



Executive Summary

The purpose of the New Bedford-Fairhaven Bridge Corridor Study was to evaluate multi-modal transportation and associated land use issues, develop potential solutions, and to recommend improvements along the Route 6 corridor between County Street in the City of New Bedford and Adams Street in the Town of Fairhaven (Figure ES.1). Specific focus was given to options and impacts associated with replacement of the swing span of the middle bridge portion of the New Bedford-Fairhaven Bridge (Figure ES.2). The study was conducted utilizing an open and inclusive public-participatory approach that takes into account needs of the Massachusetts Department of Transportation (MassDOT), members of the Study Advisory Group (SAG), and other stakeholders.

Based on the review of existing conditions and the outcome of the alternatives development and screening process, a set of short-, medium-, and long-term recommendations were developed. These recommendations are actions, plans, or projects designed to address the study goals and objectives. Two long-term bridge alternatives are recommended for further analysis and advancement into the MassDOT project development process. These alternatives both include the replacement of the existing swing span and offer the benefit of greater horizontal and navigational clearances. The short- and medium-term recommendations are proposed to improve corridor intersections, bicycle and pedestrian conditions, and the bridge corridor Intelligent Transportation Systems (ITS)/signage system.

Figure ES.1 Route 6 Study Corridor



EXISTING CONDITIONS

The existing New Bedford-Fairhaven Bridge was completed in 1903 and is currently classified as functionally obsolete. The bridge is actually a system of three bridges that connect the mainland across two mid-harbor islands (Fish Island and Pope's Island). The middle bridge includes a moveable swing-span that allows boats to pass through into the northern harbor area while the east and west spans are fixed. The swing span is supported by a central pier and the end abutments. Since its completion over 100 years ago, the bridge has undergone numerous closures and repairs. The length of construction required and frequency of major repairs has accelerated over the past few decades. The current bridge restoration project will address the structural



steel repairs to the bridge's floor beams, but an assessment of the bridge's superstructure (i.e., truss structure above the roadway surface) has shown the need for replacement of significant bridge components within the next two decades.

Figure ES.2 New Bedford-Fairhaven Bridge – Middle Bridge Swing Span



As part of the study, a detailed analysis of conditions, issues, and opportunities was completed to evaluate the existing bridge and the Route 6 Corridor. As detailed in Chapter 2, the study identified the following issues, constraints, or opportunities along the Route 6 Corridor:

- **Frequent and lengthy bridge openings causes delays.** Marine traffic has priority over vehicular traffic, so the bridge stays open to accommodate all waiting marine vessels. This results in a varying, but often extensive delay period for vehicles, pedestrians, and bicyclists trying to cross the bridge. Intelligent Transportation Systems (ITS) or electronic message signs are currently utilized in both New Bedford and Fairhaven to inform drivers when the bridge is closed to vehicular traffic. Traffic count data reveals that a decrease in traffic on the bridge approaches occurred when the signs were illuminated indicating that the bridge is closed. However, lengthy traffic queues continue to occur on both sides of the bridge. Improved ITS technology and more strategic placement could decrease traffic queues at the bridge and allow motorists to make detours to minimize delays.
- **Width of bridge opening/horizontal clearance limits vessel size and navigation.** The existing moveable bridge is also a constraint for larger ships accessing the northern waterfront land within the Designated Port Area of New Bedford Harbor. Vessels are limited by the bridge's 95-foot swing span navigational width on either side of the central support pier. To navigate through the bridge, larger vessels require additional pilotage and tug fees to deal with the navigational constraints caused by the bridge, shipping channel, and turning basin. Some larger vessels are unable to navigate the bridge due to these constraints. Development potential in the North Harbor (i.e., the portion of New Bedford Harbor north of the Route 6), is limited by the size of vessels that can access this area of the port. Several properties are available



- for redevelopment and there is potential to expand existing maritime uses within the Designated Port Area.
- **Existing vertical underclearance prevents vessels from transiting bridge when it is open for vehicles, pedestrians, and bicyclists.** Emergency vessels cannot transit the existing bridge in the closed position and must wait for the bridge to open. The majority of the existing emergency vessels require 14 feet of vertical clearance. The current bridge has a vertical underclearance of only six feet. Due to the limited vertical underclearance, the majority of vessels, including recreational vessels, require the bridge to open to pass through the channel.
 - **Lack of connectivity and consistent facilities creates challenges for pedestrians and bicyclists along the corridor.** The New Bedford-Fairhaven Bridge is the only pedestrian or bicycle access point between downtown Fairhaven and New Bedford. The bridge has a sidewalk on either side of the travel lanes, but there is only one crosswalk between the New Bedford and Fairhaven shores.

