



Public Information Meeting #6

Cape Cod Bridges Program

April 25, 2024

Project File No. 608020



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All questions and comments are welcome and appreciated, however we do request that you refrain from any disrespectful comments.

Panelists

MassDOT

- Bryan Cordeiro, Project Manager
- Gareth Saunders, Office of Legislative Affairs Highway Liaison
- Shaun Handy, District 5
- Roy Kirwa, Producer/Facilitator
- Makaela Niles, Producer/Facilitator
- Fitz Denton, Right of Way

USACE

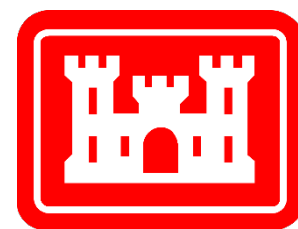
- Craig Martin, Navigation
Section New England District

FHWA

- John Simkins

HNTB

- Dave Anderson, Project Manager
- Mark Kolonoski, Deputy Project Manager and Environmental Lead
- John Smith, Lead Bridge Designer
- Joe Cahill, Lead Civil Designer
- Jill McLaughlin, Civil Designer



**US Army Corps
of Engineers®**



Agenda

01 Funding Update

02 NEPA Update

03 Assessment of Highway Interchange Options

04 Schedule

05 Bridge Update



Funding Update

Funding Overview

- In the Summer of 2023, MassDOT announced a phased approach to securing funds for the Cape Cod Bridges Program
- The Sagamore Bridge was identified as Phase 1 with the Bourne Bridge identified as Phase 2
- Funding for the Sagamore Bridge is proposed to be comprised of three different funding sources:
 - Multimodal Project Discretionary Grant (MPDG) program
 - Bridge Investment Program (BIP) Grant
 - State Bond Funds



MPDG Funds

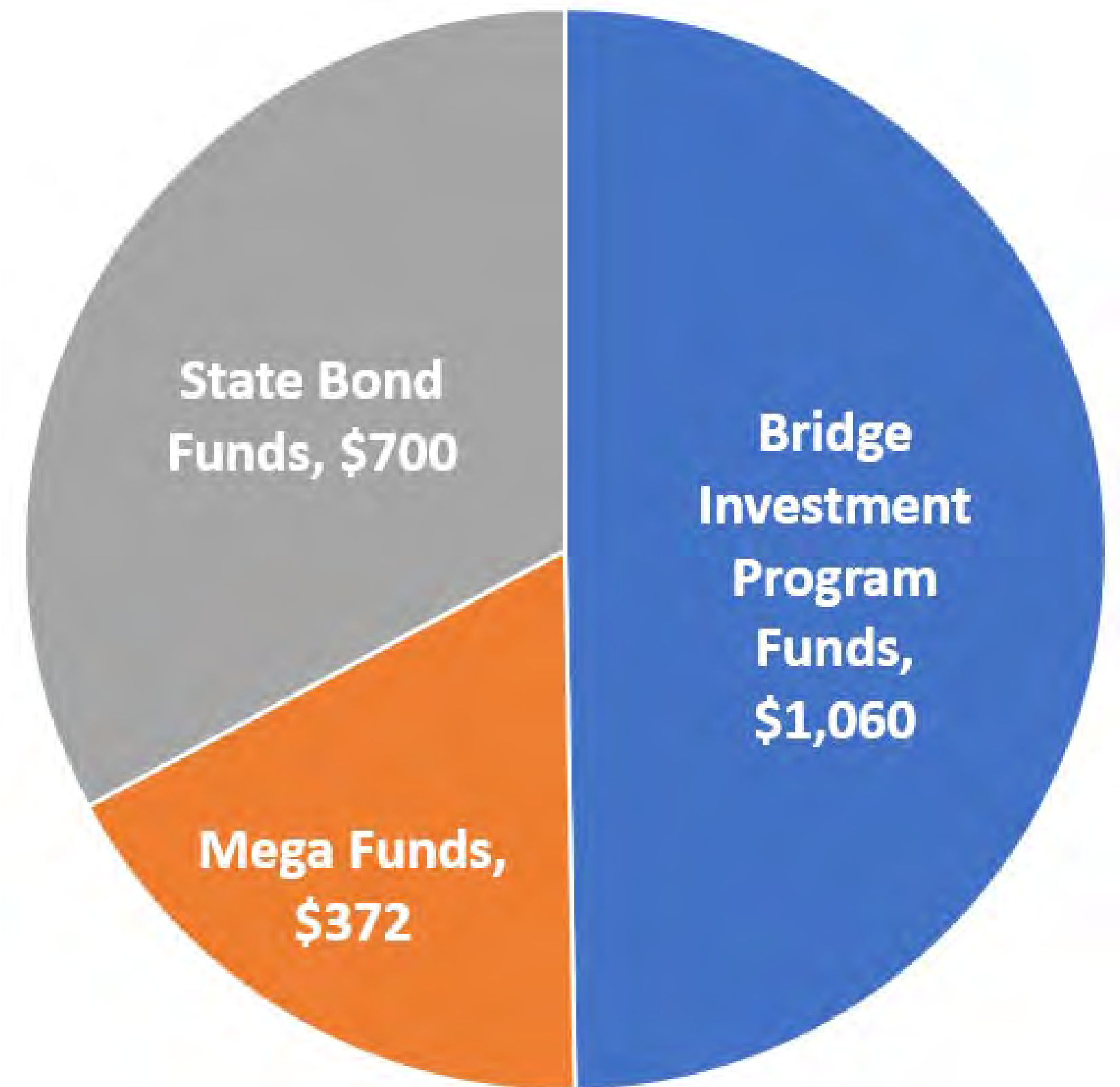
- On August 21, 2023, MassDOT (lead applicant) filed jointly with USACE for funding under the Multimodal Project Discretionary Grant (MPDG) program
- A single application was filed for both the Nationally Significant Multimodal Freight and Highway Projects (INFRA) program and the National Infrastructure Project Assistance (Mega) program
- MassDOT requested a total of \$372 Million under the MPDG program
- On January 25, 2024, MassDOT was formally notified that the Sagamore Bridge Project was selected to receive \$372 Million in Mega grant funding.



