



Bridge 448 in Olmsted County



Bridge L7075 in Todd County



Bridge 25580 in Goodhue County

Phase I Results

Minnesota Local Historic Bridge Study

Report prepared for

**Minnesota Department
of Transportation**

Report prepared by

**Mead
& Hunt**

www.meadhunt.com

and



November 2012

Table of Contents

	Page
1. Introduction	1
2. Phase I Study.....	2
A. Study approach.....	2
(1) Meetings.....	2
(2) Data collection.....	3
(a) Historical data	3
(b) Engineering data.....	5
(c) Additional data received	6
(d) Master list of historic bridges	7
B. Outreach results	7
3. Information on Minnesota’s Historic Bridges	9
A. Preservation regulations, standards, and guidelines.....	9
(1) State and federal preservation regulations	9
(2) Secretary of the Interior’s Standards and Guidelines	11
B. Participants involved.....	15
C. Programmatic Agreement.....	16
D. Management Plan.....	17
E. Stewardship	18
4. What Makes a Bridge Historic?	21
5. Recommendations	28
A. Education/outreach.....	28
B. Data collection and management.....	28
C. Bridge preservation	29
(1) Geographic location	30
(2) Identifying local historic bridges with preservation potential.....	30
(3) Consideration of preservation priorities	30
(4) Preparation of individual management plans for bridges.....	30
D. Funding.....	30
(1) Federal funding	30
(2) State and local funding.....	31
(3) Funding criteria.....	33
6. Conclusion.....	34
References	35

Appendices

- A Secretary of the Interior’s Standards for the Treatment of Historic Properties, as Adapted for Historic Bridges
- B List of Historic Bridges (from Programmatic Agreement Update)
- C List of Removed Historic Bridges
- D Contact Information
- E Historic Bridges by Material, Type, and Owner
- F Explanation of Condition Score
- G Eligibility of Local Historic Bridges for Highway Funding

Tables

1	Database resource totals.....	4
2	Bridges in database without historical data	5
3	Bridges needing additional data in future effort.....	6

1. Introduction

The Minnesota Local Historic Bridge Study (Study) was sponsored by the Minnesota Department of Transportation (MnDOT) State Aid Office, in cooperation with the MnDOT Cultural Resources Unit (CRU) and MnDOT Bridge Office. The Study focused on Minnesota's locally owned historic bridges. Of the 236 historic bridges in the state, 149 (63%) are owned by local units of government, 58 (25%) are owned by MnDOT, and another 29 (12%) are owned by other non-DOT entities. Other non-MnDOT-owned historic bridges were identified (e.g., federal, private, railroad-owned) as part of this Study, though they were not the focus of either outreach or data collection efforts.

The purpose of the Study was to gather information and communicate with local agencies the significance and responsibilities associated with owning a historic bridge. The Study is expected to guide and inform the future development of a statewide historic bridge program.

Goals of the Study included:

- Gathering basic information on the current condition of the bridges
- Identifying current plans by local owners for their historic bridges
- Sharing information regarding bridge owners' roles and responsibilities regarding federal and state regulations
- Summarizing available historical and engineering data for each bridge
- Updating and correcting the list of historic bridges in Minnesota

An important component of the Study was engaging with local bridge owners. Meetings with the local agencies helped educate owners of historic bridges about federal and state regulations that apply when an undertaking will affect a bridge. It also educated MnDOT staff on some of the unique issues faced by local agency owners of historic bridges. Through this effort, local agencies were advised of their responsibilities and given the opportunity for input on issues related to their historic bridges. Ultimately, the Study is expected to facilitate bridge owners' fulfillment of regulatory requirements by helping them understand their roles and which bridges need to be dealt with.

2. Phase I Study

This Study was undertaken as the first step in developing a statewide historic bridge program, and is known as Phase I. The following section describes how the Study was performed and the material that was received through data collection and outreach efforts. Outreach to local owners started the process of identifying their needs specific to historic bridges.

A. Study approach

The approach to completing this Study included meetings with local owners, collecting historical and engineering data, creating a database to organize the collected information, and preparing local historic bridge reports. The 2008 Master List of Historic Bridges in Minnesota was updated as a result of the data collection effort. Each aspect of the approach is discussed below.

(1) Meetings

To engage bridge owners in the Study, meetings were held in May 2012 as follows:¹

- May 2, 2012 – Metro District (Non-Hennepin County bridge owners) in Roseville, MN
- May 9, 2012 – District 1 in Duluth, MN
- May 10, 2012 – District 6 in Rochester, MN
- May 16, 2012 – Districts 2 and 4 in Park Rapids, MN
- May 17, 2012 – District 7 in Le Sueur, MN
- May 18, 2012 – District 3 in Waite Park, MN
- May 30, 2012 – Metro (Hennepin County bridge owners) in Roseville, MN

Meeting attendees represented county engineering and public works departments, major city engineering and public works departments, and MnDOT districts' state aid offices. In total, 72 bridge owner representatives were present at the meetings. County representatives made up the largest group of attendees with 56 representatives, while five city representatives were present. The remaining 11 representatives were from district engineering or state aid offices.

The meetings provided a platform for MnDOT and local owners to share and discuss information related to historic bridges. The meetings consisted of presentations to educate bridge owners and facilitate communication between local and state agencies. The presentations included an introduction to the Study, overview of previous historic bridge management efforts, and discussion on the process of evaluating the historic significance of a bridge.

A questionnaire was used to facilitate discussion. With the questions listed below, the questionnaire focused on gathering additional information about an owner's upcoming projects and the challenges they face with historic bridges.

¹ Note, due to the number of bridges found in the Twin Cities Metro area, two meetings occurred: one for non-Hennepin County bridge owners and one meeting for bridge owners in Hennepin County.

- What concerns or challenges do you face as a bridge owner?
- What opportunities exist with your historic bridge(s)?
- What needs do you have as a historic bridge owner?
- What potential projects are planned for your historic bridges in the next 10 years or so?
- In the eyes of local residents, are any of your historic bridges in need of repair or replacement in the next 10 years or so?
- Is there anything else MnDOT should know, or keep in mind, in developing an approach for local historic bridges?

(2) Data collection

Historical and engineering data for each locally owned historic bridge was collected from MnDOT, bridge owners and the Minnesota SHPO. The data was used to prepare preliminary local historic bridge reports for each bridge. The reports are intended to serve as quick reference documents for future decision-making about each bridge. Draft local historic bridge reports were distributed at bridge owner meetings. Bridge owners were asked to review the data for each bridge and provide corrected or updated data as needed. As of July 2012, 24 local historic bridge reports were returned, representing 14 percent of the local bridges.

As part of the Study, a new database for historic bridges was created. This information has traditionally been located in a number of different locations, such as the SHPO, MnDOT district bridge offices, and MnDOT CRU. The database includes descriptive information, engineering data, and historical data for each eligible or listed bridge. The current database begins to meet the need for data consolidation, though source materials are still somewhat dispersed and data gaps remain as described below.

(a) Historical data

The historical data collected from MnDOT, SHPO, and local bridge owners provides information on the historic significance of the bridge, as evaluated under National Register of Historic Places (National Register) criteria. Generally, the historic significance information was collected from the following resources:

- Previous MnDOT bridge databases
- SHPO (or other historical) Inventory Form
- Determination of Eligibility
- National Register Nomination
- Historic Photograph(s)
- Bridge Office historical summaries

Available historical data ranges widely in level of detail and length. For example, National Register Nominations for a listed historic bridge typically have the most complete statement of significance, while a SHPO Inventory Form has a modest description of significance. As a result of the variability of data received, some reports' historical data sections are incomplete. Of the 178 historic bridges in the local bridge database, 55 percent do not have comprehensive historical data included in the database. At present, historical data for these bridges only includes a brief statement of significance provided by MnDOT CRU staff.

Complete historical data would help owners understand specific aspects of a bridge's significance and its character-defining features (see Section 4 – What Makes a Bridge Historic?). To best understand the effort needed to make each database record complete, available resources were tallied (see Table 1). Available historical data is currently in PDF format only has yet to be entered into the bridge database. The majority of documents are SHPO (or other historical) Inventory Forms. These forms traditionally are one page in length and offer minimal historic context. As a result, the 45 bridges with only SHPO (or other historical) Inventory Forms will require a large effort to complete historical data needs. On the other hand, the bridges with National Register Nominations (32) and Determinations of Eligibility (17) are often very detailed, so the historical data needs will be minimal but data entry is still required. Additionally, those locally owned bridges that were part of a previous MnDOT historic bridge database have the most complete records, and further data collection or entry needs may be minimal for future studies.

Table 1. Database resource totals

Resource	Number of resources
SHPO (or other historical) Inventory Form	45
National Register Nomination	32
Historic Photograph(s)	19
Determination of Eligibility	17
Bridge Office Historical Summaries	5

In general, most bridges have a combination of supporting documentation. For example, a bridge may have a SHPO (or other historical) Inventory Form and Bridge Office Historical Summary, or a National Register Nomination and Historic Photograph(s). The two resources that provide adequate information for data entry are National Register Nominations and Determinations of Eligibility. Other collected resources, while helpful, do not supply enough background information or supporting documentation of a bridge's historic significance and need to be supplemented with additional resources. Therefore, it is ideal to collect either National Register Nominations (for individually eligible or as part of historic district) or the Determination of Eligibility as part of a future study for each bridge that now has inadequate historical data.

For 11 bridges in the database, historical data, such as a Determination of Eligibility, inventory form, or historic district nomination, was not provided to complete necessary data entry in the database. These bridges, shown in Table 2, will require considerable effort to locate and insert data into the database.

Table 2. Bridges in database without historical data

County	Bridge number/SHPO number	Historic district referenced
Hennepin	6992	Warehouse Historic District
Hennepin	27664	St. Anthony Falls Historic District
Hennepin	92322	None (Determination of Eligibility not provided)
Hennepin	L8898	Warehouse Historic District
Hennepin	90448	Minikahda Club Historic District
Hennepin	9360	None (Determination of Eligibility not provided)
Le Sueur	4846	None (National Register Nomination not provided)
Olmsted	89182	Mayowood Historic District
Otter Tail	L0885	Phelps Mill Historic District
Rock	L2257	None (Determination of Eligibility not provided)
Stearns	SN-SKC-001	Sauk Center Main Street Historic District

(b) Engineering data

The MnDOT Bridge Office collects and manages engineering data for bridges carrying public roadways or crossing over public roadways (referred to collectively as “on-system bridges”). A majority of the local historic bridges do carry public roadways or convey other traffic over public roadways. Much of the information for these bridges is static, often referred to as “Structure Inventory and Appraisal Data.” It contains information about the location of the bridge, the roadway on or below the bridge, and the characteristics of the bridge with respect to length, width, span lengths, etc.

This is primarily a bridge’s inspection data. The inspection data collected from bridge databases is both traditional National Bridge Inventory (NBI) data and PONTIS bridge inspection data. As one would expect, the bridge inspection data is presented in a “Bridge Inspection Report.” Beyond this standard engineering data for on-system bridges, some of the bridges had additional information stored electronically at the Bridge Office. This information widely varies for the population of bridges included in this Study. For a handful of bridges, a wealth of information was found which might include: fracture critical inspection reports, underwater inspection reports, photos, and other documents. However, most local historic bridges contained little or no electronic data. The scope of this Study did not allow for review of the physical files at the Bridge Office to see what, if any, additional information may be present. Several of the bridges in this Study are no longer carrying traffic. These include bridges in parks and a handful in private ownership. Such bridges are referred to as “off-system bridges,” and are not subject to the same data collection efforts as on-system bridges. Consequently, off-system bridges may have little or no information available at the Bridge Office.

Structure inventory, appraisal, and inspection data was collected and presented in the local historic bridge reports. When available, NBI Inspection Code history for the bridge was included in the reports. The color-coded table provided in the reports lets owners quickly determine which component of the bridge (deck, superstructure, substructure, etc.) is in poor, fair, or good condition and how many years it has been in that condition. Poor, fair, and good are overall summary codes. Further definitions are provided in the *MnDOT Bridge Inspection Field Manual*, available on the MnDOT website at <http://www.dot.state.mn.us/bridge/manuals/inspection/bridgeinspectionmanualversion19.pdf>.²

PONTIS element inspection data was also included in the reports. When available, the 2010 roster of PONTIS inspection elements was provided. Any element that had some portion of the element in condition state 3, 4, or 5 was highlighted.³ The purpose of this data was to quickly let the owners see which specific components of a bridge were in fair to poor condition. This condition rating may indicate a need for remedial action. In a future effort, span lengths of the bridges should be verified.

Data gaps in the local historic bridge reports need to be addressed in future phases of program development for the bridges identified in Table 3.

Table 3. Bridges needing additional engineering data in future effort

Bridge Number	County
9360	Hennepin
7771	St. Louis
27956	Hennepin
93861	Hennepin
93863	Hennepin
93864	Hennepin
93866	Hennepin
82524 (prev. 5721)	Washington
R0529 (prev. 5388)	Meeker

(c) Additional data received

Additional data entered into the local bridge database includes comments on drafts of the local historic bridge reports, completed questionnaires from local bridge owners, photographs, and supplemental information. All data files are included as a project deliverable for this Study.

² See pages 7-12 of the *MnDOT Bridge Inspection Field Manual* for definitions of condition ratings for different NBI items; and Section 3 for definitions of condition states for PONTIS elements.

³ The condition state numbers (3, 4, and 5) correspond to poor, fair, and good, but not directly since some components only have three condition states and others have five. In the former case, 3 is poor condition; whereas in the latter case, a 3 is average or fair condition.

Questionnaires, distributed at the local bridge meetings, were received from 20 individual bridge owners/custodians/engineers, which collectively represent 89 bridges, or 50 percent of the local bridges.

As of the time of this report, 126 locally owned bridges have photographs. This represents 71 percent of the local bridges. Gathering photographs of the remaining 51 locally owned bridges is recommended.

(d) Master list of historic bridges

Data collection also facilitated updates to the master list of historic bridges. The list has been refined and updated since its creation to include bridges identified as parts of National Register historic districts and pedestrian bridges within state parks. A small number of railroad bridges were added because they either carry railroads over public roads, are formally listed in the National Register, or were eligible as part of a previous review under Section 106 of the Historic Preservation Act (Section 106). MnDOT also recently identified bridges built from 1956 to 1970.⁴ As a result, a small number of mostly state-owned bridges were added to the list.

This Study addressed any discrepancies in bridge ownership or status and a handful of bridges were found to have been demolished. The updated list of historic bridges in Minnesota totals 236 bridges, and includes bridges owned by local governments, private owners, railroads, MnDOT, other state agencies, and the federal government. The updated Master List of Historic Bridges in Minnesota is included as Appendix B.⁵ A list of bridges that have recently been removed is found in Appendix C.

B. Outreach results

The Study made progress toward improved communication regarding locally owned historic bridges. In each of the meetings, attendees voiced their appreciation for MnDOT undertaking this initiative. They also expressed the need to continue to improve communication between local owners/custodians and state agencies regarding historic bridges. As a result of outreach, many bridge owners now have a better understanding of the historic bridges they own and why they are significant. However, four areas of need emerged from the questionnaires and meeting discussions. First, owners indicated an incomplete understanding of the Section 106 process. Second, improved communication between agencies, as initiated under this Study, is a continuing and ongoing need. Third, a range of educational needs was expressed. Lastly, owners emphasized the need to address funding shortfalls and other limitations to preserving historic bridges.

⁴ Although the National Register has a 50-year age limit requirement, MnDOT included bridges through 1970 in order to minimize the need for future updates.

⁵ The list in Appendix B includes 237 bridges; however, Bridge 7097 (War Memorial Bridge) is eligible for the National Register in the state of North Dakota but not eligible in Minnesota. Therefore, Bridge 7097 does not count toward the total of historic bridges in Minnesota.

Bridge owners identified the following needs related to the Section 106 process:

- Further streamline and accelerate the review process for historic bridges.
- Provide additional guidance on the Section 106 process.
- Improved coordinate with other agencies involved with historic bridge projects, such as the U.S. Army Corps of Engineers (USACE).
- Clarify the process to follow when, in rare circumstances, a bridge borders with another state and it is historic in one state but not the other.

Local owners were not signatories to the Programmatic Agreement executed in 2008 (as described in Section 3.C) and expressed a lack of understanding as to what their obligations to the Programmatic Agreement and requirements are. This Study will improve their understanding of federal and state regulatory requirements associated with historic bridges.

Education was another common theme brought forward by owners at the meetings and in questionnaire responses. Generally, local bridge owners expressed interest in further education on the following topics:

- The Secretary of the Interior's Standards for preservation, rehabilitation, and restoration.
- Guidelines for meeting current bridge design and safety standards
- Tutorials and/or guidelines for appropriate restoration, rehabilitation, and maintenance for each historic bridge type.
- Relocation guidance and the process to undertake relocating a historic bridge.

Local owners also expressed the need for further public education on what makes a bridge historic and the owner's role and responsibility in maintaining a historic bridge. This education should be targeted to government representatives, historical societies, local advocate groups, and members of the community in which a bridge is located, as recommended by owners.

3. Information on Minnesota's Historic Bridges

To provide a framework for understanding Minnesota's historic bridges and considerations to be incorporated into project planning, the following section focuses on preservation regulations, standards and guidelines, and the streamlined approaches developed by MnDOT to facilitate compliance. The Programmatic Agreement and the *Management Plan for Historic Bridges in Minnesota* are tools to streamline historic bridge projects. Roles of the participants involved in meeting project requirements are also described.

A. Preservation regulations, standards, and guidelines

For proposed projects that may affect Minnesota's historic bridges, certain regulatory requirements, standards, and guidelines need to be incorporated into project planning. Applicable requirements are presented in this section, with a focus on information local owners need to know to complete projects efficiently.

(1) State and federal preservation regulations

Section 106 and Section 4(f) of the U.S. Department of Transportation Act (Section 4(f)) are two federal regulations that may need to be considered. Requirements of the Minnesota State Statute Chapter 138 (Minnesota Historic Sites Act) may also need to be incorporated into project planning. For more details, see the *Management Plan for Historic Bridges in Minnesota* (Mead & Hunt and HNTB, June 2006), referred to herein as the Management Plan, available on the MnDOT website at <http://www.dot.state.mn.us/historicbridges/pdf/mgmtplan.pdf>.

To assist with project planning for historic bridges and understanding which regulations apply to a proposed project, MnDOT CRU has developed four project review paths. The different paths are based on these considerations: 1) the type of project funding, federal permits, or licenses, and 2) whether a bridge is one of the MnDOT bridges selected for preservation or is one of the other National Register-eligible or listed bridges on state or local roads. Preservation, as used here, follows the definition set forth by the U.S. Department of Interior as follows: "the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property."⁶

The project review paths are as follows:

Projects with FHWA Funding

Path 1: The project is FHWA-funded involving one of the MnDOT-owned Management Plan bridges designated for preservation/rehabilitation. This path is also appropriate if the proposed project will rehabilitate a MnDOT or locally owned National Register-listed or eligible historic bridge with FHWA funds.

Path 2: The project is FHWA-funded but does not involve one of the MnDOT-owned Management Plan bridges, but is listed or eligible for listing in the National Register, whether state or locally owned, and it is unclear if the project will be a rehabilitation or replacement.

⁶ Code of Federal Regulations (CFR), Title 36, *Parks, Forests, and Public Property*, Chapter I ("National Park Service, Department of the Interior"), Part 68, The Secretary of the Interior's Standards for the Treatment of Historic Properties, revised as of July 1, 1998, p. 329.

Information on Minnesota’s Historic Bridges

Projects with No FHWA Funding but has a federal permit

Path 3: The project is NOT receiving FHWA funds, involves a bridge that is either listed in or eligible for listing in the National Register, BUT will require a federal permit or license from a federal agency (e.g., USACE).

Projects with State or Local Funding Only

Path 4: The project is NOT receiving FHWA funds and does not require a federal license or permit, but does involve a bridge **listed** in the National Register. This applies to either state or locally owned bridges.

MnDOT CRU has developed guidelines on the process for each historic bridge project, based on the applicable path. While a summary of the guidelines is presented below, it is important for a bridge owner to contact MnDOT CRU early in the project planning and programming stages to determine the applicable path to follow and to obtain detailed guidelines.

