

Executive Summary

Introduction

This report summarizes the findings of the Massachusetts Turnpike Boston Ramps and Bowker Overpass Study. The Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning (OTP) sponsored this study.

Historically, the responsibility for studying key highway and arterial systems was divided between several state organizations, including the Massachusetts Turnpike Authority, the Department of Conservation and Recreation, and the Massachusetts Highway Department. The creation of MassDOT in 2009, which consolidated state transportation agencies and functions, allowed MassDOT to study and develop proposed improvements to all of the interconnected roadway systems in the study area (see Chapter 1 Section 1.3 for a description of the study area). This work was undertaken with the cooperation of key stakeholders in the city of Boston and of the public at large.

The Origin of This Study

The subject of new ramps and better access to the urban districts was revisited by MassDOT. Metropolitan planning organization (MPO) staff were retained to perform modeling and to provide other technical support. Initially, the analysis focused on identifying access points for entering the eastbound Massachusetts Turnpike (I-90) and for exiting westbound I-90 at points convenient to Back Bay locations. The scope of the project was later expanded to address regional connectivity issues, such as access to the Turnpike from the Longwood Medical and Academic Area (LMA). The initial results of traffic modeling for the study area were presented at a public meeting at the Boston Public Library.

At the public meeting, it became evident that the vicinity of the Bowker Overpass would be an important nexus in the next phase of MassDOT's study. Several factors pointed to this conclusion:

- By including the LMA in the study area, access to the Massachusetts Turnpike near Kenmore Square would become a more important consideration.
- The Bowker Overpass, built at the same time as the Boston Extension, needed significant refurbishment, making reconsideration of its design and function timely.
- Adding new ramps to access the Massachusetts Turnpike would allow a reevaluation of the relationship between traffic on Storrow Drive and traffic on the Massachusetts Turnpike, and the Bowker Overpass and ramps are located where these two roadway systems are closest to each other.

- Public sentiment strongly favored removing the Bowker Overpass and providing new or refurbished at-grade connections between Storrow Drive and the Massachusetts Turnpike.

A revised work program incorporated a number of Bowker-related analyses into the original study.

Goals and Objectives

This study has four main goals that were developed through previous study efforts and the associated public process:

- Reduce traffic within the study area on the arterials and local streets
- Improve highway connections between Back Bay and crucial locations to the east, including but not limited to the Seaport District and Logan Airport
- Improve regional highway connections to the LMA without having an impact on local roads
- Determine locations to reconstruct parkways and related roadway elements to lower capacity standards

Practical objectives for this study were developed to support the four goals:

- Identify locations on I-90 in Boston where the addition of an eastbound on-ramp or westbound off-ramp would be feasible with respect to design and highway operations
- Estimate the traffic benefits of the feasible new ramps with regard to both reducing travel times between selected origins and destinations and reducing traffic on surface streets
- Evaluate potential negative impacts of new ramps with respect to pedestrian safety, neighborhood character, and environmental justice
- Consider possible modifications of roadway and intersection configurations that would eliminate the Bowker Overpass
- Present a broader picture of possible project elements, along with their positive and negative impacts

Project study area

The Massachusetts Turnpike Extension is the central feature crossing from west to east and is the primary focus of this study. A half-mile buffer on either side of the Massachusetts Turnpike Extension was defined as the area in which analyses were performed.

All of the Massachusetts Turnpike Extension mainline segments and ramps were analyzed, along with arterial streets and associated intersections within the described

study area. Details of demographic areas and traffic analysis locations are presented graphically in subsequent chapters.

Project Evaluation Criteria

Implementing any of the alternatives proposed in this study could have significant, far-reaching effects. Moreover, an impact that is positive as measured by one criterion might be negative with respect to a different criterion. A major challenge in this study is balancing the disparate impacts of potential alternatives.

The criteria are closely related to the quantitative and qualitative measurements with which each alternative was evaluated. The numerous possible impacts that could be associated with an alternative were organized into nine major groups:

- Traffic Operations
- Motorized Circulation and Access
- Transit Circulation and Access
- Nonmotorized Circulation and Access
- Safety
- Neighborhood Impacts
- Environmental Impacts
- Business Considerations
- Cost

Public participation process

A Working Group representing state, regional, and local transportation planners, land use planners, and operating agencies was convened for this project. Working Group members included:

- Massachusetts Department of Transportation
- Boston Transportation Department
- Boston Redevelopment Authority
- Central Transportation Planning Staff
- Metropolitan Area Planning Council

The public at large was represented in the planning process by the Study Advisory Group (SAG). The group was composed of several dozen government, institutional, and neighborhood-based stakeholders, including:

Governmental Stakeholders and Organizations:

- The five Working Group organizations

- Massachusetts state representatives and senators
- City of Boston
- Boston City Council members
- City of Cambridge
- Town of Brookline
- Massachusetts Department of Conservation and Recreation
- Massachusetts Bay Transportation Authority
- Massachusetts Port Authority

Other Stakeholder Organizations:

- A Better City
- Allston Brighton Community Development Corporation
- Asian American Civic Association
- Asian Community Development Corporation
- Audubon Circle Neighborhood Association
- Back Bay Association
- Bay Village Neighborhood Association
- Beacon Hill Civic Association
- Blackstone Franklin Square Neighborhood Association
- Boston Red Sox
- Boston University
- Chester Square Area Neighborhood Association
- Chinatown Gateway Coalition
- Chinatown Main Street
- Chinatown Neighborhood Council
- Chinatown Resident Association
- Ellis South End Neighborhood Association
- Fenway Alliance
- Fenway Civic Association Inc.
- Fenway Community Development Corporation
- Fort Point Neighborhood Alliance
- Kenmore Business Association
- Leather District Neighborhood Association
- MASCO Inc.
- Neighborhood Association of the Back Bay
- Newbury Street League
- Old Dover Neighborhood Association
- St. Botolph Neighborhood Association
- Storrow Drive Advisory Committee
- The Chinatown Coalition
- Washington Gateway Main Street
- Worcester Square Neighborhood Association

Public Informational Meetings

Informational meetings were held when key milestones in the project had been reached in order to give the public an opportunity to provide suggestions.

Massachusetts Turnpike Back Bay Ramp Alternatives

At the beginning stages of the study process to develop a new ramp, seven ramp alternatives were partially developed based on previous studies. The initial screening provided four alternatives that were selected to be further developed and evaluated:

- Back Bay Alternative 1: New Westbound Off-Ramp to Berkeley Street
- Back Bay Alternative 2: New Westbound Off-Ramp to Trinity Place/Stuart Street
- Back Bay Alternative 3: New Westbound Off-Ramp to Brookline Avenue
- Back Bay Alternative 4: New Eastbound On-Ramp from the Bowker Overpass

A summary of each alternative's benefits and issues/impacts is provided in Chapter 10, Table 10-1.

Bowker Overpass Alternatives

Four alternatives were "sketched" out in response to many organizations that had shown interest in altering or removing the Bowker Overpass. These preliminary alternatives have been further refined to meet this study's goals. The four final Bowker Overpass alternatives are:

- Bowker Overpass Alternative 1: Bowker Overpass Removed
- Bowker Overpass Alternative 2: Bowker Overpass At-Grade
- Bowker Overpass Alternative 3: New Regional Access
- Bowker Overpass Alternative 4: New Regional and Local Access

A summary of each alternative's benefits and issues/impacts is provided in Chapter 10, Table 10-2.

Screening Evaluation

The Back Bay Ramp and Bowker Overpass alternatives were compared to the No-Build scenario to assess their relative benefits and drawbacks. The alternatives were screened according to nine criteria:

- Traffic
- Motorized circulation and access
- Transit circulation and access
- Non-motorized circulation and access
- Safety

- Neighborhood impacts
- Environmental impacts
- Business considerations
- Cost

Overall, none of the Back Bay Ramp alternatives or the Bowker Overpass alternatives ranked positively. Only Back Bay Ramp Alternatives 1 and 3 had an overall rank of neutral. The rest of the alternatives had overall ranks of negative.

A summary of each alternative's evaluation is provided in Chapter 10, Table 10-3.

Conclusions

As this study proceeded from initial public meetings to this final report, staff reached a number of conclusions by carefully reviewing the evaluation results, and considering the communities' input at public meetings and their written comments:

- Based on the study and evaluation of the Back Bay Ramp and Bowker Overpass alternatives, there is no single alternative that is recommended for further study or implementation. As the evaluation indicates, there are no alternatives, as presently developed and evaluated, that meet the study's goals and objectives. The estimated construction cost of the alternatives cannot be justified, since no one alternative for the Back Bay Ramps or the Bowker Overpass satisfies the goals of the study.
- None of the proposed Bowker Overpass alternatives provided a suitable direct replacement to serve the regional traffic issue and meet the study's goals and objectives. Alternative 2, which replaces the overpass with at-grade roadways, creates major traffic issues and significantly affects the park's open space. The other alternatives create traffic diversions to other roadways and neighborhoods—in some cases, with a significant construction cost.
- Analysis of a recent MassDOT project at the Allston I-90 Interchange was not part of this study. Any future Back Bay Ramps or Bowker Overpass studies should include the proposed realignment of that interchange and potential impacts to the Massachusetts Turnpike and Bowker Overpass.