

ADVERSE EFFECT FINDING

BRIDGEPORT BRIDGE
Wheeling, WV



June 2000

TABLE OF CONTENTS

Statement of Determination.	1
Documentation for Consultation.	2
<u>Projection Description</u>	2
<u>Description of National Register Eligible Property</u>	8
<u>Evaluation of Alternatives and Impacts</u>	8
<u>Conclusion</u>	10

Appendices

- Appendix A (1987 Memorandum of Agreement with 1992 Amendment)
- Appendix B (Finding of No Significant Impact)
- Appendix C (Programmatic 4(F))
- Appendix D (2000 Amendment to Memorandum of Agreement)
- Appendix E (Rehabilitation/Demolition Cost Estimates)
- Appendix F (Bridge Inspection Report)
- Appendix G (WVSHPO Correspondence)
- Appendix H (Agency Correspondence)
- Appendix I (US Coast Guard Correspondence)
- Appendix J (Public Meeting Advertisement)
- Appendix K (Public Meeting Handout)
- Appendix L (Attendance Sheet)
- Appendix M (Public Meeting Comments)
- Appendix N (Article covering Public Meeting)
- Appendix O (HAER documentation)
- Appendix P (Letter from National Park Service)
- Appendix Q (1999 Photographs of Bridgeport Bridge)

Project Location Maps

- County Map iii
- Urban Area Map iv
- Bridge Location Map v

STATEMENT OF DETERMINATION

The West Virginia Division of Highways (WVDOH) and the Federal Highway Administration (FHWA) are proposing to remove the old historic Bridgeport Bridge located adjacent to the new Military Order of the Purple Heart Bridge along US 40. Historically the Bridgeport Bridge carried traffic along US 40 between Wheeling and Wheeling Island from 1983 until 1992 when the bridge was replaced by the Purple Heart Bridge. The Bridgeport Bridge is listed on the National Register of Historic Places (Register) as one of three contributing structures for the Wheeling Island Historic District. Bridgeport Bridge is also independently eligible for its association with the National Road and its impressive architectural ironwork. The bridge location is shown on pages iii, iv, and v. In 1987 a MOA was developed through consultation with the West Virginia State Historic Preservation Office (WVSHPO) and FHWA (See Appendix A). The historic bridge was left in place after construction of the new structure as a way to minimize effects to cultural resources. An environmental assessment was also completed for this bridge replacement project to comply with the National Environmental Policy Act and a finding of no significant impacts was approved (See Appendix B).

The 1987 MOA designates monies allocated for demolition of the bridge to be used toward rehabilitation of the historic bridge. However, the cost to rehabilitate the bridge exceeds the cost of demolition. Therefore, WVDOH is proposing to remove the bridge. Removal of Bridgeport Bridge will cause an adverse effect to a historic resource.

In compliance with the Transportation Act, a Programmatic Section 4(f) has been completed for this project (see Appendix C). Recordation of the bridge per HABS/HAER standards has already been done and accepted by the National Park Service. This was a stipulation in the original 1987 Memorandum of Agreement.

This document is submitted pursuant to 36 CFR 800.11(e) (16 US 470) for comment by interested parties along with a proposed amendment to the original Memorandum of Agreement (MOA) (See Appendix D). Section 106 of the National Historic Preservation Act as amended, requires federal agencies with direct or indirect jurisdiction over a federally assisted or sponsored undertaking afford the Advisory Council on Historic Preservation a reasonable opportunity for comment. This undertaking will affect a property listed on the Register. This case report will provide such opportunity pursuant to 36 CFR 800.6.

DOCUMENTATION FOR CONSULTATION

Project Description

The proposed project is the removal of the Historic Bridgeport Bridge along US Route 40 connecting Wheeling Island in the state of West Virginia to Ohio. The Bridgeport Bridge spans the back channel of the Ohio River, a navigable waterway under jurisdiction of the USCG. The bridge is in a poor state of deterioration and not accessible to the public. Guardrails are positioned at both approaches of the structure to prevent entry.

