

NCHRP 25-25 Task 88

Transferring Ownership of Historic Bridges: Approaches and Challenges

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Prepared by:

Stephen Mikesell and ICF International

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The work was guided by the panel Chair Anthony Opperman of Virginia DOT, technical panel members Paul Graham of Paul Graham Consulting LLC, Dr. Robert Hadlow of Oregon DOT, Kitty Henderson of the Historic Bridge Foundation, Timothy Hill of Ohio DOT, Bruce Jensen of Texas DOT, Jeanine Russell-Pinkham of Vermont DOT, Mary Kennedy of Indiana DOT, and liaison MaryAnn Naber of the Federal Highway Administration. The project was managed by Nanda Srinivasan, NCHRP Senior Program Officer.

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1 Introduction

Since the late 1980s, federal law has required that a state using federal funds to replace a historic bridge shall first attempt to donate that bridge to a responsible party. This requirement, now codified at 23 USC 144(g), reads:

Preservation.— Any State that proposes to demolish a historic bridge for a replacement project with funds made available to carry out this section shall first make the historic bridge available for donation to a State, locality, or responsible private entity if the State, locality, or responsible entity enters into an agreement—

(A) to maintain the bridge and the features that give the historic bridge its historic significance; and

(B) to assume all future legal and financial responsibility for the historic bridge, which may include an agreement to hold the State transportation department harmless in any liability action.

The present study seeks to answer three essential questions about this aspect of federal law. First, in general, how well is it working? Second, among the approaches taken by different states, which approaches seem to work and which do not? Third, are there specific recommendations for how this program could be made to work better, for individual states and for the program on a national basis?

This is the first major study to address this program and its effectiveness. Because it is a pioneering study, the first step in the research was to gather as much information as possible about how the program is working on a national basis. This literature search was accomplished through “desk-top” research, inspecting the websites of all 50 state departments of transportation (DOTs) as well as various non-governmental organizations (NGOs) that focus on historic bridge issues.

To gain a more detailed analysis of how the program is implemented, interviews were conducted involving 10 state DOTs, a few state historic preservation officer (SHPO) programs, a small number of NGOs, and a branch of the Federal Highway Administration (FHWA). Each interviewee was asked a series of patterned questions but was requested to fill in other information not covered in those patterned questions.

The results of the literature search and the interviews allowed the researchers to draw conclusions about the various approaches taken by different states and to make observations about which practices seemed to work better than others. Finally, these conclusions helped to support a series of recommendations for steps that could be taken to better this program, in individual states and in the program nationally.

This report is organized around the three steps outlined above. Section 2 presents the findings from the literature review. Section 3 presents the findings from the interviews. Section 4 presents the conclusions drawn from the literature search and interviews. Section 5 contains recommendations that might help improve implementation of this program, in individual states and nationally.

As a general matter, the donation requirement can be shown to have preserved many bridges nationally and is a success in that regard. It is also a program whose implementation differs greatly from one state to the next and the success of which differs widely. The recommendations for the future have to do chiefly with achieving a greater uniformity among state practices as well as encouraging states to adopt practices that have been shown to work well in a small number of states with active historic bridge preservation program.

2 Literature Review

2.1 Methodology for Literature Review

State DOTs increasingly rely upon the Internet to provide instructions to regional districts for the departments and for the cities and counties that rely upon the DOTs for guidance in the use of Federal transportation funds. Because of this, the web is a rich source for all aspects of the nationwide transportation planning process, including the historic bridge “donation” requirement. ICF conducted this literature review exclusively by accessing the websites of state DOTs and a select group of nationwide non-profit organizations that track historic bridge issues.

ICF also inspected the web pages for all 50 State Historic Preservation Officers (SHPOs) but found no information there that pertains to the marketing of historic bridges. This aspect of the literature review will not be addressed further in this report.

The research design for this literature review focused on five areas that might reveal methods used by states to market historic bridges. An ICF historian inspected websites for DOTs for all 50 states, asking the same questions of each. First, did the DOT have a Programmatic Agreement (PA) specific to the treatment of historic bridges, and if so, did that PA deal with transfers of historic bridges? Second, did the state have a historic bridge management plan and, if so, does the plan address historic bridge transfers? Third, does the state have a formal plan for announcing the availability of historic bridges to the local governments and non-profits and, if so, what form does that marketing take? Fourth, is there a marketing provision included in the DOT’s environmental manual? And, finally, is there evidence of ad hoc efforts to market historic bridges, not part of a formal overall marketing plan? Each of these areas will be discussed separately below.

2.2 Programmatic Agreements

A number of states have Programmatic Agreements (PAs) for the treatment of historic bridges but relatively few of these mention marketing or transfers of historic bridges. Programmatic Agreements are allowed under 36 CFR 800.14, as an alternative to standard Section 106 compliance. In most cases, a transportation-related PA is agreed to by the state DOT, the State Historic Preservation Officer (SHPO) for that state, the Federal Highway Administration (FHWA), and the Advisory Council on Historic Preservation (ACHP). In a few cases, other parties such as the Corps of Engineers also sign these PAs. A high percentage of state DOTs have PAs that govern the entire Federal-Aid program. This discussion does not address these program-wide PAs. Rather, it focuses on a smaller number of states that have PAs dealing specifically with the treatment of historic bridges.

A typical historic bridge PA outlines procedures for various elements of the state’s bridge replacement program. All such PAs, for example, deal with the statewide historic bridge

inventory and how the inventory will be modified and updated. These PAs also often deal with mitigation measures, streamlined review of non-eligible bridges, and other common elements of the state's historic bridge program. Only a few state bridge PAs deal specifically with marketing, as discussed below. It needs to be emphasized that PAs are Section 106 agreements and cannot directly substitute for the blanket donation requirement under federal law.

Colorado. The Colorado PA was signed in 2003 by the DOT, SHPO, FHWA, and ACHP. Stipulation 4 of the PA, which pertains to "Proposed Mitigation." 4.b. reads: "Marketing: Truss bridges that can be adopted and used by other agencies or groups will be made available to such groups under the CDOT Adopt-a-Bridge Program." There are two items of note regarding this section of the PA: the provision applies only to truss bridges; and, while the PA references an Adopt-a-Bridge program, no on-line evidence was found to confirm such a program exists.

Illinois. The Illinois bridge PA was signed in 2004 and extended in 2009 by the DOT, SHPO, and FHWA, without ACHP involvement. The Illinois PA mentions marketing a bridge within the context of the consideration of alternatives. The PA requires the DOT to consider a range of alternatives to demolition, including: "moving the structure for pedestrian or other vehicular uses; marketing the structure for alternative uses in place or at an analogous location." No further instructions are included.

Indiana. The Indiana PA includes separate treatment procedures for "Select Bridges" and "Non-Select Bridges," offering a higher level of protection to "Select" bridges. [This device of using two levels of protection is utilized by a number of other states as well.] For Select Bridges, the PA stipulates that only non-demolition alternatives will be considered. Non-destructive alternatives include: rehabilitation; couplet with the historic bridge serving one-way traffic; bypass in place; and relocation. The PA includes the following guidance pertaining to relocation: "If the bypass alternative is not feasible and prudent, relocation of the bridge will be required. INDOT will work with the bridge owner, if the bridge does not belong to INDOT, to identify a new location for the Select Bridge. Preference will be given to locations closest to the original location of the bridge. The NEPA document must include the proposed new location, description of how the new bridge will be utilized, and evaluate the associated impacts, in addition to those resulting from the bridge replacement."

The PA offers a parallel but less demanding process for "Non-Select" bridges. "If rehabilitation alternatives are not feasible and prudent, the bridge owner shall market the historic bridge for re-use. Proposals will be accepted for the immediate rehabilitation and reuse or for its storage and future reuse. Proposals will also be accepted for the salvage of elements that may be stored for future repair of similar historic bridges." The PA goes on to specify noticing requirements: a legal notice in a local newspaper; signs on the bridge itself; and posting on INDOT's historic bridge marketing website for at least 6 months.

The notable aspects of this PA are the differing treatment options for Select and Non-Select bridges and the specificity with respect to how and for how long bridges should be marketed.

Iowa. The Iowa DOT environmental manual references a “Historic Bridges PA” but ICF was unable to find a copy of that PA. The summary in the Environmental Manual does not include a marketing provision.

Minnesota. The Minnesota historic bridge PA was signed in 2008 by FHWA, the DOT, SHPO, ACHP, and the St. Paul District of the Corps of Engineers. The PA makes no mention of transferring or marketing historic bridges.

Montana. The on-line version of the Montana Bridge PA is not dated but it appears to post-date 2009. The Montana PA is arguably the most comprehensive of any of the PAs with respect to marketing and historic bridge transfers. Stipulation 3.E. deals with the “Montana Adopt-A-Bridge Program.” The stipulation is three pages in length and is summarized in the following. The Adopt-A-Bridge program will be used only after it has been shown that rehabilitation and preservation in place are infeasible. It can be used only for “historic truss and steel girder bridges with a structural rating of three (3) or above.” The PA provides, however, that: “At its discretion, MDT may also consider other bridges for adoption.”

For a steel truss or girder bridge, the decision to include a bridge in the Adopt-A-Bridge program will be made jointly by the Bridge Bureau and the Environmental Bureau, based upon the condition and historic value of the structure. The MDT will notify the SHPO of its decision (for inclusion or exclusion in the Adopt-A-Bridge program) and afford the SHPO a 15-day review period.

If the bridge is included in the program, MDT will develop a “brochure” to be distributed to all counties of the state, as well as advertisements for local newspapers and public radio stations. The PA also establishes procedures for choosing among multiple potential recipients and conditions for long-term preservation of the bridge on a new site. Attachment 2 provides criteria for choosing among multiple potential recipients, and Attachment 3 is a sample agreement for the bridge transfer.

New Mexico. This PA was signed in 2006 by the FHWA, SHPO, NMDOT, and ACHP. It is similar to the Illinois PA in that it includes a discussion of marketing only in reference to a range of alternatives that must be considered before an eligible bridge can be demolished. Two alternatives include: “bypassing and preserving the existing bridge in place; relocating the existing bridge to another site.”

Ohio. This PA was signed in 2001. The PA is built around a “reserve pool” of bridges, from which new eligible bridges will be drawn if eligible bridges are demolished. It is silent on the issue of marketing. Although the two are not directly linked, this PA should be read in conjunction with the 2012 historic bridge management plan, discussed in greater detail below.

Wyoming. This agreement was signed in 1985 and is actually a Programmatic Memorandum of Agreement (PMOA), an antiquated term for what is now called a PA. The agreement includes a specific plan for transfer and marketing of surplus historic bridges. In Stipulation IV, WDOT

commits to making a determination of whether it will be feasible to move a bridge, in consultation with the SHPO. Stipulation V establishes minimal standards for advertising the availability of a bridge for relocation, built chiefly around newspaper advertising. Stipulation VI deals with what can happen when marketing fails: the bridge can be given away without condition or it may be dismantled.

One of the key elements of the PA (or PMOA) is the provision for an intermediate step before marketing is initiated. In consultation with the SHPO, the DOT will determine whether relocation is feasible. If together they determine relocation is not feasible, no marketing will be undertaken. Some variation of this intermediate step is pursued by Montana and Georgia as well.

Lessons Learned from PAs. Several conclusions can be drawn from the various state historic bridge PAs. First, not all historic bridge PAs even mention marketing or relocation. Second, several PAs apply only to marketing truss and girder bridges with the logic that only these bridges can easily be moved. Third, a few PAs, most notably Indiana and Montana establish highly detailed processes for deciding whether a marketing program is applicable to the structure in question and very specific advice on how marketing should proceed. Fourth, several states, including Wyoming, Georgia, and Montana have experimented with intermediate decision points, involving the DOT and SHPO, to determine whether marketing is either feasible or prudent. Finally, the technology has changed since the earlier PAs were drafted. The early PAs emphasized newspaper advertisement, while nearly all marketing today is handled through the Internet.

2.3 Bridge Management Plans

There are fewer bridge management plans than PAs among the state DOTs. The degree to which the plans deal with marketing varies greatly from one state to the next. The discussion below summarizes the guidance that is provided in existing bridge management plans.

Connecticut. In 1991, Connecticut prepared a Preservation Plan to accompany its first bridge inventory. The plan analyzed theoretical options for bridges in general and also developed specific recommendations for particular bridges. The general discussion deals with both the “bypass” and “relocation” options. The bypass discussion notes that bypassing avoids demolition but does not assure preservation if the structure is allowed to deteriorate. The text does not address attempts to market the bridge to another party.

