

# Chapter 4—Project Alternatives: Massachusetts Turnpike Ramps

## 4.1 INTRODUCTION

This chapter describes four new ramp alternatives on the Massachusetts Turnpike Extension in Boston's Back Bay that were developed to meet three of the study's goals:

- 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 Longwood Medical Area (LMA) without having an impact on local roads.

## 4.2 DEVELOPMENT OF RAMP ALTERNATIVES

In response to the need for improved roadway connections between the Back Bay and areas to the east, legislation was authorized in 1995 that directed the Massachusetts Turnpike Authority (now folded into the Massachusetts Department of Transportation [MassDOT]), the Boston Transportation Department (BTD), and the Boston Redevelopment Authority (BRA) to conduct a joint study to provide an eastbound on-ramp and/or a westbound off-ramp on the Massachusetts Turnpike Extension between Chinatown and the Fenway area.

The result of this legislation was the Boston Extension Ramps Feasibility Study, which was released in 1997. The purpose of this study was to determine the feasibility of adding an additional ramp or ramps to the Massachusetts Turnpike Extension in order to provide improved access between the Back Bay and Logan Airport and the emerging commercial area in the Seaport District.

The eight alternatives that were developed as part of this study are detailed below; four of them were chosen to be defined in further detail in this chapter:

### 4.2.1 Alternative 1 – Arlington Street Eastbound On-Ramp

The Arlington Street on-ramp alignment would begin at the Arlington Street/Tremont Street intersection, parallel Herald Street, and merge with the Boston Extension of the Massachusetts Turnpike just west of the South Bay interchange.

#### **4.2.2 Alternative 2 – Westbound Off-Ramp at Harrison Avenue/Marginal Road**

A proposed Central Artery/Tunnel Project ramp would provide egress from the Massachusetts Turnpike westbound to the Harrison Avenue/Marginal Road intersection in Chinatown.

#### **4.2.3 Alternative 3 – Berkeley Street Westbound Off-Ramp**

The Berkeley Street off-ramp alignment would begin in the vicinity of the South Bay interchange and terminate at Berkeley Street just south of Cortes Street. This alignment would require closure of the existing Arlington Street westbound on-ramp.

#### **4.2.4 Alternative 4 – Stuart Street Westbound Off-Ramp**

The Stuart Street off-ramp alignment would begin in the vicinity of the South Bay interchange and terminate at Stuart Street in the vicinity of the John Hancock Air Rights Garage at Trinity Place (a small intersecting street). This alignment would require the closure of two existing Boston Extension ramps: the Arlington Street westbound on-ramp and the Clarendon Street westbound on-ramp.

#### **4.2.5 Alternative 5 – Boylston Street Eastbound On-Ramp**

The Boylston Street on-ramp alignment would begin at the Bowker Overpass and would merge with the Boston Extension just west of the existing Massachusetts Avenue overpass.

#### **4.2.6 Alternative 6 – Brookline Avenue Eastbound On-Ramp**

The Brookline Avenue on-ramp alignment would begin at the existing Brookline Avenue overpass in the Kenmore Square area, run parallel to Lansdowne Street, and merge with the Boston Extension.

#### **4.2.7 Alternative 7 – Newbury Street Westbound Off-Ramp**

The Newbury Street off-ramp would begin in the vicinity of the Massachusetts Avenue overpass, run parallel to Newbury Street, and terminate at Commonwealth Avenue at the Bowker Overpass. This alignment would require closure of the existing Massachusetts Avenue westbound on-ramp.

#### **4.2.8 Alternative 8 – Brookline Avenue Westbound Off-Ramp**

The Brookline Avenue off-ramp alignment would begin in the vicinity of the Bowker Overpass, run parallel to (and possibly within the right of way of) Newbury Street, and terminate at Brookline Avenue just south of Kenmore Square. This alignment would possibly require closure of the existing Massachusetts Avenue westbound on-ramp.

## 4.3 MASSACHUSETTS TURNPIKE RAMP ALTERNATIVES

In June 2012, MassDOT conducted a public meeting to present four of the ramp alternatives that had been developed. These alternatives were based on the previous study's eight alternatives (listed above); however, they had been further refined based on feasibility and public input to meet the study's goals. The four final ramp alternatives are:

- 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

### 4.3.1 Back Bay Alternative 1: New Westbound Off-Ramp to Berkeley Street

Back Bay Alternative 1 includes construction of a new Massachusetts Turnpike westbound off-ramp that connects to Berkeley Street. Figure 4-1 provides a conceptual design of the proposed alternative. This alternative would provide direct access from I-93, I-90, Logan Airport, and the Seaport District to the Back Bay, which does not presently exist. Currently, indirect access is provided by a U-turn at the Allston/Brighton interchange, which allows westbound Massachusetts Turnpike vehicles (with an E-Z Pass) to make a U-turn and then head eastbound and exit at the Prudential Tunnel off-ramp.