Funding Update

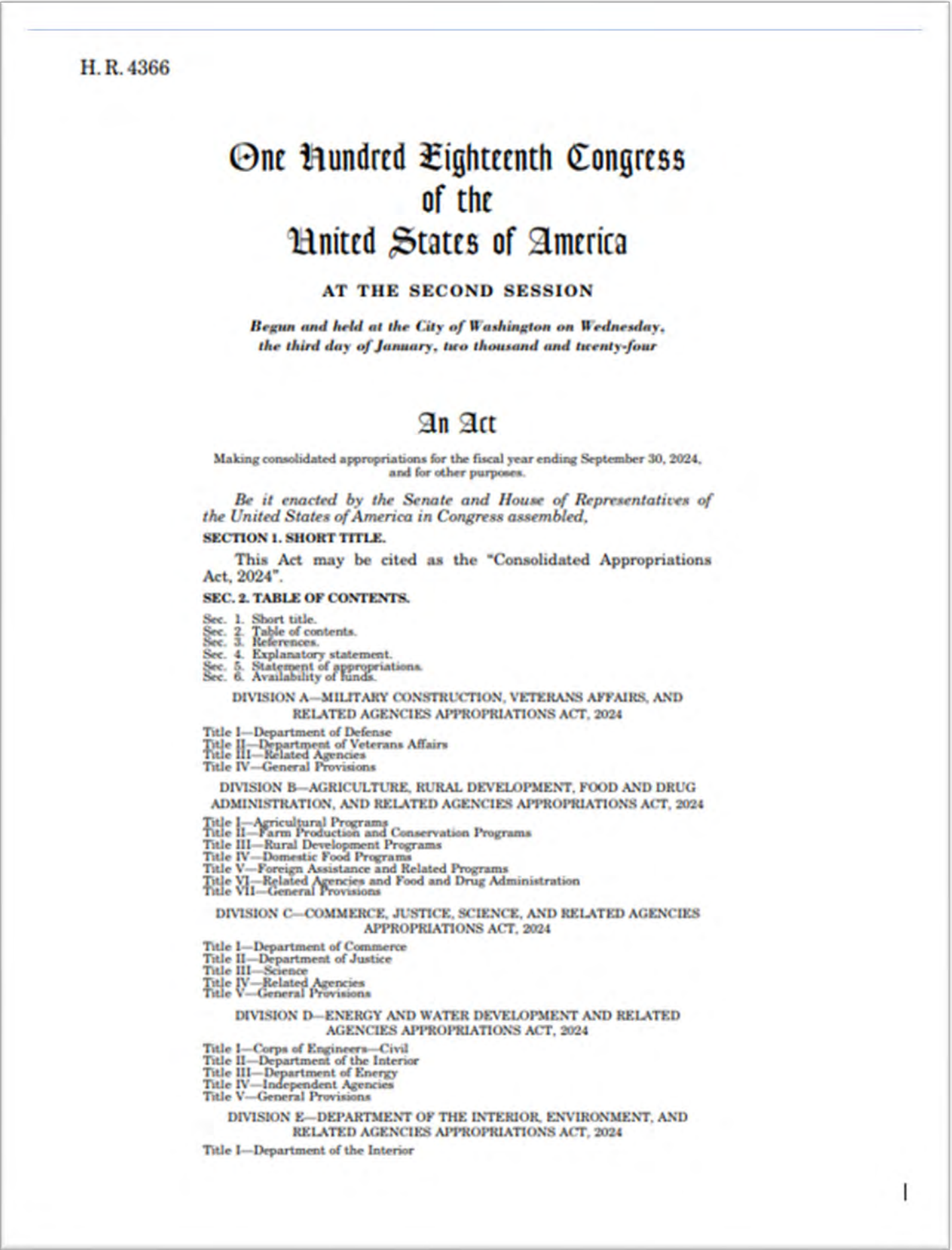
- Mega Funds – \$372 Million
- Bridge Investment Program - \$1.060 Billion (*PENDING*)
- State Bond Funds - \$700 Million
- MassDOT will continue to work with the USACE to identify funding for the Bourne Bridge replacement

Sagamore Bridge Total Cost \$2.131 Billion
(Costs below are in Millions)



Funding Update

- On March 9, 2024, the President signed the Consolidated Appropriations Act of 2024.
- This Act includes \$350 Million for the Cape Cod Canal bridges.
- MassDOT will work with USACE and the FHWA to determine the most appropriate mechanism to apply these funds to the overall Cape Cod Bridges Program.
- It is anticipated that a future President’s Budget will include an additional \$250 Million.



Funding Update



- On March 25, 2024, the USDOT released a Notice of Funding Opportunity for the FY 2025-2026 Multimodal Project Discretionary Grant (MPDG) Program
- MassDOT intends to submit an MPDG application for the Bourne Bridge Project