Under “relocation,” the plan notes: “As a practical matter, relocation only applies to truss or beam bridges.” The text also includes four practical suggestions for making “the required marketing and relocation effort more productive.” The first emphasizes “direct, personal contacts with likely recipients” rather than newspaper or other broad-based advertising. The second is to “concentrate relocation/marketing efforts on the spans that have the best chance for re-use.” The third is to study local needs near the subject bridge to find a continuing highway use, which would be fully funded, as opposed to “cost of demolition” funding for non-

highway uses. Finally, it recommends having a long response time even if that means stockpiling the bridge for some time.

Hawaii. In 2001, Hawaii developed a preservation plan specifically for the bridges on the Hana Highway in Maui. All of the bridges are concrete and not suitable for relocation. Neither does the report suggest bypassing any of the historic structures.

Minnesota. This plan, completed in 2006, is both a general plan as well as offering specific guidance for individual bridges. On page 23 of the volume with general guidance, the report discusses two options related to marketing: rehabilitation for less-demanding use on-site; and relocation and rehabilitation for less-demanding use. The discussion of bypassing the bridge does not address the issue of finding a new owner for the bridge. The discussion of relocating a bridge chiefly refers to a more lengthy discussion later in the document. The discussion of relocation is on page 41-45. It deals chiefly with the methods for relocation, although it does include a discussion of items that should be included in a transfer agreement or other such document.

New York. This 2002 report includes on pages 21-27 a detailed discussion of the bypass and relocation alternatives. The discussion includes several innovative (but rarely used) non-vehicular uses, such as a fishing pier and adaptation as a building. This section does not address how to identify a new owner. The section on “consideration for Relocating Historic Bridges” does discuss in general terms how to advertise availability and terms for transfer. In terms of marketing advice, the plan recommends “active advertising methods to get the word out that the bridge is available by advertising in newspapers, on the Internet, and in journals such as the National Trust’s Preservation magazine, over the radio, and through local television special interest stories.”

Ohio. In 1990, Ohio published its “Second Ohio Historic Bridge Inventory Evaluation and Preservation Plan.” This general plan includes a paragraph on “Marketing for Adaptive Reuse.” It mentions that ODOT maintains a website listing available bridges and lists funding constraints for relocation costs.

In 2013, Ohio published a lengthy Preservation Plan, with specific plans for the most significant and endangered bridges. It does not deal with marketing directly but does assess the potential for a bypass alternative for every bridge treated in this plan. This plan represents a most comprehensive study of the conditions under which a bypass alternative might be considered, including the variables that might preclude the bypass alternative. The plan also recommends relocation as a viable alternative for a few of the bridges. The plan stipulates that the owners will be notified of such recommendations and that has been done.

Oregon. This December 2007 plan discusses bypass and relocation under “Hierarchy of uses.” This discussion includes prioritization of various options, with rehabilitate first, pair in a couplet second, maintain for adaptive reuse (essentially the bypass option) third, stabilize and close fourth, transfer and relocate fifth, and demolish last. The bypass discussion does not address

finding a new owner for the bridge. The relocation section does discuss briefly how to advertise the availability of a surplus bridge.

Texas. In June 2010, Texas DOT prepared a “Historic Bridge Manual,” functionally similar to a preservation plan. It is a very detailed approach to planning for projects that affect historic bridges: developing a purpose and need, developing a team of historians and engineers to devise alternatives; and so forth. The document has a paragraph on “marketing” historic bridges. This paragraph assumes marketing will be restricted to relocation efforts: “For bridges with little potential for removal and reuse in a different location (i.e. concrete spans, masonry spans, suspension bridges, and bridges with serious structural deficiencies, etc.) the marketing can be brief.”

Virginia. In 2001, VDOT released “A Management Plan for Historic Bridges in Virginia.” It is built around plans for individual bridges and offers little general advice on marketing of bridges. Although not technically a preservation plan, Virginia DOT and the Virginia Transportation Research Council produced an excellent case study, “Best Practices for the Rehabilitation and Moving of Historic Metal Truss Bridges” (VTRC 06-R31, 2006). Despite its title, the study concerns rehabilitation of a truss bridge by disassembly, then re-erection on the original site. Many of the methods would apply, however, to a bridge that was disassembled and erected on a different site.

General Conclusions from Preservation Plans. Preservation plans proved to be generally less informative than PA in documenting marketing methods by the various states. The Minnesota and New York plans are more detailed in spelling out marketing methods. The Oregon plan is especially useful in laying out where the bypass and relocation options are seen in a “hierarchy of use,” with bypass rating just below rehabilitation and relocation rating just above demolition.

2.4 Internal Environmental Procedures

ICF made a reasonable effort to locate State DOT internal instructions for dealing with historic bridges. These efforts were largely unproductive, although a few states do post their internal procedures on-line. The following discussion summarizes the results from a small sample of state internal guidance.

California. California’s “Standard Environmental Reference,” Volume 2, “Cultural Resources,” is available on-line. The guidance is detailed in most areas but surprisingly brief in its treatment of historic bridges. The advice provided there deals chiefly with how to include the results of the statewide historic bridge inventory in Section 106 reports. It makes no mention of marketing.

Georgia. In 2002, GDOT and FHWA met to develop procedures for “Marketable Historic Bridges.” This agreement is memorialized in a memo signed by both agencies but does not appear to have been formally incorporated into the state’s environmental documentation manual.

The memo proposed a seven-step process, specific to GDOT bridges, i.e. state-owned bridges only. First, the condition of the structure would be assessed. Second, if the bridge was found to be in very poor condition, no marketing efforts would be attempted. Third, if the bridge were found not to be in poor condition, it would be considered for rehabilitation for vehicular use or for being bypassed and left in non-vehicular service. The bypass option would require finding a new owner. If no new owner was found, the bridge could be demolished. Fourth, prior to demolition, the bridge would be evaluated for possible relocation. Fifth, if a recipient is identified, the bridge would be transferred with some conditions. Sixth, if no recipient were found, the bridge would be demolished. Finally, the state would prepare a list of metal truss bridges to facilitate planning for relocation.

Idaho. IDOT includes a section on “Historic Bridge Procedures” in its “Environmental Manual. Included therein is a lengthy section entitled “Marketing.” It includes the following: “Where demolition is being considered as the preferred alternative, prepare a marketing plan (in coordination with SHPO/THPO, FHWA, and Council) to describe availability of the bridge for other uses including nonpublic or non-motorized transportation. Incorporate provisions of the marketing plan in a proposed Memorandum of Agreement (MOA).” The discussion spells out how the marketing plan should proceed, with ads in local newspapers, for an unspecified length of time.

Indiana. INDOT includes a discussion of marketing in its “Procedural Manual for Preparing Environmental Documents.” The manual directs the planner to the state’s PA and to the INDOT historic bridge marketing website, discussed previously under PA and below under Formal Marketing Programs.

Iowa. The Iowa DOT’s “Office of Location and Environmental Manual” references a Historic Bridges PA that ICF was unable to locate on-line. The text seems to suggest that the document is referencing FHWA’s Programmatic 4(f) for historic bridges, rather than a PA.

Oklahoma. The Oklahoma DOT “Cultural Resource Studies Manual” makes brief mention of “relocation or marketing of historic bridges” as a mitigation strategy with no further guidance.

General Conclusions Regarding Internal Manuals. It does not appear that DOTs generally have incorporated historic bridge marketing as a substantial part of their internal environmental procedures. These procedures are dealt with in much greater detail in PAs, Bridge Preservation Plans, and in Formal Marketing Programs.

2.5 Formal Marketing Programs

Some states have developed formal programs for listing historic bridges that have been made available through the bridge replacement program. Very often called an Adopt-a-Bridge program, these marketing efforts are almost always web-based and are often quite informative. These are summarized below.

Colorado. The Colorado PA mentions a Colorado Adopt-A-Bridge Program but ICF was unable to find any information specific to that program.

Indiana. Indiana has a special “Historic Bridges Marketing Program” website page at its INDOT site: <http://www.in.gov/indot/2532.htm> . This is arguably the most comprehensive web-based marketing program in the United States. The web pages include thumbnail sketches of available bridges, which are linked to much larger pages for each bridge treated, which includes photographs, maps, and in some cases As-Built Plans.

The title, “Historic Bridge Marketing Program,” is slightly misleading as not every bridge treated there was made available to the public. A few of the bridges treated on these pages were considered for replacement but were ultimately rehabilitated for continued vehicular use. For most bridges, however, the title is applicable: the bridges in question either are or have been offered up for reuse. As such, this database of 64 structures is an invaluable tool for studying the conditions through which preservation can work. It appears that in Indiana, the very high success rate – 20 of the 64 bridges “preserved” – is attributable to good marketing and success in finding alternative sites and uses. Nearly all of the “preserved” bridges were moved and taken over by a park or other recreational entity.

Kentucky. ICF found a July 23, 2013 press release “State Still Running Its “Adopt-a-Bridge Program,” but no further evidence of the program.

Maine. Maine carries a website “Historic Bridges for Adaptive Reuse” with links to individual bridges that are available. <http://www.maine.gov/mdot/env/bridgesau.htm> At the time of ICF’s research, only a single bridge was available.

Montana. Montana has an Adopt-a-Bridge website:
http://www.mdt.mt.gov/business/bridge_adoption_details.shtml

It gives rules for bypass-and-preserve as well as relocation adoptions. It does not, however, provide details on available bridges.

North Carolina. NCDOT has a website for “bridge reuse” at:
<https://connect.ncdot.gov/municipalities/BridgeReuse/Pages/default.aspx>

It discusses the program generally and includes data (but no pictures) of available bridges.

Ohio. Ohio maintains a website for available historic bridges, one that rivals Indiana for level of coverage and ease of use. It is specific to truss bridges.

http://www.dot.state.oh.us/Divisions/Planning/Environment/Cultural_Resources/BRIDGE_STA_TUS/REUSABLE_BRIDGES/Pages/default.aspx

Pennsylvania. Pennsylvania maintains a “bridge marketing” page as part of the state’s surplus property program, maintained by the Department of General Services. The state website does, however, summarize bridges that are available, including both state and local structures.

Texas. TexDOT does not maintain an Adopt-a-Bridge website. Denton County, Texas, however, has such a site at <http://dentoncounty.com/dept/main.asp?Dept=125&Link=1031>.

Bridgehunter. This advocacy website maintains a long but not necessarily comprehensive list of bridges available for reuse. It is at <http://bridgehunter.com/category/status/available-for-reuse/>

General Observations on Formal Bridge Marketing Programs. There is something of a disconnect between guidance in PAs and Bridge Preservation Plans, which emphasize newspaper advertising, and formal programs, which are entirely web-based. Comprehensive websites, such as those maintained by Indiana DOT or the Ohio DOT, appear to represent a very powerful tool and are at least partially responsible for the high success rates there. The format in Ohio and Indiana takes advantage of the inherent strength of Internet posting, which allows a single-page summary that is linked to highly-detailed sheets with photographs, maps, plans, and other technical data that is useful in deciding whether a marketed bridge would work in a new setting. Most comprehensive Adopt-a-Bridge sites deal with state-owned as well as city and county structures, which would seem to be a minimal requirement for a useful program. A website without data on the individual bridges is far less useful.

It is well to recall, however, the advice given in the Connecticut Preservation Plan: that interpersonal communication is almost always more effective than advertising. Is Indiana successful in marketing its bridges because it has a good website, or because state engineers talk with local engineers to identify uses for otherwise-surplus bridges? Or does that success stem from a combination of good web advertising and good interpersonal communications?

2.6 Project-Specific Marketing by States

ICF was able to identify hundreds of project-specific efforts by states and communities to market surplus bridges. A few of these will be summarized below, to provide a sense of how these efforts are proceeding.

Arkansas. In 2011, Arkansas offered a huge bridge for adoption. It is a 2831’ cantilever span (identified as a Double Arch through Truss in the notice, which includes a picture and map. The notice included a 45-day period of availability.

California. Nevada County in March 2013 offered for relocation a 60’ 1895 Pratt pony truss. It included a six-month availability.

Louisiana. In July 2013, Louisiana offered for relocation a 60' 1921 pony truss. The handsome website included photographs, as-built plans, and the proposed conditions for transfer.

Maine/New Hampshire. New Hampshire in 2011 sought a recipient for the Piscataqua River Bridge between Maine and New Hampshire. This massive vertical lift bridge found no takers and was demolished in 2013.

Maryland. The Maryland DOT posted a notice of availability of a small pony truss bridge through the Maryland Historical Trust, a state agency that includes the SHPO.

General Observations on Project-Specific Marketing Efforts.

Project-specific marketing programs lack the predictability and uniformity of format associated with the formal marketing programs of such states as Ohio, Indiana, and Pennsylvania. An agency or group in search of a bridge knows exactly where to go in states with formal marketing program. The odds of such a great linking up with a potential donor is likely much lower in states that use only project-specific marketing efforts.