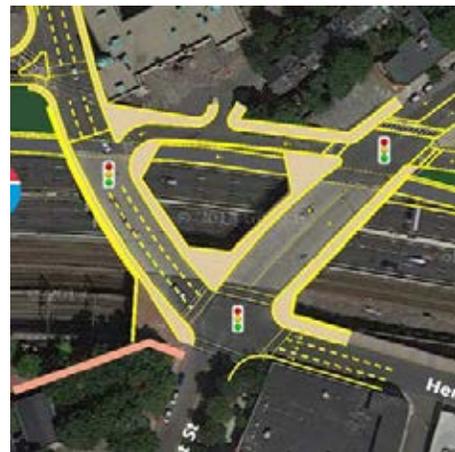
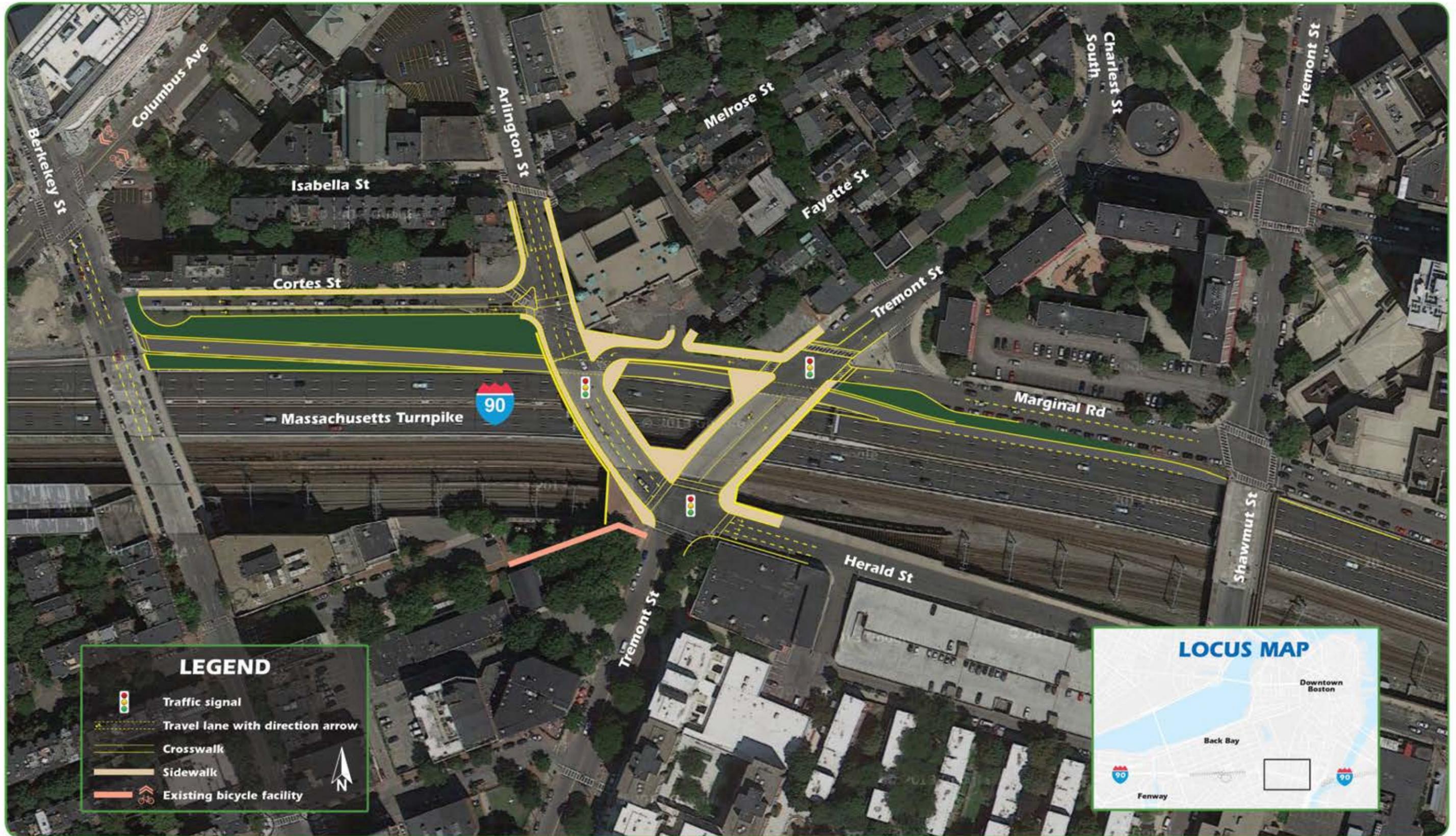


Figure 4-2 – Reconstruction of Arlington Street and Tremont Street Bridge Structures

The Back Bay Alternative 1 off-ramp deceleration lane would begin just east of the Shawmut Street Bridge and travel parallel to Marginal Road. As the off-ramp approaches Tremont Street, the ramp would diverge from the Massachusetts Turnpike and encroach upon Marginal Road. The off-ramp would pass under the reconstructed bridges at Tremont Street and Arlington Street (Figure 4-2). It would then begin to rise in order



**FIGURE 4-1**  
**Back Bay Alternative 1**  
**New Westbound Off-Ramp to Berkeley Street**

to connect with a new at-grade intersection at Berkeley Street (Figure 4-3). Because of this new Berkeley Street intersection with the off-ramp, Cortes Street would need to be closed to through traffic and made into a two-way street to allow continued access to its residences.

The Back Bay Alternative 1 off-ramp would require the closure of the existing Massachusetts Turnpike westbound on-ramp at Arlington Street. This would eliminate a Back Bay access point to the Turnpike and require existing on-ramp traffic to divert to the Clarendon Street on-ramp located beneath the Hancock Garage or the on-ramp at Dartmouth Street.



Figure 4-3 – New Berkeley Street Off-Ramp Intersection

Reconstruction of the Tremont and Arlington Street bridges would create an opportunity to improve east-west bicycle and pedestrian travel along Herald Street, Marginal Road, Arlington Street, and Cortes Street, providing that a pedestrian connection to Berkeley Street from Cortes Street is retained. With the exception of Cortes Street, each of these streets is included in Boston's 30-year Bike Network plan, with a cycle track planned for Herald and Arlington Streets. Pedestrian and bicyclist conflict with vehicles exiting the Massachusetts Turnpike at Berkeley Street would need to be addressed in any proposed intersection design.