NEPA Update

Status of NEPA

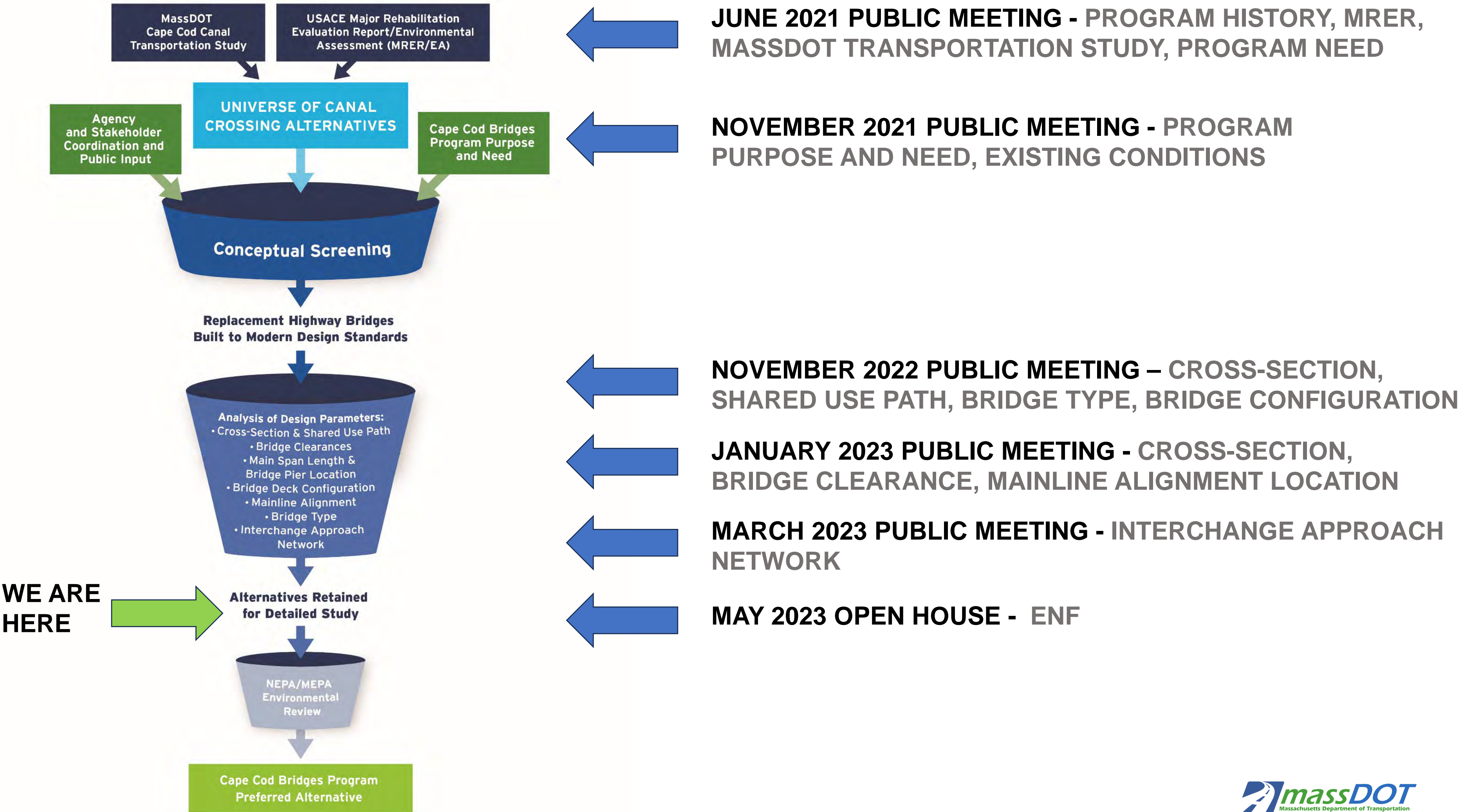
- 12/29/22, MassDOT requested FHWA to serve as Lead Federal Agency.
- 01/20/23, FHWA agreed to serve as Lead Federal Agency.
- 08/11/23, FHWA determined an Environmental Impact Statement (EIS) is required.
- 02/29/24, Notice of Intent (NOI) published in Federal Register, including NOI Supplemental Document, and Alternatives Analysis Report. Publication of NOI starts 2-year NEPA process.

MassDOT will combine NEPA & MEPA and publish the DEIS/DEIR in Spring 2025 and the FEIS/FEIR in Spring 2026, with an anticipated decision document in Spring 2026.



Notice of Intent, February 29, 2024

- Initiates DEIS Scoping Process and Agency and Public Comment Period.
- Presents Overview of Cape Cod Bridges Program:
 - Program Background and Purpose and Need Statement
 - Key resources and expected impacts
 - Summary of direct and indirect effects to be evaluated in DEIS
 - Anticipated Federal and State permits and approvals
 - Schedule
 - Agency coordination and public involvement to date
- Identifies *Build Alternative Retained for Detailed Study* in the DEIS.
- Summarizes the alternatives assessment process occurring to date.