2.7 Conclusions from the Literature Review

- a. There is a basic disagreement among bridge professionals about the terms “donation”, “marketing” and “relocation.”***

The term in law is donation: “Any State that proposes to demolish a historic bridge... shall first make the bridge available for donation to a State, locality, or responsible private entity...” In most state literature, the term “marketing” is substituted for “donation.” These two terms work together in the sense that it is necessary to engage in some type of marketing to find a party willing to accept the donation. Essentially every state surveyed uses the term “marketing” rather than donation to refer to this requirement.

Some states have gone further to treat “marketing” and “donation” as restricted to options for “relocation.” The literature review demonstrates that states routinely consider three broad categories of preservation strategies: rehabilitation, bypass, and relocation. The rehabilitation option by definition is exempt from the donation requirement because it does not propose to demolish the historic bridge. Both the bypass and relocation options, however, are potentially subject to the donation requirement, since both are means of avoiding demolition. In neither case is it necessarily the case that the bridge would change ownership. The lead agency could potentially retain ownership of either a bypassed or a relocated bridge. In actual practice, however, this almost never happens and historic bridge will be bypassed or relocated only if there is a willing party to whom the bridge can be “donated.”

- b. Very few states have tools to distinguish between bridges with high potential and those with little to no potential for transfer.***

Section 123(f) of the Surface Transportation Act, the source for the “donation” requirement, allows for no exceptions: “Any State that proposes to demolish a historic bridge... shall first make the bridge available for donation to a State, locality, or responsible private entity...” Many state DOTs that were surveyed, however, have expressed frustration with this blanket requirement, recognizing that certain bridges will never be accepted for donation, because they are too large, too deteriorated, or otherwise of no use to private parties. With the Piscataqua River Bridge between Maine and New Hampshire, for example, all spans were so gigantic that the likelihood of their being accepted for donation was essentially nil. At the least, states seem to desire a means of avoiding a marketing program that is neither prudent nor feasible.

A few states have experimented with ways around what appears to be an unavoidable requirement. In Georgia, the DOT and FHWA developed procedures that would screen bridges for condition. If a bridge is found to be in poor condition, no effort will be made to market it. Montana allows for a team of engineers and historians to inspect a bridge to determine its suitability for the Adopt-a-Bridge program. If they determine the bridge is not suitable for relocation, it will not be included in the program.

Still other states have experimented with restricting marketing to particular bridge types. Many states, including Montana, only market truss bridges and other small metal structures. This solution is consistent with the 123(f) requirement only if it has already been determined that a bypass alternative is unworkable, since the 123(f) requirement has universal applicability to historic structures, irrespective of the type.

The challenge in developing a screening mechanism is in finding a method that is effective but also consistent with the legal requirements of the donation clause. A screening mechanism should also be vetted through the historic preservation community within the state, including, of course, the SHPO. It is possible these two challenges could be met by incorporating a screening mechanism directly into a state historic bridge PA, signed by FHWA, the DOT, the SHPO, and the ACHP. It needs to be emphasized that a PA is a Section 106 agreement and cannot substitute for the statutory requirements of 23 USC 144(g).

c. Marketing appears to be most effectively handled through the Internet.

The literature review makes clear that most states have moved away from newspaper and public-notice based marketing and have moved to Internet marketing. The advantages of the medium are clear. It allows for thumbnail sketches of bridges, linked to much more detailed and specific pages. It allows even for presentation of As-Built Plans, which would necessarily be of interest to a potential recipient. The web is also much more far-reaching.

The record search does not indicate, however, whether web-based marketing has actually proven to be successful in attracting potential recipients for surplus bridges. It is known that Indiana has a very active web-based marketing program and appears to have been successful in placing bridges in new settings. It is not known, however, whether that success is directly

attributable to the web-based marketing program, although it is difficult to imagine that the two are not related.

The two common characteristics of effective Internet marketing are: the use of thumb-nail summaries joined with detailed pages; and the listing of state and local bridges in the same site. As with all web-based information dissemination, the effectiveness of the site is inversely related to the number of steps required to access it. The Indiana and Ohio sites, for example, are very easy to access.

d. Marketing is even more effective if coupled with direct communication among professionals.

Several states observed that person-to-person communications among professionals can be more effective than mass marketing in a successful donation. This point was made most eloquently by Connecticut in its 1991 bridge preservation Plan. At its worst, marketing can represent simply “going through the motions” for the purpose of complying with the donation requirement. Personalized communication among transportation professional can lead to a more focused marketing effort, one with an actual outcome in mind beyond simple compliance with legal requirements.

3 Interviews

The interview phase of this research was designed to provide greater detail about the operations of efforts to donate historic bridge, detail that was generally lacking in on-line data. This effort benefitted greatly from the candor and cooperation of those being interviewed, whether from the DOT, the SHPO, or the NGO perspective.

3.1 Methodology

At the conclusion of the literature review phase of this project, ICF proposed a list of individuals to be interviewed and a list of interview questions. The interview questions were based upon issues that emerged from the literature search. ICF selected the interviewees from states that seemed to have especially active bridge preservation programs, or that had encountered unique problems with implementation of the donation requirement. Both the list of questions and list of interviewees were submitted to the NCHRP review panel for approval. Comments from the panel resulted in adding three additional questions and two additional states to the list.

The interviewee, professional affiliation, and date of interview are presented in Table 1 below. The slate of interviews was divided among the members of the team. The team member conducting the interview is indicated in Table 1. The interviews were recorded but not transcribed.

As initially planned, interviews were to be conducted with two parties in each state: someone from the DOT and someone representing the preservation community. The response rate from the DOTs was excellent; every state DOT but one agreed to participate in the interviews. The response from national experts was also excellent. The response from the preservation community was less satisfactory. The lack of response from State Historic Preservation Officers (SHPO) staff can be explained by a lack of familiarity with the law in question. For those SHPO offices responding, the explanation for non-participation was unfamiliarity with the law.

Table 1. List of Interviewees

Interviewee	Affiliation	Interview Date	Interviewer
Jon Axline	Montana DOT	October 4, 2013	Stephen Mikesell
Tom Barrett	Ohio DOT	October 18, 2013	Marie Venner
Paul Brandenburg	Indiana Historic Spans Task Force (NGO)	October 11, 2013	Stephen Mikesell
Robert Hadlow	Oregon DOT	October 22, 2013	Jessica Feldman

Kitty Henderson	Historic Bridge Foundation (NGO)	November 8, 2013	Stephen Mikesell
Bruce Jensen	Texas DOT	October 24, 2013	Jessica Feldman
Mary Kennedy	Indiana DOT	October 7, 2013	Stephen Mikesell
Sandy Lawrence	Georgia DOT	November 6, 2013	David Lemon
Elizabeth Merritt	NTHP	November 18, 2013	Stephen Mikesell
Elizabeth Muzzey	New Hampshire SHPO	October 25, 2013	Richard Casella
MaryAnne Naber	FHWA	November 19, 2013	Stephen Mikesell
John Narowski	Vermont DOT	October 9, 2013	Marie Venner
Antony Opperman	Virginia DOT	November 5, 2013	Richard Casella
David Powellson	New Hampshire DOT	October 24, 2013	Richard Casella
Kara Russell	Pennsylvania DOT	October 30, 2013	Richard Casella
Jack VanDop	Federal Lands Highway	November 14, 2013	Stephen Mikesell

3.2 Results of the Interviews

This section summarizes what was learned from the interviews. The questions below are those that were asked of the subjects; their overall responses to each are summarized.

1. What is your general experience with donating a historic bridge, either because it will be bypassed or because it will be relocated?

The general impressions of the “donation” requirement differed greatly from one state to the next, as did rates of success in finding recipients for bridges.

Officials from Vermont were perhaps most optimistic about the past and future performance of the donation requirement. They observed that it was the success of a project in Wilmington, Vermont, where a truss bridge was bypassed and rehabilitated using projected demolition costs, that helped lead to passage of the original donation requirement and the “cost of demolition” set aside. Following that success, the state has pursued donation aggressively, chiefly through relocation of metal pony truss spans.¹

¹ Robert McCollough of the University of Vermont contends the Wilmington bridge controversy was the precipitant for passage of the donation requirement. Elizabeth Merritt of the National Trust for Historic Preservation cites controversy over demolition of the Pasco-Kennewick Bridge in Washington State as the precipitant.

Indiana has one of the most successful bridge preservation programs in the country, at least in part because it has a bridge-specific Programmatic Agreement (PA) that automatically builds marketing requirements into the environmental review process for any project that involves a historic bridge. It is also widely acknowledged that the historic bridge program in Indiana has benefited from active involvement by nonprofit groups, especially the dedicated bridge advocacy group, Indiana Historic Spans Task Force, and the broader statewide preservation advocacy group, Indiana Landmarks.

Ohio has also been successful in donating bridges through relocation. Ohio officials emphasize that success comes from early planning and personal contacts between state DOT officials, county engineers or other local officials, even before the National Environmental Policy Act (NEPA) process begins. Successful discussions begin with scoping meetings, or even earlier. State officials did observe that Ohio is generally reluctant to pursue bypass options because of long-term maintenance issues. The greatest donation successes in Ohio involved small trusses that could be relocated locally.

Beyond Vermont, Indiana, and Ohio, however, the success rates for bridge donations drop substantially. Montana lamented that its “Adopt-A-Bridge” program had not succeeded, while efforts at bypassing highly popular bridges were more successful. The bypass option was not directly related to the Adopt-a-Bridge efforts but rather succeeded because the bypass was agreed to during Section 106 consultation, making marketing unnecessary.

Oregon, which has gained national attention for its success in rehabilitating historic bridges for continued vehicular use, observed that it rarely had succeeded in marketing a bridge slated for demolition. It did, however, have a few successful bypass projects. As with Montana, the bypass option was selected during Section 106 consultation, making a marketing program unnecessary. In California, the relocation efforts have rarely succeeded. Notable successes have been realized, however, in seeking to preserve a bridge that had been bypassed, especially in situations in which the original and proposed bridge alignments are far apart.² Texas has had recent success in relocating historic truss bridges from state and county roads to parks or to rails-to-trails walkways. This success has been restricted to truss bridges, the numbers of which are declining in that state.

New Hampshire, Virginia, Georgia, and Pennsylvania were generally not upbeat about the success of the donation requirement. Pennsylvania has an “Adopt-A-Bridge” website, linked to the state General Services department site, reflecting the fact that the state treats surplus bridges as it would any other surplus property. New Hampshire observed that in the past the state had bypassed a number of bridges but was disinclined to do so in the future because the bridges deteriorated quickly. Virginia has pursued the relocation option rather than the bypass

² ICF was unable to make connections with officials from the California Department of Transportation (Caltrans). The conclusions in the report that pertain to California are derived from the first-hand knowledge of the principal investigator.

option, with limited success. The only preservation success noted in Georgia was a bridge that was bypassed in place, with the thought that some portions of the truss might be relocated for non-vehicular service.

2. What percentage of bridge marketing efforts of which you are aware were related to a bypass situation and what percentage involved relocation efforts?

While only a few states would hazard a guess on exact percentages for each option, there was consensus that relocation efforts far outweigh bypass efforts. There were also conclusive comments about the differences between bypass and relocation projects. In every state interviewed, the process for seeking a recipient for a historic bridge is decidedly different depending upon whether it is a bypass or a relocation project. Under the bypass option, the fate of the bridge is typically sealed during Section 106/4(f) reviews and the recipient is almost always identified and included as part of the agreement document for the bridge project. The bridge may be “donated” to another party or it may remain with the original owner; in either case, its long-term status is typically known at the time of the 106/4(f) review. With relocation, however, the agreement document is generally contingent upon a marketing effort, which may result in relocation, long-term storage, or demolition. In other words, ownership of a bypassed bridge is decided during the Section 106/4(f) process. For a bridge slated for relocation, Section 106/4(f) concludes with a commitment to pursue marketing, an effort that may or may not result in preservation of the bridge.

Vermont has successfully pursued both bypass and relocation options but those interviewed expressed doubts about any future use of the bypass option without a solid plan for reuse and maintenance of the structure. Vermont observed that it has bypassed a wide range of bridges, including covered bridges, concrete bridges, and trusses. Its relocation efforts, however, have been restricted to metal truss bridges, as is the case nationwide. Vermont records show 10 successful relocations of metal trusses, 8 of which are small pony trusses.



The bypassed Medburyville Bridge in Vermont, held by some in Vermont to be the model after which the “donation” requirement was patterned.

In Ohio, the percentage was estimated to be 90% relocation versus 10% bypass, or possibly even more heavily weighted in favor of relocation. This was attributed to two factors. The state and local agencies are reluctant to leave an old bridge in place due to maintenance and liability issues. On the other hand, the state has been aggressive and often successful in pursuing relocation of bridges for a variety of alternative uses.