There are a number of issues and impacts associated with the proposed Back Bay Alternative 1 off-ramp. The list below provides a summary of the benefits, issues, and impacts of this alternative (this information is discussed in further detail in Chapter 9: Screening Evaluation):

- Provides westbound direct access to the Back Bay area from the Massachusetts Turnpike and the Seaport District.
- Closure of the existing Massachusetts Turnpike eastbound on-ramp at Arlington Street, causing traffic diversions to other streets and ramps.
- The high cost and neighborhood impacts associated with the reconstruction of the Arlington Street and Tremont Street bridge structures over the Massachusetts Turnpike in order to accommodate the proposed deceleration lane and off-ramp.
- Reconstruction of the three existing signalized intersections located on Arlington and Tremont streets.

- Marginal Road would be reduced from two lanes with on-street parking to a single lane as it approaches Tremont Street.
- On-street parking on Marginal Road (on the Massachusetts Turnpike side) would be removed to accommodate the proposed off-ramp.
- Closing of Cortes Street to through traffic, which would limit access to households along the street as well as neighborhood connectivity.

### 4.3.2 Back Bay Alternative 2: New Westbound Off-Ramp to Trinity Place/Stuart Street

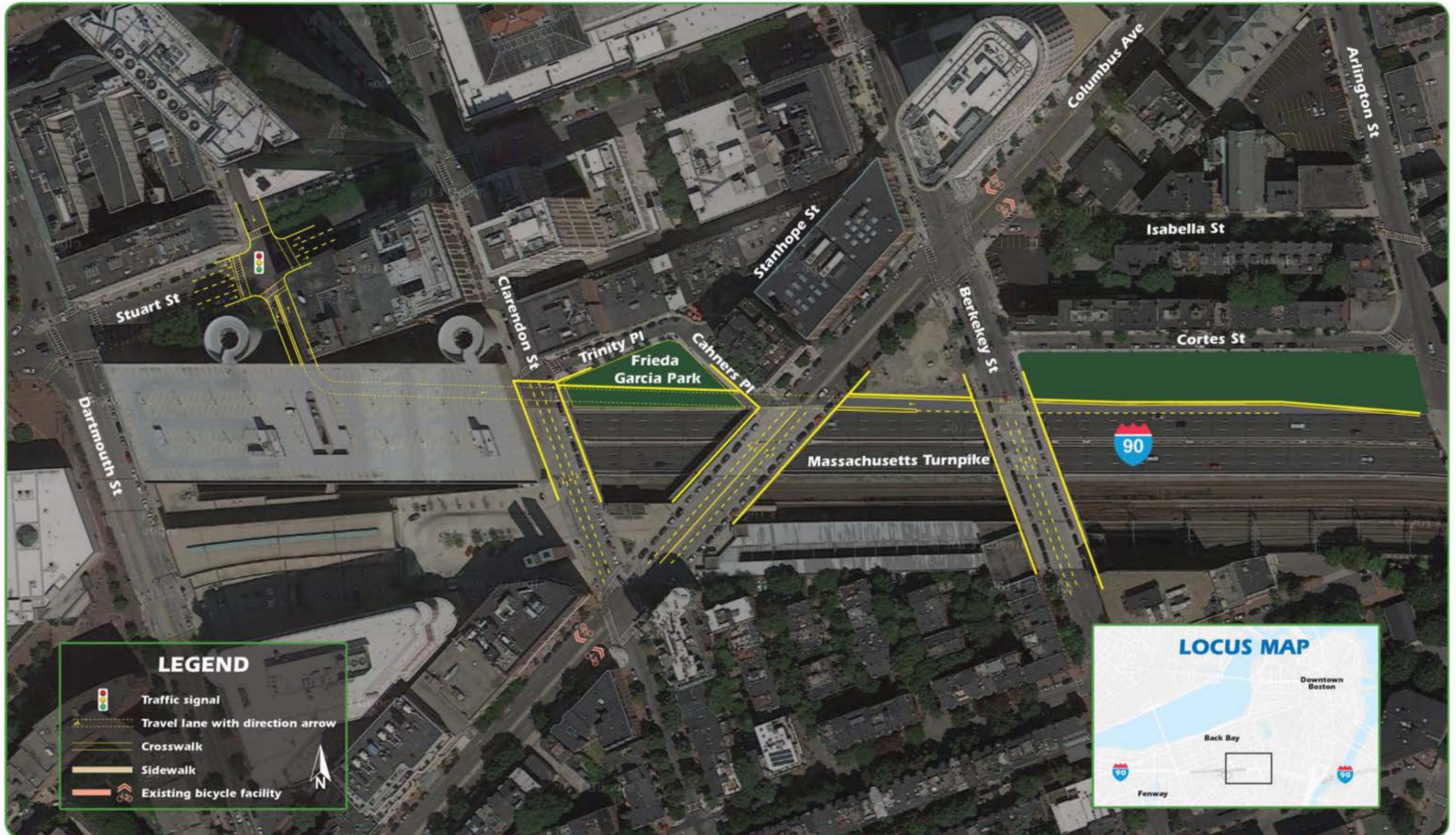
Back Bay Alternative 2 includes construction of a new Massachusetts Turnpike westbound off-ramp that travels under the Hancock Garage and connects with Stuart Street. Figure 4-4 provides a conceptual design of the proposed alternative. This alternative would provide direct access from I-93, I-90, Logan Airport, and the Seaport District to the Back Bay, which does not presently exist. As with the other Back Bay Alternatives, indirect access currently is provided by a U-turn at the Allston/Brighton interchange and then an eastbound Prudential Tunnel exit to Stuart Street and Huntington Avenue.