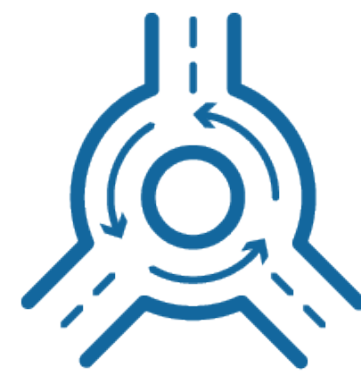


**Build Alternative
Retained for Detailed
Study in DEIS:**

***Replacement Highway
Bridges built to modern
design standards;***

***Single pairing of two
highway interchange
approach options at each
Canal crossing.***

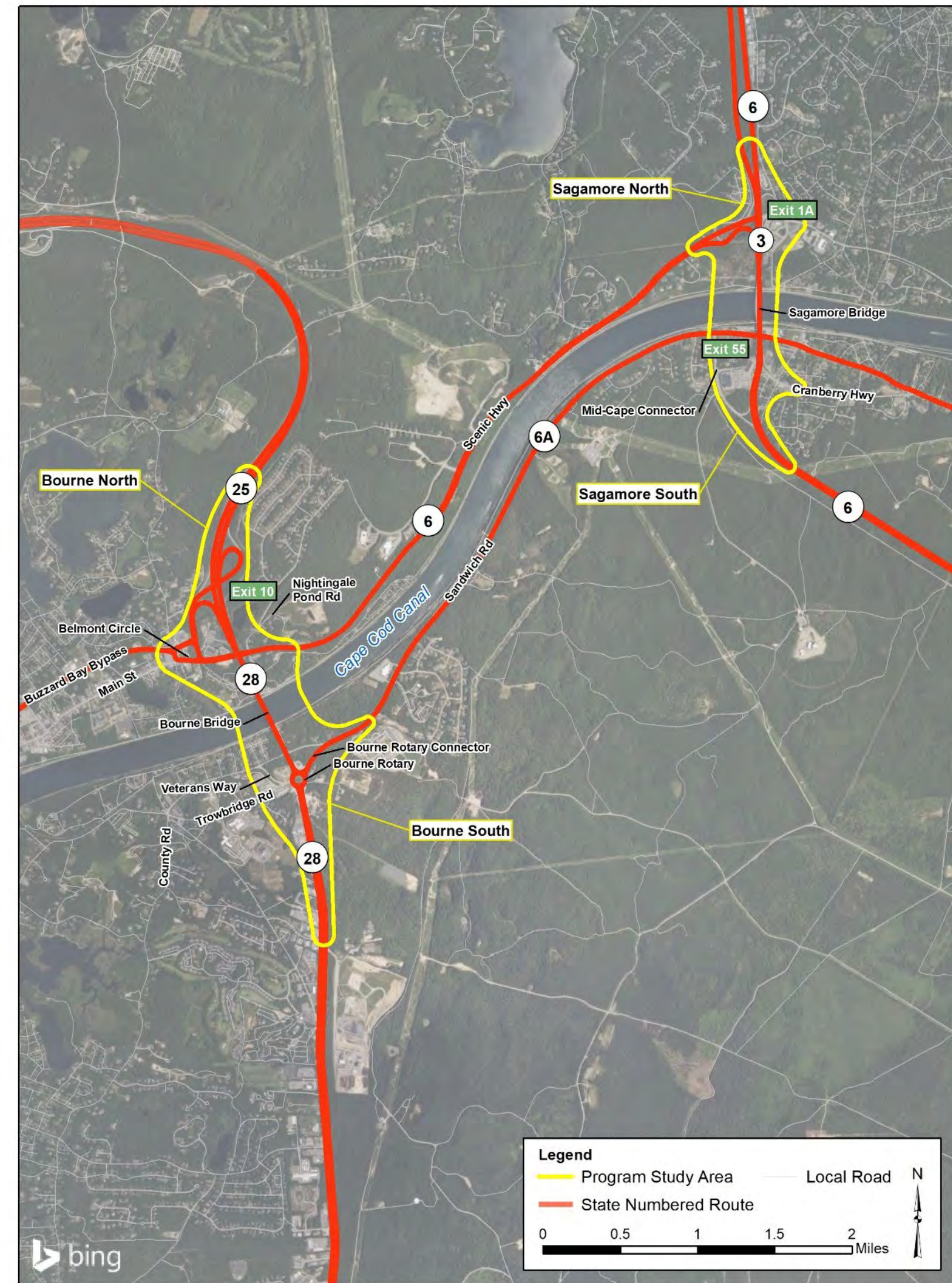
Design Element	Description
Replacement Highway Bridges	In-Kind Bridge Replacement, updated to comply with Federal and state highway and design safety standards.
Bridge Highway Cross-Section and Shared Use Path	Each replacement highway bridge would provide four 12-foot-wide through travel lanes (two in each direction), two 12-foot-wide entrance/exit (auxiliary) lanes, a 4-foot-wide left shoulder, and a 10-foot-wide right shoulder. Right and left barriers would be offset an additional 2 feet beyond the limits of the shoulders.
	Each crossing location would include one bi-directional pedestrian and bicycle shared-use path (SUP), separated from vehicular traffic by the shoulder and barrier; the width of SUP to be determined as design advances.
Bridge Clearances	Maintain the existing vertical clearance of 135 feet above mean high water (MHW) and account for future SLR.
	Provide a minimum of 500 feet of horizontal channel width to be consistent with existing conditions.
Main Span Length and Bridge Pier Location	Main span length of approximately 700 feet, which would locate the bridge piers at the waterline adjacent to the service road (shoreline piers), into the rip rap slope but above the low tide line.
Bridge Deck Configuration	Each crossing (Bourne and Sagamore) would have two separate decks (twin structures).
Bridge Type	Twin Tied Arch Bridges with Delta Frames supporting an approximate 700-foot mainline span.
Mainline Alignment	Fully Offline Inboard Mainline Alignment. Both barrels of the replacement highway bridge would be located fully outside the footprint of the existing bridge, approximately 10 feet apart and parallel to each other, and on the side of the canal between the existing Bourne Bridge and Sagamore Bridge.
Highway Interchange Approach Network	One recommended highway interchange approach option for each quadrant (Bourne North, Bourne South, Sagamore North, Sagamore South).