Due to the poor condition of the bridge, WVDOH proposed to replace the bridge in the early 1980's. After a lengthy mediation process with resource agencies and the public the new Purple Hear Bridge was constructed downstream in 1992. Bridgeport Bridge was left standing after completion of the new bridge. As a result, a Memorandum of Agreement was signed in 1987 between the Federal Highway Administration and WVSHPO. In the MOA, a stipulation provided for the use demolition costs for the rehabilitation of old Bridgeport Bridge including pedestrian use. Stipulation #4 of the original MOA states that *rehabilitation of the existing bridge will be performed to a cost not to exceed the estimated cost of demolition*. However, the cost of demolition does not provide for sufficient cost to rehabilitate the bridge and since the time of the original MOA the bridge has

continued to deteriorate. In 1987, cost to rehabilitate the bridge was estimated to be \$2.5 million, while demolition of the bridge was estimated at \$750,000. Today the estimated cost of rehabilitation is \$6.8 million compared to \$1.2 million for demolition (See Appendix E). These estimates are based on rehabilitating the bridge to standards for pedestrian traffic. Without rehabilitation or removal, the bridge poses a risk to public safety. The liability associated with the public risk is the responsibility of the Division of Highways and the United States Coast Guard. Several deficiencies of the bridge are contributing factors to the need for removal. A copy of the (1982) Bridge Inspection Report is provided. This report was compiled prior to the incorporation of a mabey truss within the superstructure of the bridge and prior to construction of the new bridge. A 1996 bridge inspection report is also provided which identifies the deficiencies of the old bridge (See Appendix F).

The WVDOH in consultation with WWSHPO determined that the bridge was independently eligible for listing on the Register in the early 1980's. In 1992 the bridge was listed on the Register as a contributing resource for the Wheeling Island Historic District. The bridge is historically significant as a contributor to the National Road and for its architectural merit. The National Road began in Cumberland in 1815 and continued west reaching Wheeling around the 1850's. The Historic Wheeling Suspension Bridge, built in 1849, spans the Ohio River from Wheeling to Wheeling Island. Continuing west from Wheeling Island to Ohio a covered bridge was built on the back channel of the Ohio River. In 1893 the covered bridge was replaced by the Bridgeport Bridge, an impressive Camelback Pratt Thru Truss. The Bridgeport Bridge was built on the same existing abutments and piers of the former covered bridge. Removal of the Bridgeport Bridge will result in an adverse effect. (Refer to WWSHPO letters in Appendix G). A brief history of this project is summarized below:

Background

- An Environmental Assessment was approved by the FHWA in June of 1987.
- A public meeting with opportunity for a public hearing was held in Wheeling, WV in August 1987
- A memorandum of Agreement was approved by the ACHP in September 1987
- A finding of No Significant Impact was approved by the FHWA in September 1987
- The USDOl, accepts the HABS/HAER documentation of the Bridgeport Bridge, November 1987.
- Amendment of the 1987 Memorandum of Agreement to address Wheeling Island Historic District approved by the ACHP in March 1992
- The USDOl accepts the HABS/HAER documentation of the Wheeling Island contributing structures to District on October 1992
- A Section 4(F) evaluation was approved by the FHWA, for Wheeling Island contributing structures in December 1994.
- The US Coast Guard issues a permit for the construction of the new bridge in February 1995
- The new bridge is completed and opened to traffic in March 1998
- A public meeting was held June 1998 in Wheeling, WV

Interested Parties

In response to requests from the WVSHPO, WVDOH requested comments from interested parties. Several opportunities were provided to seek interested parties comments regarding the disposition of the old bridge. As a means of pursuing comments, WVDOH has corresponded with the following agencies: *OSHPO, Wheeling Historic Landmark Commission, Belomar Regional Council, Friends of Wheeling, Wheeling National Heritage Area Corp, Wheeling Area Historical Society, City of Wheeling, the National Alliance of West Virginia, and Victorian Wheeling Society.* Some organizations have expressed an interest for curation of architectural elements. In 1996, a bronze plaque from the bridge was promised to the Oglebay Institute for display in the museum. Most parties that have corresponded with WVDOH are supportive of the bridge's demolition. However, correspondence from the Wheeling Historic Landmarks Commission opposes demolition. (See copies of all correspondence in Appendix H).

Agency Involvement

The proposed demolition of the old bridge has been coordinated with the WVSHPO, OSHPO and will be reviewed by the Advisory Council on Historic Preservation. The USCCG has also been involved in the decision making process. In a letter to the WVDOH the coast guard expresses the need to remove the bridge. According to Condition No.6 of Bridge Permit No. 2-95-2, *Removed in its entirety or to an elevation deemed appropriate by the District Commander and the waterway cleared to the satisfaction of the District Commander.*" Coast Guard correspondence is attached. (See Appendix I).

