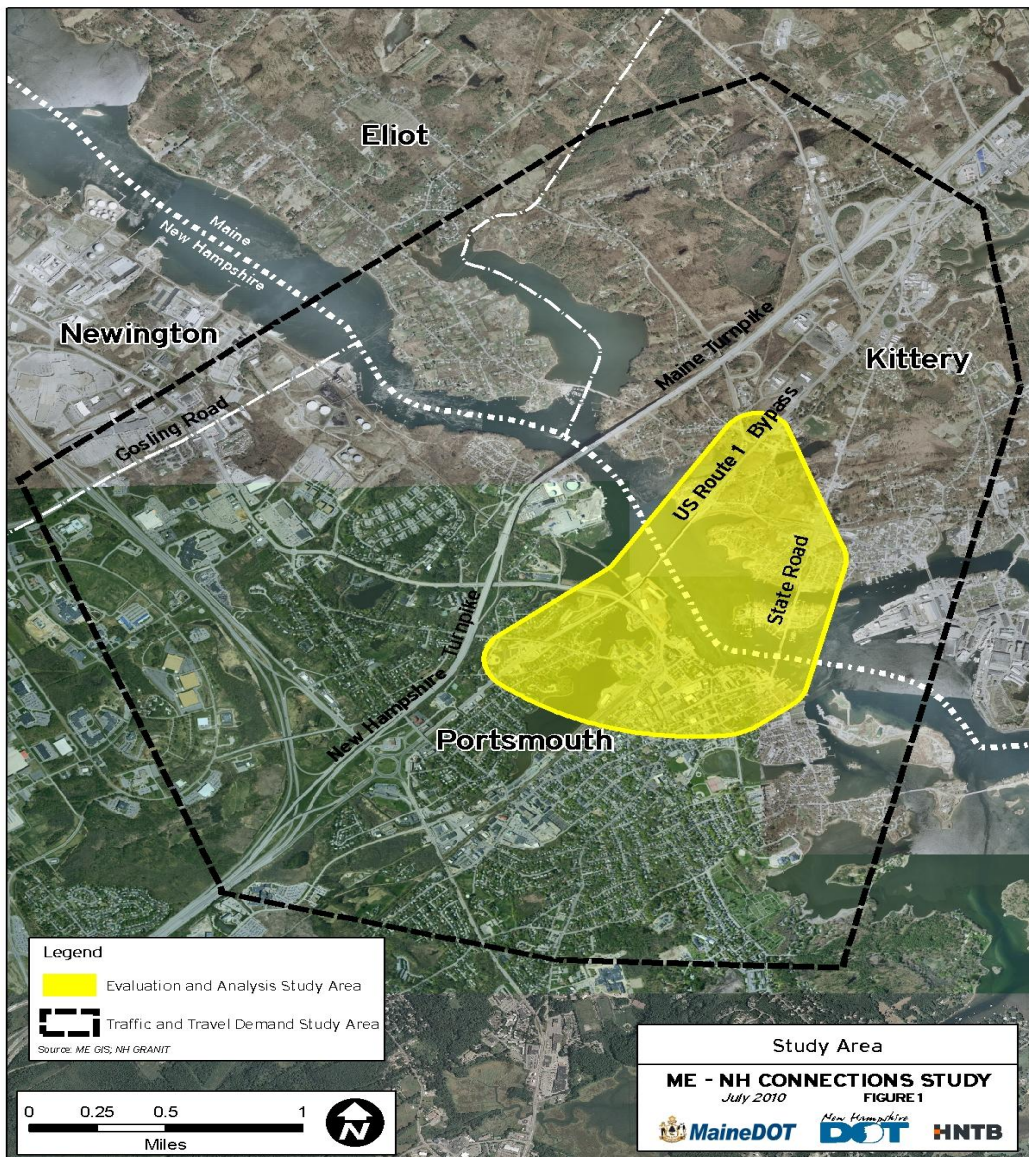


1. Introduction and Study Background

INTRODUCTION

The Maine-New Hampshire Connections Study focused on the identification and evaluation of potential transportation alternatives to meet local and regional crossing requirements through the Year 2035 affecting the three existing bridges (I-95 High Level Bridge, Sarah Mildred Long Bridge/U.S. Route 1 bypass, and the Memorial Bridge/U.S. Route 1) over the Piscataqua River. This evaluation included an assessment of modes, including rail, highway, transit, marine navigation, pedestrian and bicycle. Figure 1-1 provides an overview of the study area.

