MAJOR REHABILITATION EVALUATION STUDY
Cape Cod Canal Bridges

US Army Corps of Engineers ®

Project Overview

Major Rehabilitation Study

The Major Rehabilitation Evaluation Report (MRER) presents the findings of a study examining the alternatives of rehabilitating or replacing the Bourne and Sagamore, bridges, which cross the Cape Cod Canal. The bridges are part of the Cape Cod Canal Federal Navigation Project (FNP) which is operated and maintained by the U.S. Army Corps of Engineers (USACE), New England District (NAE). The Bourne and Sagamore bridges were constructed more than 84 years ago and require frequent maintenance, which is costly and causes significant impacts to traffic crossing the Cape Cod Canal. The USACE completes an MRER whenever infrastructure maintenance construction costs are expected to exceed $20 million and take more than 2 years of construction to complete.

The MRER is based on four pillars of evaluation: a structural engineering risk and reliability analysis of the current structures, cost engineering, economic analysis, and environmental evaluation of all feasible alternatives. An MRER identifies operational and potential reliability issues, as well as opportunities for efficiency improvement, over a 50-year period of analysis.

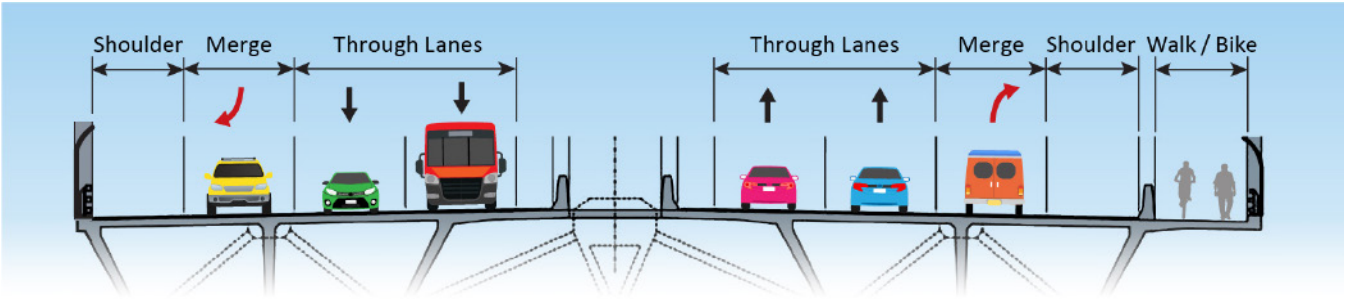
As part of the MRER, the USACE prepared an Environmental Assessment (EA), in compliance with the National Environmental Policy Act (NEPA), to examine the potential effects associated with the alternatives examined within the MRER and allow for public involvement in the evaluation process.

The MRER provides the basis of decision-making for USACE on the most cost-effective, safe alternative for critical public transportation access across Cape Cod Canal for the next several decades.

The MRER is Phase I of the bridges project and will not result in full bridge design and construction details. Additional efforts will be undertaken at the conclusion of the MRER to derive any Congressional authorization necessary leading to a full design and construction of the selected path forward.

Alternatives Analyzed

Numerous alternatives have been proposed for the future of the Cape Cod Canal highway bridges. Public comments were submitted during a series of five informational meetings held in December 2018 and through written comments via the USACE Cape Cod Canal Bridges Project website (www.CapeCodCanalBridgesStudy.com) established specifically for this project. Various methods for new canal crossings were suggested, including new bridges, tunnels, low causeway style bridges and closure of the Canal to navigation with restoration to the pre-Canal road system. These initial alternatives were then evaluated and screened to reduce the list to only those plans, which in terms of likely cost, impacts on the marine and land transportation systems, traffic and environmental impacts, and overall practicability, would be implementable.



Analysis of four alternatives were carried through the Study and accompanying EA for further analysis: (1) No Action (i.e. continued standard maintenance replacing elements as identified through regular inspection); (2) Major Rehabilitation; (3) Bridge Replacement – 4 lanes; and (4) Bridge Replacement - 4 Lanes with 2 Auxiliary Lanes.

The Recommended Plan

The MRER has determined that providing two new highway bridges would be the most **cost-effective** means of providing safe and reliable crossings as the existing bridges are 84-years-old and require frequent maintenance.

A new high level, fixed span bridge would be constructed immediately adjacent to each of the two existing highway bridges so as to minimize the modifications needed to the connecting roadways on both the mainland and the Cape. The new highway bridges would be designed to include access for both pedestrians and other non-vehicular traffic such as bicycles. To improve traffic safety and through traffic reliability each bridge would include two through traffic lanes and one acceleration/deceleration lane in each direction, for a total of six vehicular lanes on each bridge.

The two existing bridges would remain in operation until the new bridges are opened to traffic. It is anticipated that both bridges would be closed to traffic and demolished once the new bridges are opened.

Partnerships

The USACE is working with Federal and State partners and local stakeholder groups to obtain technical and regional input for all phases of the bridges project. The USACE has entered into a Memorandum of Understanding with the Massachusetts Department of Transportation to continue sharing information and collaborative decision-making regarding the Bourne and Sagamore Bridges and Cape Cod Canal regional transportation infrastructure alternatives into the future.

In addition, the USACE is closely coordinating with the Federal Highway Administration, U.S. Coast Guard, the Environmental Protection Agency, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration's National Marine Fisheries Service, federally-recognized Tribes, several regulatory agencies of the Commonwealth of Massachusetts, and the more than 20 towns in the area.

4-Lane with Auxiliary Lanes Bridge Replacement

To learn more about the study, please visit the project website:
www.CapeCodCanalBridgesStudy.com