Public Involvement

In the summer of 1998 a public meeting announcement was advertised in the local paper (see Appendix J). The meeting was held on June 23 of 1998 to present proposed plans to remove the bridge. Public comments were requested (See Appendix K for a copy of the public handout). Two local television stations covered the public meeting and aired segments concerning the proposed bridge demolition. The story was also covered by local newspaper reports. (An article from *The Intelligencer* is provided in Appendix L). Despite this media coverage interest from the general public was minimal. The majority of the comments support removal of the bridge. A copy of the attendance sheet is provided (See Appendix M). Comments received from the public are provided (Refer to public comments in Appendix N).

Need for Project

Removal of the bridge is necessary to address environmental concerns and provide for public safety. The deterioration of the bridge is not only a safety concern but a health risk to the public as well. The bridge is in poor condition and will continue to deteriorate adding to the metal contamination of the Ohio River.

The bridge has a 0.0 percent sufficiency rating. The formula used to

determine sufficiency ratings is derived by a method of evaluating data, based on the calculations of four separate factors to obtain a numeric value which is indicative of bridge sufficiency to remain in service. The four separate factors used in determining a sufficiency rating are as follows:

1. Structural adequacy and safety,
2. Serviceability and functional obsolescence,
3. Essentially for public use,
4. Special reductions.

The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero percent would represent an entirely insufficient or deficient bridge.

Structure Deficiencies - In addition to the age of the structure, the deficiencies of the bridge are affected by the following conditions, as noted in the latest *detailed* bridge inspection dated 1982, prior to the addition of the mabey truss:

- The substructure was found in generally fair condition.
- The floor system has dangerously deteriorated. The floor system of span 3 is in the worst condition. The lower lateral bracing has deteriorated and has fallen in several areas.
- The stringers have heavy rust and corrosion with section losses in the flangers and the webs. There are holes up to 18 inches wide in the webs, extending along the entire lengths of some stringers.
- The floorbeams exhibit heavy rust and corrosion with heavy losses of section. The deckbeams are also in similar condition.
- The open steel deck is in fair condition.
- The lower chord members of the trusses have moderate to heavy rust.
- The diagonal eyebars are in poor condition with section losses of up to 50%.
- The verticals and the top chords are in fair condition.

Prior to and during construction of the Purple Heart Bridge, the existing Bridgeport Bridge was needed to maintain traffic. However, the bridge deck was completely deteriorated consequently, in order to maintain traffic, a mabey truss was constructed inside the superstructure of the historic bridge. This was only temporary to allow the bridge to carry traffic during construction of the new bridge. Since then, the Bridgeport Bridge has continued to deteriorate. Information obtained from the latest detailed bridge inspection report dated April 1996 identifies the following deficiencies:

- The concrete girders and underside of both approach spans exhibit major concrete deterioration with exposed reinforcing steel.
- Abutment No. 2 exhibits cracks and concrete deterioration.
- Concrete pedestals of the Mabey truss exhibit minor to moderate deterioration. There is also a minor accumulation of moisture retaining debris on several of the bearing pads.
- Structural steel components which support the upstream walkway exhibit severe deterioration.
- The mabey truss exhibits cracked welds on the top chord of the center truss frame on the downstream side, five floorbeams back from Abutment No. 2 and on the top chord of the center truss frame on the upstream side, five floorbeams out from Abutment No. 1 The upper chord pin snap ring is still missing on the upstream side of Span No. 3.
- There are potholes in the asphaltic overlay of span No. 4.
- Some of the ornamental iron work caps of the original truss exhibit deterioration.
- The full height cut stone abutments are in fair condition. The stones are weathered and exhibit minor cracks.
- The stone piers are in fair condition. The piers exhibit minor cracks in the stones and mortar above and below the waterline.

- The expansion joints at abutment No. 1 and Pier No. 3 allow large volumes of debris and moisture to pass onto the bearing areas.
- The sidewalks are in poor condition. The supporting sidewalks stringers of the upstream walkway continue to exhibit major deterioration.

Description of National Register Property

Bridgeport Bridge

Built in 1893 by the Wrought Iron Bridge Company, the structure consists of three 209 foot through trusses spanning the back channel of the Ohio River between Wheeling Island and the State of Ohio. The length of the structure is approximately 640 feet between the front faces of the abutment backwalls. The bridge roadway is 28 feet –10.5" wide between curbs, with a sidewalk on each side. The superstructure consists of a 5 foot deep open grid steel deck supported on deckbeams at approximately 4 foot centers. The deckbeams are supported on eight lines of longitudinal stringers. Which are supported by the floorbeams at each truss panel point. The structure is supported by two full-height masonry abutments and two masonry piers.