LONG-TERM ALTERNATIVES

As described in Chapters 3 and 4 of this report, the study team developed a set of long-term alternatives based on an initial analysis and screening process. This process included a review of conclusions from a number of previous studies, physical limitations of the bridge approaches and clearance issues, and an assessment of the 2014 Existing Condition and the 2035 No Build Condition. The alternatives were then refined during the alternative development process using a Study Advisory Group and public input.

Alternatives Considered

Eight long-term alternatives were developed. A summary of the navigational clearance, vertical clearance, construction duration, and capital costs for each long-term alternative is described below:

- **No Build Alternative: Repair Existing Swing Bridge.** Removal and replacement of the existing swing span trussstructure. The newly constructed structure would be in same configuration as the existing swing span. The 95-foot-wide navigational clearance is maintained. The estimated capital cost is \$45 million and the construction phase would take 18 months. A two-week-long roadway closure would be required.
- **Alternative I: Vertical Lift Bridge (110-135 feet vertical clearance).** Construction of a new vertical lift bridge with 270 feet of horizontal clearance in place of the existing swing span. The estimated capital cost is \$90 to \$120 million and the construction phase would last 33 to 36 months. A two-week-long roadway closure would be required.
- **Alternative IT: Tall Vertical Lift Bridge (150 feet vertical clearance).** Construction of a new vertical lift bridge with 270 feet of horizontal clearance in place of the existing swing span. The estimated capital cost is \$100 to \$130 million and the construction phase would last 33 to 36 months. A two-week-long roadway closure would be required.



- **Alternative 2: Double-leaf Bascule Bridge (Standard).** Construction of a new double-leaf bascule bridge (standard type) with 150 feet of horizontal clearance in place of the existing swing span. The estimated capital cost is \$85 to \$100 million and the construction duration is 37 months. A two-year-long roadway closure would be required.
- **Alternative 2W: Wide Double-leaf Bascule Bridge (Standard).** Construction of a new double-leaf bascule bridge (standard type) with 220 feet of horizontal clearance in place of the existing swing span. The estimated capital cost is \$130 to \$160 million and the construction duration is 37 months. A two-year-long roadway closure would be required.
- **Alternative 3: Single-leaf Rolling Bascule Bridge.** Construction of a new single-leaf rolling bascule bridge with 150 feet of horizontal clearance in place of the existing swing span. The estimated capital cost is \$50 to \$170 million and the construction duration is approximately 26 to 28 months. A three-month-long roadway closure would be required.
- **Alternative 3W: Double-leaf Rolling Bascule Bridge.** Construction of a new double-leaf rolling bascule bridge with 220 feet of horizontal clearance in place of the existing swing span. The estimated capital cost is \$90 to \$110 million and the construction duration is approximately 26 to 28 months. A three-month-long roadway closure would be required.
- **Alternative 3D: Double-leaf Dutch-Style Bascule Bridge.** Construction of a new double-leaf Dutch-style bascule bridge with 200 feet of horizontal clearance in place of the existing swing span. The estimated capital cost is \$100 to \$125 million and the construction duration is approximately 26 to 28 months. A three-month-long roadway closure would be required.

All of the long-term alternatives, except the No Build Alternative, would all allow for a wider bridge with a 64-foot-wide right-of-way (ROW). As part of this additional bridge width, four 11-foot-wide vehicular travel lanes, two five-foot-wide bike lanes, and two five-foot-wide sidewalks would be constructed. The addition of bike lanes across the New Bedford-Fairhaven Bridge would provide a key link in the proposed 50-mile continuous South Coast Bikeway between Cape Cod and Rhode Island.

Alternative Evaluation Summary

As discussed in Chapters 1 and 4, a set of evaluation criteria was established at the study onset to help analyze the long-term alternatives:

- Bridge Operations (i.e., vertical clearance, number of openings);
- Transportation Impacts (i.e., vehicle delay, connectivity);
- Safety (i.e., emergency vehicle access, navigational safety);
- Economic Development (i.e., shipper cost savings);
- Environment (i.e., coastal or wetland resource impacts);
- Community (i.e., open space or cultural resource impacts); and
- Alternative Feasibility (i.e., costs, construction duration).



