



Guidelines for Historic Bridge Rehabilitation and Replacement

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Abstract

This report presents a literature search, findings of a survey on the current state of historic bridge rehabilitation or replacement decision making by state and local transportation agencies, and nationally applicable decision-making guidelines for historic bridges. The guidelines are intended to be used as the protocol for defining when rehabilitation of historic bridges can be considered prudent and feasible and when it is not based on engineering and environmental data and judgments. The guidelines include identification of various approaches to bringing historic bridges into conformance with current design and safety guidelines/standards, and the effect or implications of remedial action on historical significance.

There are currently no such nationally applicable decision-making guidelines, but there are a variety of state and local processes and policies for managing historic bridges. Effective practices for the various processes inform the nationally applicable guidelines. The guidelines are in narrative and matrix format.



Executive Summary

While the National Historic Preservation Act of 1966 (amended) and Section 4(f) U.S. Department of Transportation Act of 1966 specify nationally applicable processes for considering preservation or replacement of historic bridges, there is no corresponding protocol that ensures a nationally consistent approach to determining which bridges should be rehabilitated or replaced. State and local transportation agencies have developed a wide variety of approaches for addressing historic bridges with each reflecting the priorities and culture of the particular agency as well as the bias, knowledge, and expertise of the decision makers. Despite the federal legislation and proactive policies of many states, historic bridges continue to be lost for a variety of reasons. To ensure that rehabilitation versus replacement decision making is balanced and consistent among the states, nationally applicable guidance on historic bridge analysis is deemed by the American Association of State Highway and Transportation Officials Standing Committee on the Environment to be useful.

Research indicates that while many transportation agencies have processes for managing historic bridges, including some with well thought out treatments for preserving specific bridges, few have written protocols or guidelines that lead engineers and historians through the decision-making process. When is it not prudent to rehabilitate a substandard bridge? When is it prudent to upgrade the bridge to keep it in service? What work can be done without adversely affecting what makes the bridge historic? Has everything that could be done to preserve the bridge been considered? Research indicates that engineers believe that their agencies are proactive about historic bridge preservation while historians do not. So while there are stunning successes, like Vermont's metal truss bridge preservation program or Oregon's Coastal Highway bridge rehabilitations, the perception is that historic bridges that could be saved are not being saved because rehabilitation is not as consistently considered as it should be.

Guidelines have been developed based on effective practices, understanding of historic bridge types, and appropriate methodologies for addressing deficient load capacity, geometry, and safety features. These guidelines lead decision makers through considerations that define when rehabilitation is prudent and feasible and when it is not based on engineering judgments balanced with consideration of environmental issues.