In Indiana, like Ohio, the DOT has had very good success in marketing for relocation but limited success in the bypass alternative. In the recollection of Mary Kennedy, bridges that have been bypassed and preserved have been as a result of the Section 106 review, not as a result of marketing. One successful recent bypass project involved a county bridge that was much loved at the local level. The county left the bridge in place without seeking a new owner. There was concern on the part of some, however, that the proximity of the new and old bridges, along with a lack of access to the historic bridge, did little to preserve its essential characteristics.

Montana has had good success in finding recipients for bypassed bridges but very limited success with bridges to be relocated. The bypassed bridges include two monumental structures over the Missouri River, which are discussed under question 6 of the interview summary. In Oregon, the only real success has been in the bypass option. Robert Hadlow of ODOT used the phrase “repurpose” to describe the process through which a historic bridge can be bypassed for non-vehicular use. He pointed to the Crooked River High Bridge, which was replaced by a new bridge and transferred to Oregon Parks and Recreation Department for pedestrian and bicycle uses. In contrast to the spectacular success in bypassing this bridge, Oregon has had very limited success in marketing bridges for relocation.



Crooked River High Bridge in Central Oregon, bypassed and repurposed for non-vehicular use.

California has also experienced greater success with bypass than with relocation projects. The fact that bypasses were pursued successfully in California, Montana, and Oregon, all Western states, raises an interesting question as to how this regional trend has emerged. It may be that these Western states, with large rural areas, generally have more available acreage to build a new bridge on a completely different alignment, allowing the bypass alternative to be viable. Working against that explanation, however, is the fact that Texas, also with a large rural area, has very little experience in the bypass option.

The experience in the remaining states supports a general conclusion that the removal option is pursued far more often than the bypass option. Virginia estimates that only 1-2 % of historic bridge projects involve a bypass. New Hampshire, like Vermont, notes that it had bypassed bridges in the past but found that the bridges deteriorated quickly, leading officials to abandon the option. Georgia and Pennsylvania recounted experiences similar to those in New Hampshire, in which the states had left some bridges in place but with poor results. One notable Pennsylvania bypass project was the Quaker Bridge in Western Pennsylvania, left in place in response to public controversy.



Quaker Bridge, bypassed and left in place in Western Pennsylvania. Photo from Bridgehunter.

3. Describe briefly the methods you used in notifying the public and public agencies about the availability of the bridge – phone calls to local transportation and parks officials, newspaper advertisements, notices via a dedicated Adopt-a-Bridge Program, etc.

The states contacted for this research project use three principal means of notification: newspapers; websites; and person-to-person communication. As a group, the interviewees believed that newspaper notification was the least effective but also the most common method.

Newspaper notification was the dominant (if not exclusive) means utilized in Vermont, Oregon, Montana, Georgia, New Hampshire, and Virginia. Indiana, Ohio, and Pennsylvania maintain comprehensive website listings for marketable bridges. Ohio and Texas rely upon person-to-person communication to get the word out about available bridges.

Indiana DOT contends that its comprehensive website is used on a regular basis and is a major contributor to the success of its marketing program. Indiana actually requires the use of a variety of media for notification—as spelled out in its historic bridge PA—ranging from notices on the bridge itself to newspaper advertisements.

Ohio, like Indiana, uses a variety of means to notify potential recipients. Like Indiana, Ohio maintains a separate web page on reusable bridges, linked to the cultural resources page for the DOT's website. The website includes the vital statistics for the bridge as well as several photographs. As mentioned earlier, the DOT puts a strong emphasis on person-to-person communication, including calls to county engineers, local parks and golf courses, and other potentially interested parties. The DOT typically calls local governments and other potential recipients when a new bridge is added to the website. Ohio does cast its net wider when necessary; it has received inquiries from out of state, via its website.

Texas is as emphatic as Ohio in promoting the usefulness of person-to-person contact between the DOT and potential recipients. In Texas, outreach is geared chiefly to state and local parks and trail maintaining organizations.

4. In your experience, is one of these media more useful than others?

Two clear answers came from the interviews. In terms of formal notifications, Internet listings were by far the preferred media. There was near unanimity, however, that informal notifications, involving telephone calls, e-mails, and face-to-face meetings, were more effective still, and the means by which most bridges get donated.

The perceived advantages of web-based marketing are three-fold. First, the information can be added and edited in real time, without any of the delays associated with newspaper notices and other print media. Second, it is possible to provide the type of information needed to make an informed judgment about moving a bridge: its length, width, and height, structural condition, appearance, and so forth. And providing a catalogue of many available bridges increases the attractiveness for serious potential recipients. Among the states interviewed, Ohio, Pennsylvania, and Indiana seem to have placed the greatest emphasis on Internet-based marketing.

One disadvantage of web-based notifications, as pointed out by the Historic Bridge Foundation, is that state "Adopt-A-Bridge" sites are often buried deep inside the structure of the DOT and overall state web site structure, making it difficult for average citizens to maneuver to the sites. Another shortcoming, pointed out by Montana DOT, is that citizens in very rural areas often lack broadband access, a requirement for data-heavy sites like the Adopt-A-Bridge program. There was also general agreement that the least effective medium was a newspaper notice. Some commentators observed that filing a newspaper-of-record notice was "going through the motions" or "checking boxes" rather than the serious effort of finding a potential recipient. A common question asked by interviewees was: "Who reads a newspaper to find a bridge?" Nonetheless, newspapers are still used as the most common, if not the exclusive, medium for such notices in many states.

Nearly everyone agrees, however, that person-to-person contact is always preferable to newspaper or Internet notices. Even in a state like Indiana, with a high success rate for donations, the impression is that donation is greatly facilitated by person-to-person contact. Indiana noted that very few of the bridges that were saved (relocated and preserved) were the result of Internet-based marketing.

Ohio is especially adamant in the opinion that person-to-person contact, via the phone or e-mail, is the most effective tool. Similarly, Texas also holds that person-to-person communication is by far the most effective marketing tool.

5. How many bridge marketing efforts in your state were successful, i.e., resulted in a bridge being donated to a willing recipient?

No state was able to provide an exact percentage, but the general perception was that the rate of success was quite low. Generally, the ratio of unsuccessful efforts to successful efforts was seen as five to one, or even lower, a ratio given by a spokesperson for the Historic Bridge Foundation based upon projects she has been involved with. The estimates from state DOTs suggest that ratio is too high.

A few states were able to list the number of successful projects, with Ohio claiming an astonishing 5 successful transfers per year. Texas noted it had 5 success stories in “recent years.” The remaining states were unable to give estimates for the success rates but did volunteer examples of local success stories. One example, given by a New Hampshire SHPO spokesperson, was the relocation and reuse of a surplus lenticular through truss in Merrimack County, shown below.



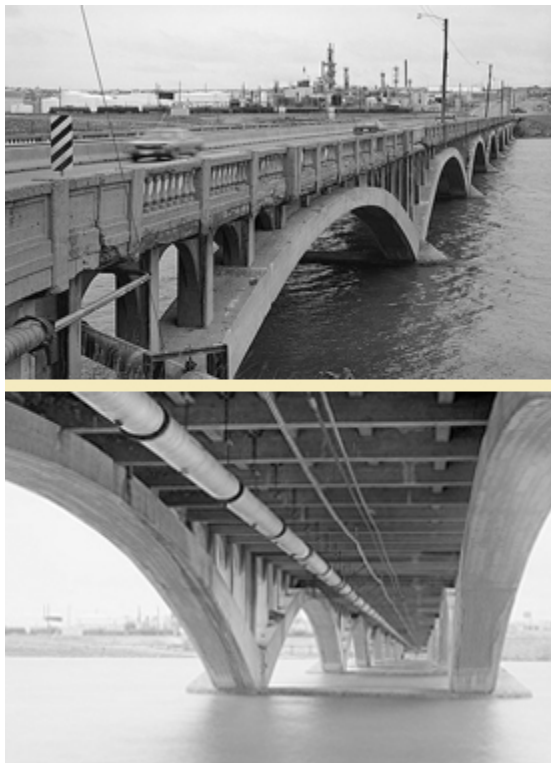
Pineground Bridge, Merrimack County, New Hampshire.

6. If you were involved in a successful transfer, describe the conditions that, in your view, led to that success.

The one constant among the states was a belief that marketing – whether in a bypass or a relocation scenario – succeeded when there was a need for the bridge, the readiness of resources to accept or relocate the bridge, and “know-how” on the part of the recipient to maneuver through an often confusing process.

In various states, it was emphasized that a successful transfer, under the bypass as well as the relocation option, was often accomplished without any marketing. Under the bypass option, the number of potential recipients is very restricted, limited to the original owner (in which case there will be no transfer), the local jurisdiction (city or county), or a special district such as a parks department.

Montana, for example, had successful bypass projects of major bridges across the Missouri River, each of which was resolved without any marketing efforts. One was in Great Falls and involved a multi-span concrete arch bridge, the Tenth Street Bridge, which was bypassed and transferred to the city.³



Tenth Street Bridge, Great Falls, Montana, from National Trust www.preservationnation.com.

³ Demolition of this bridge was delayed through legal action by the National Trust for Historic Preservation. The \$400,000 demolition cost estimate was transferred to the City of Great Falls, which restored and retained the bridge for pedestrian use. www.preservationnation.org. Visited 10/10/2013.

Another Montana bypass success involved a truss bridge at Pompey's Pillar, which was accepted by Yellowstone County. The multiple-span through truss structure is near the Pompey's Pillar National Monument—a popular geological site—and is used for pedestrian traffic.



Pompey's Pillar (Bundy) Bridge, Montana, courtesy of Bridgehunter.

The one notable “donation” in Oregon in recent years – the Crooked River High Bridge – succeeded because there was a willing recipient and a clear need. The small Peter Skene Ogden State Scenic Viewpoint in Central Oregon near the community of Terrebonne now includes three bridges: a Ralph Modjeski-designed railroad bridge, the bypassed 1926 Conde McCullough state highway bridge, and the handsome new T.Y. Lin-designed bridge that replaced the McCullough bridge. The state DOT, which greatly values its McCullough bridges, chose not to demolish the 1926 span but rather worked closely with its sister state agency, Oregon Parks and Recreation Department, which had a need for non-vehicular use at this scenic spot. [This Crooked River canyon is a popular photographic site, in part because of its natural beauty and in part because of the presence of the three dramatic bridges across the gorge.]

In Indiana, there are multiple cases in which a bridge was bypassed and left in place for pedestrian and other non-motorized uses. According to Mary Kennedy of INDOT, none of these efforts went through a formal marketing process but rather the recipient was identified through the Section 106 process and named in the MOA for the replacement project. The relocation option succeeds through prior agreement, as with most bypass bridges, but also through marketing efforts. Indiana has what is likely the most successful program for marketing bridges for relocation. INDOT and Indiana Historic Spans Task Force agree that the best marketing is conducted face-to-face, involving the bridge owner and potential recipients. An example pointed to by Indiana DOT staff and bridge advocacy groups involved the successful relocation of three historic bridges to the Wabash and Erie Canal. The canal is a 7-plus mile portion of a historic shipping canal that once linked the Erie Canal with the Ohio River. This segment is maintained as a historic park by a nonprofit, volunteer organization. The group

maintains several miles of the canal and operates trails alongside the waterway (on the old pull trails) as well as operating canal boat rides. The group had a need for bridges to cross the canal, connecting trails on either side. Historic bridges were seen as fitting for the historic setting. Over time, the group moved three bridges to the site, including the bowstring truss shown below.



Image courtesy goziac

A canal boat navigates its way through Wabash & Erie Canal Park in Delphi, Ind. The canal once was the country's longest.

The Erie-Wabash team epitomizes three characteristics of a successful recipient, as called out in numerous state conversations. First, the group had a need for the bridges. Second, it had money, although its funds were far from unlimited. Third, it had know-how or ingenuity. It is possible to have a successful bridge marketing program if only one or two of these characteristics are in place, but a recipient with all three stands an excellent chance of succeeding.

A separate factor, pointed to by Paul Brandenburg of Indiana Historic Spans Task Force, was the role of a “matchmaker,” an individual who is knowledgeable about the needs of various nonprofit groups and the population of historic bridges likely to be declared surplus, and who can match the surplus bridges with needy groups. He points to the extraordinary role played by retired college professor Jim Cooper in acting as a matchmaker for Indiana bridges. Texas has had several important successes in finding recipients for bridges slated for demolition. There were several common characteristics. The bridges were relatively short-span metal trusses, and the recipient had a clearly identified need for the bridge. An example noted by Texas was the Goodman Bridge, a 1929 100' pony truss bridge that was moved from a county road to a city park in Nacogdoches.