Each long-term alternative was evaluated using these criteria. In addition to the quantitative or qualitative information provided, a rating system used to identify the significance of the impact or benefit. The following is the legend for the rating system utilized:

- = Minor Negative Impact or Most Positive Benefit
- ◐ = Moderate Impact or Minor/Moderate Positive Benefit
- = Significant Negative Impact or Least Positive Benefit

The complete evaluation summary tables are presented in Chapter 4 for all eight long-term alternatives. Tables ES.1 and ES.2 provide a brief comparison matrix that identifies the “differentiators” that were used to identify the primary benefit or constraint of each long-term alternative. The red cells in the following tables identify the primary or most noteworthy difference among the alternatives. The yellow cells highlight the secondary difference among the alternatives.

The primary differentiators between the long-term alternatives are the issues regarding height or vertical clearance limitations, construction duration and lengthy roadway closures, long-term reliability concerns, and navigational width constraints.

- **Height/Vertical Clearance Limitations.** Unlike all the other alternatives, Alternative 1 and 1T are vertical lift bridges that have vertical underclearance constraints when the bridge is open to vessels.
- **Horizontal Clearance Limitations.** All of the build alternatives increase the horizontal clearance of the bridge opening. The No Build Alternative does not increase the horizontal navigational width from 95 feet. A wider navigational clearance is desired to reduce vessel delays and lower shipping costs. Two of the alternatives, Alternative 2 and 3, increase the width to 150 feet. The five other alternatives offer wider navigational widths, between 200 and 270 feet.
- **Construction Duration/Roadway Closures.** The construction duration varies greatly between alternatives, including the length of roadway closures. The construction duration for the No Build Alternative is 18 months while the two double-leaf bascule bridges (Alternatives 2 and 2W) require a three-year-plus construction period. These two standard bascule bridges require extensive in-water work that will also require a two-year complete roadway closure. This compares to the other alternatives that would require two-week-long or three-month-long roadway closure.
- **Capital Costs.** Another primary differentiator is the capital costs, which range from a low of \$45 million in the No Build Alternative to \$130-160 million for Alternative 2W (Wide Double-leaf Bascule Bridge).
- **Long-term Reliability Risk.** The other primary difference between alternatives is the long-term reliability risk. Some moveable bridge types are at a greater risk of inoperability than other types due to the nature of their design and the climate that they operate within. Due to the span width and length required, Alternatives 3 and 3W (rolling bascule bridges) were determined to have higher risks for long-term reliability. The long-term reliability of Alternative 3D, the Double-leaf Dutch-style



Bascule Bridge, is unknown at this time due to the limited number of comparable bridges with similar span widths and lengths.

Table ES.1. Alternative Comparison Matrix (Alternatives 1, 1T, 2, and 2W)

Evaluation Criteria	Alternative 1: Vertical Lift Bridge (Rating)	Alternative 1T: Vertical Lift Bridge (Rating)	Alternative 2: Double-Leaf Bascule Bridge (Rating)	Alternative 2W: Double-Leaf Bascule Bridge (Rating)
Feet of vertical clearance (vessel height)	110-135 feet ○	150 feet ○	Unlimited ●	Unlimited ●
Feet of horizontal clearance (vessel width)	270 feet ●	270 feet ●	150 feet ●	220 feet ●
Impact to safe navigation	Greatly Improved ●	Greatly Improved ●	Moderately Improved ●	Greatly Improved ●
Visual impacts	Some Impact ○	Some Impact ○	No Impact ●	No Impact ●
Long-term reliability risk	Medium Risk ●	Medium Risk ●	Medium Risk ●	Medium Risk ●
Capital costs	\$90-\$120 Million ○	\$100-\$130 Million ○	\$85-\$100 Million ●	\$130-\$160 Million ○
Annual operating and maintenance costs	\$490,000 ●	\$490,000 ●	\$490,000 ●	\$490,000 ●
Construction duration	33 months ○	33 months ○	37 months ○	37 months ○
Construction phase impacts to vehicular traffic	2 week road closure ●	2 week road closure ●	24 month road closure ○	24 month road closure ○
Construction phase indirect impacts to abutting businesses	Significant access impacts ○	Significant access impacts ○	Significant access impacts ○	Significant access impacts ○

