1. Introducing HistoricBridges.org

2. A Need For Compromise

3. Compromise Tips For: Preservationists/Historians

4. Compromise Tips For: Engineers/Consultants

5. Compromise Tips For: Agencies
Promote Preservation

Photo-Document Historic Bridges: Focus On Recording “Doomed” Bridges

Our Goals At HistoricBridges.org

Formerly Historic Bridges of Michigan and Elsewhere, Historicbridges.org offers photos, information, and maps for historic bridges. While various structure types are represented, emphasis is placed on metal truss bridges. With Michigan origins and focus, website coverage also Ontario, Pennsylvania and many other places. From rural concrete bridges in Michigan, to the movable truss bridges of downtown Chicago, this photo-oriented website is also a resource for information, while at the same time discussing the risk of demolition that many of these bridges face, as well as political problems that arise regarding historic bridges.

November is Historic Bridge Awareness Month!
Approximate Time Remaining Until All United States Historic Metal Truss Bridges Not Preserved Are Demolished:
4802 days, 23 hours, 4 minutes, 38 seconds

Website and narratives created and managed by Nathan Holth.

Historicbridges.org Features

Bridge Spotlight:
Miami Bridge

Featuring historic bridge photos, maps and information, the Bridge Browser is the main feature on this website. Maps, photos, and a discussion are available for every bridge. Numerous 640x480 photos detail each bridge’s construction. Full-size wallpaper photos for greater detail or use as a desktop background are also provided.
The fate of the vast majority of historic bridges is demolition!

!important Why? Heritage At Risk!

Photo Courtesy Missouri Department of Transportation
Successful preservation projects require a great deal of cooperation between multiple parties who often have different priorities.
Compromise Tips For:
Preservationists/Historians
Preservationists and historians often hurt their own efforts, while also often frustrating agencies and engineers when they insist that a particular form of preservation is feasible when in fact it truly is not.
Certified bridge inspectors examine bridges routinely to ensure they are safe, and to identify and potential problems on bridges and offer possible courses of action to correct problems.
Bridge conditions include both structural condition and functional condition for its current use.

Preservationists and historians can learn to recognize common problems with bridges and their severity to help see and better understand what certified bridge inspectors are seeing.
Preservationists/Historians

Tip #1: Understand Bridge Conditions

Recognizing problems on a bridge can help preservationists and historians work more effectively to develop appropriate preservation solutions that are based on facts, not speculation.
Tip #1: Understand Bridge Conditions
Case Study: Burroughs Road Bridge, Kent County, MI

- Existing Bridge too narrow and not structurally sufficient for continued vehicular use on the two-lane road.
- Existing Bridge was sufficient for non-motorized use.

Result
Existing Bridge relocated and preserved for non-motorized use.
Tip #1: Understand Bridge Conditions

Case Study: Burroughs Road Bridge, Kent County, MI

A larger two-lane historic bridge from another county that was insufficient for its busy roadway, but was structurally sound was found to be sufficient for the less busy Burroughs Road, and was installed for vehicular use.
Tip #2: Understand the Requirements For Different Uses

Different preservation solutions will have different benefits and challenges.
Preservationists/Historians

Tip #2: Understand the Requirements For Different Uses

Preservation for vehicular use will require crash-resistant guardrails that protect both bridge users and the historic bridge itself.

Retaining any original railings behind modern guardrails is usually an appropriate course of action.
Tip #3: Be Willing To Explore Alternatives

Do not get stuck on one preferred option, such as continued vehicular use, when another solution like relocation for pedestrian use might be better.
Tip #4: Look For Low-Cost Options

Agencies are always tight on available funding. Be prepared to propose low or near-zero cost options such as storing the bridge, or non-functional on-land exhibit.
Tip #4: Look For Low-Cost Options

Case Study: Mary Street Bridge, Luzerne County, PA

No third party interest in taking ownership and restoring the bridge.

Could cost of demolition instead be used to preserve?

Cost and effort to relocate this bridge and place on ground in a park or welcome center would likely be minimal.
Tip #5: Be Flexible For Vehicular Use

If a bridge is to remain in vehicular use, expect that greater restrictions and requirements exists to make that proposal a reality.
Preservationists/Historians

Tip #5: Be Flexible For Vehicular Use

Case Study: Washington Crossing Bridge, NJ/PA

Preservation for vehicular use may require a number of alterations and additions. Examples: Replacement of floorbeams, building up of members, replacement of some rivets with bolts.
Tip #6: Understand the Responsibility of the Engineer

The engineer for a project has to put their stamp on final project plans that certify that a project is safe and will work. They are putting their reputation on the line.

Keep this in mind when working with the engineer to develop a preservation solution.
Tip #6: Understand the Responsibility of the Engineer

Listen to the concerns that the engineer has about a proposed preservation project.