Path 1 and 2 Guidelines

Both paths begin with the following steps:

- Develop the statement of purpose and need
- Project manager submits project notification
- MnDOT CRU begins Section 106 review
- MnDOT CRU invites Section 106 consulting parties

At this point in the process, Path 1 diverges from Path 2:

Path 1	Path 2*
<ul style="list-style-type: none"> • Bridge Rehabilitation Design Team • Developing bridge rehabilitation plans to comply with the Secretary of the Interior’s Standards • Plan review process/Section 106 consultation 	<ul style="list-style-type: none"> • Developing Bridge Rehabilitation Study • Section 4(f) analysis, if applicable • Section 106 Consultation

Path 3 Guidelines

Project manager coordinates with the federal agency issuing the permit or license to determine requirements for complying with Section 106 and other applicable regulations.

Path 4 Guidelines

- Project reviewed under the state statute known as the Historic Sites Act and coordinated with the Minnesota Historical Society.
- State-owned National Register-listed bridges: MnDOT CRU conducts project reviews and coordination with the Minnesota Historical Society
- Locally owned National Register-listed bridges: Project sponsor coordinates directly with the Minnesota Historical Society.

** Note: Unlike Path 1, the outcome of the process for Path 2 (e.g., rehabilitation vs. replacement) is not predetermined. Through the development of the project Purpose and Need statement and the analysis and evaluation of alternatives, both the rehabilitation and replacement alternatives must be evaluated, leading to the selection of a preferred alternative. This path requires completing a rehabilitation study for the historic bridge, taking into account the process requirements of Section 106 and Section 4(f).*

(2) Secretary of the Interior's Standards and Guidelines

The standards and guidelines established by the U.S. Department of the Interior, Secretary of the Interior, should also be incorporated into project planning. The Secretary of the Interior's *Standards for the Treatment of Historic Properties* (Secretary's Standards) are a series of concepts related to maintaining, repairing, and replacing historic materials, as well as designing new additions or altering a historic property. The Secretary's Standards are not technical or prescriptive, but are intended to promote responsible historic preservation practices by providing advice and philosophical consistency to the work. In certain cases, the Secretary's Standards are regulatory, including in the application of Section 106. The National Park Service (NPS), a unit within the Department of the Interior, has produced guidelines for historic properties to assist in applying the Secretary's Standards. When used together, the standards and guidelines help an owner complete work on a historic bridge without adversely affecting its historic character.

Four treatment options are included in the Secretary's Standards:

- *Preservation* – The act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property.

Preservation within the Secretary's Standards applies to minor work such as stabilization and does not apply to new construction.



Figure 1. The Duluth Aerial Lift Bridge, constructed in 1905/1930 (MnDOT photograph). A recent project to abate lead paint and to repaint the bridge is an example of the Preservation treatment option.

Section 3 Information on Minnesota's Historic Bridges

- *Rehabilitation* – The act or process of returning a property to a state of utility and of making possible a compatible use for a property through repair, alterations, and additions, which makes possible an efficient contemporary use while preserving those portions or features that convey its historical, cultural, or architectural values.

Rehabilitation is the treatment option typically seen on historic bridge projects as it allows for adaptation of a bridge to a new purpose and/or to meet modern design standards. This flexibility is important to developing project alternatives.

The best practice to develop a rehabilitation option that meets the Secretary's Standards involves collaboration between an engineer and historian focusing on reviewing character-defining features and historic fabric of the bridge, and discussing the project purpose and need, the bridge's current condition, and proposed alternatives for rehabilitation.



Figure 2. Constructed in 1927, the Holmes Street Bridge is located in Shakopee, Scott County, and was adapted for pedestrian use after it was bypassed by a new vehicular bridge. Repairs completed in 2011 to gusset plates and channels that provide additional strength to truss members exemplify the Rehabilitation treatment option.

Section 3
Information on Minnesota's Historic Bridges

- *Restoration* – The act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

Restoration is the highest standard and can be difficult to achieve for a bridge that needs to meet a current use; however, it can be applied to materials/features from the bridge's significant period.



Figure 3. Constructed in 1870, the Manning Avenue Bridge is located on the Gateway Trail in Washington County. In a project to relocate and adapt the bridge for trail use, bridge members were reassembled using hot riveting of connections. This portion of the project exemplifies the Restoration treatment option.

Section 3 Information on Minnesota's Historic Bridges

- *Reconstruction* – The act or process of depicting by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

Reconstruction is less common for a bridge. It is typically seen where a property (building or bridge) had been a significant feature of a historic bridge, was lost, and there was a desire to restore this feature through reconstruction.



Figure 4. Constructed in 1935, the Lester River Bridge is located in St. Louis County. A project to reconstruct the masonry parapet wall after it was demolished in a vehicular accident exemplifies the Reconstruction treatment.

Guidelines on how to apply the Secretary's Standards begin with recommendations to identify the features that are important in defining a bridge's historic character. Character-defining features are the most important components of the bridge to preserve during rehabilitation activities. The historic fabric of a bridge (historic period materials and physical features) should be considered for preservation and retained where feasible. The rehabilitation of the bridge, including character-defining features and historic fabric, should be in compliance with the Secretary's Standards as determined by MnDOT CRU.

To address the special requirements of historic bridges and to identify specific applications to bridges, the Virginia Transportation Research Council adapted the Secretary's Standards in its *Guidelines for Bridge Maintenance and Rehabilitation Based on the Secretary of the Interior's Standards*. Because the Secretary's Standards have not been adapted to historic bridges in other publications, these guidelines prepared in Virginia have been broadly used by anyone involved in bridge maintenance and/or rehabilitation projects. These guidelines are included in Appendix A.

B. Participants involved

Various participants are involved with historic bridge projects, particularly when the project is considered a federal undertaking. The role and responsibility of each participant will differ depending on the nature of an action or situation pertaining to the historic bridge. The following identifies the participants most commonly involved with historic bridges and what their roles and responsibilities entail:

- Bridge owner – Key partner in any decision-making process with ultimate responsibility for stewardship of a historic bridge.
- Federal agencies (e.g., FHWA, USACE) – Lead agency responsible for regulatory compliance, including Section 106, if a historic bridge project is a federal undertaking. The FHWA has delegated regulatory compliance responsibilities to MnDOT for projects following Paths 1 and 2, described in Section 3.A.(1) above. The USACE is an example of a lead agency responsible for projects following Path 3.
- MnDOT – Various offices within the state transportation agency provide different types of technical assistance as follows:
 - CRU – FHWA's delegated authority to comply with Section 106, which includes making determinations of National Register eligibility and findings of effect for historic bridges. Also conducts SHPO consultation to request concurrence on eligibility determinations and finding of effects, and interested party consultation. Advisor on historic bridge stewardship and complying with the Secretary of the Interior's Standards for Treatment of Historic Properties. Although the FHWA has delegated authority to CRU for compliance with Section 106, CRU has no official role in the Section 4(f) process.
 - Bridge Office – Has authority over all bridges for FHWA compliance and adherence to state laws. Provides bridge owner with guidance on the repair and rehabilitation of historic bridges. Works with the State Aid Bridge Office to assist with technical issues related to design, design standards, and design exceptions for historic bridge projects. Includes special role designated under the Programmatic Agreement (see Section 3.C below).
 - Historic Bridge Engineer – Engineer with expertise on the technology and construction of historic bridges and best practices for maintenance and rehabilitation; advisor to historic bridge owners, other agency staff, FHWA, and SHPO.
 - State Aid Office – Works closely with local governments to ensure the state maintains a safe, effective, and coordinated highway network; provides funding support and technical assistance for bridge projects; coordinates local federally funded projects and provides overall management of the state aid system.
 - State Aid Bridge Office – As with the State Aid Office, works closely with local governments to provide technical assistance for historic bridges. Collaborates with the

FHWA, Bridge Office (Historic Bridge Engineer), and consultants to ensure the historic bridge project complies with AASHTO and MnDOT LRFD Bridge Design Specifications, MnDOT and FHWA policies, Minnesota State Statutes, and approved design exceptions and design variances to State-Aid Operations Rules.

- SHPO – Agency within the Minnesota Historical Society that oversees the Section 106 and state-level cultural resources-related regulations. SHPO identifies, evaluates, registers, and protects Minnesota's historic and archeological properties, including historic bridges; and assists government agencies in carrying out their historic preservation responsibilities. Under Section 106 regulations, the SHPO plays an important role in consultation but the federal agency remains legally responsible for all required findings and determinations. As described in the regulations, the SHPO “reflects the interests of the State and its citizens in the preservation of their cultural heritage...advises and assists Federal agencies in carrying out their section 106 responsibilities and cooperates with such agencies, local governments and organizations and individuals to ensure that historic properties are taking into consideration at all levels of planning and development.”⁷ SHPO, on behalf of the Minnesota Historical Society, plays a similar consultation role with project sponsors under the Minnesota Historic Sites Act, which applies to National Register-listed historic bridge projects that have state or local funding, but no federal funding. See Path 4 in Section 3.A.(1).

C. Programmatic Agreement

To efficiently satisfy requirements under Section 106 for projects affecting historic bridges, the FHWA, ACHP, Minnesota SHPO, USACE – St. Paul District, and MnDOT developed a Programmatic Agreement in 2008. The Programmatic Agreement satisfies the FHWA's responsibility to identify and evaluate historic bridges for federally funded projects or undertakings sponsored by local agencies and MnDOT Districts. Under this agreement, MnDOT is committed to preserving and performing a higher level of maintenance on selected state-owned historic bridges, and working to encourage preservation efforts for bridges controlled by local agencies. This agreement focuses on MnDOT's efforts with historic bridges and identifies a list of all historic bridges statewide.

The Programmatic Agreement has the following objectives:

- Streamline the Section 106 process by proactively identifying the state's historic bridges
- Preserve the premier examples of state owned historic bridges
- Educate the public and other agencies of the value of the state's engineering heritage

The FHWA, MnDOT, and SHPO are currently updating (in 2012) the Programmatic Agreement to add a small number of bridges to the master list of historic bridges that were built between 1955 and 1970 and

⁷ Code of Federal Regulations, Title 36, *Parks, Forests, and Public Property*, Chapter I ("National Park Service, Department of the Interior"), Part 800.2, Participants in the Section 106 Process.

were recently determined eligible, and to reaffirm the commitment to a streamlined Section 106 process. The commitments to preserve historic bridges are the trade-off for not having to send every bridge that is of historic-age through the time-consuming Section 106 review process individually. Bridge owners benefit from the streamlined process because there is a Programmatic Agreement for historic bridge projects.

D. Management Plan

In 2006 MnDOT prepared the *Management Plan for Historic Bridges in Minnesota*. The Management Plan incorporated and summarized the previous two decades of efforts to identify and document the state's historic bridge population, and introduced a new effort to encourage preservation. The heart of the plan was MnDOT's innovative team approach to developing individual management plans for state-owned historic bridges. These plans are proactive tools that consider a full range of options for each bridge and identify long-term preservation strategies with consideration given to transportation needs and reasonable costs. Minnesota Historic Property Record (MHPR) documentation was also completed for 46 historic bridges.

In sponsoring individual management plans for state-owned bridges, MnDOT initiated an innovative approach in which a professional engineer works with a professional historian. The major steps in the process—survey, evaluation, and recommendations—are conducted jointly, requiring an ongoing dialogue between the engineering and historical perspectives. Guided by the Secretary's Standards (as discussed above) and professional engineering standards, the historian and engineer prepare technical recommendations for bridge stabilization, preservation, and maintenance.

In addition to preparing individual plans for certain bridges, MnDOT developed an overall Historic Bridge Management Plan offering broad tools and guidance for bridge owners in the following key areas:

- **Applicable laws, standards, and definitions** – Provides an overview of federal and state historic preservation and transportation laws and programs that pertain to historic bridge identification and management.
- **Background data and analysis** – Reviews the development of MnDOT's planning process for historic bridges from 1985 through creation of the Management Plan. Through this chronological list of survey, evaluation, and management projects, the progression from identification efforts to management efforts developed.
- **Management of historic bridges** – Introduces the individual management plan as a critical tool for preservation of any specific historic bridge. Guidance is presented on how to prepare such as plan, beginning with explanations of the five basic options for historic bridge preservation, ranging from rehabilitation for continued vehicular use on-site to partial reconstruction while preserving substantial historic fabric.
- **Technical guidance** – Offers guidance to owners and engineers on how to preserve and maintain historic bridges. Recommended stabilization, preservation, and maintenance efforts,

categorized by bridge material and/or type, are presented. Guidance on inspection frequency is offered. This section also presents special technical considerations such as disassembly and re-erection of truss bridges, agreements to transfer ownership, guidance on mortar analysis, and the use of exceptions to design standards.

- **Funding options** – Preservation of historic bridges can be expensive and may require funding beyond the levels used for non-historic structures. The Management Plan presents an overview of potential funding sources. A particular bridge project may take advantage of one, several, or none of the possibilities presented, depending on its particular circumstances.
- **Contacts** – Identifies Minnesota and national agencies and organizations that can provide information and expertise on historic bridges, historic preservation, and local historic issues.

E. Stewardship

Historic bridge owners' stewardship is important to preserving Minnesota's engineering heritage. In practicing stewardship, owners and their partners have adopted the collaborative approach resulting in several successful projects as described below.

Nymore Bridge, Bemidji

Located in the city of Bemidji, Bridge No. 2366 (also known as the Nymore Bridge) was built in 1916 on "Old Highway 2" to connect the city with the village of Nymore. It is a three-span, reinforced concrete, filled-spandrel, barrel vault, segmental arch bridge. Since it was removed from vehicular service in the mid-1980s, the bridge has served as a pedestrian, bicycle, and snowmobile trail crossing. Over time, the concrete at the base of the piers, along the spandrel walls, and on the underside of the arches has deteriorated and spalled. Most of the historic light standards were also removed from the bridge. The engineer and historian team collaborated on concrete repair methods that would not affect the bridge's historic integrity. The team also developed a strategy for repair or reconstruction of the light standards and for meeting railing-height safety standards. This project is fully designed and is awaiting funding for implementation.



Figure 5. The Nymore Bridge (Bridge No. 2366) in Bemidji is awaiting funding for concrete repair and repair or reconstruction of historic light standards.

Intercity Bridge, Minneapolis/St. Paul

Constructed in 1927, the Intercity Bridge carries Ford Parkway over the Mississippi River. It is one of the largest reinforced concrete bridges ever built in Minnesota and is an excellent example of the monumental urban, continuous-rib-arch, reinforced concrete bridges constructed to span the high and scenic Mississippi River bluffs during the early automobile age in the Twin Cities. It was rehabilitated in the early 2000s; the deck was widened to meet modern traffic needs. Support for the project from local government officials and the public was important for the bridge's continued use as a significant vehicular connection between Minneapolis and St. Paul.

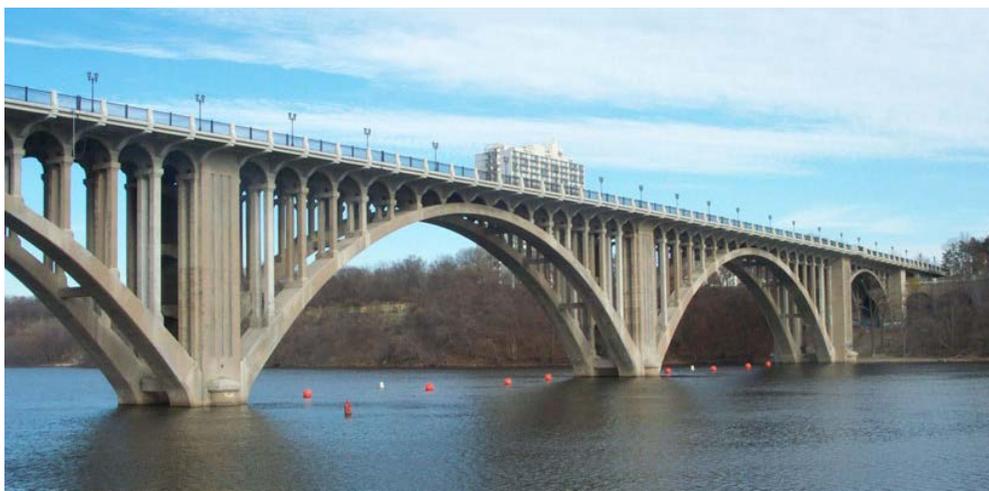


Figure 6. The Intercity Bridge in Minneapolis/St. Paul (MnDOT photograph) underwent rehabilitation in the early 2000s to widen its deck, thus meeting modern traffic needs.

Section 3
Information on Minnesota's Historic Bridges

Bridge No. 90661, Minneapolis

Bridge No. 90661 is a 1912 reinforced concrete slab bridge with Classical Revival detailing. It previously carried the Chicago, Milwaukee, and St. Paul Railroad over Dean Parkway in the city of Minneapolis. Today, it is part of the Midtown Greenway pedestrian/bicycle trail and is a contributing element to the National Register-eligible Grand Rounds Historic District. As a result of deteriorating concrete on the piers, fascia, and parapets, the bridge was rehabilitated in 2010-2011. There was extensive collaboration with the contractor during the rehabilitation project so concrete repair techniques would comply with the Secretary's Standards. Public involvement with the nearby residents was also a key component of the project.



Figures 7 and 8. Before and after views of Bridge No. 90661 in Minneapolis, showing concrete repairs complying with the Secretary's Standards.

4. What Makes a Bridge Historic?

Bridges are identified as historic through a systematic process established in the procedures for the National Register, which was authorized by the National Historic Preservation Act of 1966. Through the evaluation process, qualified historians assess the bridge using a defined set of criteria for its significance to American history, architecture, archaeology, engineering, and culture.

Bridges found to meet one or more of the criteria, individually or part of a larger historic district, are considered historic and included in the National Register, a listing of all historically significant resources in the United States. Of the 7,500 bridges studied in the state, three percent have been considered historic. Eligible and listed bridges receive the same protections under federal preservation law. See Section 3.A for applicable information on Section 106 and Section 4(f) regulations.

The National Register evaluation criteria provide the framework under which qualified historians assess the historic significance of a bridge at the local, state, or national level. The first qualification a bridge must meet is an age consideration of being at least 50 years old. Fifty years is generally the time needed to develop historic perspective to evaluate a resource's significance. Current condition and function is not a consideration in the assessment.

This evaluation often occurs during a statewide survey of a particular population of bridges, such as Minnesota completed in the 1990s and updated over the last few years. A bridge may also be individually evaluated as part of a federally funded or permitted undertaking and determined eligible for listing in the National Register. Often, historic contexts or multiple property document (MPD) National Register nominations provide contextual information about a resource's historical associations and help a historian determine significance. The historic context and MPD are used as follows:

- Historic contexts and thematic studies provide historians with information about related historic properties, based on theme, geographic limits, and chronological period. Other Minnesota historic contexts are thematic, such as "Minnesota's Iron Ore Industry," or are resource-specific, such as "Minnesota Military Roads."
- An MPD serves as the basis for evaluating the National Register eligibility of related properties by theme. The MPD provides a historic context for the property type and identifies character-defining features that the bridge should contain in order for it to be considered eligible. Three bridge-related MPDs have been prepared in Minnesota and include "Masonry-Arch Highway Bridges," "Historic Iron and Steel Bridges," "and Reinforced-Concrete Bridges." These MPDs are available online at: <http://www.dot.state.mn.us/historicbridges/about.html>.

After establishing its age (as represented by its date of construction) and historic context, the resource is then evaluated under four criteria: A, B, C, and D. Determining which criteria apply is key to understanding a historic bridge's particular significance. A resource can be eligible under *Criterion A* for an association with general trends and patterns of history or *Criterion B* for an association with a significant person. Resources eligible under *Criterion C* are significant for their design or construction;

Section 4 What Makes a Bridge Historic?

this is the most common criterion for bridges. Eligibility under *Criterion D* recognizes a resource's potential to yield information important in prehistory or history.

Criteria B and *D* rarely apply to bridges and no examples in Minnesota have been determined eligible under these criteria. To be eligible under *Criterion B*, a bridge would need to illustrate the important achievements of a significant person. Significant works of important artisans and engineers are recognized under *Criterion C*, instead of *Criterion B*. *Criterion A* recognizes bridges that have an important association with single events, a pattern of events, repeated activities, or historic trends that are significant within the context of Minnesota's transportation and bridge-building history. Some Minnesota bridges are significant under *Criterion A*, such as Bridge 6544, the Oliver Bridge (Figure 9). The bridge is eligible for listing in the National Register in the area of Transportation under *Criterion A* as a significant link in the Iron Range region of Minnesota.



Figure 9. Built in 1916, the Oliver Bridge (Bridge 6544) in St. Louis County is eligible for the National Register under *Criterion A* for its important historical association with Transportation.