Table ES.2. Alternative Comparison Matrix (Alternatives 3, 3W, 3D, and No Build)

Evaluation Criteria	No-Build: Repair Existing Swing Bridge	Alternative 3: Single-Leaf Rolling Bascule Bridge (Rating)	Alternative 3W: Double-Leaf Rolling Bascule Bridge (Rating)	Alternative 3D: Double-Leaf Dutch-Style Bascule Bridge (Rating)
Feet of vertical clearance (vessel height)	Unlimited ●	Unlimited ●	Unlimited ●	Unlimited ●
Feet of horizontal clearance (vessel width)	95 feet ○	150 feet ●	220 feet ●	200 feet ●
Impact to safe navigation	N/A	Moderately Improved ●	Greatly Improved ●	Greatly Improved ●
Visual impacts	N/A	Limited Impact ●	Limited Impact ●	Limited Impact ●
Long-term reliability risk	Medium Risk ●	High Risk ○	High Risk ○	TBD
Capital costs	\$45 Million ●	\$50-\$70 Million ●	\$90-\$110 Million ●	\$100-\$125 Million ●
Annual operating and maintenance costs	\$400,000 ●	\$400,000 ●	\$490,000 ●	\$490,000 ●



Evaluation Criteria	No-Build: Repair Existing Swing Bridge	Alternative 3: Single-Leaf Rolling Bascule Bridge (Rating)	Alternative 3W: Double-Leaf Rolling Bascule Bridge (Rating)	Alternative 3D: Double-Leaf Dutch-Style Bascule Bridge (Rating)
Construction duration	18 months ●	26 months ●	26 months ●	26 months ●
Construction phase impacts to vehicular traffic	2 week road closure ●	3 month road closure ●	3 month road closure ●	3 month road closure ●
Construction phase indirect impacts to abutting businesses	Minor-Moderate access Impacts ●	Moderate access impacts ●	Moderate access impacts ●	Moderate access impacts ●

STUDY RECOMMENDATIONS

As outlined in Chapter 5, a set of recommended short-, medium-, and long-term actions were developed to address needs of the New Bedford-Fairhaven Bridge Corridor.

Long-Term Alternatives Recommended for Advancement

During the alternatives evaluation process, it was determined that of the eight long-term alternatives considered, two build alternatives have the potential to provide the most effective long-term option. These two options were recommended for advancement because they would result in fewer impacts as compared to the other alternatives, while offering the benefits of greater horizontal and navigational clearances. However, additional information, design, and analysis are needed before determining a preferred alternative. As shown in Figure ES.3, the two alternatives recommended for advancement into the project development phase are:

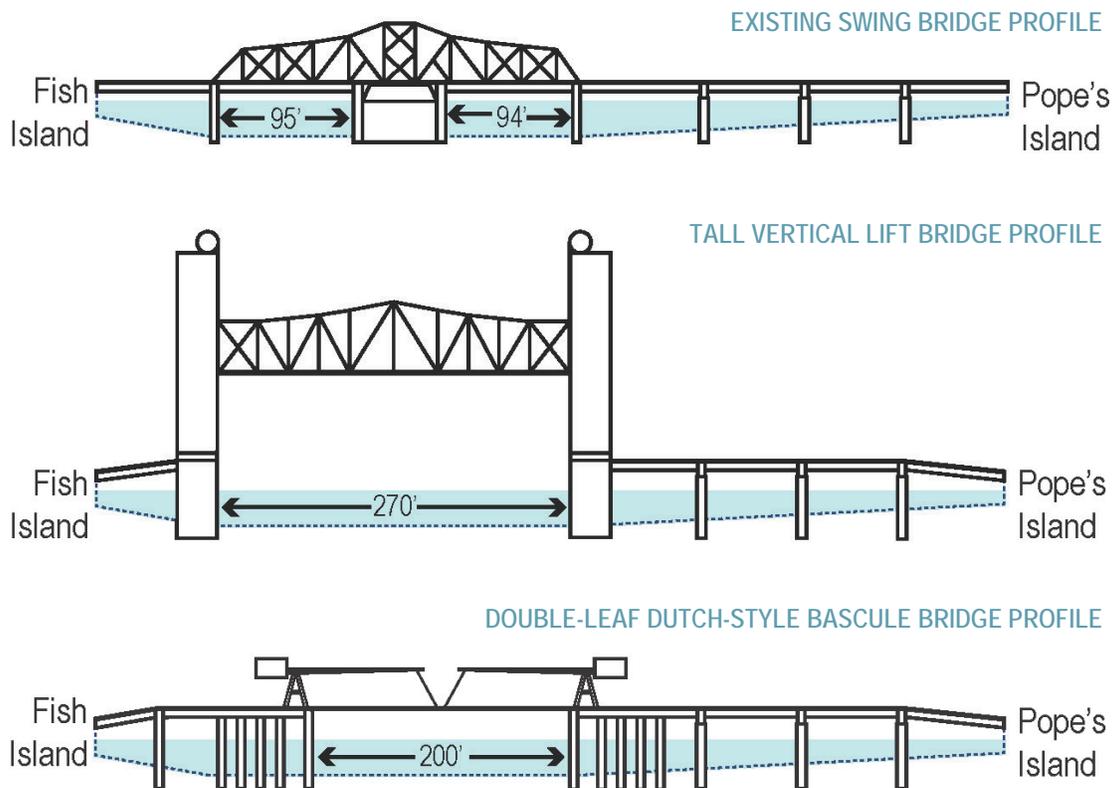
- **Alternative 1T: Tall Vertical Lift Bridge, and**
- **Alternative 3D: Double-leaf Dutch Bascule Bridge.**