The Back Bay Alternative 2 westbound off-ramp would diverge from the Massachusetts Turnpike westbound, just as it passes under the Arlington Street Bridge. The off-ramp would continue under the reconstructed bridges at Berkeley Street and Columbus Avenue. As it passes under Columbus Avenue, the off-ramp would then enter a tunnel section, traveling through Frieda Garcia Park and under Clarendon Street (Figure 4-5).



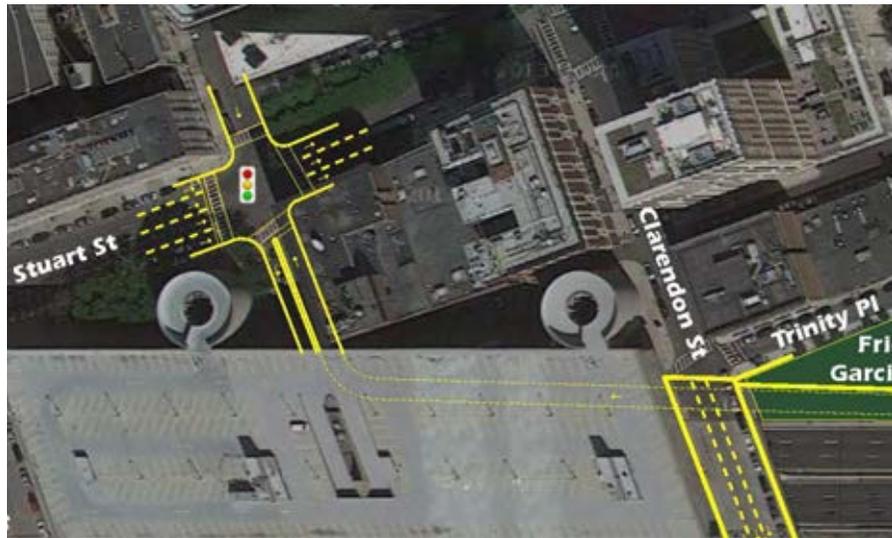
Figure 4-5 – Frieda Garcia Park

The off-ramp would then need to travel under and/or through a portion of the Hancock Garage before exiting the garage onto Trinity Place. Trinity Place would then intersect Stuart Street at the signalized intersection adjacent to the John Hancock Building (Figure 4-6).



**FIGURE 4-4**  
**Back Bay Alternative 2**  
**New Westbound Off-Ramp to Trinity Place/Stuart Street**

**Figure 4-6**  
**Tunnel Under the Hancock Garage**  
**and the Stuart Street Intersection**



The Back Bay Alternative 2 westbound off-ramp would require the closure of two existing Massachusetts Turnpike westbound on-ramps. This alternative would require the closing of the Arlington Street on-ramp, as in Back Bay Alternative 1, and it would replace the existing Clarendon Street on-ramp. This would eliminate a Back Bay access point to the Turnpike, requiring that existing traffic use either the Massachusetts Avenue on-ramp or the Allston/Brighton interchange to access the westbound Massachusetts Turnpike.

Closure of the Arlington and Clarendon Street on-ramps would reduce the potential for bicycle and pedestrian conflict with vehicles at these intersections. Reconstruction of the Berkeley Street and Columbus Avenue bridges creates an opportunity to improve bicycle and pedestrian travel along these corridors. The proximity of Back Bay Station to this alternative requires the importance of safe pedestrian accommodations, which are being made available in planning for this alternative. A shared bicycle lane currently exists on Clarendon Street, which the City of Boston hopes to upgrade to a dedicated bicycle lane by the year 2018.

There are a number of issues and impacts associated with the proposed Back Bay Alternative 2 off-ramp. The list below provides a summary of the benefits, issues, and impacts of this alternative (this information is discussed in further detail in Chapter 9: Screening Evaluation):

- Provides westbound direct access to the Back Bay area from the Massachusetts Turnpike and the Seaport District.

- Closure of the existing Massachusetts Turnpike eastbound on-ramps at Arlington Street and Clarendon Street, which would divert all closed ramp traffic to the Dartmouth Street on-ramp.
- The high cost and neighborhood impacts associated with the reconstruction of the Berkeley Street, Columbus Avenue, and Clarendon Street bridge structures over the Massachusetts Turnpike in order to accommodate the proposed deceleration lane and off-ramp.
- Impacts to Frieda Garcia Park.
- Major reconstruction of the Hancock Garage to accommodate the off-ramp tunnel to Trinity Place.