Goodman Bridge, Nacogdoches Texas. Photo from Bridgehunter.

Vermont has experienced unusually good success in relocating metal truss bridges. Like Texas, the success has been the greatest in dealing with small pony trusses, which can be relocated without being dismantled, and in most cases can be transported in one piece by truck. The experiences in Virginia and Ohio mirror that of Vermont and Texas: the donation succeeds chiefly based upon the type of bridge involved.

7. If you were involved in a marketing effort that failed (i.e., did not result in a transfer), describe the conditions that led to that failure.

The various states agreed on one point: if there is not a need for a bridge, it is highly unlikely the bridge will be effectively donated or preserved. The failure rate increases over the course of project design. If a recipient has not been found by the time of construction for the new bridge, the odds for success diminish considerably, resulting in storage off-site or scrapping.

Ohio feels that scheduling is often a substantial factor in failed marketing efforts. Even when there is an interested potential recipient, the schedule of the donor and recipient may not mesh adequately. If the recipient is not able to take the bridge during construction, Ohio attempts to find a place to store the bridge temporarily. “Temporary” storage may, however, end up as a long-term liability. Ohio does feel, however, that temporary storage can lead to preservation under ideal circumstances because it allows bridge construction to continue on schedule while the potential recipient raises funds or plans for re-erection.

Oregon attributes some part of its failure to donate bridges to limited marketing efforts. While it cannot be assumed a bridge would have been relocated with a more aggressive marketing campaign, it was observed that the effort—short notices in local newspapers—was less than it could have been.

In Indiana, prospective donations have sometimes not gotten beyond the inquiry phase because of preservation provisions tied to the transfer. In its PA, Indiana requires a recipient to maintain the bridge for 25 years, to avoid having the bridge scrapped for its metal value. Some potential recipients, even if they are sincere about wanting a bridge, were reluctant to accept those conditions. Several other states pointed to the negative effect of preservation covenants, particularly among private parties and small, rural counties. Montana observed that several ranchers expressed interest in moving a historic bridge to their properties but backed out when they read through the maintenance conditions.

Texas and Georgia observed that it is difficult to successfully market bridges while staying within the confines of the project development process. Potential recipients may be identified but those groups, particularly if they are cash-strapped nonprofit organizations, may not be able to raise the necessary funds within the time allowed in the project schedule. The Historic Bridge Foundation, the National Trust for Historic Preservation, and a representative of the New Hampshire SHPO pointed to fear of financial and tort liability as deterrents to identifying potential recipients.

8. Speaking specifically about the bypass option, describe some specific cases in which you were involved, successful or not.

Two general conclusions may be drawn regarding how marketing proceeds with respect to the bypass option. First, the interviewees agree almost unanimously that the bypass option, when it is successful, is taken care of during the Section 106 and 4(f) processes, and the bypassed bridges do not get enrolled in formal marketing programs, such as those maintained by INDOT or Ohio DOT. Second, it is clear that the bypass option is rarely pursued in most states. For various reasons, Western states—Oregon, California, and Montana—were more successful in pursuing the bypass option than was the case with Midwestern and Eastern states. Oregon pointed to the aforementioned Crooked River Bridge as its most successful effort. Montana pointed to the previously cited Missouri River Bridge in Great Falls as its most successful bypass. In California, there are several useful examples of bridges preserved through bypass, in which the new bridge was built on a separate alignment, allowing the original structure to be left in place for non-vehicular uses. One good example is the Guerneville Bridge, a three-span Parker truss in a resort town in Sonoma County that spans popular recreational stretches of the Russian River.

A few states had little to say about the bypass options because their states had little to no experience in that regard in recent years. That was the case with the DOTs in Indiana, New Hampshire, and Georgia. More commonly, a state DOT could point to one or two examples, each of which reflected unusual circumstances unlikely to be repeated. In Vermont, a concrete arch bridge was left in place for pedestrian and bicycle uses. Ohio pointed to a successful bypass of a metal truss, which was rehabilitated using volunteer labor.



Guerneville Bridge, Sonoma County, California. Picture taken from the deck of the replacement bridge.

9. Speaking specifically about the relocation option, describe some specific cases in which you were involved, successful or not.

Three general points can be derived from the various DOT interviews with respect to the relocation option. First, most states are far more active in pursuing the relocation option than the bypass option. Second, the success rate is far higher with the relocation option. Third, most states restrict their relocation marketing efforts to metal trusses, particularly pony trusses and other small, easily moved structures.

Indiana, Ohio, and Vermont have followed somewhat different paths to high rates of success in marketing and moving metal trusses. As discussed earlier, the success in Indiana is attributed to broad-based support for bridge preservation among a variety of active parties, including the SHPO, a dedicated bridge-advocacy group, Spans of Indiana, and the statewide preservation advocacy group, Indiana Landmarks. Indiana observers also point to the presence of a well-structured, bridge-specific PA, which outlines the specific steps to be taken when a historic bridge is declared surplus. Outside observers also point to the presence of an efficient and dedicated staff at the DOT, which maintains an up-to-date and very useful Adopt-A-Bridge website.

Ohio also has a bridge-specific PA and an active and efficient DOT staff in charge of its Adopt-A-Bridge program. [In recent years, the bridge-specific PA has been transformed into an attachment to the program-wide Section 106 PA.] Officials there, however, emphasize the importance of person-to-person communication among state and local transportation officials as well as local and nonprofit recreation providers. Ohio officials point to the relocation of the Fairview Snodgrass Bridge, a 1913 Pratt pony truss, from an isolated rural setting to an urban park setting.



Fairview Snodgrass Bridge, original setting, Miami County, Ohio, ODOT.



Fairview Snodgrass, new location, Miami County, Ohio. ODOT.

Vermont officials attributed the success of the bridge relocation program in part to close coordination between the DOT and the highly-respected historic preservation program at the University of Vermont, with the university providing much of the contacts and leads through which VDOT has successfully transferred dozens of small metal trusses.

Texas has also had notable successes in transferring and relocating historic truss bridges. Texas DOT points to its successes in reusing historic trusses on recreational trails. The Hays Street Bridge in San Antonio is widely recognized as one of the most successful repurposing endeavors in the country.

Other states had little comment on the factors that led to successful relocation efforts, because such efforts had limited success. That was the case in Montana, Oregon, Georgia, Pennsylvania, New Hampshire, and California.

10. Some transportation officials have maintained that it is ineffective to attempt to market certain bridges, because they are too big, in deteriorated condition, or have some other characteristics that make it nearly impossible that a recipient could be found. Do you have direct experience in this situation?

There was nearly unanimous agreement among the interviewees that it is ineffective to market certain types of bridges, although there was not complete agreement on the list of bridges that should be excluded. [This exclusion is predicated on a Section 106 agreement that the bridge could not be preserved in place.]

Ohio and Indiana are the exceptions to this rule. Both have effective bridge-specific PAs in place that require all bridges to be marketed, irrespective of the bridge type or materials. Ohio officials maintained that marketing was also necessary to establish a convincing “no prudent or feasible” argument under Section 4(f).

There was general consensus that it was impossible to market a concrete bridge or a stone masonry bridge for relocation, because they could not be moved without causing unacceptable damage. There was general agreement that very long bridges of any type were difficult to market, although Spans of Indiana and the Historic Bridge Foundation argued that individual spans of a very long multiple-span metal truss could be marketed and relocated. Ohio DOT and the Ohio Historic Bridge Association also support the transfer of individual components of multiple-span structures, when it is infeasible to relocate the bridge intact.

There was hesitation on the part of most interviewees to exempt bridges from the marketing program, based upon structural condition alone, especially if the condition assessment is based upon National Bridge Inventory (NBI) appraisal or sufficiency ratings. The ratings systems tend to downgrade historic bridges for functional deficiencies that are common to most older structures and which do not necessarily indicate unsafe conditions.

11. Would you support developing some type of screening mechanism to weed out poor candidates from the donation program? If the answer is yes, how do you think such a screening mechanism might be structured?

There was general agreement that it would be useful to have a mechanism to screen bridges prior to marketing them, to weed out very poor candidates for donation. There was considerable disagreement, however, as to how that mechanism would work. Perhaps the most telling answer to this question is that some states are already developing screening mechanisms. Texas states that its DOT is discussing such a mechanism with the SHPO, perhaps using a “program comment” approach to programmatic exclusion of certain bridge types, similar to the approach taken by FHWA in its program comments on common post-1945

bridge types.⁴ Since 2002, Georgia has followed a protocol developed in conjunction with the FHWA area engineer, through which DOT and FHWA developed a list of bridge types that would not be marketed, and a process for excluding poor candidates from the non-exempt bridge types.⁵ The Montana PA, dealing with historic roads as well as bridges, establishes a list of bridge types that are excluded from the “Adopt-A-Bridge” program and a mechanism for excluding poor candidates from the non-exempt bridge types.⁶ Even states without programmatic agreements have developed informal mechanisms for screening bridges. Pennsylvania states that it offers limited to no resources to market stone arches or bridges over 500’ in length.

For states not already screening bridges, there was a diversity of reactions to this idea, ranging from strong support to strong opposition. Virginia stated that it strongly supports development of such a screening mechanism. Other states were more cautious in supporting a screening mechanism, supporting the idea only if the impact were limited. New Hampshire would generally support this idea but would want to see the details. Oregon would support a limited use of screening for bridges in very deteriorated condition. Ohio opposed the idea outright, opining that the current system was not broken and was therefore in no need of repair.

12. Do you have an opinion as to how much time should be allocated to the effort to market or donate a historic bridge?

One pattern developed in the answers to this question: there is no uniform practice among the states in marketing bridges and no unanimity as to what would be an ideal length of time. For many states, one month of marketing is a common practice. There was little support among the environmental officials interviewed, however, that one month was adequate.

States with bridge-specific PAs had tightly prescribed minimums for marketing. Indiana’s PA calls for a 6-month marketing effort. Ohio’s PA calls for 90 days but that effort can be extended to the full life of the project development process, which could go on for several years. Other states have no specific limit but the interviewees generally agreed that one month was too little. Oregon and Georgia believed that six months was a workable length of time. Texas believed that the marketing should be as long as the development process. Montana noted that the marketing typically was extended to the length of the project development process but opined that such a long lead time might actually work against successful marketing because it removed any sense of urgency.

⁴ FHWA “Program Comment for Common Post-1945 Concrete and Steel Bridges,” November 2012.

⁵ This process is outlined in a memorandum, entitled “Marketable Historic Bridges,” summarizing a meeting between GDOT and FHWA June 19, 2002.

⁶ Programmatic Agreement among the Federal Highway Administration, the Montana Department of Transportation and the Montana State Historic Preservation Officer regarding historic roads and bridges affected by Montana Department of Transportation undertakings in Montana,” 2002.

Nonprofit groups, particularly the Historic Bridge Foundation and the National Trust, believed that even 90 days or 6 months was too short and that the marketing should continue for at least a year, in part to allow interested potential recipients to raise funds for relocation and/or rehabilitation.

13. Under federal law, funding for relocation or rehabilitation for non-vehicular use of a historic bridge is limited to the estimated cost of demolition. In your experience, has this limitation acted as a deterrent to effectively donating a historic bridge? If so, would a change in the funding formula assist in efforts to identify potential recipients?

A strong majority among those interviewed believed the “cost of demolition” limit was inadequate but did not agree on how that limit should be modified. The interviewees to this question fall into five basic groups, based upon their responses to this question. The largest group believed that the limit should be raised, without specifying how and by how much. This included responses from the Vermont DOT, Montana DOT, Texas DOT, and Virginia DOT.

In a second group, Oregon DOT, the Historic Bridge Foundation, and the National Trust were concerned that the cost of demolition limit was being shortchanged under current conditions and would prefer a uniform national policy that takes into account all aspects of the cost of demolition. This group seeks additional funding, at least in part through a more generous interpretation of the current cost-of-demolition limit.

The National Trust has also supported changes to the law that would increase the allotment to double the cost of demolition. Another formula, once proposed by Vermont officials, would set the limit as the estimated cost of a new pedestrian bicycle bridge at the same crossing.

A third group, which includes DOTs from Indiana and Pennsylvania, contend that the 2001 FHWA interpretation that a state may not commingle Highway Bridge Program (HBP) funds (the cost-of demolition funding) with what has been called Transportation Enhancement funding, now called Transportation Alternatives Program funding, has limited the usefulness of TEA/TAP funds.

A fourth group, including DOTs from Ohio and Georgia, believed that the current funding allocation should be left unchanged.