Described in more detail in the implementation section later in this Executive Summary, two additional studies would need to be undertaken as part of the project development phase, which is done concurrently with the National Environmental Policy Act (NEPA) permitting process. These additional studies are required to more fully understand site-specific details and navigational issues before a specific bridge type could be identified as the preferred alternative:

- **Bridge Type Study.** After collecting site-specific details (site survey, geotechnical data, force, and load criteria), MassDOT would undertake a study during the Preliminary Design phase to assess the design feasibility of the two recommended bridge types (see Figure ES.1) and respective costs.
- **U.S. Coast Guard Navigational Evaluation.** As part of the NEPA permitting process, this evaluation would be conducted to determine the ability of the recommended bridge alternatives to meet current and future navigational needs concerning horizontal and vertical clearances.



Figure ES.3. Recommended Long-Term Alternatives Bridge Profiles



Short/Medium-Term Recommendations

In addition to the recommended long-term alternatives for the replacement of the New Bedford-Fairhaven Bridge, a number of short-term (less than five years) and medium-term (less than ten years) improvements have been considered and analyzed as part of the study. The recommended improvements outlined in Chapter 5 include intersection improvements, bicycle-pedestrian improvements and ITS/signage improvements. More detailed analysis is provided in Chapter 4 or Chapter 5, including the potential impacts, benefits, and costs of each improvement.

CORRIDOR INTERSECTION IMPROVEMENTS

A number of short-term improvements including changes to signal cycle length, timing splits or phasing, and coordination offset modifications are recommended at the following intersections once ongoing roadway construction projects are completed in late 2015:

- Mill Street and Cottage Street;
- Kempton Street and Cottage Street;
- Mill Street and County Street;
- Kempton Street and County Street;
- Kempton Street/Mill Street and Purchase Street (“Octopus Intersection”);
- Huttleston Avenue and Middle Street;



- Huttleston Avenue and Main Street; and
- Huttleston Avenue and Adams Street.

Depending upon the procedures used to make the changes, costs would be less than \$20,000 for all intersections.

BICYCLE AND PEDESTRIAN IMPROVEMENTS

As discussed, the expanded ROW included in either of two recommended long-term alternatives would allow for the addition of bike lanes across the New Bedford-Fairhaven Bridge. This segment of Route 6 is included as part of the proposed 50-mile continuous South Coast Bikeway between Swansea and Wareham, Massachusetts. Completion of bike lanes on the New Bedford-Fairhaven Bridge would provide a key link in this regional bike facility. Additionally, three bicycle and pedestrian improvements are recommended for short-term implementation as soon as the ongoing roadway construction projects are completed in late 2015.