Criterion C recognizes bridges that have distinctive design or construction characteristics that demonstrate the following: (1) the pattern of features common to a particular class of resources, (2) the individuality or variation of features that occurs within the class, (3) the evolution of that class of resources, and/or (4) the transition between classes of resources. Most historic bridges in Minnesota have been determined to be significant under *Criterion C*. An example of a bridge individually significant under *Criterion C* is Bridge 90554 (Figure 10). This 1911 bridge, located in Blue Earth County, may be the oldest surviving concrete "Rainbow" arch bridge designed by notable bridge engineer James Marsh.



Figure 10. Bridge 90554 in Blue Earth County is listed in the National Register under Criterion C for its important engineering association with notable engineer James Marsh.

Another example of a bridge eligible under *Criterion C* is Bridge 6263 (see Figure 11). This 1899 bridge, located in Fillmore County, is an early example of the steel through truss type and was built by an important bridge fabricator. It also possesses exceptional ornamentation as evidenced by the metal cresting on both portals.



Figure 11. Bridge 6263 in Fillmore County is listed in the National Register under Criterion C because it is an early example of its type, was built by an important fabricator, and possesses exceptional ornamentation.

Bridge 5744 (Figure 12), the Split Rock Bridge, in Pipestone County is eligible under *Criterion C* for its engineering significance. The bridge embodies engineering significance in the context of Minnesota masonry arch highway bridges constructed during the period 1870 to 1945. In addition to displaying the

Section 4
What Makes a Bridge Historic?

largest stone-arch span of any active highway bridge in the state, the structure is an outstanding example of ornamental park bridge, achieving its aesthetic effect through the purity of its form and the beauty of its random-ashlar masonry.



Figure 12. Bridge 5744 in Pipestone County is eligible under Criterion C for its masonry arch construction.

To be considered significant, a bridge must meet at least one criterion. However, a bridge can be eligible under multiple criteria, such as the 1920 Long Meadow Bridge (Bridge 3145, Figure 13) in the city of Bloomington, Hennepin County. This bridge is significant under *Criterion A* as a historically important Minnesota crossing and *Criterion C* as a rare example of a Camelback Truss in Minnesota.



Figure 13. Bridge 3145 in Hennepin County was determined eligible for listing in the National Register under Criteria A and C.

Section 4 What Makes a Bridge Historic?

Bridges can be listed in, or eligible for, the National Register as individual resources, such as those mentioned above, or can be part of a historic district. A historic district is a collection of resources considered significant for their history, architecture, or engineering. Resources within a district listed in the National Register are divided into two categories: contributing and non-contributing. Historic districts are also evaluated under the same National Register Criteria (A, B, C, and D) as individual resources.

Minnesota has a number of historic bridges that contribute to a National Register historic district. For example, Bridge L0885 (Figure 14), a 1907 pony truss bridge, contributes to the Phelps Mill Historic District in Otter Tail County. The historic district is significant under *Criterion A* as a crossroads agricultural service center and includes other contributing resources such as a water-powered flourmill (1889), store (1891), and Italianate frame miller's house (1902). Another example of a historic bridge that is contributing to a historic district is Bridge L8921 (Figure 15). This bridge is one of a number of almost identical bridges along the National Register listed Chicago, Milwaukee & St. Paul Grade Separation Historic District, significant locally under *Criterion A* in the area of Community Planning and Development.



Figure 14. Bridge L0885 in Otter Tail County is a contributing resource within the Phelps Mill Historic District, significant under *Criterion A* for Event, Commerce, and Industry. In 2012, this bridge is undergoing rehabilitation.



Figure 15. Bridge L8921 in Hennepin County is a contributing resource within the Chicago, Milwaukee & St. Paul Grade Separation Historic District, significant under Criterion A for Community Planning and Development.

The final step in assessing the historic significance of a bridge is to consider the historic integrity of the resource. Historic integrity is the ability of a property to convey its significance. The National Register recognizes seven aspects, that when combined in various ways, define integrity. The seven aspects of historic integrity include:

1. Location – the place where the historic resource was constructed or the historic event occurred
2. Design – the combination of elements that create the form, plan, space, structure, and style of the resource
3. Setting – the physical environment of the historic resource
4. Materials – the physical elements that make up the resource
5. Workmanship – the physical evidence of the culture or people, skill, and/or labor that created the resource
6. Feeling – the resource's expression of aesthetic or historic sense of time
7. Association – the direct link between the historic event or person and the historic resource

While all seven aspects of historic integrity are important to a historic bridge, some aspects are more strongly associated with certain criteria. For example, integrity of location, setting, feeling, and association are more strongly considered than workmanship or design when a resource is evaluated under *Criteria A* and *B*. However, integrity of design, workmanship, and materials are more important than location, setting, feeling, and association for resources evaluated under *Criterion C*. For historic

Section 4
What Makes a Bridge Historic?

bridges whose design is a reflection of the surrounding environment and are being evaluated *Criterion C*, location and setting are always important integrity considerations.

An example of a bridge eligible for the National Register that maintains historic integrity is Bridge 5380 (Figure 16). Located in Lac Qui Parle County, Bridge 5380 is a 1938 Parker through truss with concrete approach spans. The bridge was determined eligible individually under *Criterion A* for its association with the Lac Qui Parle Flood Control Project and as a contributing resource to the Lac Qui Parle Flood Control Project Historic District. It retains integrity of location, design, setting, materials, workmanship, feeling, and association.



Figure 16. Bridge 5380 in Lac Qui Parle County is individually eligible for listing in the National Register under Criterion A, as well as a contributing resource to the Lac Qui Parle Flood Control Historic District. The bridge retains integrity of location, design, setting, materials, workmanship, feeling, and association.

5. Recommendations

Based on outreach results, the following section presents the consultants' recommendations to MnDOT for consideration in planning future efforts related to local historic bridges. Recommendations are categorized as follows: education/outreach, data collection and management, bridge preservation, and funding.

A. Education/outreach

Education and outreach were identified by local owners as needs during meetings conducted for this Study. Communication goes hand-in-hand with meeting this call for better information. As the statewide historic bridge program is further developed, strategies to foster and maintain open communication with local owners over the long term should be incorporated. These strategies could also provide an avenue for disseminating program updates, sharing best practices, and other types of information.

Requirements of the Section 106 process are still not well understood and continued efforts in outreach and education need to provide further clarity. Some immediate options to meet the education need include providing owners with the Microsoft PowerPoint file and video from the June 5 and 6, 2012, Historic Bridge Training sponsored at MnDOT. While the full-day bridge training may be more detailed than some local owners need or would want, it could provide a starting point and/or reference for future guidance on the topics above as MnDOT works to meet the education needs of local owners.

One option to consider is dividing the Microsoft PowerPoint file and video into topics for those who do not need or want the full-day bridge training. Alternately, a shorter version of the training tailored for local owners could be offered. Specific guidance on how to adhere to the Section 106 review process, including best practices for coordination with MnDOT CRU and SHPO, should be provided as part of this training. Supporting documentation to accompany training is also needed for reference.

Further training, workshops, and guidance related to these topics are recommended in the future. Annual conferences and association meetings may provide venues for outreach and guidance for local owners. Education of public groups (defined by local owners to include government representatives, historical societies, local advocate groups, and members of the larger community) would further stewardship efforts and foster community support for the preservation of locally owned historic bridges in the state.

It is also recommended that information about MnDOT's technical assistance be incorporated into outreach strategies. The MnDOT Bridge office created a staff position with a focus on historic structures. The Historic Bridge Engineer's purpose is to be a resource for MnDOT District project managers and local agencies who have limited experience on a historic bridge projects.

B. Data collection and management

Further data collection and management is needed to provide a single source of information on the state's historic bridges and to offer owners complete local historic bridge reports. In this Study, it was a challenge to populate the historic bridge database and to prepare the draft local historic bridge reports due to the multiple locations from which the data was obtained and the varying levels of information available. Information gaps will need to be addressed in a future phase to include collecting missing data. Discrepancies between previously collected data and data provided by local owners upon review of the draft local historic bridge reports will also need to be resolved. Site visits may be needed to obtain

photographs or confirm data that cannot be obtained from other sources. This will allow for completion of local historic bridge reports. Once complete, these reports on each bridge will serve as quick reference documents for future decision-making about the bridge by the state and local owner.

For a small number of bridges, especially those in parks or in private ownership, very little data is available. For these structures, MnDOT should confirm which ones it wants to address in a subsequent phase. Private owners and railroad bridges might be considered for exclusion from future efforts since no state or federal funding is likely to be used on such bridges.

Other recommendations for data management include:

- Conducting an annual review of the master list of historic bridges to keep it updated.
- Reconciling different databases that currently exist for different populations (i.e., local historic bridge database prepared as part of this Study vs. previously developed databases for state-owned, pre-1956 bridges and 1955-70 bridges).
- Developing and executing strategy for locating data associated with historic bridges in one location within MnDOT.

C. Bridge preservation

In future studies focused on bridge preservation, several factors may be considered for efficient planning and project execution. Bridge ownership, location, and type may be methods of grouping structures to address them logically. To help inform such efforts, Figure 17 below and the charts found in Appendix E look at the Minnesota historic bridge population in several ways. Methods of sorting and grouping bridges can be adjusted to meet specific needs.

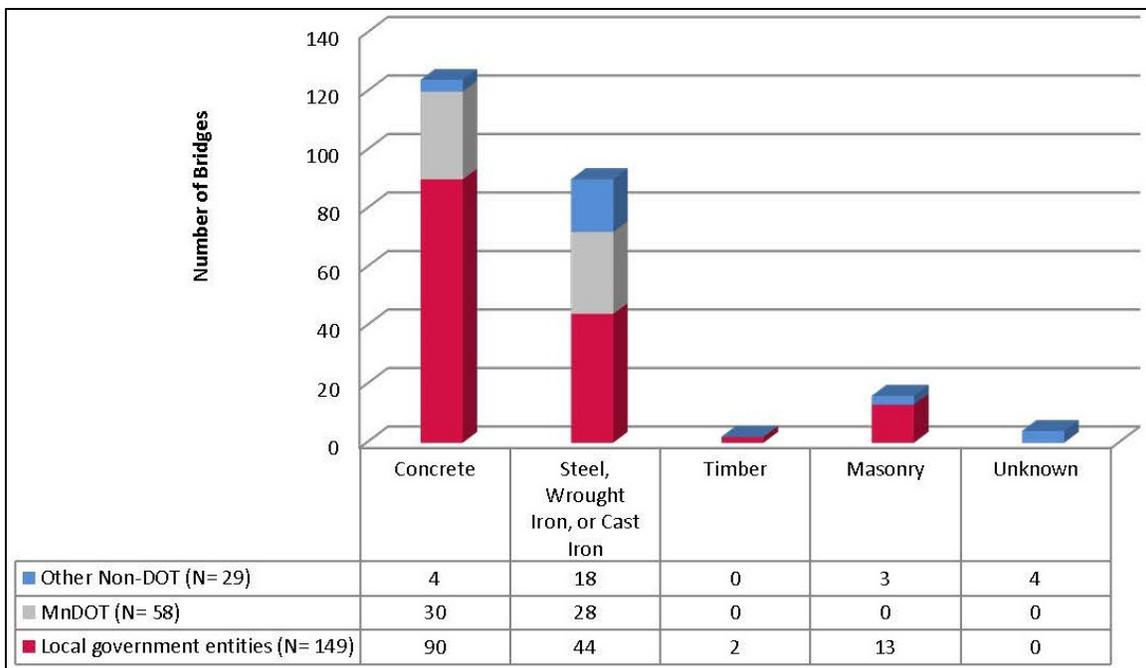


Figure 17. Bridge material by owner.

Bridge preservation efforts can be informed by the following considerations:

(1) Geographic location

Many local historic bridges are clustered in the Metro and Duluth areas with the remainder scattered across the state. The Metro and Duluth area bridges might be handled in groups while the others do not lend themselves to such an approach.

(2) Identifying local historic bridges with preservation potential

The list of bridges could be screened following a method such as one successfully employed in Indiana known as the Condition Score. See Appendix F for an explanation of Condition Score. Local agencies could evaluate and consider evaluation criteria and a threshold score for preservation candidates to meet the state's specific needs.

(3) Consideration of preservation priorities

A number of factors could be weighed in establishing priorities for preservation, including:

- Willing owner/public support
- Estimated cost of rehabilitation project
- Funding availability
- Examples of bridge types
- Historic elements of the structure/district

(4) Preparation of individual management plans for bridges

Individual bridge management plans can be an important tool for identifying the preservation needs of a bridge. These plans can be proactive tools to consider a full range of options for each bridge and present the option best-suited for long-term preservation that retains historic character with due consideration given to transportation purpose and needs and estimated costs associated with each option. Selection of bridges for which plans would be prepared will be initiated with local owners through further development of the statewide historic bridge program and coordinated with parties to the Programmatic Agreement.

D. Funding

MnDOT is currently developing guidance specific to funding sources and the path of a historic bridge project (see Section 3.A.(1) on the different paths). Funding for the preservation of historic bridges in the state of Minnesota competes with all other transportation projects for resources. Available sources range from federal funding to state aid bonds to local and private funding, as follows:

(1) Federal funding

Federal funding programs have qualifying criteria that only certain bridge projects will meet. The current legislation authorizing federal transportation funding is Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted on July 6, 2012. MAP-21 is the first long-term highway authorization enacted since 2005; it builds on and refines many of the programs and policies

originally established in 1991. Since this legislation was only recently authorized, state transportation agencies like MnDOT are still evaluating any program or implementation changes at the state level.

(2) State and local funding

Listed below are options for funding that can be obtained at the state and local levels:

State Bridge Bond Funds

State Bridge Bond Funds are available for eligible rehabilitation or reconstruction work on any publicly owned vehicular bridge or culvert. Bridges that are deficient under federal criteria and have a sufficiency rating less than 80 are eligible for State Bridge Bond Funds. The main purpose of these bridge bond funds is to reduce the number of deficient bridge structures on the local roadway system. If the bridge is not eligible for bridge bond funds, it may still be eligible for other state funding if it is on a local public roadway.

The State Transportation Fund (Local Bridge Replacement Program) is appropriated by the legislature for the purpose of replacing or rehabilitating deficient local bridges (commonly called local bridge bonds). Bridge bonds are administered by MnDOT's State Aid office. This program is used to leverage other local government transportation funding on non-state-sponsored bridge projects. MnDOT's State Aid Office coordinates and prepares the legislative budget request based on funding needs approved by resolution of local government agencies' county boards or city councils..

State Bridge Bond Funds may be eligible for up to 100 percent (typically for matching federal Highway Bridge Replacement and Rehabilitation Program funds) of the "abutment-to-abutment" costs of eligible rehabilitation or reconstruction work on any publicly owned bridge or culvert longer than 10 feet (clear span as measured along the roadway centerline), or roadway in lieu of bridge work. Work must be done by contract, not local forces.

Town Bridge Funds

Town Bridge Funds are available only to townships and are allocated by a formula to the individual counties based upon the proportion of deficient township bridges in their respective counties. A statewide fund is also created for use by counties that have depleted their town bridge allocation. Money is allocated to these accounts each calendar year from the Highway User Tax Distribution Fund. This fund is administered by MnDOT's State Aid Office and distributed to counties, cities, and townships on a yearly basis through the State Aid Local Bridge Program. For information on the Local Bridge Program, see the website at http://www.dot.state.mn.us/stateaid/sa_localbridgereplace.html.

Eligibility for Town Bridge Funds is the same as State Bridge Bonding. Town Bridge Funds or State Bridge Bonding will cover the following:

- 100 percent of costs of the bridge structure or culvert.
- Approach grading and bridge removal costs over \$10,000.
- Engineering costs over \$10,000 or 100 percent of engineering costs if a township has a net tax capacity of less than \$300,000. Township net tax is determined by the Minnesota Department of Revenue on a yearly basis.
- 100 percent of all costs to abandon a bridge or build a road-in-lieu of a bridge, up to the cost of a replacement bridge.

Special Project Research Funds

Special Project Research (SPR) funds may be used for technical studies such as the development of an individual bridge management plan. MnDOT CRU can provide technical assistance to local agencies involved in specific historic bridge rehabilitation projects. If a bridge rehabilitation project has been approved by the district's Area Transportation Partnerships, has federal funding, and has been assigned a State Project (SP) number, MnDOT CRU can assist in determining the best approach for rehabilitating the historic bridge according to the Secretary's Standards. MnDOT CRU can work with the local agency to develop the best approach, either through consultation with MnDOT CRU and the historic architect at the SHPO, or through a consultant contract (80 percent would be covered by MnDOT and 20 percent by the local agency). For MnDOT CRU contact information, see Appendix D.

State Capital Project Grants-in-Aid

This program supports restoration or historic preservation projects of a capital nature. In general, the expenditure funded must be for a public purpose, used for a locally owned property (i.e., state-owned properties are not eligible), and must meet the Secretary's Standards. This grant program provides an excellent opportunity for local public works departments to obtain funding for bridge rehabilitation projects since the competition is limited to public agencies. For more information, access http://www.mnhs.org/shpo/grants/state_capital_grants/index.htm.

Legacy Amendment Funds

Another resource that may provide a small amount of much needed funding to local owners is the Legacy Amendment funds. In 2008 Minnesota's voters passed the Clean Water, Land and Legacy Amendment (Legacy Amendment) to the Minnesota Constitution to: protect drinking water sources; to protect, enhance, and restore wetlands, prairies, forests, and fish, game, and wildlife habitat; to preserve arts and cultural heritage; to support parks and trails; and to protect, enhance, and restore lakes, rivers, streams, and groundwater. The Legacy Amendment increases the state sales tax by three-eighths of one percent beginning on July 1, 2009, and continuing until 2034. The Arts and Cultural Heritage Fund receives 19.75 percent of the sales tax revenue resulting from the Legacy Amendment to support arts, arts education, and arts access, and to preserve Minnesota's history and cultural heritage. Historic bridge preservation is an eligible activity. For example, grants were awarded to develop the engineering design and

costs to restore and preserve the 1901 Dodd Ford Bridge near Amboy. For more information on funding opportunities and how to apply for funds, see <http://legacy.mnhs.org/grants/historic-preservation-projects>

(3) Funding criteria

Criteria for state funds for transportation projects including bridges differ from federal funding criteria. The characteristics of the 150 local historic bridges and three other federal agency historic bridges were reviewed to determine if they satisfied traditional funding criteria for highway funds.⁸ The following criteria were reviewed:

1. Is the bridge functionally obsolete?
2. Is the bridge structurally deficient?
Only bridges functionally obsolete or structurally deficient are eligible for federal funds.
3. Does the bridge satisfy the minimum length requirement according to Minnesota Statute?
Only bridges 10 feet and longer are eligible for state funds.
4. Does the bridge satisfy the minimum length requirement according to FHWA Criteria?
Only bridges 20 feet and longer are eligible for federal funds.
5. Does the bridge have a sufficiency rating below 80?
Only bridges with ratings below 80 are eligible for state bonds.
Only bridges with ratings below 50 are eligible for federal funds.
6. Is the bridge currently open to vehicular traffic?
If the bridge is closed, by-passed, or only open to pedestrians, it may not be eligible.
7. Is the bridge located on the federal aid system, state aid system, or local system?

Appendix G shows results of review per the above criteria. Following these criteria, 22 of the 153 bridges analyzed are eligible for State Aid funding, 69 of the 153 may be eligible for Bridge Bond Funds, and 61 of the 153 bridges may be eligible for federal bridge funds. There are fewer federal eligible bridges because some of the bridges on the Master List have lengths between 10 and 20 feet. Non-traditional funding sources should be identified to maintain and rehabilitate those bridges that are not eligible for state or federal bridge replacement funds.

Recently rehabilitated bridges that are in good condition may not be eligible for any funding due to their condition.

⁸ This count of 150 locally owned bridges includes one bridge (Bridge 7097) that is eligible in North Dakota but not in Minnesota. MnDOT-owned, other state agency, railroad, and private historic bridges were not included in this analysis.

6. Conclusion

MnDOT anticipates completing subsequent studies to gather additional information to fill data gaps, and to the further develop strategies for a statewide historic bridge program. The outreach to local owners conducted for this Study will help shape the approach to future work. When completed, the program will benefit local owners, MnDOT, and other involved agencies by providing the foundation for better decision-making on historic bridge rehabilitation and replacement projects. To establish the decision-making foundation, future studies are expected to identify the potential to rehabilitate each historic bridge for vehicular use, more limited vehicular use, or adaptive reuse based on condition and functional needs. Education and outreach, as begun under this Study, will also be important to the success of future activities.