A final point of view was that expressed by a representative of the New Hampshire SHPO. This person, who has considerable experience with bridge preservation activities, believed that the costs of mitigating impacts to the historic bridge, whether through rehabilitation for non-vehicular use or through relocation, should be included in the costs of the replacement structure, as is sometimes the case with other mitigation measures.

14. Would you support changes to federal law to eliminate or modify the blanket donation requirement? If so, what changes would you recommend?

Not one state or nonprofit organization supported outright elimination of the donation requirement. There was general agreement that the program could be modified, but not necessarily in ways that would require changes to the law.

The proposed changes differed from one state to the next. The responses may be broadly divided into three groups. The first group, represented by the New Hampshire SHPO, the Historic Bridge Foundation, the National Trust, and the Vermont DOT, stated emphatically that the law should be strengthened, not diluted or eliminated. This group would oppose any action that could be seen as diluting the operations of the current law.

A second group, which included DOTs from Montana, Oregon, Texas, Indiana, and Virginia, supported an amendment to the law (or through some sort of mechanism) that would allow states to screen out poor candidates for marketing or transfer. A third group, represented by the Ohio DOT, believed there was no need to amend the law, concluding that it is working effectively as is.

15. Are there other aspects of the historic bridge marketing program you would like to discuss?

This question was included to allow the participant to speak to issues not included in the other 14 patterned questions. The response was generally to emphasize some point brought up in the previous responses and the most important points in response to this question are captured in the response summaries.

Kitty Henderson of the Historic Bridge Foundation used her response to this question to highlight a matter not treated in detail elsewhere: the fear of financial and tort liability as an impediment to identifying recipients for bridges to be bypassed or relocated, or even for continued maintenance of a bridge for vehicular use. Elizabeth Merritt of the National Trust used her response to this question to raise an issue only indirectly related to the donation requirement. She expressed concern over U.S. Coast Guard actions to require removal of inactive historic bridges over navigable waterways.

4 Summary of Findings

This section summarizes the findings that derive, both from the literature search and the in-depth interviews. It will be followed by a series of recommendations, presented in Section 5 of this report.

4.1 Donation efforts nationwide are geared chiefly to marketing truss bridges for relocation.

There is no theoretical need for donation efforts to focus on relocation rather than bypass alternatives; the Vermont case that helped lead to passage of the donation requirement was a bypass, not a relocation project. It is clear, however, that the bypass option is rarely used. If it is used, it is part of the Section 106 and 4(f) review and agreement, which conclude with an already identified owner.

For practical purposes, the donation requirement is used to market bridges for relocation to another site.

This emphasis on relocation vs. *in situ* is, in the opinion of NGO preservation groups, a sign that the “donation” requirement is not working. The two approaches, however, are not incompatible; marketing for relocation is appropriate when *in situ* preservation has been shown to be infeasible. This matter is discussed under Recommendation 2 in Section 5 of this report.

4.2 Many states focus exclusively upon marketing metal truss bridges.

Small metal truss bridges are the single most likely candidates for successful donation – regardless of the widely variable processes involved. Recognizing that most states focus almost exclusively on the relocation alternative, it follows that marketing efforts will be dedicated chiefly to marketing bridges that can be moved easily. For practical purposes, only metal bridges can be moved easily. And because the vast majority of National Register-eligible metal bridges are trusses, the donation program in most states is effectively a program to market relocation of metal truss bridges.

The exclusive focus on metal truss bridges is effectively a means for exempting or screening non-truss bridges from the donation requirement. This focus reflects the need to develop a more orderly means for exempting from the donation requirement bridges that have a very low probability for preservation, whether *in situ* or through relocation, a matter discussed separately in Finding 4.4 below and in Recommendation 3 in the following section.

4.3 Some states continue to “market” non-truss bridges, even while holding to the conclusion that this effort has little likelihood for success.

States with formalized marketing programs, such as Indiana and Ohio, feed into their marketing program any bridge that is slated for demolition, irrespective of its marketability. For those states, the marketing process is clearly spelled out in terms of months that marketing will occur, the media to be used (chiefly the Internet), and other such information. The same formal methods are used, whether the bridge is a truss or some other bridge that cannot be relocated, such as a stone arch.

4.4 Some states have developed formal or informal methods for not marketing bridges with low marketability.

The mechanisms through which these bridges are screened or exempted differ from state to state.

Montana has included an exemption process in its Programmatic Agreement for historic bridges and roads. The stipulation dealing with the “Montana Adopt-A-Bridge Program” is included in Stipulation 3.E. The stipulation builds a three-step process for exempting bridges. At 3.E.1 the Adopt-A-Bridge program applies only to “historic bridges that are NRHP eligible and have been designated for replacement because rehabilitation and preservation in-place is not feasible.” The second screening mechanism is at 3.E.2, restricting the Adopt-A-Bridge program to “historic metal truss and steel girder bridges with a structural rating of three (3) or above. It does add that “At its discretion, MDOT may also consider other bridges for adoption.” The third level of screening involves a determination of “suitability of an historic truss or steel girder bridge” for relocation by the District Administrator, in consultation with the MDT Bridge Bureau and the MDT’s Environmental Service Bureau historian. Based upon the District Administrator’s determination, a bridge either will or will not be added to the Adopt-A-Bridge program, and the SHPO will be notified of that decision and given 15 days to comment.

The Georgia agreement between GDOT and FHWA is similar to the Montana PA in that it follows a series of checkpoints, each of which can result in a bridge being screened. The first screening is for condition: “If the bridge is in such poor condition that it is not feasible to rehabilitate it, the structure will be demolished.” A second screening involves identifying a potential recipient for a bypassed structure. “If a recipient cannot be identified, the bridge would be demolished.” If it is judged that the bridge could be moved, an effort would be made to find a recipient. “If a recipient cannot be identified, the bridge would be demolished.” In addition to formal screening mechanisms, some interviewees suggested candidly that bridges judged too unsuitable for marketing simply are not marketed, at the discretion of the DOT.

The development of these informal processes for exemption is likely not in strict compliance with the requirements of 23 USC 144(g). The fact that such efforts are underway underscores the need for exemption processes that are in compliance with the law, something addressed in Recommendation 3 in the following section.

4.5 Some states have used temporary storage for truss bridges as an adjunct part of their marketing mechanism.

Texas, Vermont, Indiana, and Ohio (and probably others states as well) have in the past included temporary storage as a final attempt at preservation, when no recipient has been identified prior to construction of the replacement structure. [Indiana will no longer require temporary storage, going forward under its PA.] It does not appear that the rate of re-use from storage has been particularly high, although Indiana and Vermont report success stories. This temporary storage effort should be regarded as above and beyond what is called for in the donation requirement but should not be discouraged, particularly if long-term storage is regarded as a meaningful mitigation measure as a result of Section 106 consultation and Section 4(f) analysis.

4.6 The methods for notifying the public of the availability of a surplus bridge differ widely. In most states, they are restricted to newspaper advertisements, website notices, and personal communications through e-mails and telephone calls.

The state DOT interviews produced one ironic result: newspaper notifications were seen as the least effective but also the most common means of notification about the existence of a surplus bridge. Despite the attention that has been paid to comprehensive website marketing in Ohio, Indiana, and Pennsylvania, the majority of states contacted for this project still rely principally if not exclusively on newspaper notices to market historic bridges.

States with bridge-specific Programmatic Agreements most commonly use the Internet as a means of advertising the availability of a historic bridge. States such as Pennsylvania, Indiana, and Ohio have highly organized methods for posting critical data on available bridges, including photographs and technical information such as the dimensions, materials, and conditions of the bridge. Most observers agree that Internet-based postings are inherently superior to newspaper notices. Some critics say, however, that these websites can be difficult to find because they are hidden inside state DOT sites.

Nearly all states have observed, however, that informal marketing efforts take place via telephone calls, e-mails, and person-to-person meetings. States that use these informal methods maintain that informal methods are superior to formal methods because they are focused on groups likely to accept a surplus bridge. The vast majority of success stories attributed to informal marketing involved relocation of metal truss bridges.

The fact that different states have different means of notification is not a matter of concern. Some states contend, however, that notification procedures differ from project to project or from county to county within a state. The advantages of uniform notification procedures within a state are addressed in Recommendation 1 in the following section.

4.7 Nearly all states that were interviewed agreed that there should be a process for screening bridges for marketing. There was no consensus, however, as to the conditions under which an exemption should occur and how the exemption should be decided.

The individuals in state DOTs who manage historic bridge programs, as well as advocacy group members, generally agree there should be flexibility in marketing bridges. Some bridges will never be successfully marketed because of the bridge type, location, and other factors. Beyond that consensus, however, those interviewed disagreed as to how to implement an exemption process. Three areas of disagreement emerged: a) whether *in situ* preservation has been explored adequately prior to considering marketing; b) the characteristics that would qualify a bridge for exemption; and c) who should be involved in making the decision to exempt a bridge from marketing.

Consideration of in situ preservation.

Several states and advocacy groups believed adamantly that marketing was often done prematurely, before the *in situ* preservation options had been adequately explored. Section 106 and especially Section 4(f) require that *in situ* preservation be considered, as relocation would under most circumstances constitute an adverse effect. If *in situ* preservation can be shown to be not prudent or feasible, pursuing donation and relocation can be justified as the best available preservation option. If, however, it can be demonstrated that *in situ* preservation is both prudent and feasible, it would be difficult to justify putting the bridge up for relocation.

What makes a bridge unmarketable?

The answer to this question hinges on the answer to the previous question, whether or not *in situ* preservation had been adequately considered. If one is satisfied that *in situ* preservation cannot be accomplished, the marketability question is much simpler. It equates with: can the bridge be moved? The answer hinges on bridge type and material. As noted earlier, for practical purposes, bridge marketing nationally is equated with marketing metal truss bridges, particularly small metal trusses that can easily be moved.

The interviewees were in agreement that stone masonry and concrete bridges should be exempted, provided *in situ* preservation has been ruled infeasible or imprudent. They did not agree that metal bridges should be excluded because of physical condition. Some states believed a physically deteriorated bridge should be excluded, while others emphatically disagreed.

Who decides whether to exempt a bridge?

From interviews and the literature review, it appears that states fall into three groups in terms of how decisions are made to exempt a bridge from marketing.

First, states like Ohio and Indiana, which have very well-defined practices for the general treatment of historic bridges through PA requirements, market every bridge, irrespective of type or condition.

Second, states like Montana and Georgia have established procedures for exempting bridges. Montana has a PA that allows the DOT, through consultation of its bridge and historic staff, to determine whether a particular bridge will or will not be marketed. Georgia has a process through which the FHWA and DOT agree on exempting certain bridge types.

The third category, which likely represents the most states, exempts bridges on a case-by-case basis. Because this process is informal and decided on a case-by-case basis, there appears to be no real pattern to this method of exemption.

What is generally missing from the decision-making processes nationwide is the involvement of non-DOT parties that are commonly involved in Section 106/4(f) consultation: the SHPO, the Advisory Council on Historic Preservation (ACHP), bridge advocacy groups, and so forth. The bridge-specific PAs in states like Ohio and Indiana offer multiple opportunities for involvement of the SHPO and advocacy groups. These are not relevant to the question at hand because those states market all bridges, with no exemptions.

Among the states that do offer exemptions, however, no evidence was found that the SHPO or advocacy groups were involved. The closest example is the PA for Montana, which dictates that “MDT will notify SHPO of the bridge’s selection or non-selection for the Montana Adopt-A-Bridge Program and give fifteen (15) calendar days to comment.”

There appears to be a real need among the states for a more orderly method of exempting bridges that cannot be marketed, one that is consistent with 23 USC 144(g). This matter is discussed under Recommendation 3 in the following section.

4.8 Is the “cost of demolition” allowance sufficient to encourage reuse of a bridge, *in situ* or through relocation?

There was general agreement, with a few dissents, that the cost-of-demolition, as calculated today, was too restrictive to support a robust program of bridge reuse and rehabilitation. Criticism of current limits took two paths: that the methods for estimating cost of demolition tend to downplay, or “lowball,” the actual cost; and that, even if properly estimated, the cost of demolition is not adequate to support either *in situ* rehabilitation or relocation and rehabilitation.

The discrepancies in the cost of demolition estimate clearly reflects a flaw in how the donation requirement is being implemented. This matter is addressed in Recommendation 4 in the following section.

5 Recommendations

The five recommendations below represent steps that any given state DOT could take to ensure better and more effective implementation of the “donation” requirement. Other, more dramatic changes to the process would likely require changes to the law or adoption of nationwide policies by the FHWA and are not addressed in these recommendations.

The recommendations below are listed in terms of priority (i.e., they reflect the order in which a state DOT should consider implementing them).