- **Bicycle and pedestrian path along Route 6 from Pleasant Street to Route 18.** A pedestrian path that provides a more direct path for pedestrians between the Kempton Street/Mill Street and Purchase Street and the Route 18/Elm Street intersection is recommended for the corridor. The recommended 10- to 12-foot-wide path would be located on the south side of the Route 6 within the existing ROW. A four- to six-foot-high fence would be installed to provide separation between the new path and the eastbound Route 6 travel lanes. The estimated cost for this 0.25-mile long multi-use path is \$350,000. To ensure that safety is maintained along the corridor, design of the path would require appropriate roadway separation, fencing, and lighting.
- **New pedestrian ramp and staircase between Route 6 and MacArthur Drive.** A new ramp for pedestrians and bicyclists is recommended to replace an existing staircase that connects the end of the sidewalk on the north side of the Route 6 and MacArthur Drive. The new ADA-compliant ramp would provide a safe and direct connection for bicyclists and pedestrians on the north side of the roadway. The estimated cost for the ramp structure is \$450,000.
- **Completion of sidewalk network along MacArthur Drive.** Construction of an 85-foot-long sidewalk on the west side of MacArthur Drive just north of Route 6 to close a gap in the local pedestrian network. It is anticipated that MacArthur Drive would become the primary pedestrian route from downtown New Bedford and Route 6 to the proposed Whale's Tooth Commuter Rail Station located north of the corridor. The estimated construction cost of the sidewalk is \$15,000, not including additional funding to acquire property rights needed for construction.

VARIABLE MESSAGE/ITS SIGNAGE

The addition of one or more of the following short- and medium-term alternatives is recommended to complement the existing ITS/electronic messaging signage system.



- **Complete replacement of existing system with new changeable message signs.** To provide additional information regarding the status of the bridge, the new system would be schedule-based or provided (through a semi-automated system) from the bridge operator. The estimated cost for this short-term recommendation is approximately \$750,000 to \$1,000,000. The replacement system is in the planning stages with MassDOT.
- **Expansion of ITS/signage system.** In addition to replacement of the existing signs, this medium-term alternative includes the expansion of the system to provide additional information to travelers at locations where they could make diversion decisions. Additional signs would be provided on I-195 and at three intersections along Route 6 (Route 240, Middle Street, and Adams Street) in Fairhaven. The estimated cost for the expansion of the system is \$400,000.
- **Upgrades to the ITS/signage system.** This medium-term alternative includes upgrades to the replacement system with more advanced technology that would allow signs to provide additional information regarding travel time to the bridge and the bridge status. This system is similar to the MassDOT “GO Time” System that relies on Bluetooth-based real time traveler information to provide travel times. These types of signage are relevant for select sign locations, including along I-195 and the Route 240/Route 6 intersection. Assuming the other ITS/changeable signs noted above have already been installed, the cost to integrate bridge signs into the “GO Time” system is estimated to cost approximately \$100,000.

As part of the study public comment process, it was identified that the signage and pavement marking plans for the completion of the current construction may warrant reconsideration. Since the importance of the pedestrian environment within the corridor has been highlighted as part of this study, another evaluation of the planned locations and configurations of crosswalks appears warranted. Additionally, it was noted that “no-idling” signs along the swing bridge roadway approaches may improve local air quality. Further evaluation of the legal and safety considerations would be required before signage directing motorists to turn-off their engines within the traveled is recommended.

- **Short-term signage and pavement marking evaluations.** – Evaluate restoration and configuration of the Pope’s Island crosswalk and the potential for “no idling” signs along the swing bridge roadway approaches.

IMPLEMENTATION

As described in Chapter 5, implementation of the short-, medium-, and long-term recommendations will require coordination between a number of agencies. Given transportation funding constraints, the recommended improvements, especially major infrastructure projects, would likely need to be integrated into other local and regional transportation planning programs. The implementation of the recommended alternatives would be coordinated through the MassDOT Project Development and Design Process described in Chapter 5

To assist in the completion of the recommended short-, medium-, and long-term recommendations, an implementation summary table was prepared to outline the future actions



that various agencies or organizations would need to take. Table ES.3 outlines the recommended studies, actions, or projects. The timeframe, lead agency responsible for implementation, and coordinating agencies are also described. The recommendations are shown on Figure ES.4.