Assessment of Highway Interchange Options

Recap: Conceptual Screening of Interchange Highway Approach Concepts

- Using the 2017 Cape Cod Canal Area Transportation Study as the starting point, MassDOT identified 80 highway interchange approach concepts for the Bourne and Sagamore Program Study Areas.
- Conceptual screening was conducted according to feasibility and reasonability.
- Screening resulted in nine active options for the Bourne Program Study Area and 13 active options for the Sagamore Program Study Area for a more advanced Initial Assessment.



Recap: Highway Interchange Approach Options Assessment Process

- **Initial Assessment:** MassDOT’s Initial Assessment of 22 options relative to the Highway Design Evaluation Criteria resulted in 10 options for a Detailed Assessment.
- **Detailed Assessment:** MassDOT will conduct a detailed assessment of the 10 options related to the following Program Needs identified in the Purpose and Need Statement:
 - Operations;
 - Geometric/Safety;
 - Multi-Modal Accommodations; and
 - Maintenance/Structural.MassDOT’s detailed assessment may also include performance measures related to Program Goals and Objectives.
- **Options Retained for Detailed Study:** MassDOT will identify one single interchange pairing for each Canal crossing as the **Options Retained for Detailed Study** in the DEIS/DEIR.

Program Study Area	Option	Summary Description
Bourne North	BN-6.1	Like the existing interchange configuration, modified to meet the offset mainline while adding a new northbound on-ramp directly from Scenic Highway east of the mainline.
	BN-13.1	Builds upon Alternative BN-6.1 and adds a connection from Route 25 southbound off-ramp directly to Scenic Highway.
	BN-14.4b	Like Alternative BN-13.1 and provides a combination of direct connection ramps between Route 25 and Route 6.
Bourne South	BS-2	Replaces the existing Bourne Rotary with a grade separated diamond interchange.
	BS-2.2	Replaces the existing Bourne Rotary with a grade separated single point interchange configuration.
Sagamore North	SN-1A	Like the existing interchange ramp configurations with modifications to support the relocated Route 3 alignment.
	SN-8A	Like Alternative SN-1A but provides a single exit point from a relocated Route 3.
Sagamore South	SS-1	Modifies ramp alignments to accommodate the relocated Route 6 mainline while largely maintaining the existing ramp configurations. Extends Cranberry Highway under Route 6 to provide a connection to Mid-Cape Connector.
	SS-1.1	Provides the same interchange configuration as Alternative SS-1 but eliminates the Cranberry Highway Extension.
	SS-3.1A	Like Alternative SS-1 but relocates the northbound on-ramp so it shares the same entrance point as the southbound on-ramp off the Mid-Cape Connector.