References

Code of Federal Regulations, Title 36. *Parks, Forests, and Public Property*, Chapter I ("National Park Service, Department of the Interior"). Part 68, The Secretary of the Interior's Standards for the Treatment of Historic Properties. Revised as of July 1, 1998, p. 329.

_____, Title 36. *Parks, Forests, and Public Property*, Chapter I ("National Park Service, Department of the Interior"). Part 800, Protection of Historic Properties. Revised as of August 5, 2004.

Mead & Hunt, Inc. and HNTB Corporation. *Management Plan for Historic Bridges in Minnesota*. Prepared for the Minnesota Department of Transportation, 2006. Available online at <http://www.dot.state.mn.us/historicbridges/pdfs/GENERALMANAGEMENTPLAN/GENERALMNHISTORICBRIDGEMGTPLAN.pdf>.

Miller, Ann, et al. *A Management Plan for Historic Bridges in Virginia*. Charlottesville, Va.: Virginia Transportation Research Council, 2001.

Weeks, Kay D. and Anne E. Grimmer. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*. U.S. Department of the Interior, National Park Service, 1995. Available online at <http://www.nps.gov/tps/standards/four-treatments/treatment-guidelines.pdf>.

Appendix A. Secretary of the Interior's Standards for the Treatment of Historic Properties, as Adapted for Historic Bridges

Note: To address the special requirements of historic bridges and to identify specific applications to bridges, the Virginia Transportation Research Council adapted the Secretary's Standards in its *Guidelines for Bridge Maintenance and Rehabilitation Based on the Secretary of the Interior's Standards*. Because the Secretary's Standards have not been adapted to historic bridges in other publications, these guidelines prepared in Virginia have been broadly used by anyone involved in bridge maintenance and/or rehabilitation projects.

Guidelines for Bridge Maintenance and Rehabilitation Based on the Secretary of the Interior's Standards

1. Every reasonable effort shall be made to continue an historic bridge in useful transportation service. Primary consideration should be given to rehabilitation of the bridge on site. Only when this option has been fully exhausted shall other alternatives be explored.
2. The original character-defining qualities or elements of a bridge, its site, and its environment should be respected. The removal, concealment, or alteration of any historic material or distinctive engineering or architectural feature should be avoided.
3. All bridges shall be recognized as products of their own time. Alterations that have no historical basis and that seek to create a false historical appearance shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive engineering and stylistic features, finishes, and construction techniques or examples of craftsmanship that characterize an historic property shall be preserved.
6. Deteriorated structural members and architectural features shall be retained and repaired, rather than replaced. Where the severity of deterioration requires replacement of a distinctive element, the new element should match the old in design, texture, and other visual qualities and where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical and physical treatments that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the most environmentally sensitive means possible.
8. Significant archaeological and cultural resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, structural reinforcements, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Source: Ann Miller, et al. *A Management Plan for Historic Bridges in Virginia*. Charlottesville, Va.: Virginia Transportation Research Council, 2001.

Appendix B. List of Historic Bridges (from Programmatic Agreement Update)

List of Extant Historic Bridges

Bridge Number	Bridge Name	SHPO Number	County	Feature Carried	Feature Crossed	Owner	Main span type	Main Span Text	Date (remodel)	Significance Criterion A	Significance Criterion C	Historic District	NatReg Status	Management Plan (Date)
Known Historic Bridges owned by State of Minnesota - DOT														
2440	3rd Avenue Bridge	HE-MPC-0165	Hennepin	Hwy 65	Mississippi River and Burlington Northern Railroad	STATE - DOT	111	Concrete deck arch	1917 (1939; 1979-80)	N/A	Typology; Aesthetics	St. Anthony Falls Historic District	Listed	Yes - 2006
3355		ML-KAN-005	Mille Lacs	Hwy 169	White Fish Creek	STATE - DOT	101	Concrete Slab Span	1939	N/A	Aesthetics	N/A	Listed	Yes - 2006
3589		LA-SVC-074	Lake	Hwy 61	Stewart River	STATE - DOT	119	Concrete culvert	1924 (1939)	State Trunk Highway	Aesthetics	N/A	Listed	Yes - 2006
4175	Holmes Street Pedestrian Bridge	SC-SPC-068	Scott	Pedestrian Trail	Levee Drive and Minnesota River	STATE - DOT (To be transferred to Scott County in 2012)	309	Steel Deck Truss	1927 (2011)	N/A	Typology	N/A	Listed	Yes - 2006; updated 2011
4190	Mendota Bridge	DK-MHS-002	Dakota	Hwy 55	Minnesota River	STATE - DOT	211	Continuous Concrete Deck Arch	1926 (1992)	N/A	Typology	N/A	Listed	Yes - 2006
4380	Anoka-Champlin Mississippi River Bridge	AN-AKC-007	Anoka	Hwy 169	Mississippi River	STATE - DOT	111	Concrete deck arch	1929 (1996-97)	Transportation (Major River Crossing)	Typology; Aesthetics	N/A	Listed	Yes - 2006
4654		WA-SWC-322	Washington	Hwy 36	St. Croix River and City Street	STATE - DOT	315	Moveable Lift Bridge	1930	N/A	Typology	N/A	Listed	Yes - 2009
4700		PL-EGC-007	Polk	Hwy 0002B	Red River of the North	STATE - DOT	310	Steel thru truss	1929	N/A	Typology	N/A	Listed	Yes - 2006
4930		LE-KST-002	Le Sueur	Hwy 99	Minnesota River	STATE - DOT	410	Continuous steel thru truss	1931	N/A	Aesthetics; Exceptional Engineering	N/A	Listed	Yes - 2006
4969		MO-GRE-049	Morrison	Hwy 115	Mississippi River	STATE - DOT	302	Steel stringer/multi-beam or girder	1930	Camp Ripley	Typology	N/A	Eligible	Yes - 2006
5083		LY-MSC-057	Lyon	Hwy 19	Redwood River	STATE - DOT	103	Concrete girder and floorbeam system	1931	N/A	Aesthetics	N/A	Listed	Yes - 2006
5151		LY-MSC-068	Lyon	Hwy 19	Redwood River	STATE - DOT	103	Concrete girder and floorbeam system	1931	N/A	Aesthetics	N/A	Listed	Yes - 2006
5265	Garrison Pedestrian Underpass	CW-GRC-005	Crow Wing	NB Hwy 169	Dry Stream	STATE - DOT	319	Steel culvert	1938	N/A	Typology; Aesthetics	Mille Lacs Lake Highway Beautification Project	Listed	Yes - 2006
5370	Faribault Viaduct	RC-FAC-696	Rice	Hwy 60	Straight Road, Railroad, and Street	STATE - DOT	211	Continuous Concrete Arch	1937	N/A	Engineering	N/A	Listed	Yes - 2008
5380		CP-KRA-009	Chippewa	Hwy 40	Lac Qui Parle Lake	STATE - DOT	310	Steel thru truss	1938	Flood Control Project	N/A	Lac qui Parle Project Historic District	Eligible	No
5718		PN-SSC-018	Pine	Hwy 123	Kettle River and street	STATE - DOT	409	Continuous Steel Deck Truss	1948	N/A	Exceptional Engineering	N/A	Listed	Yes - 2006
5722		FL-SVC-042	Fillmore	Hwy 63	Spring Valley Creek	STATE - DOT	119	Concrete Box Culvert	1936	N/A	Aesthetics	N/A	Listed	Yes - 2006
5757		SL-DUL-2416	St. Louis	Hwy 23	Mission Creek	STATE - DOT	319	Steel culvert	1937	N/A	Aesthetics	N/A	Listed	No; To Be Completed by 2013
5772	Lester River Bridge	SL-DUL-2428	St. Louis	Hwy 61	Lester River	STATE - DOT	111	Concrete deck arch	1935	N/A	Aesthetics	N/A	Listed	Yes - 2006
5827		WB-ZFC-011	Wabasha	Hwy 60	stream	STATE - DOT	319	Steel culvert	1938	N/A	Aesthetics	N/A	Listed	Yes - 2006
5895	Hastings Bridge	DK-HTC-318	Dakota	Hwy 61	Mississippi River, railroad and street	STATE - DOT	410	Continuous steel thru truss	1951	N/A	Typology; Significant Builder	N/A	Eligible	No
5900	Winona Bridge	WN-WAC-1141	Winona	Hwy 43	Mississippi River, railroad and street	STATE - DOT	410	Continuous steel thru truss	1941	N/A	Typological; Engineering	N/A	Eligible	No
5923		CK-UOG-062	Cook	TH 61	PIGEON RIVER	STATE - DOT	302	Steel stringer/multi-beam or girder	1962	Transportation	N/A	N/A	Eligible	No
6579		RA-SPC-8071	Ramsey	ARLINGTON AVE	I 35E	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
6580		RA-VHC-017	Ramsey	RICE ST(TH 49)	I 694	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
6679		HU-BRT-005	Houston	Hwy 76	South Fork Root River	STATE - DOT	402	Steel Continuous Stringer/Multi-beam or girder	1949 (2012)	N/A	Typology; Aesthetics	N/A	Listed	Yes - 2006
6847		BN-SCC-233	Benton	Pedestrian	MN 23	STATE - DOT	402	Continuous steel stringer/multi-beam or girder	1958	N/A	Typology	N/A	Eligible	No
8096		RC-NFC-326	Rice	Hwy 19	Spring Creek	STATE - DOT	111	Concrete Arch	1947	N/A	Aesthetics	N/A	Listed	Yes - 2006
9036	Robert Street Bridge		Ramsey		Mississippi River, Railroad and Street	STATE - DOT	111	Concrete deck arch	1926	N/A	Aesthetics	N/A	Listed	Yes - 2006
9053		HE-BLC-154	Hennepin	W 94th St	I 35W	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1957	N/A	Early use of prestressed concrete	N/A	Eligible	No
9065		WN-RIC-008	Winona	US 61 SB	TROUT CREEK	STATE - DOT	501	Prestressed concrete slab	1959	N/A	Early use of prestressed concrete	N/A	Eligible	No
9082		HE-BLC-157	Hennepin	TH 77 NB	I 494	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
9086			Stearns	TH 23	10TH AVE	STATE - DOT	302	Steel stringer/multi-beam or girder	1958	N/A	Engineering/design innovations	N/A	Eligible	No
9090		PL-EGC-048	Polk	US 2	RED RIVER & ABAN CITY ST	STATE - DOT	310	Steel truss-thru	1963	Transportation	Exceptional main span length	N/A	Eligible	No
9103		GD-RWC-1387	Goodhue	US 63	US 61, US 63, & SRVC DR	STATE - DOT	201	Continuous concrete slab	1960	N/A	High artistic value and Combination of engineering features demonstrate response to complex design issues to meet design challenges	N/A	Eligible	No
9104		HU-MCT-016	Houston	TH 76	MONEY CREEK	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
9105		HU-MCT-017	Houston	TH 76	MONEY CREEK	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
9106		HU-MCT-018	Houston	TH 76	MONEY CREEK	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
9108		DK-IVG-027	Dakota	US 52 NB	UP RR	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
9109		DK-IVG-028	Dakota	US 52 NB	UP RR	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
9155		HE-FSR-0131	Hennepin	Aband Tower Ave	TH 5	STATE - DOT	107	Concrete rigid frame	1960	Social History, Conservation, and Community Planning and Development	Uncommon type - concrete rigid frame	N/A	Eligible	No
9176		MW-AUS-092	Mower	I 90 WB OFF RP	I 90	STATE - DOT	205	Continuous concrete box beam or girder-multiple	1959	Transportation	Typological	N/A	Eligible	No
9177		MW-AUS-101	Mower	MSAS 144	I 90	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
9232		SL-HBC-182	St Louis	TH 73	BNSF RR	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958 (2008)	N/A	Early use of prestressed concrete	N/A	Eligible	No
9300		XX-BRI-054	Ramsey	TH 5 West 7th St	Mississippi River	STATE - DOT	403	Continuous steel girder	1961 (2003)	Social History, Conservation, and Community Planning and Development	N/A	N/A	Eligible	No
9395		LA-BBC-005	Lake	TH 61	BEAVER RIVER	STATE - DOT	402	Continuous steel stringer/multi-beam or girder	1958	N/A	All-welded girders	N/A	Eligible	No
9407		OL-ROC-380	Olmsted	CSAH 16	US 63	STATE - DOT	502	Prestressed concrete stringer/multi-beam or girder	1958	N/A	Early use of prestressed concrete	N/A	Eligible	No
9412		LW-BDC-031	Lake of the Woods	TH 72	RAINY RIVER	STATE - DOT	310	Steel truss-thru	1959	Transportation	Uncommon type - Pennsylvania thru-truss	N/A	Eligible	No
9800		RA-SPC-7891	Ramsey	US 52(Lafayette)	MISS R, RR & STREETS	STATE - DOT	403	Continuous steel girder	1968 (1982)	N/A	Engineering	N/A	Eligible	No
27027		HE-FSR-0125	Hennepin	Parking Lot	TH 5 Tunnel	STATE - DOT	118	Concrete tunnel	1961	Social History, Conservation, and Community Planning and Development	Uncommon type - concrete rigid frame	N/A	Eligible	No
27100		HE-MPC-17005	Hennepin	11th St S	TH 65	STATE - DOT	402	Continuous steel stringer/multi-beam or girder	1967	N/A	Early use of horizontally curved steel girders	N/A	Eligible	No

List of Extant Historic Bridges

Bridge Number	Bridge Name	SHPO Number	County	Feature Carried	Feature Crossed	Owner	Main span type	Main Span Text	Date (remodel)	Significance Criterion A	Significance Criterion C	Historic District	NatReg Status	Management Plan (Date)
27832		HE-MPC-17018	Hennepin	Lowry Hill Tunnel	I 94	STATE - DOT	118	Concrete tunnel	1969	Social History, Conservation, and Community Planning and Development	Uncommon type - concrete rigid frame	N/A	Eligible	No
27902		HE-MPC-17037	Hennepin	3rd st to Cedar Av	I 35W off ramp	STATE - DOT	402	Continuous steel stringer/multi-beam or girder	1970	N/A	Combination of engineering features demonstrate response to complex design issues to meet design challenges	N/A	Eligible	No
27944		HE-HAT-059	Hennepin	Cly Rd 144	I 94	STATE - DOT	402	Continuous steel stringer/multi-beam or girder	1969	N/A	Combination of engineering features demonstrate response to complex design issues to meet design challenges	N/A	Eligible	No
35005		KT-UGT-001	Kittson	TH 175	RED RIVER OF THE NORTH	STATE - DOT	402	Continuous steel stringer/multi-beam or girder	1968	Transportation	N/A	N/A	Eligible	No
62814		RA-SPC-8210	Ramsey	CP RAIL	I 94 & EB on ramp	STATE - DOT	303	Steel girder	1965	N/A	Combination of engineering features demonstrate response to complex design issues to meet design challenges	N/A	Eligible	No
62844		RA-SPC-8067	Ramsey	TH 280 NB	NB on ramp & TH 280 SB	STATE - DOT	402	Continuous steel stringer/multi-beam or girder	1967	N/A	Extreme skew	N/A	Eligible	No
62846		RA-SPC-8212	Ramsey	CP RAIL	I 94	STATE - DOT	303	Steel girder	1967	N/A	Combination of engineering features demonstrate response to complex design issues to meet design challenges	N/A	Eligible	No
Known Historic Bridges owned by State of Minnesota - Other														
5756	Soldiers Home Bridge	HE-MPC-04286	Hennepin	Soldier's Home Road	Minnehaha Creek	STATE - Administration	311	Steel arch - deck	1908	N/A	Typology	N/A	Eligible	No
27004	Stone Arch Bridge	HE-MPC-0176	Hennepin	Pedestrian Trail	Mississippi River	STATE - Administration	811	Stone Arch Bridge	1883	Contributing element to Historic District	Typology	St. Anthony Falls Historic District	Listed	No
82524 (previously 5721)	Gateway Trail Iron Bridge	(previously KC-UOG-042)	Washington (previously Koochiching)	N/A - Gateway Trail	Manning Avenue	STATE - DNR	303	Steel girder	1883 (1937, 2011)	N/A	Typology; Aesthetics	N/A	Listed	Yes - 2006; updated 2011
R0529 (previously 5388)		(previously ME-FCT-001)	Mower (previously Meeker)	N/A - trail into Lake Louise State Park	North Fork Crow River	STATE - DNR	310	Steel truss-thru	1935 (2012)	N/A	Typology	N/A	Listed	Yes - 2006
No MnDOT Bridge Number	Whitewater State Park Recreational Dam and Foot Bridge	WN-ELT-022	Winona			STATE - DNR			1935	Federal Relief	N/A	Whitewater State Park	Listed	No
No MnDOT Bridge Number	Whitewater State Park Footbridge	WN-ELT-034	Winona			STATE - DNR			1935-1938	Federal Relief	N/A	Whitewater State Park	Listed	No
Known Historic Bridges owned by Local Government Entities														
448	Oronoco Bridge	OL-ORC-001	Olmsted	CSAH 18	Middle Fork Zumbro River	Olmsted County	111	Concrete arch - deck	1918 (1987)	N/A	Typological	N/A	Eligible	No
661		MR-WST-003	Martin	TWP 38	Elm Creek	Westford Township	103	Concrete girder and floorbeam system	1913	N/A	Typological; Significant Engineer	N/A	Eligible	No
1238		RW-SBC-004	Redwood	Main Street (MUN 22)	Cottonwood River	City of Sanborn	103	Concrete girder and floorbeam system	1918	State Roads	Typological	N/A	Eligible	No
1461	Dodd Ford		Blue Earth	CR 147	Blue Earth River	Blue Earth County	310	Steel truss - thru	1901	Transportation	Important Engineer	N/A	Listed	No
1482		RK-LVT-001	Rock		Pedestrian/Schoneman Park Ponds	Luverne Township Park	302	Steel stringer/multi-beam or girder	1910	N/A	Typological	N/A	Listed	No
2110	The Eden Bridge	BW-EDN-005	Brown	CSAH 8	Minnesota River	Brown County	310	Steel truss - thru	1918	N/A	Typological	N/A	Eligible	No
2366	Nymore Bridge	BL-BJC-058	Beltrami	Old Midway Drive	Mississippi River	City of Bemidji	111	Concrete arch - deck	1916	N/A	Typology	N/A	Listed	No
2441	Cappelen Memorial Bridge	HE-MPC-4104	Hennepin	Franklin Avenue (CSAH 5)	Over West River Road & Mississippi River	Hennepin County	111	Concrete arch - deck	1923 (1971)	N/A	Typological; Engineering	N/A	Listed	No
2628		JK-ABA-001	Jackson	Township Road 183	Okabena Creek	Alba Township	103	Concrete girder and floorbeam system	1917	N/A	Typological	N/A	Eligible	No
2796	Cedar Avenue Bridge	HE-MPC-4423	Hennepin	Cedar (10th Avenue)	Mississippi River, Burlington Northern & Streets	City of Minneapolis	111	Concrete arch - deck	1929 (2001)	N/A	Typological; Engineering	N/A	Listed	No
3130		FA-BET-003	Faribault	Township Road 232	Coon Creek	Blue Earth City Township	103	Concrete girder and floorbeam system	1919	N/A	Typological	N/A	Eligible	No
3145	Long Meadow Bridge	HE-BLC-064	Hennepin	Pedestrian	Long Meadow Creek	City of Bloomington	310	Steel truss - thru	1920	Significant Crossing	Typological	N/A	Eligible	No
3219	Zumbro Parkway Bridge	WB-HPK-003	Wabasha	CR 68	Stream	Wabasha County	319	Steel culvert	1937	N/A	Typological	N/A	Listed	No
3398		BS-ORT-059	Big Stone		Minnesota River	City of Ortonville	112	Concrete arch - thru	1920 (2008)	N/A	Typology	N/A	Eligible	No
3481		GD-RWC-848	Goodhue	MUN 11	Cannon River	City of Red Wing	103	Concrete girder and floorbeam system	1921	N/A	Aesthetics	N/A	Eligible	No
3575	Intercity Bridge	HE-MPC-4711	Ramsey	Ford Parkway (CSAH 42)	Mississippi River & Mississippi Blvd	Ramsey County	111	Concrete arch - deck	1927 (1973, 2002)	N/A	Engineering	N/A	Listed	No
4846		LE-KST-004	Le Sueur	Pedestrian Trail	Shanaska Creek	Le Sueur County	910	Aluminum, Wrought Iron, or Cast Iron Truss thru	1875 (1984)	N/A	Typological	N/A	Listed at original site but since moved	No
5368	Roosevelt Bridge	MW-AUS-091	Mower	CSAH 29	Cedar River	Mower County	111	Concrete arch - deck	1933	N/A	Aesthetics	N/A	Eligible	No
5453		OT-FFC-087	Otter Tail	Union Avenue North (MSAS 104)	Otter Tail River (OTV Railroad)	City of Fergus Falls	101	Concrete slab	1939	N/A	Aesthetics	N/A	Eligible	No
5704		SC-JRC-053	Scott	Rice Street	Sand Creek	City of Jordan	303	Steel girder and floorbeam system	1936	N/A	Aesthetics	N/A	Eligible	No
5744	Split Rock Creek Bridge	PP-EDN-001	Pipestone	Township Road 254	Split Rock Creek	Eden Township	811	Masonry arch - deck	1938	N/A	Aesthetics	N/A	Listed	No
5837		CR-WAT-002	Carver	CSAH 10	Over Dakota Railway	Carver County	702	Timber stringer/multi-beam or girder	1939	Grade Separation Program	N/A	N/A	Eligible	No
5882		CR-WTC-010	Carver	CSAH 10	South Fork Crow River	Carver County	302	Steel stringer/multi-beam or girder	1939	N/A	Aesthetics	N/A	Eligible	No
6247		HE-GVC-049	Hennepin	Plymouth Avenue North	BNSF RR & Bassett Creek	City of Golden Valley	103	Concrete girder and floorbeam system	1930 (2006)	N/A	Aesthetics	N/A	Eligible	No
6263	Forestville Bridge	FL-FOR-021	Fillmore	CR 118	South Branch of Root River	Fillmore County	310	Steel truss - thru	1899	N/A	Typological; Significant Builder	N/A	Listed	No
6527		WW-MDT-003	Watwan		Pedestrian Walkway/Watwan River	Watwan County	310	Steel truss - thru	1908	N/A	Typological; Significant Builder	N/A	Eligible	No
6610		XX-BRI-002	Chippewa	CSAH 15/CSAH 18	Minnesota River	County Highway Agency	402	Steel Continuous Stringer/Multi-beam or girder	1949	Flood Control Project	N/A	Lac qui Parle Project Historic District	Eligible	No
6611		XX-BRI-006	Chippewa	CSAH 14/CSAH 20	Minnesota River	County Highway Agency	402	Steel Continuous Stringer/Multi-beam or girder	1948	Flood Control Project	N/A	Lac qui Parle Project Historic District	Eligible	No
6992	(27A53)	HE-MPC-0020	Hennepin		Washington Avenue/Burlington Northern Railroad	Hennepin County	310	Steel truss - thru	1891		Integrity has been compromised - truss salvaged and bridge rebuilt	Minneapolis Warehouse HD	Listed	No
7097	War Memorial Bridge	PL-VNE-005	Polk	CSAH 7	Red River of the North	City	310	Steel truss - thru	1957	N/A	N/A	N/A	Eligible in North Dakota	No
7423		IC-UOG-088	Itasca	CR 446	Swan River	Itasca County	111	Concrete arch - deck	1917	N/A	Typological (Marsh Arch)	N/A	Eligible	No
7498		KT-PCY-022	Kittson	CSAH 28	South Bridge Two Rivers (Dam)	Kittson County	103	Concrete girder and floorbeam system	1937	Politics/Government	Architecture	Lake Bronson State Park HD	Listed	No
7614		CK-UOG-048	Cook	CSAH 17	Grand Portage Creek	Cook County	319	Steel culvert	1941	N/A	Aesthetics	N/A	Eligible	No
7771		SL-HBC-189	St Louis	CSAH 110	CHANNEL	County	103	Concrete girder	1956	Erie Mining Company Diversion Works	N/A	Erie Mining Company Diversion Works	Eligible	No