- 1. Each state DOT should adopt a uniform process for notifying the public and agencies of the availability of a surplus bridge, including the media for notification and time allotted for notification, and consider including that process in a bridge-specific PA**

The first priority for a state DOT should be to establish an orderly process for implementing its “donation” requirement. Each of the eight Findings in Section 4 points to the need for uniform practices within the state, regarding the methods for marketing a historic bridge. The findings also clearly indicate that states with clearly defined marketing strategies also have the highest rate of success in their marketing efforts.

The interviews and literature review clearly indicate that the various states have widely diverging methods for advertising the availability of a surplus bridge. It appears unlikely and probably unnecessary for prescribed national standards, given widely differing conditions in the various states. The use of the Internet, for example, is quite popular in many states. Internet notifications fail, however, in states like Montana, where access to broadband service is limited in large parts of the state. There is no such impediment, however, to the development of marketing methods that can be applied uniformly within each state. State DOTs generally favor consistency in the application of all environmental requirements, favoring uniformity in procedures whether the project in question is on a state highway or a local street. The same logic would suggest that each DOT can and should require uniformity in the implementation of the “donation” requirement, for bridges on state highways as well as local streets.

The interviews and literature review strongly indicate that the states with the most effective marketing programs are those with bridge-specific PAs, which lay out the details of the marketing program. It is recommended that a state making a uniform marketing program also consider incorporating that marketing provision into a broad PA for the treatment of historic bridges. Experience has shown that a bridge-specific PA can incorporate a wide range of agreements among Section 106 consulting parties, expediting all aspects of Section 106 compliance. A Section 106 agreement does not substitute for compliance with the 23 USC 144(g) requirement, which originates in a separate part of Federal code. There is no reason, however, that a process for orderly 144 (g) compliance cannot be incorporated into a Section 106-related PA, as has been shown in states with successful bridge PAs, such as Ohio and Indiana.

2. State DOTs should consider adopting internal policies that historic bridge marketing will occur only after *in situ* preservation has been shown to be infeasible.

A second high priority recommendation is for a state DOT to establish a clear policy that marketing will occur only after *in situ* preservation has been shown to be infeasible. As shown in Finding 4.7, there can be no effective method for “screening” or “exempting” unmarketable bridges unless the issue of *in situ* preservation has been resolved, early in the planning process for the bridge replacement project.

It is recommended that a state DOT consider adopting a policy, as part of its internal environmental manual, requiring that development of a marketing program to relocate a historic bridge occur only after it has been demonstrated that *in situ* preservation is infeasible. Some commentators, including state DOT spokespersons and NGO leaders, observed that the success of the marketing requirement has led some states to pursue marketing through relocation from the outset, without seriously considering *in situ* preservation options, whether through reuse for vehicular or non-vehicular uses. An internal policy of this sort would blunt any such criticism.

Such a policy would also help clarify several important considerations for any historic bridge replacement project. First, it would satisfy the Section 4(f) requirement that one demonstrate there is no prudent or feasible alternative to an adverse effect. In many states, relocating a bridge is treated as an adverse effect, making such a finding useful for initiating a process to market a bridge for relocation. It should always be understood, however, that the 144(g) requirements and 4(f) requirements derive from separate Federal codes and fulfilling obligations under one does not necessarily fulfill the obligations under the other. Second, it would simplify the marketing process by ensuring that non-relocation alternatives had already been determined infeasible, allowing marketing to proceed without the further need to consider *in situ* alternatives.⁷

Third, it would also help establish a basis for limiting marketing efforts to bridges that can be moved feasibly, as discussed under recommendation 3 below.

3. State DOTs should explore the development of a process for exempting from marketing efforts bridges shown to be unmarketable. This process should be developed in close coordination with the FHWA, to ensure consistency with the donation requirement, and with the state SHPO, to ensure consistency with the Section 106 process.

⁷ In considering the feasibility of *in situ* preservation, engineers and transportation planners should consult NCHRP Project 25-25, Task 19, “Guidelines for Historic Bridge Rehabilitation and Replacement,” March 2007, later published by the AASHTO Standing Committee on the Environment. Explicit application of the step-by-step decision-making process in these guidelines will help defend any decision affecting a historic bridge, whether that be relocation or *in situ* preservation.

This recommendation is given lower priority than Recommendation 2, not because it is less important but because it cannot adequately be pursued until the issue of *in situ* preservation has been resolved. As shown in Finding 4.4, some states are already pursuing informal means for exempting bridges from the donation requirement, methods that may not be consistent with the requirements of 23 USC 144(g). As shown in Finding 4.7, however, there was near unanimity among those being interviewed that some type of exemption should be pursued. This recommendation is the most difficult to implement but may also prove to be the most important.

As noted in Finding 4.2, metal bridges are typically the only type of bridge that can be relocated, and the vast majority of National Register-eligible metal bridges are truss bridges.

Interviewees expressed a great deal of support for establishing a process for exempting from a marketing effort a bridge that could not be moved or could not be reused on site. There appear to be three possible ways of facilitating such an exemption.

One approach that has been tried in some states is to use a bridge-specific PA as a means of exempting certain classes of bridges from the marketing requirements of 23 USC 144(g). A PA-based PA has many advantages for managing historic bridges generally, as it is commonly signed by the parties most concerned with the resource, including the state DOT, the SHPO, ordinarily the ACHP, and often by bridge advocacy groups. This approach, while it has certain advantages in terms of complying with Section 106 of the National Historic Preservation Act, fails to satisfy the explicit requirements of 23 USC 144(g), which makes no reference to Section 106 and cannot be implemented by a Section-106 based agreement. Compliance with Section 106 does not absolve the state from meeting its statutory requirements under 23 USC 144(g).

An alternative approach could involve an agreement in which the concerned parties – the DOT and SHPO in particular, and perhaps others as well – recognize that the marketing provision will be applied only when relocation is feasible and/or practicable. A carefully-crafted agreement among the DOT and SHPO, specifying the underlying preconditions – a demonstration that *in situ* preservation and relocation are infeasible – could establish a “programmatic” approach that is also consistent with the intent and language of 144(g).

A variation on this approach might involve an agreement among concerned parties – DOT, SHPO, and FHWA at a minimum – that certain bridge types (concrete and masonry, for example) are inherently incapable of being relocated and that, following a demonstration that *in situ* preservation is infeasible, bridges of the identified types would not be subject to marketing efforts.

- 4. State DOTs should consider establishing uniform procedures for estimating the “cost of demolition,” which can be applied to any bridge preservation project, whether it involves relocation or *in situ* preservation.**

This recommendation flows directly from Finding 4.8 and responds to observations made by nearly all those interviewed – that there are no common standards for estimating the cost of demolition. One could argue that this is a high priority recommendation because the cost of demolition estimate greatly affects the probability that any given bridge will be preserved, through relocation or *in situ* preservation. Implementation of this recommendation, however, will likely take longer than Recommendation 1, 2, and 3 because it will require “buy-in” by all parts of a DOT hierarchy, including engineering and environmental staff.

There was wide agreement among those interviewed that the methods for estimating the “cost of demolition” differ from state to state and even from project to project within a given state. The difference reflects changing assumptions as to what should be counted as part of the “cost of demolition,” a term left undefined in Federal law. For example, the cost of demolition of a metal truss is sometimes calculated, deducting the salvage value of the steel and sometimes by excluding the cost of demolishing the concrete piers and abutments upon which the truss rests.

Uniform procedures for this cost estimation, then, must include explicit statements about the factors that will and will not be included in making this cost estimate. These procedures could be included in the state’s bridge program guidelines and/or in its environmental manual. These procedures could then be applied uniformly to all historic bridge projects in the state, whether on a state highway or a local street. In time, it could be expected that state DOTs would observe the practices of other states and a “best practice” national standard might emerge. Other improvements to the “cost of demolition” set aside would likely require legislation and are not submitted as recommendations in the present document. There was wide agreement among the interviewees that the current “cost of demolition” allowance should be increased.

Two alternatives have been advanced in the past. Vermont at one point supported replacing the “cost of demolition” provision with the cost of constructing a non-vehicular (bike/ped) bridge at the proposed location. A second alternative, supported at one point by the National Trust for Historic Preservation, would simply double the amount, to twice the cost of demolition.

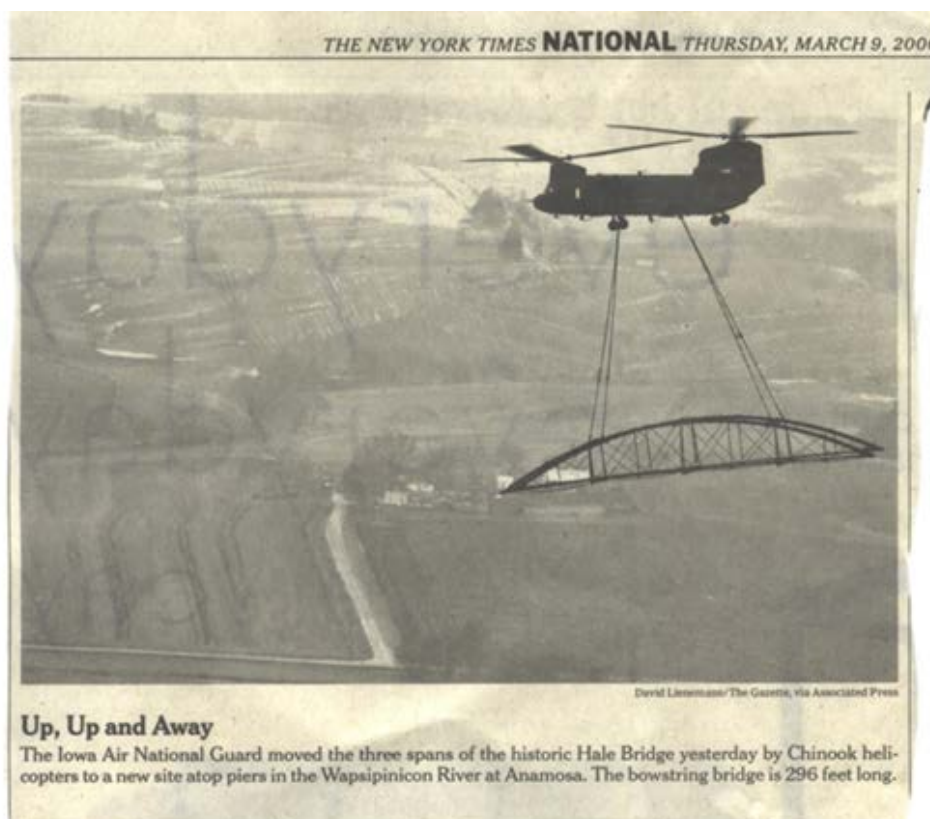
Another funding issue, indirectly related to the cost-of-demolition limit, is a determination by FHWA that cost-of-demolition funds could not be used in conjunction with Transportation Enhancement (now called Transportation Alternatives Program) funds.⁸ The Historic Bridge Foundation, Indiana Historic Spans Task Force, and the National Trust, while sympathetic to the legal interpretation offered by the FHWA, argue that this prohibition works against the intent of both the cost-of-demolition and the stated purposes of the Transportation Enhancement program, which has always included as an allowable cost the rehabilitation of historic transportation features, including bridges. These nonprofits list a fix to this interpretation as their number one priority.

⁸ This prohibition has its origin in an April 26, 2001 FHWA Memorandum, “Interpretation of Title 23, Section 144(o) Reasonable Costs Associated with the Demolition of Historic Bridges.”

5. State DOTs should consider developing specific definitions for the requirement for long-term preservation of a bridge to encourage greater interest in adoption of historic bridges, particularly by non-profit groups and private parties

This recommendation is given lowest priority because it addresses an issue that was mentioned by only a few of the state DOTs. A state DOT should attempt to implement this recommendation only if and when long-term preservation requirements are seen to be an impediment to bridge marketing.

This recommendation derives from comments by DOTs that potential non-governmental recipients, particularly small non-profits and private parties, sometimes shy away from receiving a historic bridge when informed of the requirement for long-term maintenance. 23 USC 144(g) specifies that a bridge being donated must be subject to a commitment to “maintain the bridge and the features that give the historic bridge its historic significance.” The term “maintain” is not defined in the law. Limits, however, are defined by particular states and included in the conditions for transfer of a historic bridge. The Indiana PA specifies a term of 25 years. Each state should inspect its own conditions for donating a historic bridge and consider changing them in light of its experience in marketing bridges to small groups and private parties. It is possible that a greater response rate could be achieved by lowering the term of maintenance while ensuring consistency with the general “maintain” requirement of 144(g).



One span of the Hale Bridge of Iowa in one of the more dramatic bridge relocation projects.