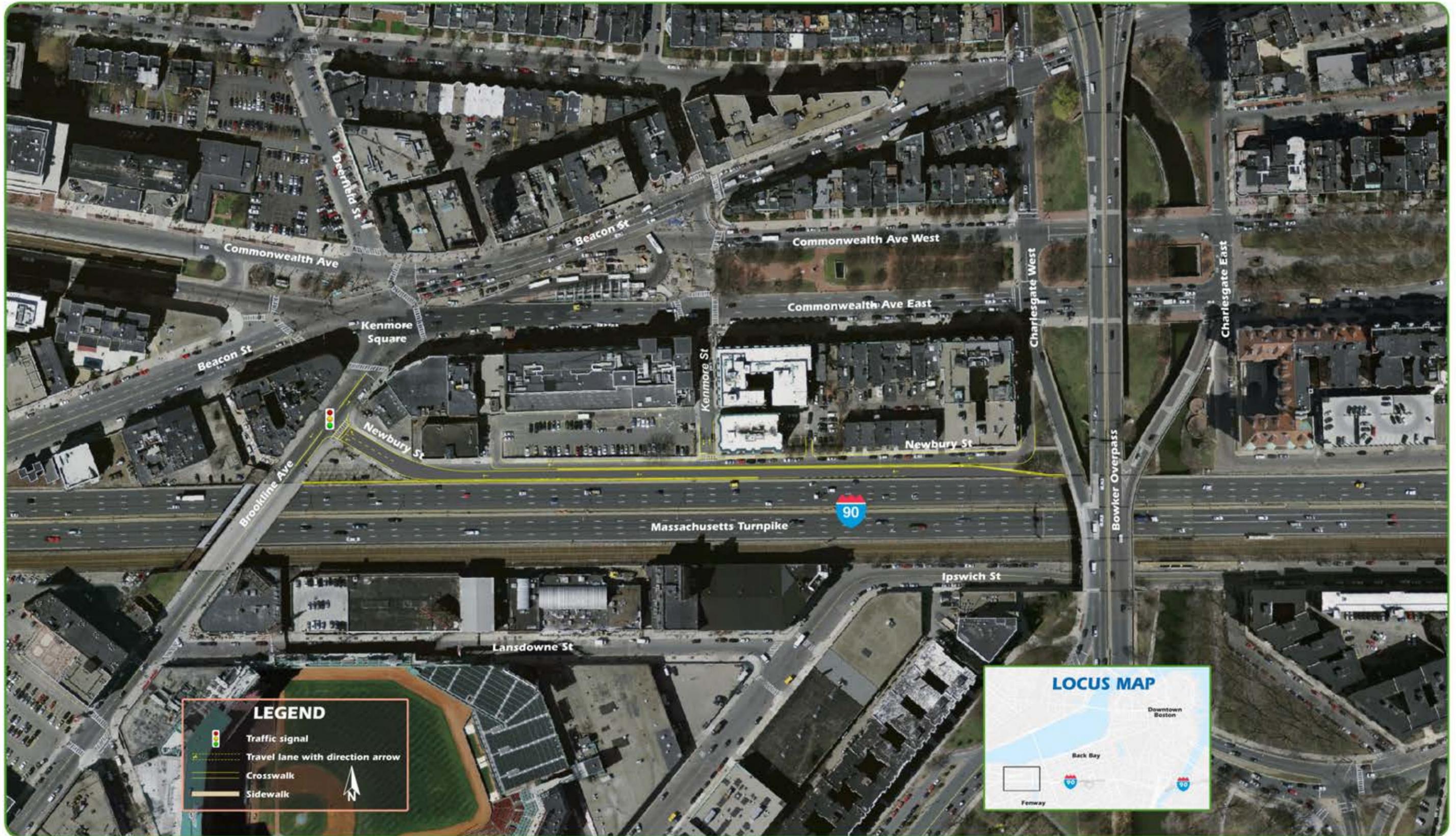
### 4.3.3 Back Bay Alternative 3: New Westbound Off-Ramp to Brookline Avenue

Back Bay Alternative 3 includes construction of a new Massachusetts Turnpike westbound off-ramp that connects to Brookline Avenue near Kenmore Square and Fenway Park. Figure 4-7 provides a conceptual design of the proposed alternative. This alternative would provide direct access from I-93, I-90, Logan Airport, and the Seaport District to the Back Bay and Fenway area, which does not presently exist. As with the other Back Bay Alternatives, indirect access currently is provided by a U-turn at the Allston/Brighton interchange.

The Back Bay Alternative 3 westbound off-ramp would diverge from the Massachusetts Turnpike westbound, just as it passes under the Bowker Overpass. The off-ramp would continue parallel to the Massachusetts Turnpike and Newbury Street. This parallel section of the off-ramp would significantly impact Newbury Street, reducing the roadway from a single lane with on-street parking on both sides to a single lane with no parking (Figure 4-8).



Figure 4-8 – Newbury Street



**FIGURE 4-7**  
**Back Bay Alternative 3**  
**New Westbound Off-Ramp to Brookline Avenue**

As the ramp approaches Brookline Avenue, the alignment of the off-ramp would shift northward into Newbury Street (Figure 4-9). This shift would require that Newbury Street terminate at the western parking lot entrance of the Hotel Commonwealth, as shown in Figure 4-9.