List of Extant Historic Bridges

Bridge Number	Bridge Name	SHPO Number	County	Feature Carried	Feature Crossed	Owner	Main span type	Main Span Text	Date (remodel)	Significance Criterion A	Significance Criterion C	Historic District	NatReg Status	Management Plan (Date)
7979		FL-CAR-004	Fillmore	CSAH 15	Stream	Fillmore County	819	Masonry arch - thru	1904	N/A	Typological	N/A	Eligible	No
9360			Hennepin	CSAH 122	MISS R. RR, STREETS	County	403	Continuous steel girder	1965	Unknown	Unknown	N/A	Eligible	No
9612		HE-MPC-17049	Hennepin	Stevens Ave South	Minnehaha Creek	City of Minneapolis	103	Concrete girder and floorbeam system	1962	N/A	High artistic value	N/A	Eligible	No
9940		FL-NWB-012	Fillmore	CSAH 29	Riceford Creek	Fillmore County	302	Steel stringer/multi-beam or girder	1940 (2005)	N/A	Aesthetics; Typological	N/A	Eligible	No
25580	Zumbrota Covered Bridge	GD-ZBC-008	Goodhue	Off Mn Hwy 58	Zumbro River	City of Zumbrota	302	Steel Stringer/Multi-beam or girder	1869	N/A	Architecture; Engineering; Transportation	N/A	Listed	No
27547		HE-MPC-09758	Hennepin	Chicago Avenue South	Minnehaha Creek	City of Minneapolis	501	Prestressed concrete slab	1970	N/A	Early use of post-tensioning in prestressed concrete bridge	N/A	Eligible	No
27552	Moir Park Bridge	HE-BLC-151	Hennepin	106th Street (MSAS 407)	Nine Mile Creek	City of Bloomington	407	Continuous steel rigid frame	1968 (2009)	N/A	High artistic value; uncommon type	N/A	Eligible	No
27664	Broadway Bridge Span	HE-MPC-0276	Hennepin	Merriam Street	East channel of Mississippi River	City of Minneapolis	302	Steel stringer/multi-beam or girder	1887 (1986)	N/A	Typological; Aesthetics	N/A	Eligible	No
62075			Ramsey	Pedestrian Walkway	Montreal Avenue (TH 51)	City of St. Paul	111	Concrete arch - deck	1927	N/A	Aesthetics	N/A	Eligible	No
89182		OL-ROT-017	Olmsted	CR 125	South Forth Zumbro River (Dam)	Olmsted County	302	Steel stringer/multi-beam or girder	1934	Community Planning and Development	Architecture	Maywood HD	Listed	No
89188		OL-ROC-378	Olmsted	7th Street (MSAS 104)	Zumbro River	City of Rochester	203	Continuous concrete girder and floorbeam system	1956	N/A	High artistic value	N/A	Eligible	No
89850		RW-DLT-003	Redwood	CSAH 17	Minnesota River	Redwood County	310	Steel truss - thru	1910	N/A	Typological; Significant Builder	N/A	Eligible	No
89859	Ramsey Park Swayback Bridge	RW-RFC-018	Redwood	CSAH 31	Redwood River	Redwood County	101	Concrete slab	1938	N/A	Engineering	N/A	Listed	No
90202		LP-CAM-006	Lac Qui Parle	CSAH 18	Creek	County Highway Agency	119	Concrete Culvert	1940	Flood Control Project	N/A	Lac Qui Parle Project Historic District	Listed	No
90386	Seventh Street Improvement Arches		Ramsey	East 7th Street (TH 5)	East 7th Street over RCRRA	Ramsey County Regional Rail	819	Masonry arch - thru	1885	N/A	Typology	N/A	Listed	No
90401	Mendota Road Bridge		Ramsey	Water Street	Pickerel Outlet	Ramsey County	811	Masonry arch - deck	1894	N/A	Typological	N/A	Listed	No
90437		HE-MPC-9959-2	Hennepin	Cedar Avenue South (CSAH 152)	HCRRA	Hennepin County Regional Railroad Authority	103	Concrete girder and floorbeam system	1916	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
90449		HE-MPC-6896	Hennepin	Lake Street (CSAH 3)	Channel and Pedestrian Path	Hennepin County	111	Concrete arch - deck	1911	N/A	Aesthetics	N/A	Eligible	No
90482		HE-MPC-9000	Hennepin	Nokomis Avenue	Minnehaha Creek	City of Minneapolis	103	Concrete girder and floorbeam system	1921	N/A	Aesthetics	N/A	Eligible	No
90490		HE-MPC-6899-1	Hennepin	Penn Avenue South	Minnehaha Creek	City of Minneapolis	111	Concrete arch - deck	1902 (2004)	N/A	Typological	N/A	Eligible	No
90494		HE-MPC-4810-1	Hennepin	Portland Avenue (CSAH 35)	Soo Line Railroad (HCRRA)	Hennepin County Regional Railroad Authority	103	Concrete girder and floorbeam system	1914	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
90554	Marsh Creek Rainbow Arch Bridge or Cambria Rainbow Bridge	BE-CAM-004	Blue Earth	Old Highway 101 and Pedestrian Bridges	Little Cottonwood	Blue Earth County	112	Concrete arch - thru	1911	N/A	Typology (Marsh Arch)	N/A	Listed	No
90590		HE-MPC-9963-2	Hennepin	Nicollet Avenue South (1942)	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1914	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
90591		HE-MPC-6529	Hennepin	Nicollet Avenue South	Minnehaha Parkway & Creek	City of Minneapolis	111	Concrete arch - deck	1923 (1973)	N/A	Typological	N/A	Eligible	No
90592		HE-MPC-4813-1	Hennepin	28th Avenue South	Minnehaha Creek	City of Minneapolis	111	Concrete arch - deck	1904	N/A	Typological	N/A	Eligible	No
90608		HE-EXC-063	Hennepin	Minnetonka Avenue (56C)	St Albans Bay	City of Excelsior	103	Concrete girder and floorbeam system	1941	N/A	Aesthetics	N/A	Eligible	No
90646		HE-EDC-633	Hennepin		Wooddale Avenue/Minnehaha Creek	City of Edina	311	Steel arch - deck	1937	N/A	Aesthetics	N/A	Eligible	No
90661	Dean Parkway	HE-MPC-5341	Hennepin			Hennepin County Regional Railroad Authority	101	Concrete Slab	1912	Community Planning and Development	Important Architect; Landscape Architecture	Grand Rounds Historic District	Listed	No
90980		ME-KGT-005	Meeker	Township Road 362	North Fork Crow River	Kingston Township	310	Steel truss - thru	1899	N/A	Early example of a steel Pratt thru truss	N/A	Listed	No
90990		ME-SDT-007	Meeker		Washington Creek	Dassel Township	812	Masonry arch - thru	1908	N/A	Typological	N/A	Eligible	No
92247		RA-SPC-0769	Ramsey	Lexington Avenue (CSAH 51)	Abandoned Railroad in Como Park (Recreational Trail)	Ramsey County	111	Concrete arch - deck	1903	N/A	Typological	N/A	Listed	No
92321		HE-MPC-4812-1	Hennepin	Bloomington Avenue South	Minnehaha Creek	City of Minneapolis	103	Concrete girder and floorbeam system	1921	N/A	Aesthetics	N/A	Eligible	No
92322		HE-MPC-5045	Hennepin	12th Avenue South	Minnehaha Creek	City of Minneapolis	103	Concrete girder and floorbeam system	1930	N/A	Aesthetics	N/A	Eligible	No
92324		HE-MPC-9004	Hennepin	Upton Avenue South	Minnehaha Creek	City of Minneapolis	103	Concrete girder and floorbeam system	1931	N/A	Aesthetics	N/A	Eligible	No
92347		HE-MPC-9963-3	Hennepin	1st Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1914	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
92350		HE-MPC-9959-3	Hennepin	Bloomington Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1916	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
92366	Hanover Bridge	HE-HNC-0005-1	Hennepin	Pedestrian	Crow River	City of Hanover	910	Aluminum, Wrought Iron, or Cast Iron Truss thru	1885	N/A	Typological	N/A	Listed	No
92643		HE-EDC-0628	Hennepin	Browdale Avenue (488)	Minnehaha Creek	City of Edina	111	Concrete arch - deck	1902 (2008)	N/A	Typological	N/A	Eligible	No
93809	Channel Bridge		Hennepin			Hennepin County Regional Railroad Authority	101	Concrete Slab	1913	Community Planning and Development	Important Architect; Landscape Architecture	Grand Rounds Historic District	Listed	No
93844		HE-MPC-9005	Hennepin		Ped-Maintenance/Soo Line	Mpls Park Board	311	Steel arch - deck	1896	N/A	Typological	N/A	Eligible	No
93916		HE-MPC-17045	Hennepin	Pedestrian	Miss. River Spillway	Local Park, Forest, Reserve	702	Timber stringer/multi-beam or girder	1970	N/A	Exceptional main span length	N/A	Eligible	No
94246		HE-MPC-9006	Hennepin	Bridge #9 Pedestrian (Abandoned Railroad)	Mississippi River & West River Road	City of Minneapolis	309	Steel truss - deck	1922 (1999)	N/A	Typological	N/A	Eligible	No
1238A		RW-SBC-005	Redwood	Main Street (MUN 22)	Stream	City of Sanborn	101	Concrete slab	1917	State Roads	Typological	N/A	Eligible	No
L0885		OT-MNE-009	Otter Tail		Otter Tail River	Ottertail County	310	Steel truss - thru	1907	N/A	Typological; Significant Builder	Phelps Mill Historic District	Listed	No
L2194		RK-MGT-002	Rock		Stream	Magnolia Township	119	Concrete culvert	1928	N/A	Typological; Significant Builder	N/A	Eligible	No
L2257		RK-LVC-032	Rock		Stream	City of Luverne	112	Concrete arch - thru	1910	N/A	Significant Builder	N/A	Eligible	No
L2340		RK-BCT-005	Rock		Spring Water Creek	Beaver Creek Township	112	Concrete arch - thru	1906	N/A	Significant Builder	N/A	Eligible	No
L2526		CR-CVC-098	Carver		Carver Spring	City of Carver	812	Masonry arch - thru	1885	N/A	Rare Type	Carver HD	Listed	No
L2783		CR-CVC-100	Carver	Main Street	Carver Spring	Carver County	811	Masonry arch - deck	1885 (1950)	N/A	Rare Type	Carver HD	Listed	No
L3275	Waterford Bridge	DK-WTR-005	Dakota	Township Road 166	Cannon River	Waterford Township	310	Steel truss - thru	1909	N/A	Typological	N/A	Eligible	No
L3942			Crow Wing	North Koering Road	Nokasippi River	St. Mathias Township	310	Steel truss - thru	1908	N/A	Typological; Significant Builder	N/A	Eligible	No
L4005		HU-BLH-011	Houston	Township Road 124	Riceford Creek	Black Hammer Township	302	Steel stringer/multi-beam or girder	1905	N/A	Typological; Significant Builder	N/A	Eligible	No

List of Extant Historic Bridges

Bridge Number	Bridge Name	SHPO Number	County	Feature Carried	Feature Crossed	Owner	Main span type	Main Span Text	Date (remodel)	Significance Criterion A	Significance Criterion C	Historic District	NatReg Status	Management Plan (Date)
L4013		HU-BLH-008	Houston		Dry Run	Black Hammer Township	811	Masonry arch - deck	1915	N/A	Typological	N/A	Listed	No
L4646		RK-BCC-003	Rock	MUN 11	Spring Brook	City of Beaver Creek	111	Concrete arch - deck	1911	N/A	Significant Designer	N/A	Listed	No
L4885		FL-FLM-013	Fillmore	Township Road 354	Bear Creek	Fillmore Township	310	Steel truss - thru	1906	N/A	Typological; Significant Builder	N/A	Eligible	No
L5245		JK-ABA-002	Jackson	Township Road 187	Okabena Creek	Alba Township	310	Steel truss - thru	1905	N/A	Typological	N/A	Eligible	No
L5391	Third Street Bridge	GD-CFC-066	Goodhue	3rd Street (MUN 58)	Cannon River	City of Cannon Falls	310	Steel truss - thru	1909 (2002)	N/A	Unusual type; Significant bridge builder and engineering firm	N/A	Listed	No
L5573	Clinton Falls Bridge	ST-CLI-008	Steele		Straight River	Clinton Falls Township	310	Steel truss - thru	Unk (1975)	N/A	Typological	N/A	Listed	No
L5669	Yaeger (Kern) Bridge	BE-MKT-007	Blue Earth	Old Route 8/Township Road	Le Sueur River	Blue Earth County	910	Aluminum, Wrought Iron or Cast Iron Truss - thru	1873	N/A	Uncommon Type - Bowstring Arch	N/A	Listed	No
L5722		HE-MPC-6900-1	Hennepin	Lake of Isles Boulevard	Channel	Mpls Park Board	111	Concrete arch - deck	1912	N/A	Aesthetics; Significant Engineer	N/A	Eligible	No
L5728	East Lake Calhoun Parkway		Hennepin			Hennepin County Regional Railroad Authority	101	Concrete Slab	1912	Community Planning and Development	Important Architect; Landscape Architecture	Grand Rounds Historic District	Listed	No
L5729		HE-MPC-6901-1	Hennepin	West Lake of the Isles Blvd	Channel to Cedar Lake	Mpls Park Board	111	Concrete arch - deck	1912	N/A	Aesthetics; Significant Engineer	N/A	Eligible	No
L5735		HE-MPC-9007	Hennepin	Lake Nokomis Parkway	Minnehaha Creek	Mpls Park Board	103	Concrete girder and floorbeam system	1925	N/A	Aesthetics	N/A	Eligible	No
L5736		HE-MPC-9008	Hennepin	Minnehaha Parkway	Minnehaha Creek	Mpls Park Board	103	Concrete girder and floorbeam system	1925	N/A	Aesthetics	N/A	Eligible	No
L5852	Como Park Stone Arch Bridge		Ramsey	Sterk Road Pedestrian	Como Park Lagoon	City of St. Paul	811	Masonry arch - deck	1894	N/A	Aesthetics	N/A	Eligible	No
L5853			Ramsey		Lexington Avenue (Como Park)	City of St. Paul	811	Masonry arch - deck	1904	N/A	Aesthetics	N/A	Listed	No
L5893			Hennepin	West 29th Street	Midtown Greenway	Hennepin County Regional Railroad Authority	203	Concrete Continuous Girder and floorbeam system		Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L6007		SL-DUL-2366	St. Louis	Skyline Parkway (536)	Stewart Creek	City of Duluth	811	Masonry arch - deck	1919	N/A	Aesthetics	N/A	Listed	No
L6113		SL-DUL-2423	St. Louis	4th Street (MSAS 133)	Tischer Creek	City of Duluth	111	Concrete arch - deck	1925	N/A	Aesthetics	N/A	Eligible	No
L6116	Aerial Lift Bridge	SL-DUL-2380	St. Louis	Lake Avenue (MSAS 140)	Ship Canal	City of Duluth	315	Steel movable - lift	1905 (1985)	N/A	Rare Type	N/A	Listed	No
L6322	Frank's Ford Bridge	OL-ORT-008	Olmsted	CR 121	South Forth Zumbro River	Olmsted County	310	Steel truss - thru	1895	N/A	Typological	N/A	Listed	No
L6393		HE-MPC-9009	Hennepin		Pedestrian Bridge/Minnehaha Creek	Mpls Park Board	311	Steel arch - deck	1930	N/A	Typological; Aesthetics	N/A	Eligible	No
L7069		TO-TUR-003	Todd		Turtle Creek	Turtle Creek Township	311	Steel arch - deck	1935	N/A	Aesthetics	N/A	Eligible	No
L7075		TO-HAR-009	Todd	Township Road 411	Turtle Creek	Turtle Creek Township	319	Steel culvert	1940	N/A	Aesthetics	N/A	Eligible	No
L7897		YM-NMA-006	Yellow Medicine		Branch Spring Creek	Normania Township	119	Concrete culvert	1925	N/A	Aesthetics	N/A	Eligible	No
L7898		YM-NMA-007	Yellow Medicine		Branch Spring Creek	Normania Township	119	Concrete culvert	1925	N/A	Aesthetics	N/A	Eligible	No
L7969		YM-MNF-012	Yellow Medicine	Township Road 115	Yellow Medicine River	Minnesota Falls Township	310	Steel truss - thru	1930	N/A	Typological; Significant Builder	N/A	Eligible	No
L8477			St. Louis	West 10th Street (MUN 36)	Miller Creek & Lincoln Park	City of Duluth	111	Concrete arch - deck	1927 (2007)	N/A	Aesthetics	N/A	Eligible	No
L8503		SL-DUL-2404	St. Louis	East Skyline Parkway (MUN 712) (Snively Boulevard)	Amity Creek	City of Duluth	111	Concrete arch - deck	1912	N/A	Aesthetics	N/A	Eligible	No
L8505		SL-DUL-2668	St. Louis	East Skyline Parkway (MUN 712) (Snively Boulevard)	Amity Creek	City of Duluth	111	Concrete arch - deck	1912	N/A	Aesthetics	N/A	Eligible	No
L8506		SL-DUL-2669	St. Louis	East Skyline Parkway (MUN 712) (Snively Boulevard)	Amity Creek	City of Duluth	111	Concrete arch - deck	1912 (2004)	N/A	Aesthetics	N/A	Eligible	No
L8507		SL-DUL-2403	St. Louis	East Skyline Parkway (MUN 712) (Snively Boulevard)	Amity Creek	City of Duluth	111	Concrete arch - deck	1912 (1997)	N/A	Aesthetics	N/A	Eligible	No
L8515		SL-DUL-2426	St. Louis	Lewis Street (MUN 923)	Tischers Creek	City of Duluth	111	Concrete arch - deck	1922	N/A	Aesthetics	N/A	Eligible	No
L8560			Ramsey	Pedestrian -Phalen Drive	South Canal Phalen Park	City of St. Paul	111	Concrete arch - deck	1911 (1933)	N/A	Aesthetics	N/A	Eligible	No
L8789	Phalen Park		Ramsey	Pedestrian Path	South Channel in Phalen Park	City of St. Paul	302	Steel Stringer/Multi-beam or girder	1906 (1992)	N/A	Typological	N/A	Eligible	No
L8796		SL-DUL-2427	St. Louis	Township Road 883	West Swan River	St. Louis County	101	Concrete slab	1900	Iron Range Mining	N/A	N/A	Contributing?	No
L8803	Colorado Street Bridge		Ramsey	Pedestrian walkway (Old Route 10)	Colorado Street Arches	City of St. Paul	811	Masonry arch - deck	1888	N/A	Engineering; Unusual design	N/A	Listed	No
L8804			Ramsey	Edgecumbe Road (MUN 560)	Ravine	City of St. Paul	203	Continuous concrete girder and floorbeam system	1916	N/A	Typological; Notable Engineer	N/A	Eligible	No
L8849		CP-MON-145	Chippewa	MUN 99	Chippewa River Bypass	City of Montevideo	111	Concrete arch - deck	1938	N/A	Aesthetics	N/A	Eligible	No
L8850		CP-MON-146	Chippewa	MUN 99	Chippewa River Bypass	City of Montevideo	111	Concrete arch - deck	1938	N/A	Aesthetics	N/A	Eligible	No
L8898		HE-MPC-0160	Hennepin		4th Avenue North/Abandoned Burlington Northern Railroad	City of Minneapolis	303	Steel girder and floorbeam system	1891	Unknown	Unknown	Minneapolis Warehouse HD	Listed	No
L8901		HE-MPC-9964-2	Hennepin	Fremont Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1913	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8902		HE-MPC-9964-3	Hennepin	Colfax Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1913	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8903		HE-MPC-9964-4	Hennepin	Bryant Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1913	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8904		HE-MPC-9964-5	Hennepin	Aldrich Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1913	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8906		HE-MPC-9963-4	Hennepin	Harriet Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1914	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8907		HE-MPC-9010	Hennepin	Grand Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1914	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No