Proposed Detailed Assessment of Highway Interchange Approach Options: Purpose & Need Evaluation Criteria – Operations

Program Need	Evaluation Criteria
Operations	Assess impact on regional traffic operations
	Reduce congestion on mainline, ramps, and local roads
	Reduce regional travel times
	Reduce local travel times
	Improve cross-canal mobility
	Minimize queue spillback onto the highway
	Separate local and regional traffic



Proposed Detailed Assessment of Highway Interchange Approach Options: Purpose & Need Evaluation Criteria – Geometrics/Safety

Program Need	Evaluation Criteria
Geometrics/Safety	Minimize weaving movements
	Minimize high-speed merges
	Minimize wrong-way driving risk
	Assess flexibility to achieve target speed on local corridors
	Minimize complexity of decision points
	Evaluate spacing between entrance and exit ramps
	Minimize acceleration/deceleration speed variances
	Reduce vehicular/pedestrian/bicycle conflict points
	Assess design relative to driver expectations



Proposed Detailed Assessment of Highway Interchange Approach Options: Purpose & Need Evaluation Criteria – Multi-Modal Accommodations

Program Need	Evaluation Criteria
Multi-Modal Accommodations	Improve pedestrian/bicycle access to local roads
	Improve pedestrian/bicycle access to existing trail facilities
	Enhance pedestrian/bicycle experience
	Improve pedestrian/bicycle connections at ramp terminals
	Reduce Shared Use Path grade at bridge approaches
	Increase pedestrian/bicycle accommodations in Program Study Area
	Improve pedestrian/bicycle access to transit facilities



Proposed Detailed Assessment of Highway Interchange Approach Options: Purpose & Need Evaluation Criteria – Maintenance/Structural

Program Need	Evaluation Criteria
Maintenance/Structural	Minimize risk of disruptive maintenance on existing bridges
	Implement most efficient and simplest structural system to accommodate the interchange ramps



Proposed Detailed Assessment of Highway Interchange Approach Options: Program Goals and Objectives

Goals	Objectives
Maintain and Improve the Socioeconomic Fabric of the Surrounding Community	Minimize residential property impacts, including acquisitions and displacement
	Minimize commercial property impacts, including acquisitions and displacement
	Improve access to commercial properties
	Improve neighborhood accessibility to community facilities & services
	Improve neighborhood cohesion
	Avoid disproportionate adverse impact to Environmental Justice (EJ) populations
	Minimize construction period effects upon the traveling public
	Avoid and/or minimize effects to parks, open space, and recreational facilities



Proposed Detailed Assessment of Highway Interchange Approach Options: Program Goals and Objectives

Goals	Objectives
Preserve and Protect Natural Resources	Minimize effects to Areas of Critical Environmental Concern (ACEC)
	Minimize effects to wildlife habitats
	Maintain floodplain functions
	Maintain wetland and surface water buffers



Proposed Detailed Assessment of Highway Interchange Approach Options: Program Goals and Objectives

Goals	Objectives
Enhance the Resiliency and Sustainability of the Built Environment	Minimize air quality effects
	Minimize land alteration and reduction in tree cover
	Minimize vulnerability to flooding
	Manage stormwater
	Maintain consistency with existing local and regional land use plans



Proposed Detailed Assessment of Highway Interchange Approach Options: Program Goals and Objectives

Goals	Objectives
Maximize Constructability	Minimize the construction duration
	Maintain existing connections during construction



Proposed Detailed Assessment of Highway Interchange Approach Options: Program Goals and Objectives

Goals	Objectives
Facilitate Emergency Response	Improve emergency evacuation capabilities from Cape Cod and the islands to mainland Massachusetts
	Improve emergency response



Proposed Detailed Assessment of Highway Interchange Approach Options: Program Goals and Objectives

Goals	Objectives
Costs	Maximize construction cost effectiveness





Schedule

Schedule for the Sagamore Bridge Project





Bridge Update

Bridge Update



*Conceptual Rendering. Final design activities will conclude during the design-build phase.