Table ES.3. Short-, Medium- & Long-Term Recommendations Implementation Summary

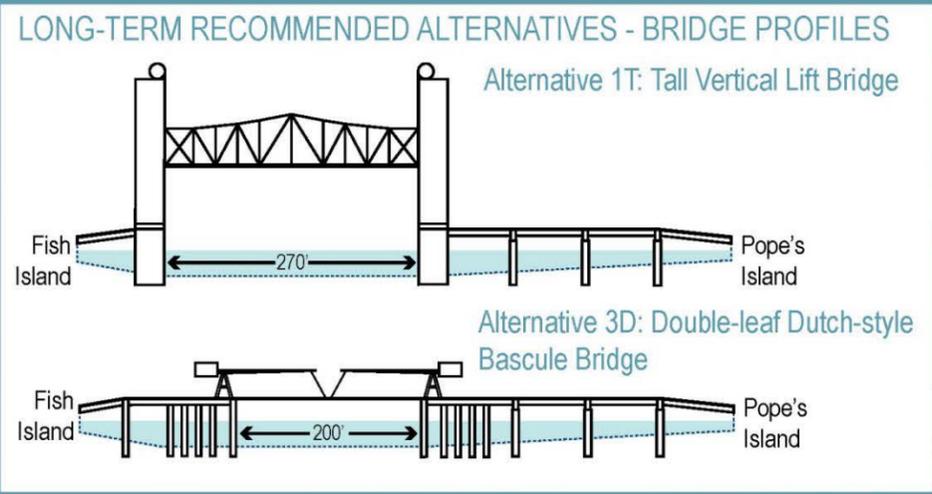
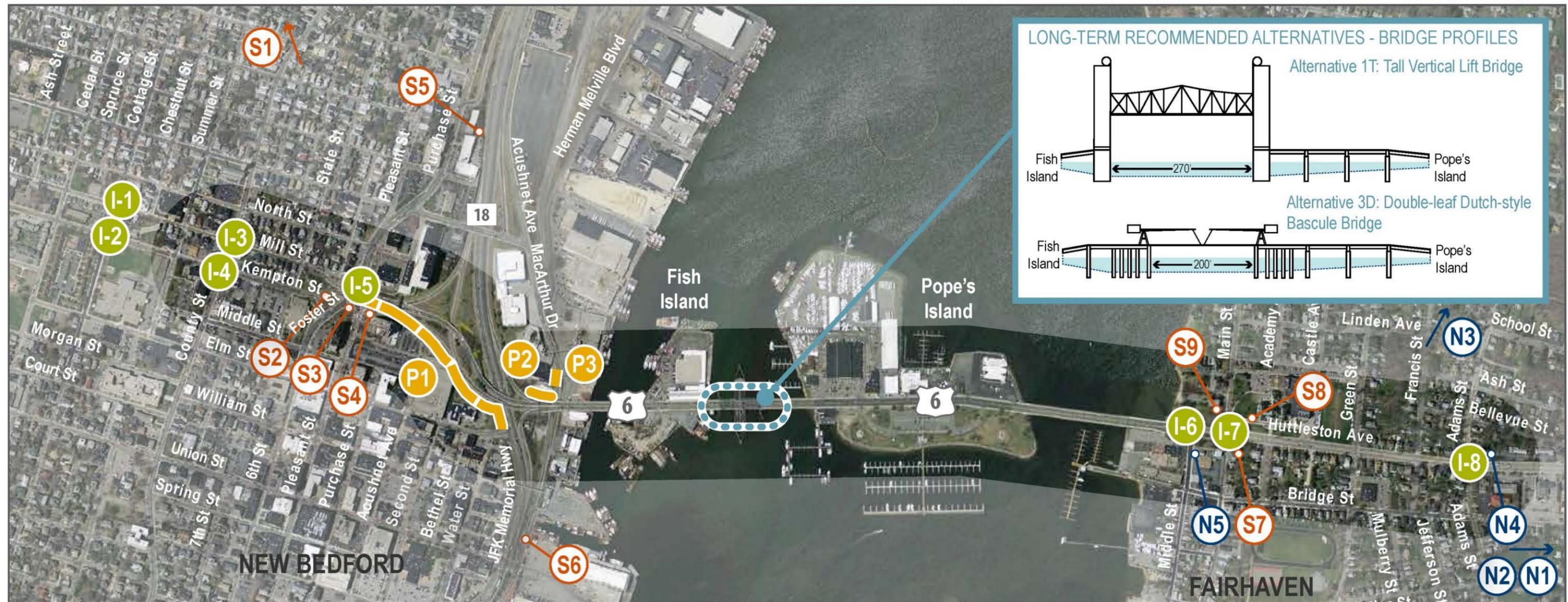
Study/ Action/ Project	Description	Timeframe	Lead Agency	Coordinating Agencies
Long-Term Recommendations				
Advance Project into Project Initiation	Completion of Project Initiation Form (PIF) and review by Project Review Committee.	Short-term	MassDOT	Southeastern Massachusetts Metropolitan Planning Organization (SMMPO), Project Review Committee
Evaluate projects for inclusion on MPO's RTP/TIP	Evaluation and prioritization of study recommendations as part of the RTP update and TIP.	Short-term	SMMPO	Municipalities, MassDOT
Advance Project into Environmental Permitting, Design and Right-of-Way Process	Following PIF review and inclusion into RTP and TIP, complete NEPA permitting and preliminary design phase.	Short- to Medium-term	MassDOT	SMMPO
Conduct Bridge Type Study	During preliminary design phase, study feasibility of vertical lift bridge or double-leaf Dutch-style bascule bridge.	Short- to Medium-term	MassDOT, design team	SMMPO, municipalities
Conduct U.S. Coast Guard Navigational Evaluation	During NEPA permitting process, detailed evaluation to determine ability of recommended bridge alternatives to meet navigational needs concerning horizontal and vertical clearances.	Short- to Medium-term	MassDOT, U.S. Coast Guard	SMMPO, municipalities
Short- & Medium-Term Recommendations				
Corridor intersection improvements	Implementation of improvements including changes to signal cycle length, timing splits or phasing, and coordination offset modifications at several corridor intersections.	Short-term	MassDOT	Municipalities
Bicycle and pedestrian path along Route 6 from Pleasant Street to Route 18	Design and construction of new 10- to 12-foot-wide multi-use path in existing ROW.	Short- to Medium-term dependent on funding availability.	MassDOT	SMMPO, municipalities
New pedestrian ramp and staircase between Route 6 and MacArthur Drive	Design and construction of new ADA-compliant pedestrian ramp and staircase in existing ROW.	Short- to Medium-term dependent on funding availability.	MassDOT	City of New Bedford