List of Extant Historic Bridges

Bridge Number	Bridge Name	SHPO Number	County	Feature Carried	Feature Crossed	Owner	Main span type	Main Span Text	Date (remodel)	Significance Criterion A	Significance Criterion C	Historic District	NatReg Status	Management Plan (Date)
L8908		HE-MPC-9963-5	Hennepin	Pleasant Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1913	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8909		HE-MPC-9963-6	Hennepin	Pillsbury Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1914	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8910		HE-MPC-9963-7	Hennepin	Stevens Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1914	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8911		HE-MPC-9959-4	Hennepin	Oakland Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1915	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8913		HE-MPC-9959-5	Hennepin	Columbus Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1915	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8915		HE-MPC-9012	Hennepin	10th Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1915	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8916		HE-MPC-9959-7	Hennepin	11th Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1915	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8917		HE-MPC-9959-8	Hennepin	12th Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1915	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8918		HE-MPC-9959-9	Hennepin	13th Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1915	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8919		HE-MPC-9959-10	Hennepin	14th Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1915	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8920		HE-MPC-9959-11	Hennepin	15th Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1916	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8921		HE-MPC-9959-12	Hennepin	16th Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1916	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8922		HE-MPC-9959-13	Hennepin	17th Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1916	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L8923		HE-MPC-9959-14	Hennepin	18th Avenue South	Midtown Greenway (HCRRA)	Hennepin County Regional Railroad Authority	203	Continuous concrete girder and floorbeam system	1916	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
L9327		HE-GVC-050	Hennepin		Theodore Wirth Parkway/Bassett Creek	City of Golden Valley	112	Concrete arch - thru	1940	N/A	Aesthetics	N/A	Eligible	No
L9328	Interlachen Bridge	HE-MPC-6637	Hennepin	William Berry Drive	Como-Harriet Streetcar Line	Mpls Park Board	111	Concrete arch - deck	1900	N/A	Early example of a reinforced concrete arch bridge	N/A	Listed	No
L9329	Queen Avenue Bridge	HE-MPC-6330	Hennepin	West Lake Harriet Boulevard	Como-Harriet Streetcar Line	City of Minneapolis	111	Concrete arch - deck	1905 (1991)	N/A	Early example of a reinforced concrete arch bridge	N/A	Listed	No
R0412	Walnut Street Bridge	WB-MZC-029	Wabasha		North Branch Zumbro River	City of Mazeppa	310	Steel truss - thru	1904	N/A	Typological	N/A	Listed	No
R0437	Stone Arch Bridge	PO-CFL-009	Pope		Chippewa River	Pope County	811	Masonry arch - deck	Unk (1998)	N/A	Typological	N/A	Listed	No
Known Historic Bridges owned by Railroad Companies														
6544	Oliver Bridge	SL-DUL-2417	St. Louis	Road & MN 39	St. Louis River	Railroad	317	Steel movable - swing	1916 (2001)	Iron Range Mining	N/A	N/A	Eligible	No
7626		SL-DUL-2418	St. Louis	Carlton St (MSAS 194)	DM&IR Ore Dock #5	Railroad	303	Steel girder and floorbeam system	1925	Iron Range Mining	N/A	Possible historic mining district	Contributing?	No
7627		SL-DUL-2419	St. Louis	Carlton St (MSAS 194)	DM&IR Ore Dock #6	Railroad	303	Steel girder and floorbeam system	1904 (1984)	Iron Range Mining	N/A	Possible historic mining district	Contributing?	No
7631		SL-DUL-2420	St. Louis	3rd Street (MSAS 126)	DM&IR Ore Dock #5	Railroad	303	Steel girder and floorbeam system	1925	Iron Range Mining	N/A	N/A	Contributing?	No
7632		SL-DUL-2421	St. Louis	3rd Street (MSAS 126)	DM&IR Ore Dock #6	Railroad	303	Steel girder and floorbeam system	1925	Iron Range Mining	N/A	N/A	Contributing?	No
27956		HE-MPC-17761	Hennepin	CP RAIL	I 94	Railroad	303	Steel girder	1966	N/A	Engineering	N/A	Eligible	No
90664		HE-MPC-9002	Hennepin	St Anthony Boulevard	BNSF & CP Railroad	Railroad	310	Steel truss - thru	1925	N/A	Typological	N/A	Eligible	No
L1393		WN-WAR-015	Winona	DM&E RR	CR 120	Railroad	303	Steel girder and floorbeam system	1882	N/A	Typological	N/A	Eligible	No
L1394		WN-WAR-021	Winona	DM&E RR	CR 120 and Garvin Brook	Railroad	819	Masonry arch - thru	1882	N/A	Typological	N/A	Eligible	No
L6137		SL-DUL-2424	St. Louis	Superior Street (MSAS 109)	DM&IR ORE DOCK #6	Railroad	303	Steel girder and floorbeam system	1925	Iron Range Mining	N/A	N/A	Eligible	No

List of Extant Historic Bridges

Bridge Number	Bridge Name	SHPO Number	County	Feature Carried	Feature Crossed	Owner	Main span type	Main Span Text	Date (remodel)	Significance Criterion A	Significance Criterion C	Historic District	NatReg Status	Management Plan (Date)
L6138		SL-DUL-2425	St. Louis	Superior Street (MSAS 109)	DM&IR ORE DOCK #5	Railroad	303	Steel girder and floorbeam system	1925	Iron Range Mining	N/A	N/A	Contributing?	No
No MnDOT bridge number	Great Northern Bridge	SN-SKC-001	Stearns		Main Street & 8th Street	Railroad			1924	Unknown	Unknown	Sauk Center Main Street	Listed	No
Known Historic Bridges owned by Federal Agencies														
6389		CP-TUN-011	Chippewa	CSAH 13	Chippewa River	Corps of Engineers (Civil)	501	Prestressed Concrete Slab	1936	Flood Control Project	N/A	Lac qui Parle Project Historic District	Eligible	No
6390		CP-TUN-012	Chippewa	CSAH 9	Watson Sag	Corps of Engineers (Civil)	501	Prestressed Concrete Slab	1936-1937	Flood Control Project	N/A	Lac qui Parle Project Historic District	Eligible	No
6391		XX-BRI-005	Lac Qui Parle	CSAH 33/CSAH 13	Minnesota River	Corps of Engineers (Civil)	106	Prestressed Concrete Slab	1937-1938	Flood Control Project	N/A	Lac Qui Parle Project Historic District	Eligible	No
Known Historic Privately-owned Bridges														
90448		HE-MPC-9003-1	Hennepin	Pedestrian	Excelsior Boulevard	Private	410	Continuous steel truss - thru	1936	Unknown	Unknown	Minikahda Club	Eligible	No
93861		HE-MPC-17767	Hennepin	SKYWAY	7th ST	Private (Non-railroad)	310	Steel truss-thru	1969	Association with the IDS Center	Significant Designer	N/A	Eligible	No
93863		HE-MPC-17768	Hennepin	SKYWAY	MARQUETTE AVE S	Private (Non-railroad)	310	Steel truss-thru	1969	Association with the IDS Center	Significant Designer	N/A	Eligible	No
93864		HE-MPC-17769	Hennepin	SKYWAY	NICOLLET MALL	Private (Non-railroad)	310	Steel truss-thru	1969	Association with the IDS Center	Significant Designer	N/A	Eligible	No
93866		HE-MPC-17770	Hennepin	SKYWAY	8th ST S	Private (Non-railroad)	310	Steel truss-thru	1969	Association with the IDS Center	Significant Designer	N/A	Eligible	No
L8914		HE-MPC-9959-6	Hennepin		Elliot Avenue South/HCRRA	Private	106	Concrete box beam or girders - single or spread	1915	Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed	No
No MnDOT Bridge Number		LA-SVC-018	Lake			Private				Unknown	Unknown	Encampment Forest Association	Eligible	No
	Stillwater Stone Arch Bridge		Washington			Private	811	Masonry Arch-Deck	c.1857	Transportation	Typological	N/A	Eligible	No

Appendix C. List of Removed Historic Bridges

List of Nonextant Historic Bridges

Bridge Number	Bridge Name	SHPO Number	County	Feature Carried	Feature Crossed	Owner	Main span type	Main Span Text	Date (remodel)	Significance Criterion A	Significance Criterion C	Historic District	NatReg Status	Management Plan (Date)
1816		PO-CFL-010	Pope	CSAH 21	East Branch Chippewa River	Pope County	301	Steel slab	1918 (1940)			Terrace Mill HD	Listed (Historic District)	No
4936	Dunn Bridge		Mille Lacs	Rum River Boulevard	West Branch Rum River	Mille Lacs County	103	Concrete girder and floorbeam system	1931	N/A	Aesthetics	N/A	Not applicable	No
89451			St. Louis	Skyline Parkway (MSAS 176)	Amity Creek	City of Duluth	111	Concrete arch - deck	1912	N/A	Aesthetics	N/A	Not applicable	No
27A94/92349			Hennepin	Chicago Avenue	Midtown Greenway	City of Minneapolis				Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed (District)	No
27B19/90491			Hennepin	Park Avenue	Midtown Greenway	Hennepin County				Community Planning	N/A	Chicago, Milwaukee and St. Paul Railroad Grade Separation Historic District	Listed (District)	No
L2210	replaced by 67J81 - township owned	RK-CLN-001	Rock		Ash Creek	Unknown	112	Concrete arch - thru	1911	N/A	Significant Builder	N/A	Eligible	No
L4100			Waseca	Township Road	Little Cobb River	Waseca County			1906			N/A	Not applicable	No
L5665	Kennedy Bridge	BE-DEC-007	Blue Earth	Township Road	Le Sueur River	Blue Earth County	303	Steel girder and floorbeam system	1883	Transportation	Engineering	N/A	Not applicable	No
L8501	now 69671		St. Louis	East Skyline Parkway (MUN 712) (Snively Boulevard)	Amity Creek	City of Duluth	111	Concrete arch - deck	1912	N/A	Aesthetics	N/A	Not applicable	No
No MnDOT Bridge Number		LY-LDT-013	Lyon		Redwood River				1938			Camden State Park	Listed (Historic District)	No
No MnDOT Bridge Number	Railroad Bridge	SL-DUL-2336	St. Louis		Congdon Park Drive	Railroad				Skyline Parkway	N/A	N/A	Not applicable	No

Appendix D. Contact Information

Contact Information

Process Questions

Bridge Structures, Analysis, Alternatives

MnDOT Bridges

Contact Bridge Office

Historic Bridge Engineer: Angel Staples: angel.staples@state.mn.us

Local Bridges

Dave Conkel: (651)-366-4493 or dave.conkel@state.mn.us

Section 106

Contact MnDOT Cultural Resources Unit: culturalresources.dot@state.mn.us

NEPA and Section 4(f) processes

MnDOT Projects

Contact OES – Environmental Assessment Unit

Jennie Ross: (651) 366-3636

Local Bridge Projects

Contact State Aid (SALT)

Lynnette Roshell: Lynnette.roshell@state.mn.us

Mentoring

MnDOT Projects

Contact Historic Bridge Engineer

Angel Staples: angel.staples@state.mn.us

District project managers who have not worked on a historic bridge project previously can contact MnDOT's Bridge Office for recommendations of staff (bridge and district project managers) who have previously worked on historic bridge projects who could mentor project managers new to the process.

State Aid projects

Lynnette Roshell: Lynnette.roshell@state.mn.us

Accelerated Bridge Construction

For information on evaluating innovative contracting and/or accelerated bridge construction techniques that could be used to minimize bridge closures during rehabilitation, contact:

- Paul Rowekamp: Paul.rowekamp@state.mn.us
- Keith Molnau: Keith.molnau@state.mn.us

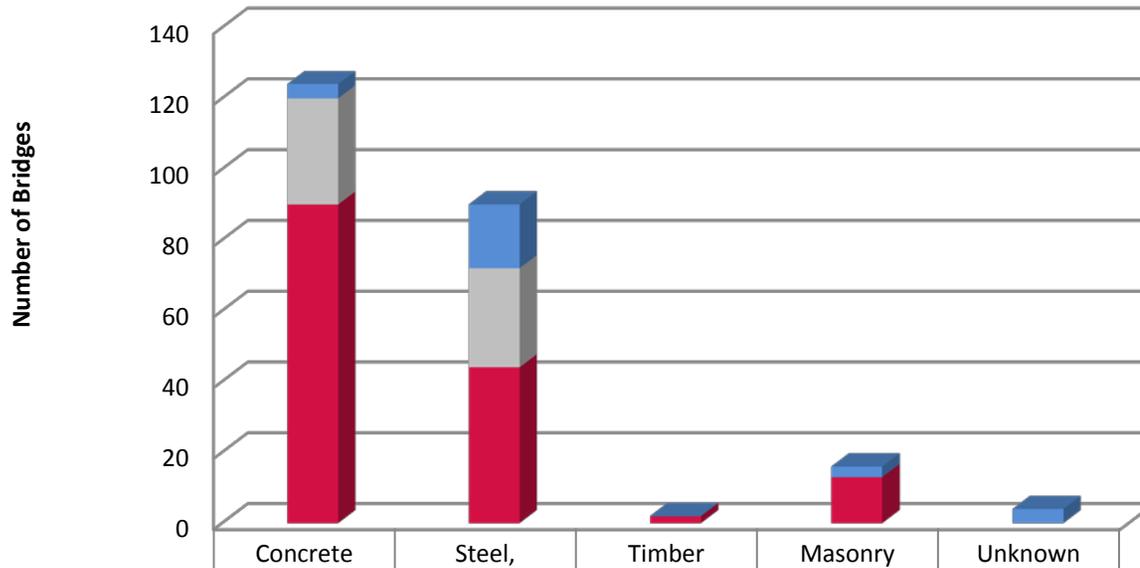
Performance-based Design

The following staff can be contacted for information on performance-based design for MnDOT projects:

- Darwin Yasis (design exceptions)
- Mike Elle (assessing 13 controlling design criteria evaluation comparison with AASHTO values)
- Jim Rosenow (acting Design Standards Engineer who is slated to become the Design Flexibility Engineer)

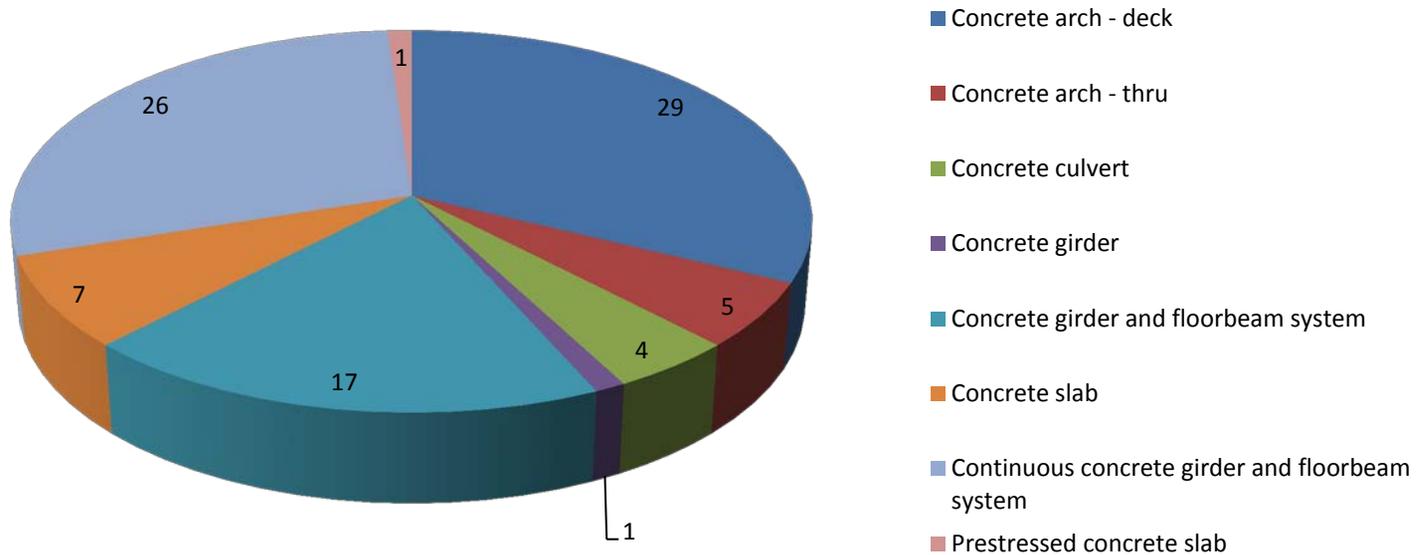
Appendix E. Historic Bridges by Material, Type, and Owner