Evaluation of Alternatives

General Overview

Rehabilitation, do-nothing, and demolition alternatives were considered for this study. Rehabilitation would restore the bridge to standards used for foot traffic. However, the new Purple Heart Bridge has two sidewalks, one on each side. The need to provide access for additional foot traffic is not necessary. The do-nothing alternative will leave the bridge standing allowing it to continue to deteriorate. The demolition alternative will remove the historic bridge but also eliminate potential injury and liability concerns. Demolition is considered the most favorable due to the reasons discussed in the subsequent text.

Summary of Alternatives

Rehabilitate – This alternative is the most costly of all the alternatives considered, \$6.8 million. This is considered an excessive cost to WVDOH, FHWA and ultimately the public. The majority of comments received by the public and interested organizations do not support rehabilitation.

Demolition – This alternative removes a potential risk of injury and liability and clearly responds to public comments. The cost of demolition is estimated at \$1.2 million. Although this alternative does cost more than the Do-Nothing alternative, it addresses public safety issues and responds to public sentiment.

Do-Nothing – would eventually result in the possibility of the bridge collapsing into the Ohio River. This constitutes a public nuisance. The potential for injury is of great concern to the USCG and the FHWA.

Description of the Impacts of the Different Alternatives and Proposed Mitigative Measures

Demolition - This alternative effects an historic resource. Measures to minimize this impact have been completed. The documentation of this bridge includes the Historic American Engineering Record (HAER) in compliance with the standards of the National Park Service. This was done in 1987 during the time of the original MOA. A copy of the HAER recordation containing twenty-eight photographs of Bridgeport Bridge is provided (See Appendix O). These photographs are also accessible from the Internet, <http://lcweb.loc.gov/>. A letter from the Department of Interior accepting the recordation is provided (See Appendix P). Also, organizations that have expressed an interest in the salvage of architectural elements will be provided such opportunity prior to demolition. Photographs of Bridgeport Bridge, shot in fall of 1999 are provided (See Appendix Q).

Rehabilitate – Although this alternative will maintain an existing historic resource and not take any structures, the service life of the rehabilitated bridge will be significantly less than the service life of the replacement structure. Estimated life of a rehabilitated bridge is only 25-30 years. The newly built replacement structure has pedestrian access and the cost of maintaining this bridge for additional pedestrian access exceeds any benefits. The cost is excessive to and does not provide needed access across the waterway.

Do-Nothing - would not require the demolition of any properties but would result in continual deterioration of the bridge allowing the bridge to possibly fall into the Ohio River. Thus, resulting in the loss of an historic resource as does the demolition alternative. The Do-Nothing alternative is the least favorable.

TABLE OF ALTERNATIVES

Alternative	Do-Nothing	Demolish bridge	Rehabilitate bridge
Project Cost	\$0.00	\$1.2 million	\$6.8 million
Public Safety Risk/liability issues	High	minimal	minimal
Public Interest/support	unknown	high	minimal

Conclusion

Based on the considerations presented in the sections of this document, there is no feasible and prudent alternative to the removal of a National Register Resource.



United States Department of the Interior

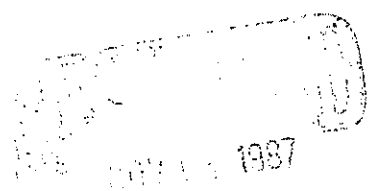
NATIONAL PARK SERVICE

MID-ATLANTIC REGION
143 SOUTH THIRD STREET
PHILADELPHIA, PA. 19106

IN REPLY REFER TO:

H40(MAR-CRP)

NOV 03 1987



PLANNING DIVISION

Norse Angus
West Virginia Department
of Highways
1900 Washington St. East
Charleston, WV 25305

Dear Mr. Angus:

The Mid-Atlantic Regional Office of the National Park Service acknowledges the receipt of and accepts the documentation for the Bridgeport Bridge, Ohio County, West Virginia (Project #434).

This documentation meets Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) standards, conforms to specifications provided by this office and complies with the Memorandum of Agreement among the Advisory Council on Historic Preservation, the Federal Highway Administration and the West Virginia State Historic Preservation Officer.

After editorial review and the preparation of support materials, the documentation will be transmitted to the HABS/HAER Collections of the Library of Congress. The records are in the public domain and will be accessible through the Library.

Thank you for your cooperation in the completion of this project.

Sincerely,

Tina C Van Dyke

for Lloyd N. Chapman
Acting Chief
Preservation Planning Branch
Cultural Resource Management