References

Programmatic Agreements

Federal Highway Administration (FHWA), Advisory Council on Historic Preservation (ACHP), and Colorado State Preservation Officer

2003 “Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, and the Colorado State Preservation Officer Regarding Management and Preservation of Colorado Historic Bridges.” Electronic resource. Accessed 27 August 2013. <http://environment.transportation.org/pdf/historic_cultural/MgmtPreservCOHistBr.pdf>.

FHWA, ACHP, Minnesota State Historic Preservation Officer, Department of the Army Corps of Engineers, and Minnesota Department of Transportation.

2008 “Programmatic Agreement Concerning Pre-1956 Bridges Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the Minnesota State Historic Preservation Officer, the Department of the Army Corps of Engineers, St. Paul District, and the Minnesota Department of Transportation.” Electronic resource. Accessed 27 August. <<http://www.dot.state.mn.us/culturalresources/programmatic/CRUbridgepa.pdf>>.

FHWA, ACHP, New Mexico Department of Transportation, and New Mexico Historic Preservation Division

2006 “Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the New Mexico Department of Transportation, and the New Mexico Historic Preservation Division Regarding Management and Preservation of NMDOT Owned Historic Bridges” Electronic resource. Accessed 27 August 2013. <<http://www.achp.gov/docs/NMPAForHistoricBridgesProgram.pdf>>.

FHWA, Indiana Department of Transportation, Indiana State Historic Preservation Officer, and Advisory Council of Historic Preservation

2006 “Programmatic Agreement Among the Federal Highway Administration, the Indiana Department of Transportation, the Indiana State Historic Preservation Officer, and the Advisory Council of Historic Preservation Regarding Management and Preservation of Indiana’s Historic Bridges.” Electronic resource. Accessed 27 August 2013. <<http://www.in.gov/indot/files/HistoricBridgePA.pdf>>.

FHWA, Montana Department of Transportation, ACHP, and Montana State Historic Preservation Office

n.d. “Programmatic Agreement Among the Federal Highway Administration, the Montana Department of Transportation, the Advisory Council on Historic Preservation, and the Montana State Historic Preservation Office Regarding Historic Roads and Bridges Affected by Montana Department of Transportation Undertakings in Montana.” Electronic resource. Accessed 27 August 2013. <http://www.mdt.mt.gov/business/contracting/docs/roads_bridges_agreement.pdf>.

FHWA Ohio Division, ACHP, Ohio Department of Transportation, and Ohio State Historic Preservation Officer

2011 “Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the Ohio State Preservation Office, and the Ohio Department of Transportation Regarding Implementation of the Federal-Aid Transportation Program in Ohio,” Electronic resource.

<http://www.dot.state.oh.us/Divisions/Planning/Environment/Cultural_Resources/Documents/Sec106PA-signed.pdf >

FHWA, Wyoming Highway Department, ACHP, and Wyoming State Historic Preservation Officer

1985 “Programmatic Memorandum of Agreement Between the Federal Highway Administration, the Wyoming Highway Department, the Advisory Council on Historic Preservation, and the Wyoming State Historic Preservation Officer Regarding Management of Historic Bridges in Wyoming Which Must Be Replaced or Rehabilitated.” Electronic resource.

Accessed 7 August 2013. <<http://www.fhwa.dot.gov/agreements/divisions/wydiv04agr.htm>>.

Illinois State Historic Preservation Officer and FHWA

2004 “Programmatic Agreement for the Rehabilitation and Replacement of Historic Bridges between the Illinois State Historic Preservation Officer and the Federal Highway Administration.” Electronic resource. Accessed 27 August 2013. < <http://www.dot.state.il.us/desenv/bde%20manual/bde/pdf/Appendix%20A%20Regulations%20and%20Guidance.pdf> >.

2009 “Extension of the Programmatic Agreement for the Rehabilitation and Replacement of Historic Bridges Between the Federal Highway Administration and the Illinois State Historic Preservation Officer.” Electronic resource. Accessed 27 August 2013. < <http://www.dot.state.il.us/desenv/bde%20manual/bde/pdf/Appendix%20A%20Regulations%20and%20Guidance.pdf> >.

Bridge Management Plans

Hardlines Design Company

2012 *Summary Report for Historic Bridge Management Plans, Multiple Locations, Multiple Counties, Ohio, Task Order CR(HDC)11-13-01, PID No. 92449.* (Columbus, Ohio) Electronic resource. Accessed 27 August 2013. < http://www.dot.state.oh.us/Divisions/Planning/Environment/Cultural_Resources/HISTORIC_BRIDGES/Documents/2013HistoricBridgeMgmtPlans.pdf >.

Historic Resource Consultants

1991 *Connecticut Historic Bridge Inventory, Final Report: Preservation Plan, Federal Aid Project # HPR-PR-1(27).* (Hartford, Conn.) Electronic resource. Accessed 27 August 2013 <<http://www.environment.transportation.org/pdf/HistoricBridgeInventoryReport.pdf>>.

Mead & Hunt

2002 *Final Report: New York State Department of Transportation Historic Bridge Management Plan*. Electronic resource. Accessed 27 August 2013. < <https://www.dot.ny.gov/divisions/engineering/environmentalanalysis/repository/historicbridgemanagementplan.pdf>>.

Mead & Hunt and HNTB

2006 *Management Plan for Historic Bridges in Minnesota*. Electronic resource. Accessed 27 August 2013. <<http://www.dot.state.mn.us/historicbridges/pdf/mgmtplan.pdf>>.

Ohio Department of Transportation and Federal Highway Administration

1990 *The Second Ohio Historic Bridge Inventory, Evaluation and Preservation Plan*. Electronic resource. Accessed 27 August 2013. < http://www.dot.state.oh.us/Divisions/Planning/Environment/Cultural_Resources/HISTORIC_BRIDGES/Documents/Second%20Ohio%20Historic%20Bridge%20Inventory%201990.pdf>.

Oregon Department of Transportation

2007 *Historic Bridge Preservation Plan: Oregon Department of Transportation*. Electronic resource. Accessed 27 August 2013. < http://environment.transportation.org/pdf/historic_cultural/ODOTHistBrPresPlan.pdf>.

Texas Department of Transportation

2010 *Historic Bridge Manual*. Electronic resource. Accessed 27 August 2013. <<http://onlinemanuals.txdot.gov/txdotmanuals/his/his.pdf>>.

Virginia Transportation Research Council

2001 *Final Report: A Management Plan for Historic Bridges in Virginia*. (Charlottesville, Va.) Electronic resource. Accessed 27 August 2013. < <http://www.virginiadot.org/programs/resources/01-r11.pdf>>.

2006 *Final Report VTRCR6-031: Best Practices for the Rehabilitation and Moving of Historic Metal Truss Bridges*. Electronic resource. Accessed 27 August 2013. <http://www.dot.state.oh.us/Divisions/Planning/Environment/Cultural_Resources/HISTORIC_BRIDGES/Documents/Historic%20Bridge%20Rehabilitation%20Best%20Practices.pdf>.

Wilson Okamoto & Associates

2001 *Final Preservation Plan for County of Maui Bridges Within the Hana Highway Historic District*. (Honolulu, Hawaii). Electronic resource. Accessed 27 August 2013. <http://www.co.maui.hi.us/documents/20/76/265/PreservationPlanforHanaBridges_201210251311307831.pdf>.

Internal Environmental Procedures

California Department of Transportation

2010 *Standard Environmental Reference*, Vol. 2, "Cultural Resources." (Sacramento, Calif.) Electronic resource. Accessed 8 July 2013. < <http://www.dot.ca.gov/ser/vol2/chap7.htm>>.

CH2M Hill

2009 *Office of Location and Environment Manual* [Iowa Department of Transportation]. Electronic resource. Accessed 28 August 2013. < http://www.iowadot.gov/ole/manual/iowa_DOT_OLE_Manual_090821.pdf>.

Georgia Department of Transportation and Federal Highway Administration

2002 "Marketable Historic Bridges." Electronic resource. Accessed 27 August 2013. <http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/Environmental/CulturalResources/Cultural%20Resources_HIST_Marketable%20Historic%20Bridges.pdf>.

Idaho Transportation Department

2011 *Environmental Process Manual*, "ITD Historic Bridge Procedure." Electronic resource. Accessed 6 August 2013. < http://itd.idaho.gov/manuals/online_Manuals/current_manuals/environmental/1800.pdf>.

Indiana Department of Transportation

2008 *Procedural Manual for Preparing Environmental Documents, 2008 Version*. (Indianapolis, Ind.) Electronic resource. Accessed 27 August 2013. < http://www.in.gov/indot/files/Procedural_Manual_for_Preparing_Environmental_Studies_2008.pdf>.

Oklahoma Department of Transportation

2013 *Oklahoma Department of Transportation Cultural Resources Studies: A Manual for Cultural Resources Staff and Department Consultants*. Electronic resource. Accessed 27 August 2013. <<http://www.digitalprairie.ok.gov/cdm/compoundobject/collection/stgovpub/id/247801/rec/7>>.

Formal Marketing Programs

Bridgehunter.com

2013 "Available for Reuse." Electronic Resource. Accessed 29 April 2013.

Indiana Department of Transportation

2013 "Historic Bridges Marketing Program." Electronic resource. Accessed 20 February 2013. <<http://www.in.gov/indot/2532.htm>>.

Kentucky Press News Service

2012 “State Still Running Its ‘Adopt-a-Bridge’ Program.” Electronic resource. Accessed 23 July 2013. <<http://www.kypressnewsservice.com/public/story1.php?id=1339512292>>.

Maine Department of Transportation

2011 “Historic Bridges Available for Adaptive Reuse.” Electronic resource. Accessed 23 July 2013. <<http://www.maine.gov/mdot/env/bridgesau.htm>>.

Montana Department of Transportation

2013 “Historic Bridge Adoption.” Electronic resource. Accessed 1 May 2013. <<http://www.google.com/search?q=idaho+environmental+process+manual+historic+bridge+procedure&sourceid=ie7&rls=com.microsoft:en-us:IE-Address&ie=&oe=>>>.

North Carolina Department of Transportation

n.d. “Historic Bridge Reuse Program.” Electronic resource. Accessed 1 May 2013. <<https://connect.ncdot.gov/municipalities/BridgeReuse/Pages/default.aspx>>.

Ohio Department of Transportation

n.d. “Historic Bridges Available for Reuse.” Electronic resource. Accessed 20 February. <http://www.dot.state.oh.us/divisions/planning/environment/cultural_resources/bridge_status/REUSABLE_BRIDGES/Pages/default.aspx>.

Pennsylvania Department of Transportation

2005 “Bridge Marketing: Wanna Buy a Bridge? (An Historic Bridge, That Is...)” Electronic resource. Accessed 1 May 2013. <<http://www.dot.state.pa.us/Internet/Bureaus/pdCulturalResources.nsf/CultResHomepage?OpenFrameSet&Frame=main&Src=%2FInternet%2FBureaus%2FpdCulturalResources.nsf%2Fbridge%2520marketing%3FReadForm%26AutoFramed>>.

Denton County (Texas)

2013 “Road and Bridge East, Adopt a Bridge Program.” Electronic resource. Accessed 19 July 2013. <<http://dentoncounty.com/dept/main.asp?Dept=125&Link=1031>>.

Ad Hoc Marketing by States

Arkansas State Highway and Transportation Department

n.d. “Historic Bridge Marketing—News Release.” Electronic resource. Accessed 27 August 2013. <<http://www.arkansashighways.com/news/2011/Br%20%2000612%20-%20Marketing%20Release%20for%20AHTD%20Website.pdf>>.

Louisiana Department of Transportation

2013 “Historic Bridge Available for Alternate Use—Bayou Boeuf Bridge on LA 1177.” Electronic resource. Accessed 23 July 2013. <http://www.dotd.la.gov/programs_grants/bridgemarketing/>.

Maryland Historical Trust

2009 “Historic Bridge—Free to a Good Home!” Electronic resource. Accessed 24 July 2013. <<http://marylandhistoricaltrust.blogspot.com/2009/12/historic-bridge-free-to-good-home.html>>.

Nevada County (California), Department of Public Works

2013 “Maybert Bridge Notice of Availability.” Electronic resource. Accessed 19 July 2013. <<http://www.mynevadacounty.com/nc/cda/pw/docs/MaybertBridgeNoticeofAvailability.pdf>>.

New Hampshire Department of Transportation

n.d. “Memorial Bridge.” Electronic resource. Accessed 23 July 2013. <<http://www.maine.gov/mdot/env/documents/pdf/historic%20bridges%20for%20adaptive%20reuse/Memorial%20Bridge%5B1%5D.pdf>>.

General

FHWA

1987 Memorandum: Surface Transportation and Uniform Relocation Act of 1987, Section 123(f), Historic Bridges. Electronic resource. Accessed 27 August 2013. <<http://environment.fhwa.dot.gov/guidebook/vol2/doc10i.pdf>>.