Bridge Material by Owner

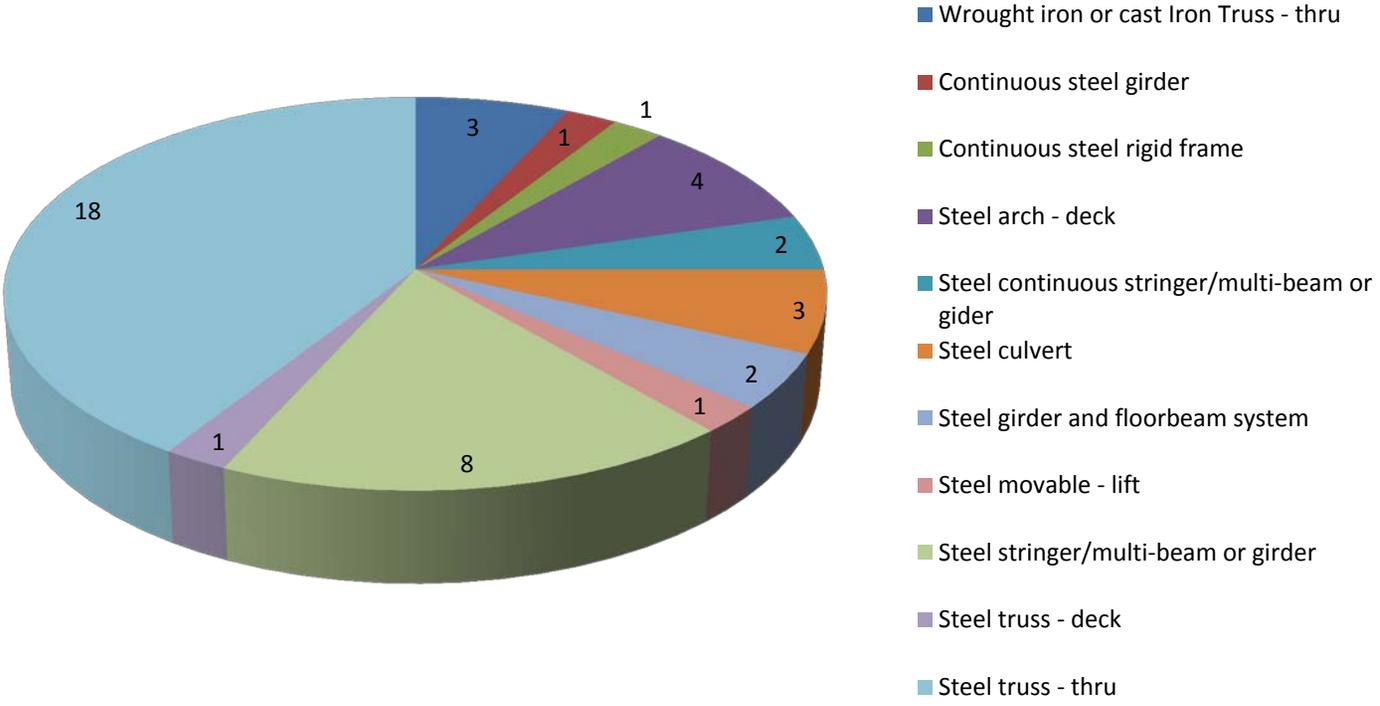


■ Other Non-DOT (N= 29)	4	18	0	3	4
■ MnDOT (N= 58)	30	28	0	0	0
■ Local government entities (N= 149)	90	44	2	13	0

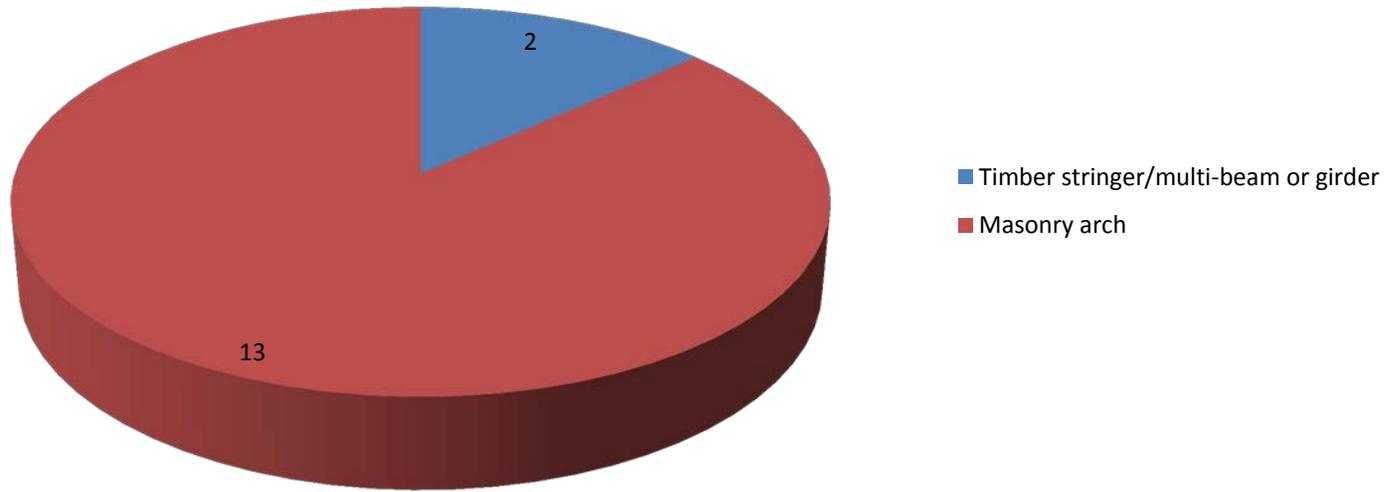
Local Government Agencies Concrete Types



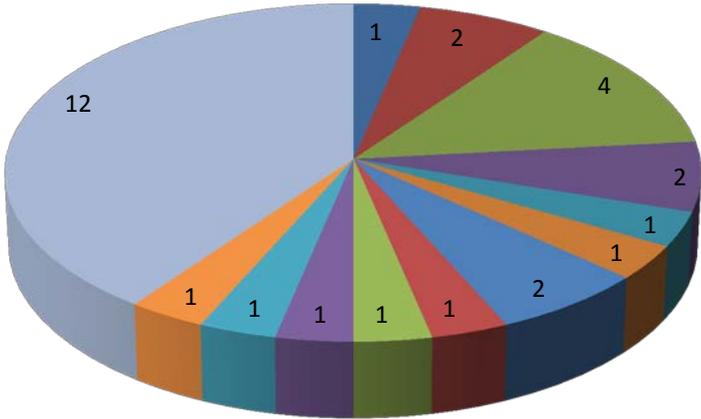
Local Government Agencies Steel and Iron Types



Local Government Agencies Timber and Masonry Types

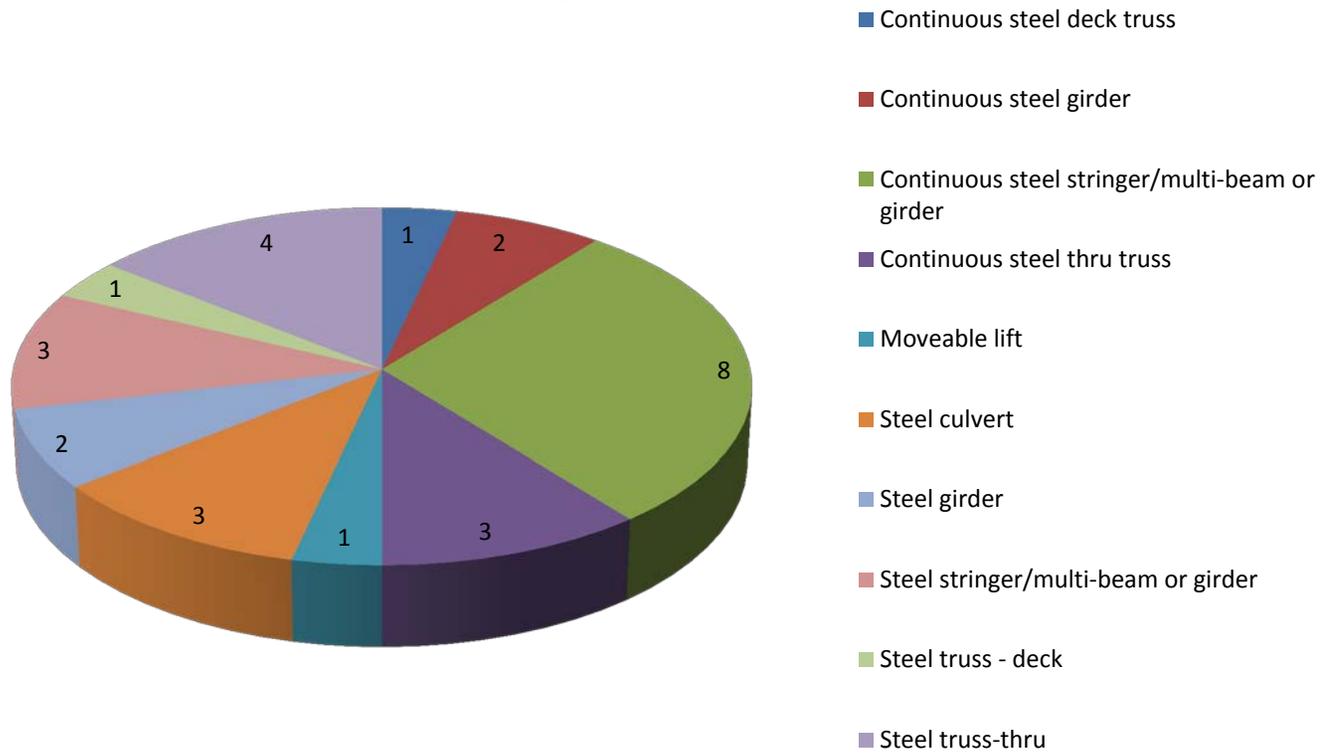


MnDOT ConcreteTypes

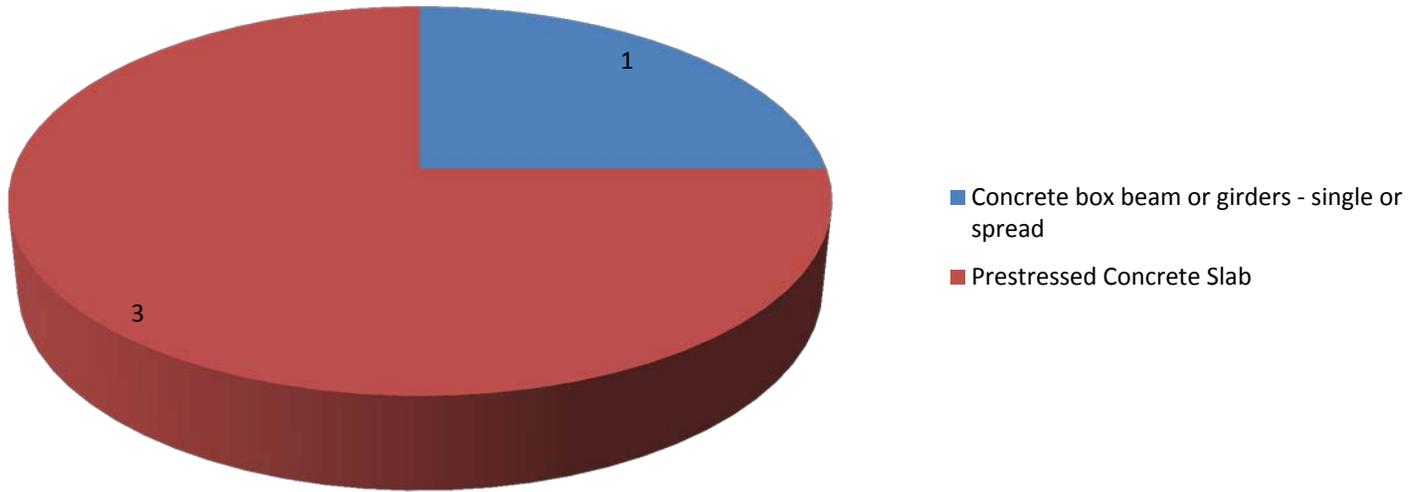


- Concrete arch
- Concrete culvert
- Concrete deck arch
- Concrete girder and floorbeam system
- Concrete rigid frame
- Concrete slab
- Concrete tunnel
- Continuous concrete arch
- Continuous concrete box beam or girder-multiple
- Continuous concrete deck arch
- Continuous concrete slab
- Prestressed concrete slab
- Prestressed concrete stringer/multi-beam or girder

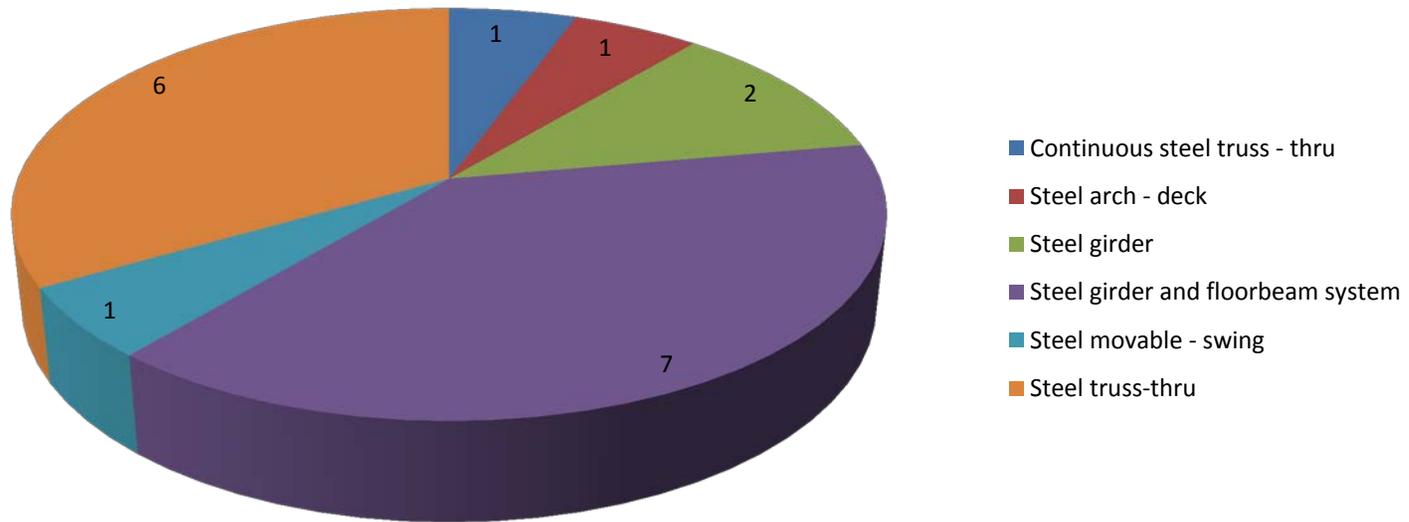
MnDOT Steel and Iron Types



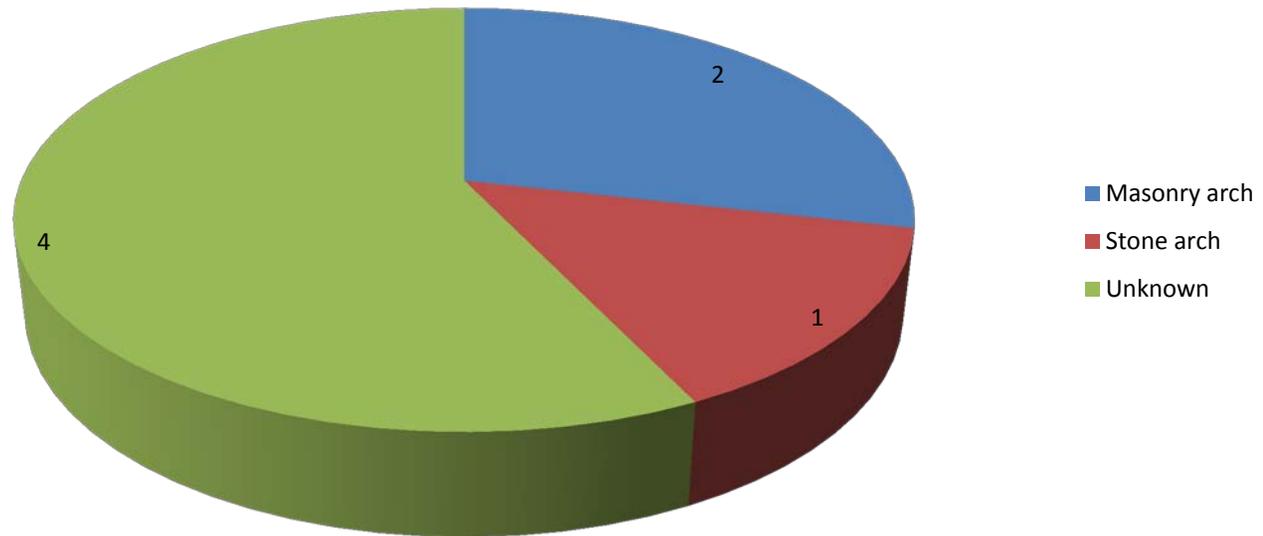
**Other Non-DOT (Federal, Private, Railroad, and Other State agencies)
Concrete Types**



**Other Non-DOT (Federal, Private, Railroad, and Other State agencies)
Steel Types**



**Other Non-DOT (Federal, Private, Railroad, and Other State agencies)
Masonry or Unknown Types**



Appendix F. Explanation of Condition Score

Condition Score Calculation

The *Condition Score Calculation* was developed for this project as a tool to estimate the potential for preservation of historic bridges based on the current conditions that carry vehicular traffic. The calculation automates the screening process by isolating factors that typically control whether a bridge can be prudently and economically rehabilitated and therefore preserved. The Condition Score also serves as an indicator of the condition of a bridge by isolating controlling elements. Values utilized in the Condition Score are extracted from the National Bridge Inventory (NBI) database as follows:

1. Structural capacity
2. Overall structural evaluation
3. Superstructure condition
4. Substructure condition
5. Roadway width compared to future ADT
6. Roadway width compared to approach width
7. Deck geometry evaluation
8. Waterway adequacy
9. Approach roadway alignment evaluation

The *Condition Score Calculation* reviews the NBI values and assigns a score for each item listed to arrive at a composite score (see the following pages for information on calculating the Condition Score and a sample). See the FHWA's *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges* for more information on NBI component ratings. The highest possible value that a bridge can receive for its Condition Score is 45 points, which is based on a maximum of five points for each of the nine factors listed above. Four factors involve structural adequacy for a total of 20 points (see 1-4), three involve functional adequacy for a total of 15 points (see 5-7), one involves waterway adequacy (5 points), and one involves approach roadway (5 points). These factors are tabulated to arrive at a bridge's Condition Score.

Values of 40 or more are considered high and indicate a greater potential for preservation. The value of 40, which was calculated from the population of historic bridges, is the mean plus one standard deviation. Bridges with a Condition Score value of 40 or greater place in the upper 16 percent of the population. Lower values for the Condition Score indicate a bridge that has elements in less acceptable condition and, therefore, may be less suitable for preservation. For example, if the condition of the bridge resulted in individual categories having four points, indicating less than ideal but adequate conditions, the Condition Score for that bridge would be 36. The *Guidelines for Historic Bridge Rehabilitation and Replacement* (March 2007), accepted by AASHTO, notes that "experience has demonstrated time and again that a [NBI] condition rating of 4 or higher suggests that structural condition is conducive to rehabilitation."

Condition Scores in the range of 35 to 39 are considered medium. Bridges with a high or medium Condition Score are considered acceptable for preservation based on professional judgment after examining the state's entire population of historic bridges that are subject to select consideration. Condition Scores of 35 or less are considered low due to the bridges having one or more factors that affect their serviceability rated less than poor. Bridges with a low Condition Score may be considered for Select

status due to their prioritization in this methodology. These bridges require individual review to determine potential for preservation.