FIGURE 1-1: STUDY AREA MAP



The Study evaluated the engineering and environmental feasibility of the alternatives, including preliminary Section 106, Section 4(f) and the US Army Corps of Engineers Section 404b

assessment, in detail sufficient to identify a reasonable range of alternatives to be carried forward for completing the NEPA and Section 4(f) processes.

The major function of the three bridges serve different transportation roles with the I-95 High Level Bridge serving the region's Interstate river crossing needs, the Sarah Mildred Long Bridge serving the regional Maine and New Hampshire river crossing needs and the Memorial Bridge serving the local Kittery and Portsmouth river crossing needs. This study focused primarily on the needs for addressing the functional and structural deficiencies of the Memorial Bridge and the Sarah Mildred Long Bridge.

STUDY BACKGROUND

The Memorial and Sarah Mildred Long Bridges provide two of the three crossings over the Piscataqua River between Portsmouth, New Hampshire and Kittery, Maine. The effective operation of the two bridges, both of which are eligible for listing on the National Register of Historic Places (NR), provides a multi-modal transportation system that impacts trade and commerce, tourism, community life and the historic and aesthetic character of Kittery and Portsmouth. Both bridges are owned and maintained by a 50-50 joint responsibility agreement between the Maine and New Hampshire Departments of Transportation (DOTs). The bridges have been determined to be structurally deficient by both Maine and New Hampshire DOTs and their continued operation requires increasing maintenance costs of over one million dollars per year for each bridge. It has been determined that, without improvements, the Memorial Bridge would likely be closed within one to three years. Similarly, without improvements, the Sarah Mildred Long Bridge would likely be closed within seven to ten years. This near-term timeframe necessitated immediate actions by both Maine and New Hampshire DOTs described below.

In 2008, the two states went out to bid for a major rehabilitation of the Memorial Bridge. The final bid costs for this work were 30percent higher than anticipated. As a result, knowing that the Sarah Mildred Long Bridge would soon also need major work, the two states joined in a Memorandum of Agreement (MOA) in December 2008 to conduct a bi-state planning study to conduct detailed bridge inspections. The purpose of the study was to assess the long-term regional and community transportation needs and determine the best long-term transportation solution. The MOA included an agreement on the need for an updated inspection of both bridges, with MaineDOT taking the lead on the planning study and NH DOT taking the lead on the bridge inspections.

The Planning Study Request for Proposals was issued in January 2009 and the study was awarded to HNTB Corporation in February 2009. Work commenced in March. Maine and New Hampshire DOTs partnered fully in terms of study management, study direction, and decision-making. The Study Team, comprised of the two DOTs, HNTB and their sub consultants, managed and administered the study. The Maine and New Hampshire Divisions of the Federal Highway Administration provided procedural guidance and document review for the study.

In parallel and providing information to inform the findings of this Study Report, a Bridge Inspection and Cost Analysis (BICA) study was performed for both the Memorial and Sarah Mildred Long Bridges. In May and June of 2009, HDR Engineering, Inc. (HDR) and Hoyle Tanner and Associates, Inc. (Hoyle, Tanner) were contracted to perform an in-depth inspection of the bridges for the NH DOT and MaineDOT. The inspection results were used to perform a load rating (November and December, 2009) for the existing structure in its as-built and as-inspected condition, and planning level cost estimates for the rehabilitation of and replacement of the bridges for the BICA study. In addition, at the request of the NH DOT and MaineDOT, HDR performed an interim structural inspection, in May 2010 on the Memorial Bridge, on all primary truss members that rated at or below HS10 according to the Bridge Rating Report submitted in November 2009. The HS designation is an approximation of a vehicle weight/configuration used to simulate the greatest stresses caused by actual trucks on the bridge.