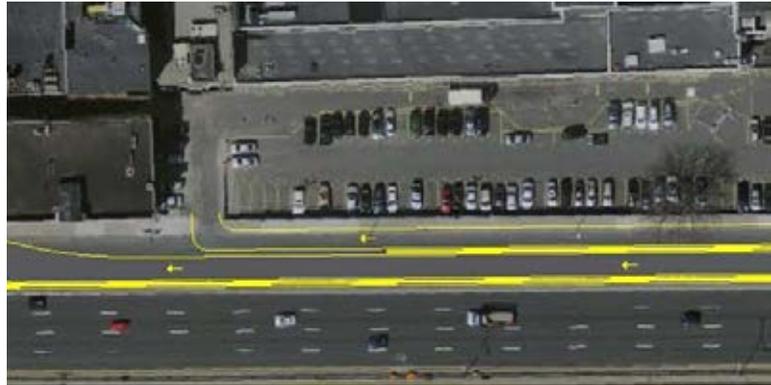
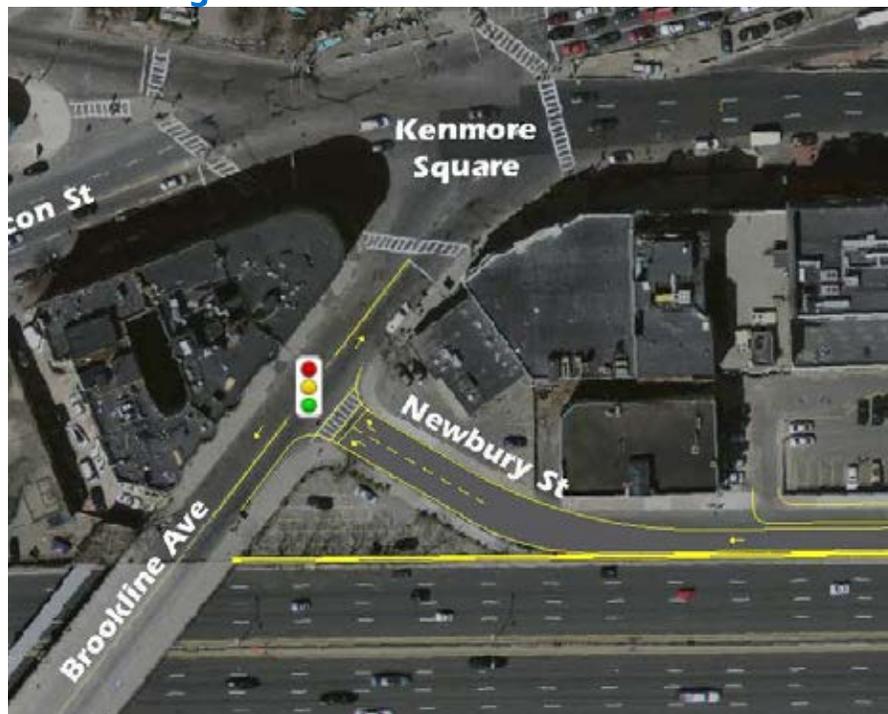


Figure 4-9 – Newbury Street at Hotel Commonwealth's Parking Lot

The off-ramp would then widen to a two-lane approach at Brookline Avenue (Figure 4-10).

A new signalized intersection would be installed, which would be approximately 150 feet south of Kenmore Square.

#### **Figure 4-10 New Signalized Intersection at Brookline Avenue**



This alternative could negatively impact bicycle and pedestrian conditions in the area. The presence of the Kenmore Massachusetts Bay Transportation Authority (MBTA) station and the retail and commercial activity in Kenmore Square to the north of the proposed off-ramp intersection, as well as Fenway Park and the retail and desirable destinations along Brookline Avenue and Lansdowne Street to the south, create

significant pedestrian travel along Brookline Avenue. Therefore, ensuring pedestrian and bicycle safety at the site of a new signalized intersection is important.

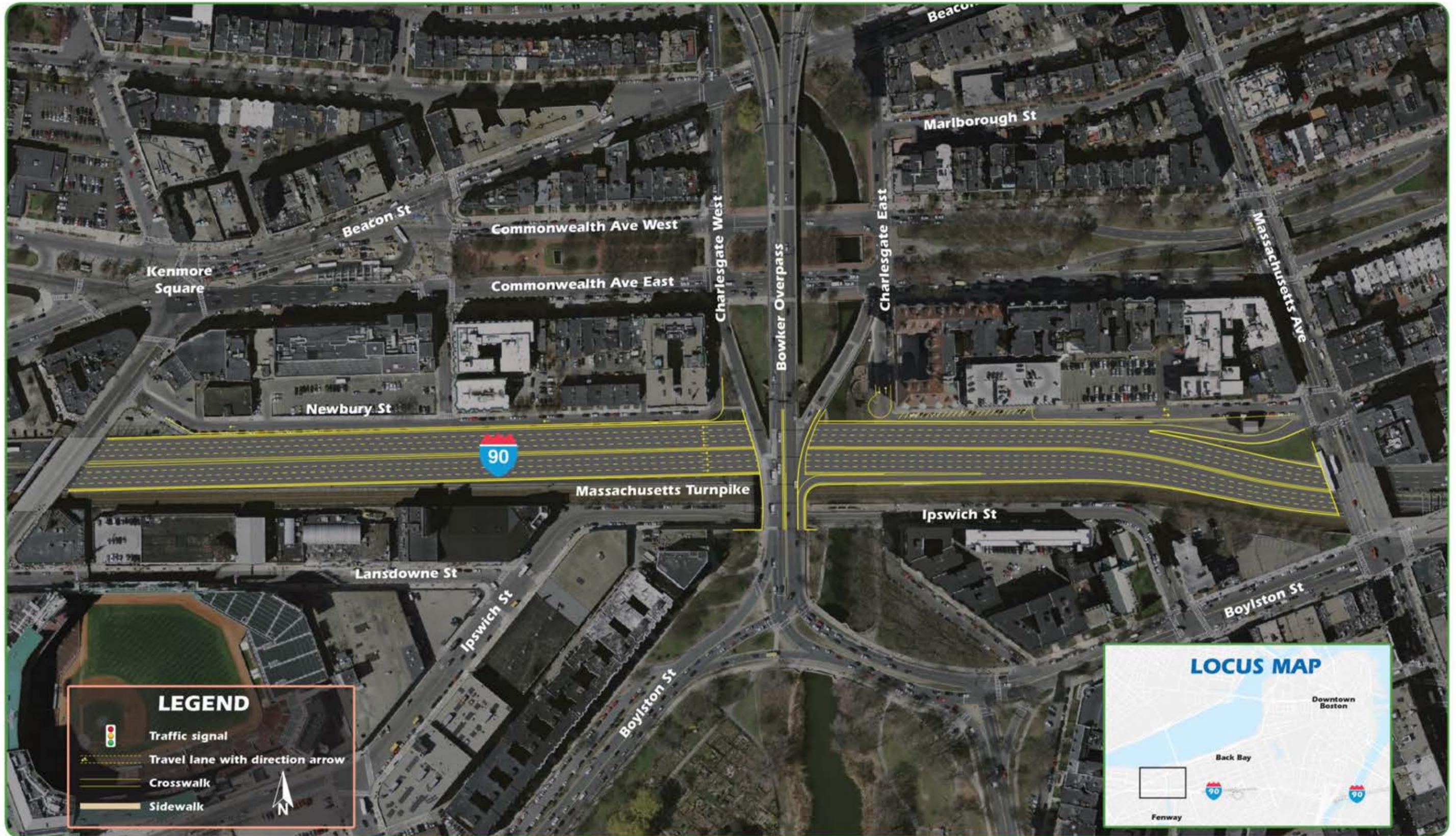
There are a number of issues and impacts associated with the proposed Alternative 3 off-ramp. The list below provides a summary of the benefits, issues, and impacts of this alternative (this information is discussed in further detail in Chapter 9: Screening Evaluation):