Study/ Action/ Project	Description	Timeframe	Lead Agency	Coordinating Agencies
Completion of sidewalk network along MacArthur Drive	Design and construction of 85-foot-long sidewalk. May require easement or property acquisition.	Short- to Medium-term dependent on funding availability.	City of New Bedford	-
Variable message/ITS signage	Evaluation of options, design, and construction of new and replacement variable message/ITS signage in existing and additional locations.	Short- to Medium-term	MassDOT	-
Evaluate signage and pavement markings	Evaluate signage and pavement markings to be installed after current construction project.	Short-term	MassDOT	-



Figure ES.4 Short-, Medium- & Long-term Recommendations



SHORT- & MEDIUM-TERM RECOMMENDATIONS

Replacement Variable Message/ITS Signage

- S1: I-195 EB (inoperable)*
- S2: Kempton Street EB at Pleasant Street
- S3: Pleasant Street SB at Route 6
- S4: Purchase Street NB at Route 6
- S5: Route 18 SB (after Pleasant Street exit)
- S6: JFK Highway NB at Union Street
- S7: Huttleston Avenue/Main Street (SW corner)
- S8: Huttleston Avenue/Main Street (NW corner)
- S9: Huttleston Ave/Main Street (WB signal arm)

New Variable Message/ITS Signage

- N1: Route 6 WB at Route 240*
- N2: Route 240 NB at Route 6*
- N3: I-195 WB*
- N4: Huttleson Avenue WB at Adams Street
- N5: Middle Street NB at Huttleson Avenue

Corridor Intersection Improvements

- I-1: Mill Street/Cottage Street
- I-2: Kempton Street/Cottage Street
- I-3: Mill Street/County Street

- I-4: Kempton Street/County Street
- I-5: Mill Street/Kempton Street/Pleasant Street
- I-6: Huttleston Avenue/Middle Street
- I-7: Huttleston Avenue/Main Street
- I-8: Huttleston Avenue/Adams Street

Bicycle/Pedestrian Improvements

- P1: Bike/pedestrian path along Route 6 (Pleasant Street to Route 18)
- P2: New bike/pedestrian ramp (Route 6 to MacArthur Drive)
- P3: MacArthur Drive sidewalk connection

LONG-TERM RECOMMENDATION

Advance Alternatives through Project Initiation & Environmental Permitting, Design & ROW Process

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