Finding preservation examples elsewhere that address an engineer’s concerns may be helpful to the cause of the historian and preservationist.
Tip #7: Engage Section 106 Mitigation

When preservation fails, work for good mitigation!

Good mitigation is unique, responding to the unique significance of a particular historic bridge.

Good mitigation helps future visitors and/or researchers determine what was lost.
Tip #7: Engage Section 106 Mitigation
Case Study: Lynch Village Bridge on Blue Jay Road, Forest County, PA

Stone-shaped form liners for substructure on a replacement bridge, and other aesthetic treatment of a replacement bridge may look nice, but does little to help interpret the history that has been lost.
Preservationists/Historians

Tip #7: Engage Section 106 Mitigation

When preservation fails, work for good mitigation!

Interpretive signage on the site describing the bridge. Salvage of portions of original bridge material, to be placed as a sculpture or exhibit.

High Quality State Level or HAER Recordation.

Complete storage of bridge for potential reuse.
Compromise Tips For: Engineers/Consultants
Tip # 1: Listen To The Public

Historians and preservationists can have valuable experience and creative ideas that may be feasible. Input from locals sometimes finds problems or errors that an engineer may have overlooked.
Tip # 2: Have or Gain Experience With Historic Bridges

Preferably, engineers and consultants who take on a project involving a historic bridge would have experience with historic bridge preservation. Those who do not have experience could conduct research, training, and/or seek consultation.
Tip # 3: Conduct Good Analysis

Some of the modern formulas and calculation methods used to assess bridges today may not work quite right with certain historic bridges.

Be prepared to do extra research and work to generate an accurate assessment.
Compromise Tips For Agencies
Tip #1: Neutral Project Need

At the outset of a project involving a historic bridge, the official Project Need should never be “replacement.” Something solution-neutral, such as “address structural deficiencies and functional obsolescence at the crossing” might be more appropriate.

By law, the Project Need must not bypass or interfere with the goal of Section 106 to consider options which avoid, minimize, or mitigate any adverse effect.
Tip #2: Get A Good Preservation Estimate

Rehabilitation estimates could be conducted by firms with proven experience in historic bridge preservation.

A high quality rehabilitation project could produce a bridge with maintenance and repair costs similar to a new bridge.

The use of inflation rates to justify replacement could be limited.
Tip #3: Communicate Completely and Clearly With The Public

Clearly explain maintenance and lifecycle of bridges to the general public.

New replacement bridges are not maintenance-free. 100 Year Bridge Life will require diligent maintenance. 100 Year Bridge Life has not yet been proven because modern bridge materials have not been in use for 100 years yet.
Tip #3: Communicate Completely and Clearly With The Public

Explain the structural condition of a historic bridge to the public in language they can understand.

Bridge inspection reports which show only the bad portions of a bridge can mislead the public into believing an entire bridge is in bad condition.
Tip #3: Communicate Completely and Clearly With The Public

Explain historic significance to the public.

An effort could be made to always mention and clearly describe the historic value of the bridge at public meetings and highway agency media releases regarding a historic bridge project.
Tip #3: Communicate Completely and Clearly With The Public

Replacement / Rehabilitation Terminology

Demolishing all main spans of a superstructure could be called either “replacement” or “partial replacement” rather than “rehabilitation” especially when dealing with historic bridges.
Tip #3: Communicate Completely and Clearly With The Public

Case Study: Walnut Street Bridge, Harrisburg, PA

Is maintaining a large historic bridge for pedestrians costly? PennDOT reports no major maintenance costs for the Walnut Street Bridge since its 1996 conversion for pedestrian use. Harrisburg does pay for lighting and snow removal. However, these costs would also be associated with a new pedestrian bridge too.
Tip #4: Leave Historic Bridge Standing Next To Its Replacement

If third party cannot be found to take ownership and restore, agency could consider maintaining ownership leaving bridge closed to all traffic without restoration.
Tip #4: Leave Historic Bridge Standing Next To Its Replacement

Case Study: Walnut Street Bridge, Harrisburg, PA

Are there significant costs associated with leaving a historic bridge next to its replacement?

PennDOT estimates that the maintenance costs of leaving the western spans of the Walnut Street Bridge standing 14 years in an abandoned state from 1996 to 2010 is less than $2000.
Tip #5: Maintain a Liberal Number of National Register Eligible Bridges

Increases the likelihood of finding historic bridges for which feasible preservation solutions are available.

Does not prevent construction of a new bridge if the need for a new bridge is demonstrated.
This presentation has only been a brief overview of possible areas of compromise. Actual bridge projects are far more complex, but the intent was to provide a theme to approach projects by.