Bridge Update



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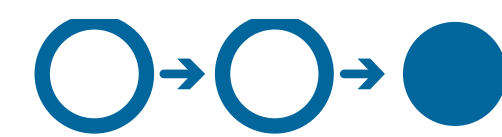


*Conceptual Rendering. Final design activities will conclude during the design-build phase.

Bridge Update



*Conceptual Rendering. Final design activities will conclude during the design-build phase.



Next Steps

Next Steps

- Open House on May 13, 2024
 - At the Bourne Veteran's Memorial Community Center
 - From 12 p.m. to 3 p.m., and 5 p.m. to 8 p.m.
- Conclude NEPA EIS Scoping May 31, 2024
- Continue to seek funding for the Bourne Bridge



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keep you
informed?**

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For General Information, Visit the Project Website:

www.mass.gov/cape-bridges

To Leave a Comment Online, Visit:

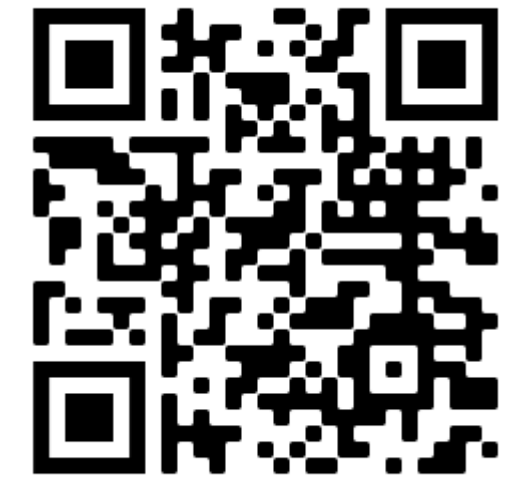
<https://tinyurl.com/capecomment>

To Submit a Comment by Mail, Write to:

Carrie Lavalley, P.E., Chief Engineer
Suite 6340, 10 Park Plaza, Boston, MA 02116,
Attention: Project Management, Project File No. 608020

or Email:

MassDOTMajorProjects@dot.state.ma.us





Questions and Discussion

Questions and Answers



- “Raise your hand” to be unmuted for verbal questions; *9 for attendees calling into the meeting



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- Submit your questions and comments using the Q&A button (Alt + H)



- Please state your name before your question



- Please share only 1 question or comment at a time, limited to 2 minutes, to allow others to participate



- Please take a few minutes to complete the survey after the meeting to let us know how your experience was with this virtual meeting

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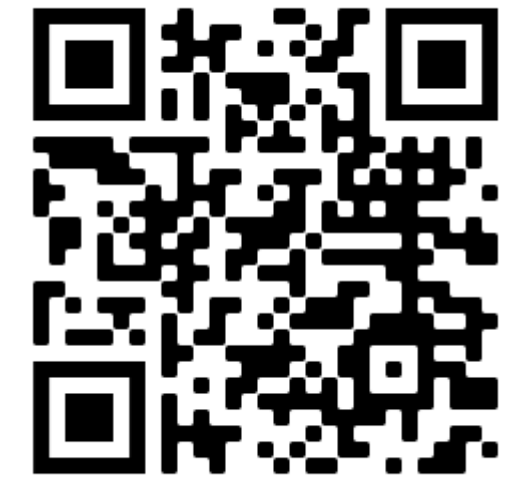
<https://tinyurl.com/capecomment>

To Submit a Comment by Mail, Write to:

Carrie Lavalley, P.E., Chief Engineer
Suite 6340, 10 Park Plaza, Boston, MA 02116,
Attention: Project Management, Project File No. 608020

or Email:

MassDOTMajorProjects@dot.state.ma.us





Thank You

Cape Cod Bridges Program

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