- Provides direct access to the Longwood Medical Area (LMA) and Fenway areas from the Massachusetts Turnpike westbound and the Seaport District.
- Potentially could require the closure of the existing Massachusetts Turnpike eastbound on-ramp at Massachusetts Avenue because of short weaving distance.
- Newbury Street would require reconstruction and reduction of available on-street parking.
- Newbury Street would no longer be a through connection to Brookline Avenue.
- Currently, the Hotel Commonwealth is expanding into the parking area shown in Figure 4-9. The proposed ramp would impact access to the hotel and its operations because deliveries are received on Newbury Street.
- A new off-ramp would impact access to the properties at 657 and 667 Boylston Street (buildings located north of Newbury Street, which are adjacent to the proposed ramp).
- A new Brookline Avenue signalized intersection located approximately 150 feet south of the Kenmore Square intersection would impact Kenmore Square traffic operations.
- Impact on bicycle and pedestrian safety along Brookline Avenue.

#### **4.3.4 Back Bay Alternative 4: New Eastbound On-Ramp from the Bowker Overpass**

Back Bay Alternative 4 includes construction of a new Massachusetts Turnpike eastbound on-ramp from the Bowker Overpass. Figure 4-11 provides a conceptual design of the proposed alternative. This alternative would provide direct access from the Fenway area and indirect access from parts of Back Bay to I-90 eastbound, I-93, Logan Airport, and the Seaport District. Currently, there are no eastbound Massachusetts Turnpike on-ramps east of the Allston/Brighton interchange.

Back Bay Alternative 4 would not provide a solution to the lack of a connection from I-93, I-90, Logan Airport, and the Seaport District to the Back Bay and Fenway area. Indirect access would still need to be provided by the U-turn at the Allston/Brighton interchange.

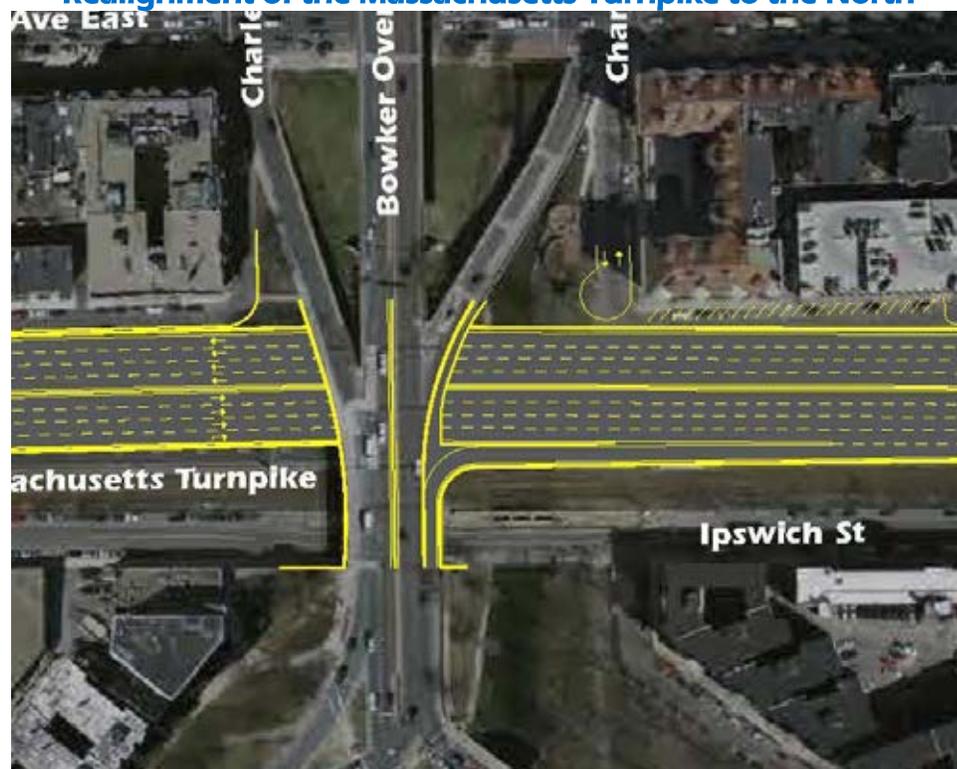


**FIGURE 4-11**  
**Back Bay Alternative 4**  
**New Eastbound On-Ramp from the Bowker Overpass**

Back Bay Alternative 4 would require major reconstruction of the Massachusetts Turnpike. The Turnpike alignment would need to be shifted northward in order to accommodate the new on-ramp (Figure 4-12). The shift would occur in the region of Brookline Avenue to Massachusetts Avenue. Widening to the south would impact the railroad tracks located adjacent to the Massachusetts Turnpike eastbound lanes. This shift of the Massachusetts Turnpike to the north would impact Newbury Street and its adjacent properties east and west of the Bowker Overpass.

