Number

53218

Client

City of Newton

CTPS Project Supervisors

Principal: Efi Pagitsas

Manager: Seth Asante

MAPC Project Supervisor

Manager: Mark Racicot

Funding

Future contract with MAPC

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 other work in the UPWP.

Background

The City of Newton is considering rezoning and redeveloping its commercial district along Needham Street. Needham Street is a minor urban arterial under the jurisdiction of MassDOT. The segment to be studied extends from its intersection with Winchester Street, just south of Route 9 (Boylston Street), to the Needham town line. The roadway is largely three lanes wide, including a center two-way left-turn lane. Traffic control includes traffic signals, stop signs at minor streets, and driveways. There are sidewalks on both sides of the roadway in various stages of disrepair, without features required by the Americans with Disabilities Act (ADA), and lacking various amenities. The land use is mostly commercial, including small- and medium-size shopping centers.

For economic development purposes, the City of Newton wishes to explore opportunities to add development in the area, including office space. This study will assess existing and future traffic patterns along Needham Street, estimate the additional trips to be generated by the preferred land use option, and evaluate likely impacts from the additional traffic generated.

The primary study area will be the Needham Street corridor, including its signalized intersections; the secondary study area will include Route 128/I-95 and its interchanges at Highland Avenue, Kendrick Street (proposed), and Route 9, and also portions of Route 9, Winchester Street, Nahanton Street, Oak Street, and Eliot Street.

This study will be performed by the Metropolitan Area Planning Council (MAPC) and Central Transportation Planning Staff (CTPS). CTPS elements will be funded by the City of Newton through a contract with MAPC, and funding for MAPC work will be from District Local Technical Assistance (DLTA) funds and from MAPC's existing Unified Planning Work Program Transportation Technical Assistance funding for FFY 2013. This scope of work is to approve only the elements of work in which CTPS is involved, while also providing detail on MAPC's tasks.

Objectives

The goal of this study is for MAPC and CTPS staff to assist the City of Newton in exploring opportunities for additional development along Needham Street in Newton and assessing its potential impacts on traffic and land use. The objectives of the work program are as follows:

- Review existing data and analysis to establish existing and future traffic patterns based on known future transportation projects and land use.
- Identify market for various types of developments.
- Select a preferred land use scenario.
- Develop trip generation estimates for the preferred land use scenario.
- Conduct future-year analysis of likely traffic impacts at selected locations along Needham Street.

Work Description

Task 1 CTPS Reviews Travel Patterns for Study Area

Staff will review past studies, including license plate survey studies, of Needham Street/Highland Avenue and other roadways in the vicinity to identify existing traffic profiles and likely future pattern changes from new infrastructure that is presently under design or construction.

Product of Task 1

A memo summarizing existing and likely future traffic profiles and patterns, including tables and a map of the study area

Task 2 MAPC Performs Market Analysis for Feasible Development Types

Based on existing land use conditions and results from Task 1, MAPC land use staff will perform a market analysis for additional development along the Needham Street corridor. MAPC will identify the market for residential, retail, and office development in the study area.

Product of Task 2

- Documentation of market analysis results for additional development along Needham Street

Task 3 MAPC Develops a Preferred Land Use Scenario and Associated Trip Generation Estimates

Based on Tasks 1, 2, and the findings of three targeted public outreach meetings that the City of Newton will conduct, MAPC land use and transportation staff and the City of Newton will develop a preferred land use scenario, including estimates of new jobs, households, parking ratios, and

other measures for each development zone. Following this analysis, MAPC transportation staff will estimate the trips generated by each development during the AM and PM peak hours at the driveway level. As part of this task, MAPC will explore with the City rezoning and transportation impact mitigation scenarios that need to be implemented for potential redevelopment to occur.

Products of Task 3

- Documentation of the preferred land use scenario
- Calculation of AM and PM peak hour trips generated by the preferred land use scenario developments

Task 4 CTPS Identifies Traffic Impacts of Preferred Land Use Scenario

Based on expected traffic patterns for a horizon development year and the trip generation estimates from Task 3, CTPS will develop traffic flow maps for Needham Street, including turning-movement volumes at intersections. CTPS will use this information for a qualitative assessment of quality of flow after the preferred land use scenario is implemented as compared to the future build alternative from the Needham Street Functional Design Report.

Products of Task 4

- Occupancy-year traffic flow maps for AM and PM peak hours
- Comparison of traffic flows to the build-year traffic flows that are included in the Needham Street Functional Design Report and qualitative assessment of delays and congestion at intersections

Task 5 City of Newton Hosts a Public Meeting to Present Study Findings

MAPC and CTPS staff will present the findings of the market analysis, the preferred land use scenario, and the estimated traffic impacts of the preferred land use scenario at a public meeting organized by the City of Newton.

Products of Task 5

- Presentation of findings at public meeting

Estimated Schedule

It is estimated that this project will be completed 16 weeks after work commences in June. MAPC should have Tasks 2 and 3 completed by September. Task 5 will probably be completed in September or October. The proposed schedule, by task, is shown in Exhibit 1.

Estimated Cost

The total cost of the CTPS element of this project is estimated to be \$9,999. This includes the cost of 3.3 person-weeks of staff time, overhead at the rate of 96.58 percent, and travel costs. A detailed breakdown of estimated CTPS costs is presented in Exhibit 2. MAPC will utilize \$10,000 in DLTAs for its market and land use analyses and approximately \$2,000 in UPWP funds for its portion of the transportation analysis.

KQ/EP/ep

Exhibit 1

ESTIMATED SCHEDULE

Land Use and Traffic Impacts Study of Potential Development along Needham Street in Newton

Task	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. CTPS Reviews Travel Patterns		A														
2. MAPC Performs Market Analysis			B													
3. MAPC Develops a Preferred Land Use Scenario							C									
4. CTPS Identifies Traffic Impacts									D							
5. City of Newton Hosts a Public Meeting														E		

Products/Milestones

- A: Memo summarizing traffic profiles and patterns
- B: Documentation of market analysis results
- C: Documentation of preferred land use scenario and associated trip generation rates
- D: Traffic flow maps and assessment of impacts
- E: Presentation of findings at public meeting

Exhibit 2

ESTIMATED COST

Land Use and Traffic Impacts Study of Potential Development along Needham Street in Newton

Direct Salary and Overhead	\$9,929
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Task	Person-Weeks					Direct Salary	Overhead (96.58%)	Total Cost
	M-1	P-5	P-4	P-2	Total			
1. CTPS Reviews Travel Patterns	0.1	0.6	0.0	0.0	0.7	\$1,176	\$1,136	\$2,312
2. MAPC Performs Market Analysis	0.0	0.0	0.0	0.0	0.0	\$00	\$00	\$00
3. MAPC Develops a Preferred Land Use Scenario	0.0	0.0	0.0	0.0	0.0	\$00	\$00	\$00
4. CTPS Identifies Traffic Impacts	0.1	1.3	0.6	0.3	2.3	\$3,370	\$3,255	\$6,625
5. City of Newton Hosts a Public Meeting	0.1	0.2	0.0	0.0	0.3	\$505	\$488	\$993
Total	0.3	2.1	0.6	0.3	3.3	\$5,051	\$4,878	\$9,929

Other Direct Costs	\$70
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Travel	\$70
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TOTAL COST OF CTPS ELEMENT	\$9,999
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Funding

Future contract with MAPC