

Successes In Stewardship

Celebrating 10 Years

June 2012

Evaluating the Historical Significance of Utah's Bridges



Bridge 491 in San Juan County is eligible for the National Historic Register due to its rare design features and aesthetic value. (Courtesy of UDOT)

Many State Departments of Transportation (DOTs), including those in California, Indiana, and Ohio, have conducted surveys of historic bridges in their States to ensure proper preservation of historic structures and to streamline processes to meet Federal and State historic preservation requirements. For example, see the [June 2011 issue of *Successes in Stewardship*](#) for more information on the Indiana historic bridge survey. The Utah Department of Transportation (UDOT) also completed two surveys of historic bridges in 2010 and 2011, which cover post-war and pre-war bridges, respectively. UDOT worked with a consulting firm to complete the two surveys, which relied exclusively on existing records rather than field data collection. UDOT's goal was similar to that of other States: to streamline the review of future bridge permit applications. By conducting research that put the bridges in historical contexts, UDOT found that many of the State's bridges are historically significant due to their connections to efforts that shaped Utah's economy and the application of innovative technology in bridge design.

National Register Criteria Applicable to Bridges*

- **Criterion A: Events**
Properties that are associated with events that have made a significant contribution to the broad patterns of our history.
- **Criterion C: Design/Construction**
Properties that embody the distinctive characteristics of a type, period, or method of construction; or that represent the work of a master; or that possess high artistic values; or that represent a significant and distinguishable entity whose components may lack individual distinction.

**There are two other criteria used to determine eligibility for the National Register. These regard historic persons and informational potential; however, the chance of a bridge meeting these criteria is extremely unlikely.*

Criteria for Historic Bridge Eligibility

Section 106 of the National Historic Preservation Act (NHPA) requires project sponsors to identify any historic properties that might be affected by their projects. It requires that project sponsors consult with a State Historic Preservation Officer (SHPO) and other stakeholders to assess and resolve adverse effects of construction to these properties. Some State DOTs conduct surveys of historic bridges to identify those with historical significance under NHPA, while other States assess the historical significance of bridges on an as-needed basis.

Chapter 23 of the U.S. Code, Section 144 (the Highway Bridge Replacement and Rehabilitation Program) defines historic bridges as those included in or eligible to be included in the National Register of Historic Places (National Register). The U.S. DOT and State agencies are responsible for implementing programs that encourage the "inventory, retention, rehabilitation, adaptive reuse, and further study of historic bridges." The Federal Highway Administration (FHWA) provides resources on its [Historic Bridges website](#), including maintenance manuals, case studies, and best practices reports.

There are specific criteria for eligibility for the National Register, including age, association with historic trends, and design or engineering significance. The text box at left describes the two criteria most commonly associated with bridges: events and design/construction.

Surveying Historic Bridges in Utah

Prior to the surveys, UDOT only had historic data relating to the age of bridges and therefore referred all projects that could potentially affect bridges over 45 years old to the SHPO for eligibility analyses. Rather than continue to evaluate the bridges on an as-needed basis, UDOT decided to streamline the project development processes by surveying all of the State's bridges built prior to 1965 to determine their eligibility.

A major component of UDOT's surveys involved two criteria categories: relation to historic events and design or engineering significance. It is important to document specific adverse effects on eligible bridges, especially those with historic engineering significance, because structural changes that may have no noticeable aesthetic impacts can cause a bridge to be ineligible for inclusion in the National Register.

The consultants identified national and statewide events and trends in roadway development, bridge design, and construction that would contribute to a bridge's eligibility for inclusion in the National Register. The consultants also researched the physical features of bridge types based on national trends in bridge building and an analysis of bridge types constructed in Utah from its statehood through 1965, as required by the National Register. The consultants compared this information to UDOT's existing bridge records, which include Utah's National Bridge Inventory data, bridge inspection file reviews, a previous historic overview, and current inspection images for bridges constructed through 1965. Because UDOT already had a significant amount of information on its bridges, the consultants worked exclusively from existing files.



The consultants analyzed the State's bridges in two phases. The first survey included post-war bridges (constructed from 1947 to 1965), of which there were 409, and the second survey included pre-war bridges (constructed prior to 1946), of which there were 210. The surveys found 76 bridges (out of a total of 619) eligible for inclusion in the National Register.

Example of Survey Results

While conducting the surveys, UDOT and the consultants found that bridges with similar aesthetics can have differences in historical significance. The survey results demonstrated that a visual survey of bridges alone is not sufficient to determine eligibility for inclusion in the National Register. Many of Utah's bridges are eligible for inclusion in the National Register because of the criteria relating to each bridge's association with significant or historic events. Historic events include major Federal programs, such as Depression-era funded programs, which apply to many bridges in Utah.



The photos to the left show two bridges with very similar designs. The bridge on the top is in Davis County near the Great Salt Lake. This bridge spans the Hooper Canal, part of a canal network established for agricultural activity in 1866. The bridge on the bottom is located in Cache County and crosses the Little Bear River in the northern part of the State. Both of these bridges were built in the 1930s and have similar designs. The historic bridge survey determined that the State constructed the Hooper Canal Bridge with funding from the National Industrial Recovery Act, which is considered to be a historic national program of the Depression era. In contrast, the bridge in Cache County was constructed using State funds that were not linked to any major historic program. Therefore, the Hooper Canal Bridge is eligible for the National Register whereas the bridge in Cache County is not eligible, despite its similarity in age and appearance to the Hooper Canal Bridge.

The Hooper Canal Bridge (top) and an unnamed bridge in Cache County (bottom) are very similar from a design perspective. However, the Utah bridge inventory identified the Hooper Canal Bridge as eligible for the National Register due to its association with a historic program, whereas the bridge in Cache County was considered ineligible. (Courtesy of UDOT)

Next Steps

UDOT is working with the SHPO, FHWA, and the Utah Advisory Council on Historic Preservation to develop a Programmatic

Agreement (PA) to allow the State to use the results of the Historic Bridge Survey when applying for Section 106 compliance on future construction projects that affect bridges in Utah. UDOT expects the PA to be completed by the end of 2012. UDOT also plans to include the survey results in both the State bridge database and the SHPO database. Once the

information regarding bridge eligibility is entered into the State databases and the PA is complete, the SHPO will no longer need to conduct individual impact evaluations for historic bridges, thus expediting the permit application process.

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Look What's New!

- On May 2, 2012, U.S. DOT issued the [Final DOT Environmental Justice Order](#), which is an update to U.S. DOT's original Environmental Justice Order (Departmental Order 5610.2(a) - Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), which was published on April 15, 1997. The Environmental Justice Order continues to be a key component of U.S. DOT's strategy to promote the principles of Environmental Justice in all Departmental programs, policies, and activities.
- The Environmental Protection Agency recently made [NEPAssist](#), its interactive online mapping tool, available to the public to assist in streamlining the environmental review process and project planning. NEPAssist allows users to identify alternative project locations, avoid and minimize impacts, and identify potential mitigation areas. The tool enables users to raise important environmental issues at the earliest stages of project development.

Successes in Stewardship is a Federal Highway Administration newsletter highlighting current environmental streamlining and stewardship practices from around the country. To subscribe, visit http://environment.fhwa.dot.gov/sis_registration/Register.aspx or call 617-494-2092.