The Bowker Overpass would be reconstructed and widened (Figure 4-12) to accommodate the proposed eastbound on-ramp and to provide improved bicycle and pedestrian accommodations over the Massachusetts Turnpike. The potential for bicycle or pedestrian conflict with vehicles turning right from the Bowker Overpass onto the Massachusetts Turnpike would be intensified in this alignment. A signalized crossing to allow safe pedestrian travel across the on-ramp would alleviate safety concerns but could significantly impact traffic flow during peak travel periods.

**Figure 4-12**  
**Realignment of the Massachusetts Turnpike to the North**



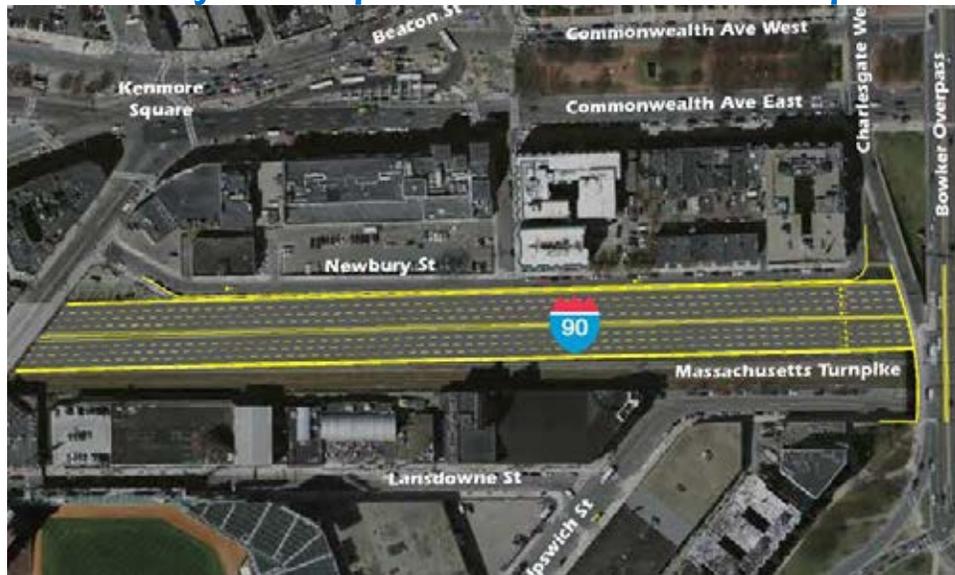
As previously stated, the shift in alignment of the Massachusetts Turnpike would severely impact properties along Newbury Street, both east (Figure 4-13) and west (Figure 4-14) of the Bowker Overpass. Access to the properties would be severely impacted, and the closer alignment of the Massachusetts Turnpike to the buildings

themselves would also have an impact because of a probable increase in noise and vibration.

**Figure 4-13**  
**Newbury Street Impacts: East of the Bowker Overpass**



**Figure 4-14**  
**Newbury Street Impacts: West of the Bowker Overpass**



There are a number of issues and impacts associated with the proposed Back Bay Alternative 4 on-ramp. The list below provides a summary of the benefits, issues, and impacts of this alternative (this information is discussed in further detail in Chapter 9: Screening Evaluation):

- Provides a new Massachusetts Turnpike eastbound on-ramp for the LMA and Fenway area.
- Major reconstruction and shift of the Massachusetts Turnpike to the north.
- Severe impacts to Newbury Street and the adjacent properties.
- Newbury Street, east of the Bowker Overpass, would no longer connect to Charlesgate East.
- Currently, the Hotel Commonwealth is expanding into the parking area shown in Figure 4-14; the proposed ramp would impact access to the hotel and the adjacent property.

#### **4.4 AREA-WIDE IMPROVEMENTS FOR BICYCLES AND PEDESTRIANS**

This portion of the Massachusetts Turnpike acts as a natural border between the Back Bay, South End, and Chinatown neighborhoods. Regardless of which alternative is implemented, the entire region needs to be reviewed for improvements as MassDOT continues to improve the mode-shift goals and strives to improve bicycle and pedestrian accommodations. However, it should be noted that the biggest problem this area has to overcome is that land use has changed drastically over time.

To help create a space that is more bicycle and pedestrian friendly, this area in particular, needs to focus on the current lack of signage (primarily lane markings). The roads are wide enough, but striping in bicycle lanes or sharrows would allow a separation between the motorists and the cyclists, thereby providing a safer and more welcoming bicycling environment. Safety would be improved if motorists were made aware of exactly where they should be driving while allowing proper space for other modes of transportation. The entire area needs proper lane markings on the roads and pedestrian crosswalks. In addition to pedestrian crosswalks there should be plenty of median crossing islands, warning signs, and pedestrian signals.

In addition to specific signage for bicycle and pedestrian accommodations, in order to make a region bicycle and pedestrian friendly, there needs to be separation between the cars and the other modes of transit. Besides bicycle lanes, landscaping with trees and shrubs could help create distinct bicycle and pedestrian zones. Curb separation between the sidewalk and the road would also be helpful.