Condition Score Calculation

NBI Item	NBI Item description	Formula to calculate Condition Score
64B	Structural Capacity (Tons)	If capacity is greater than or equal to 36 tons, value = 5, otherwise value = $5 \times \text{Capacity} / 36$
67	Structural Evaluation	If greater than or equal to 5 then value = 5; If 4 than value = 4 otherwise value = 0
59	Superstructure Condition	If greater than or equal to 5 then value = 5; If 4 than value = 4 otherwise value = 0
60	Substructure Condition	If greater than or equal to 5 then value = 5; If 4 than value = 4 otherwise value = 0
51/114	Roadway Width Compared to Future ADT (NBI Factor H)*	IF NBI SR Factor H = 0, then value = 5, otherwise value = $5 - 5 \times H / 15$
51/32	Approach Width Compared to Bridge Roadway Width	If bridge roadway width + 2 ft < approach width, value = 0, otherwise value = 5
68	Deck Geometry Evaluation	If greater than or equal to 5 then value = 5; If 4 than value = 4 otherwise value = 0
71	Waterway Adequacy	If greater than or equal to 5 then value = 5; If 4 than value = 4 otherwise value = 0
72	Approach Roadway Alignment Evaluation	If greater than or equal to 5 then value = 5; If 4 than value = 4 otherwise value = 0

**The H factor is Line 2B in the NBI Sufficiency Rating Formula. It is a defined method of comparing clear roadway width with ADT.*

INDOT - Indiana Historic Bridge Inventory Condition Score Calculation

NBI Field Number	Structure Number	00227	3200173	NBI Value	Assessment Calculations
	StructureType	111A	REINFORCED CONCRETE ARCH		
	Location	Hendricks	County		
	Criteria				
64A	Structural Capacity (Tons)			16	2.22
67	NBI Structural Evaluation			4	4
59	NBI Superstructure Rating			4	4
60	NBI Substructure Rating			5	5
51/29	Roadway Width Compared to ADT (NBI Factor H)			1.125	4.625
51/32	Approach Width Compared to Bridge Roadway Width				5
68	NBI Deck Geometry Evaluation			0	0
71	Waterway Adequacy			5	5
72	NBI Approach Roadway Alignment Evaluation			4	4

Total Condition Score	33.845
Sufficiency Rating	43.8
Eligibility Score	99

DATA INPUT FROM NBI RECORDS

28	Number of Lanes	1
29	ADT (Average Daily Traffic)	198
30	ADT Year	2002
32	Approach Width	17
51	Roadway Width	17.7
59	NBI Superstructure Rating:	4
60	NBI Substructure Rating:	5
64A	Structural Capacity (Tons)	16
67	NBI Structural Evaluation	4
68	NBI Deck Geometry Evaluation	0
71	Waterway Adequacy	5
72	Approach Alignment Evaluatio	4
114	Future ADT	318
115	Future ADT Year	2026

SR Factor H

1.125

(X) ADT/Lane = 198
 (Y) Width/Lane = 17.7

Assessment Legend

Indicates User Input Required or Values Read from NBI
 Indicates assigned values corresponding to the NBI rating with a maximum value of 5 to a lower value of 0

If Future ADT is less than 400, also complete *Low Volume Road Initial Screening* matrix

Appendix G. Eligibility of Local Historic Bridges for Highway Funding

Pre-1971 Historic Bridges Eligible for Highway Funding

Bridge Number	Bridge Name	SHPO Number	County	Owner	Service on Bridge	Route Sys	Functionally Obsolete?	Structurally Deficient?	MN Bridge Length	Fed Bridge Length	Sufficiency Rating	Open / Posted?	Eligible State Aid Funding?	Eligible for State Bridge Bonds?	Eligible Federal Hwy Funding?
Known Historic Bridges owned by Local Government Entities															
2366	Nymore Bridge	BL-BJC-058	Beltrami	City of Bemidji	Highway; Pedestrian	Municipal		Yes	Yes	Yes	37.9	Open - Load Posted	No	Yes	Yes
3398		BS-ORT-059	Big Stone	City of Ortonville	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Ped	No	No	No
L5669	Yaeger (Kern) Bridge	BE-MKT-007	Blue Earth	Blue Earth County			No Inv.	No Inv.	Yes	Yes	No	closed	No	No	No
1461	Dodd Ford		Blue Earth	Blue Earth County	Highway	County		Yes	Yes	Yes	21.6	closed	No	Yes	Yes
90554	Marsh Creek Rainbow Arch Bridge or Cambria Rainbow Bridge	BE-CAM-004	Blue Earth	Blue Earth County			No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	Off system / bypassed	No	No	No
2110	The Eden Bridge	BW-EDN-005	Brown	Brown County	Highway	CSAH		Yes	Yes	Yes	24.2	Open - Load Posted	Yes	Yes	Yes
L2783		CR-CVC-100	Carver	Carver County	Highway	CSAH		Yes	Yes	No	47.5	Open	Yes	Yes	No
L2526		CR-CVC-098	Carver	City of Carver	Highway; Pedestrian	Municipal		Yes	Yes	No	40	Open - Load Posted	No	Yes	No
5882		CR-WTC-010	Carver	Carver County	Highway; Pedestrian	CSAH		Yes	Yes	Yes	32.3	Open - Load Posted	Yes	Yes	Yes
5837		CR-WAT-002	Carver	Carver County	Highway	CSAH		Yes	Yes	Yes	28.3	Open - Load Posted	Yes	Yes	Yes
L8849		CP-MON-145	Chippewa	City of Montevideo	Highway; Pedestrian	Municipal		Yes	Yes	No	51.1	Open	No	Yes	No
L8850		CP-MON-146	Chippewa	City of Montevideo	Highway; Pedestrian	Municipal		Yes	Yes	No	51.1	Open	No	Yes	No
06611		XX-BRI-006	Chippewa	County Highway Agency	Highway	CSAH	No	No	Yes	Yes	96.6	Open	No	No	No
06610		XX-BRI-002	Chippewa	County Highway Agency	Highway	CSAH	No	No	Yes	Yes	96.8	Open	No	No	No
7614		CK-UOG-048	Cook	Cook County	Highway	CSAH	Yes	No	Yes	Yes	48.1	Open	Yes	Yes	Yes
L3942			Crow Wing	St. Mathias Township	Highway	Township		Yes	Yes	Yes	19.9	Closed	No	Yes	No
L3275	Waterford Bridge	DK-WTR-005	Dakota	Waterford Township	Highway	Township		Yes	Yes	Yes	0	Closed	No	Yes	Yes
3130		FA-BET-003	Faribault	Blue Earth City Township	Highway	Township	Yes	No	Yes	Yes	47.8	Open - Load Posted	No	Yes	Yes
L4885		FL-FLM-013	Fillmore	Fillmore Township	Highway	Township		Yes	Yes	Yes	20	Open - Load Posted	No	Yes	Yes
9940		FL-NWB-012	Fillmore	Fillmore County	Highway	CSAH	No	No	Yes	Yes	94	Open	No	No	No
7979		FL-CAR-004	Fillmore	Fillmore County	Highway	CSAH		Yes	Yes	Yes	71.3	Open	Yes	Yes	Yes
6263	Forestville Bridge	FL-FOR-021	Fillmore	Fillmore County	Highway	County		Yes	Yes	Yes	17.1	Closed	No	Yes	Yes
25580	Zumbrota Covered Bridge	GD-ZBC-008	Goodhue	City of Zumbrota	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Ped	No	No	No
L5391	Third Street Bridge	GD-CFC-066	Goodhue	City of Cannon Falls	Highway; Pedestrian	Municipal		Yes	Yes	Yes	25.2	Open - Load Posted	No	Yes	Yes
3481		GD-RWC-848	Goodhue	City of Red Wing	Highway	Municipal		Yes	Yes	Yes	43.3	closed	No	Yes	Yes
9360			Hennepin	County			No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No	No	No
L8902		HE-MPC-9964-3	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	69.2	Open - Load Posted	No	No	No
92643		HE-EDC-0628	Hennepin	City of Edina	Highway	Municipal	Yes	No	Yes	Yes	74.7	Open	No	Yes	Yes
L8913		HE-MPC-9959-5	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	70	Open	No	No	No
L8911		HE-MPC-9959-4	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	98.7	Open	No	No	No
L8910		HE-MPC-9963-7	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal		Yes	Yes	Yes	59.8	Open	No	Yes	Yes
L8909		HE-MPC-9963-6	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	87.6	Open	No	No	No
L8908		HE-MPC-9963-5	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	47.7	Open	No	No	No
L8907		HE-MPC-9010	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	67.4	Open	No	No	No
L8906		HE-MPC-9963-4	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	72.2	Open	No	No	No
L8916		HE-MPC-9959-7	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	79.9	Open	No	No	No
L8903		HE-MPC-9964-4	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	78	Open	No	No	No
L8917		HE-MPC-9959-8	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal	No	No	Yes	Yes	82.4	Open	No	No	No
L8901		HE-MPC-9964-2	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	Municipal		Yes	Yes	Yes	29.6	Open - Load Posted	No	Yes	Yes
L8898		HE-MPC-0160	Hennepin	City of Minneapolis	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Closed	No	No	No
L6393		HE-MPC-9009	Hennepin	Mpls Park Board	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Closed - Ped	No	No	No
L5736		HE-MPC-9008	Hennepin	Mpls Park Board	Highway; Ped	Municipal	Yes	No	Yes	Yes	65.5	Open	No	Yes	Yes
L5735		HE-MPC-9007	Hennepin	Mpls Park Board	Highway; Ped	Municipal	Yes	No	Yes	Yes	54.5	Open	No	Yes	Yes
L5729		HE-MPC-6901-1	Hennepin	Mpls Park Board	Highway; Ped	Municipal	Yes	No	Yes	Yes	64.5	Open	No	Yes	Yes
L5722		HE-MPC-6900-1	Hennepin	Mpls Park Board	Highway; Ped	Municipal	Yes	No	Yes	Yes	69.8	Open	No	Yes	Yes

Pre-1971 Historic Bridges Eligible for Highway Funding

Bridge Number	Bridge Name	SHPO Number	County	Owner	Service on Bridge	Route Sys	Functionally Obsolete?	Structurally Deficient?	MN Bridge Length	Fed Bridge Length	Sufficiency Rating	Open / Posted?	Eligible State Aid Funding?	Eligible for State Bridge Bonds?	Eligible Federal Hwy Funding?
94246		HE-MPC-9006	Hennepin	City of Minneapolis	Pedestrian; Bicycle		N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
L8904		HE-MPC-9964-5	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal	No	No	Yes	Yes	78.9	Open	No	No	No
L8915		HE-MPC-9012	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal	No	No	Yes	Yes	64.6	Open - Load Posted	No	No	No
92366	Hanover Bridge	HE-HNC-0005-1	Hennepin	City of Hanover	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
L9329	Queen Avenue Bridge	HE-MPC-6330	Hennepin	City of Minneapolis	Highway; Ped	Municipal	Yes	No	Yes	Yes	78	Open	No	Yes	Yes
L9328	Interlachen Bridge	HE-MPC-6637	Hennepin	Mpls Park Board	Highway; Ped	Municipal	Yes	No	Yes	Yes	62.6	Open	No	Yes	Yes
L9327		HE-GVC-050	Hennepin	City of Golden Valley	Highway; Ped	Municipal	Yes	No	Yes	Yes	62.4	Open	No	Yes	Yes
L8923		HE-MPC-9959-14	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal		Yes	Yes	Yes	63.6	Open	No	Yes	Yes
L8922		HE-MPC-9959-13	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal	No	No	Yes	Yes	88.8	Open	No	No	No
L8921		HE-MPC-9959-12	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal		Yes	Yes	Yes	69.7	Open	No	Yes	Yes
L8920		HE-MPC-9959-11	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal		Yes	Yes	Yes	62.9	Open	No	Yes	Yes
L8919		HE-MPC-9959-10	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal	No	No	Yes	Yes	83.4	Open	No	No	No
L8918		HE-MPC-9959-9	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal	No	No	Yes	Yes	76.7	Open	No	No	No
93844		HE-MPC-9005	Hennepin	Mpls Park Board	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
90494		HE-MPC-4810-1	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	CSAH		Yes	Yes	Yes	42.1	Open	Yes	Yes	Yes
92350		HE-MPC-9959-3	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	MSAS	No	No	Yes	Yes	80.7	Open	No	No	No
92347		HE-MPC-9963-3	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	MSAS		Yes	Yes	Yes	37.1	Open - Load Posted	Yes	Yes	Yes
92324		HE-MPC-9004	Hennepin	City of Minneapolis	Highway; Ped	MSAS	No	No	Yes	Yes	88.5	Open	No	No	No
92322		HE-MPC-5045	Hennepin	City of Minneapolis	Highway; Ped	Municipal	No	No	Yes	Yes	81.1	Open - Load Posted	No	No	No
92321		HE-MPC-4812-1	Hennepin	City of Minneapolis	Highway; Ped	MSAS	No	No	Yes	Yes	88.2	Open	No	No	No
90646		HE-EDC-633	Hennepin	City of Edina	Highway	MSAS	Yes	No	Yes	Yes	61.7	Open	Yes	Yes	Yes
90608		HE-EXC-063	Hennepin	City of Excelsior	Highway; Ped	Municipal	Yes	No	Yes	Yes	51.4	Open	No	Yes	Yes
90592		HE-MPC-4813-1	Hennepin	City of Minneapolis	Highway; Ped	MSAS	No	No	Yes	Yes	83.2	Open	No	No	No
90590		HE-MPC-9963-2	Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal		Yes	Yes	Yes	36.1	Closed	No	Yes	Yes
90490		HE-MPC-6899-1	Hennepin	City of Minneapolis	Highway; Ped	MSAS	No	No	Yes	Yes	70.1	Open	No	No	No
90482		HE-MPC-9000	Hennepin	City of Minneapolis	Highway; Ped	Municipal	No	No	Yes	Yes	81.5	Open	No	No	No
90449		HE-MPC-6896	Hennepin	Hennepin County	Highway; Ped	CSAH	No	No	Yes	Yes	90.1	Open	No	No	No
27664	Broadway Bridge Span	HE-MPC-0276	Hennepin	City of Minneapolis	Highway; Ped	Municipal	No	No	Yes	Yes	99.9	Open	No	No	No
6992	(27A53)	HE-MPC-0020	Hennepin	Hennepin County			No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No	No	No
6247		HE-GVC-049	Hennepin	City of Golden Valley	Highway; Ped	Municipal	No	No	Yes	Yes	97.1	Open	No	No	No
3145	Long Meadow Bridge	HE-BLC-064	Hennepin	City of Bloomington	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Closed - Ped	No	No	No
2796	Cedar Avenue Bridge	HE-MPC-4423	Hennepin	City of Minneapolis	Highway; Ped	MSAS	No	No	Yes	Yes	63.6	Open - Load Posted	No	No	No
2441	Cappelen Memorial Bridge	HE-MPC-4104	Hennepin	Hennepin County	Highway; Ped	CSAH		Yes	Yes	Yes	49.8	Open	Yes	Yes	Yes
90591		HE-MPC-6529	Hennepin	City of Minneapolis	Highway; Ped	MSAS	Yes	No	Yes	Yes	68.4	Open	Yes	Yes	Yes
90661	Dean Parkway	HE-MPC-5341	Hennepin	Hennepin County Regional Railroad Authority	Railroad		N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
L5728	East Lake Calhoun Parkway		Hennepin	Hennepin County Regional Railroad Authority	Railroad		N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
93809	Channel Bridge		Hennepin	Hennepin County Regional Railroad Authority	Railroad		N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
L5893			Hennepin	Hennepin County Regional Railroad Authority	Highway; Ped	Municipal		Yes	Yes	Yes	24.1	Open - Load Posted	No	Yes	Yes
9612		HE-MPC-17049	Hennepin	City of Minneapolis	Highway; Ped	Municipal	No	No	Yes	Yes	90.6	Open	No	No	No
93916		HE-MPC-17045	Hennepin	Local Park, Forest, Reserve	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
27552	Moir Park Bridge	HE-BLC-151	Hennepin	City of Bloomington	Highway; Ped	MSAS	Yes	No	Yes	Yes	74.8	Open	Yes	Yes	Yes
27547		HE-MPC-09758	Hennepin	City of Minneapolis	Highway; Pedestrian	MSAS	No	No	Yes	Yes	94.1	Open	No	No	No
90437		HE-MPC-9959-2	Hennepin	Hennepin County Regional Railroad Authority	Highway; Pedestrian	CSAH		Yes	Yes	Yes	40.9	Open	Yes	Yes	Yes
L4005		HU-BLH-011	Houston	Black Hammer Township	Highway	Township	Yes	No	Yes	Yes	30.9	Open - Load Posted	No	Yes	Yes
L4013		HU-BLH-008	Houston	Black Hammer Township	Highway	Township		Yes	Yes	No	39.9	Open - Load Posted	No	Yes	No
7423		IC-UOG-088	Itasca	Itasca County	Highway	County		Yes	Yes	Yes	23.2	Closed	No	Yes	Yes
L5245		JK-ABA-002	Jackson	Alba Township	Highway	Township		Yes	Yes	Yes	20	Closed	No	Yes	Yes
2628		JK-ABA-001	Jackson	Alba Township	Highway	Township		Yes	Yes	Yes	31	Open - Load Posted	No	Yes	Yes

Pre-1971 Historic Bridges Eligible for Highway Funding

Bridge Number	Bridge Name	SHPO Number	County	Owner	Service on Bridge	Route Sys	Functionally Obsolete?	Structurally Deficient?	MN Bridge Length	Fed Bridge Length	Sufficiency Rating	Open / Posted?	Eligible State Aid Funding?	Eligible for State Bridge Bonds?	Eligible Federal Hwy Funding?
7498		KT-PCY-022	Kittson	Kittson County	Highway	CSAH		Yes	Yes	Yes	49.7	Open - Load Posted	Yes	Yes	Yes
90202		LP-CAM-006	Lac qui Parle	County Highway Agency	Highway	CSAH	No	No	Yes	No	85.9	Open	No	No	No
4846		LE-KST-004	Le Sueur	Le Sueur County	Pedestrian; Bicycle	County	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
661		MR-WST-003	Martin	Westford Township	Highway	CSAH		Yes	Yes	Yes	40.3	Open - Load Posted	Yes	Yes	Yes
90990		ME-SDT-007	Meeker	Dassel Township	Highway	Township	Yes	No	Yes	No	78.1	Open	No	Yes	Yes
90980		ME-KGT-005	Meeker	Kingston Township	Highway	Township		Yes	Yes	Yes	24	Open - Load Posted	No	Yes	Yes
5368	Roosevelt Bridge	MW-AUS-091	Mower	Mower County	Highway; Pedestrian	CSAH		Yes	Yes	Yes	34.7	Open - Load Posted	Yes	Yes	Yes
89188		OL-ROC-378	Olmsted	City of Rochester	Highway; Pedestrian	MSAS	Yes	No	Yes	Yes	80.2	Open	No	No	No
89182		OL-ROT-017	Olmsted	Olmsted County	Highway	County		Yes	Yes	Yes	13	Open - Load Posted	No	Yes	Yes
L6322	Frank's Ford Bridge.	OL-ORT-008	Olmsted	Olmsted County	Highway	County		Yes	Yes	Yes	18.3	Closed	No	Yes	Yes
448	Oronoco Bridge	OL-ORC-001	Olmsted	Olmsted County	Highway; Pedestrian	CSAH	No	No	Yes	Yes	99.6	Open	No	No	No
L0885		OT-MNE-009	Otter Tail	Ottertail County	Pedestrian; Bicycle	Township	N/A	N/A	Yes	Yes	N/A	Closed - Ped	No	No	No
5453		OT-FFC-087	Otter Tail	City of Fergus Falls	Highway; Pedestrian	MSAS	No	No	Yes	Yes	71	Open - Load Posted	No	No	No
5744	Split Rock Creek Bridge	PP-EDN-001	Pipestone	Eden Township	Highway	Township	No	No	Yes	Yes	80.3	Open	No	No	No
7097	War Memorial Bridge	PL-VNE-005	Polk	City	Highway	CSAH	No	No	Yes	Yes	58.3	Open	No	No	No
R0437	Stone Arch Bridge	PO-CFL-009	Pope	Pope County	Pedestrian; Bicycle	CSAH	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
L5853			Ramsey	City of St. Paul			No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No	No	No
3575	Intercity Bridge	HE-MPC-4711	Ramsey	Ramsey County	Highway; Pedestrian	CSAH	Yes	No	Yes	Yes	79.1	Open	Yes	Yes	Yes
62075			Ramsey	City of St. Paul	Pedestrian; Bicycle		N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
90386	Seventh Street Improvement Arches		Ramsey	Ramsey County Regional Rail Authority	Highway; Pedestrian	Trunk Highway 5	No	No	Yes	Yes	67.5	Open	No	No	No
90401	Mendota Road Bridge		Ramsey	Ramsey County	Highway	CSAH	Yes	No	Yes	No	59.9	Open	Yes	Yes	No
92247		RA-SPC-0769	Ramsey	Ramsey County	Highway; Pedestrian	CSAH	No	No	Yes	Yes	93.9	Open	No	No	No
L5852	Como Park Stone Arch Bridge		Ramsey	City of St. Paul	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
L8560			Ramsey	City of St. Paul	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
L8803	Colorado Street Bridge		Ramsey	City of St. Paul			No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No	No	No
L8804			Ramsey	City of St. Paul	Highway; Pedestrian	Municipal		Yes	Yes	Yes	29.6	Closed	No	Yes	Yes
L8789	Phalen Park		Ramsey	City of St. Paul	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
1238		RW-SBC-004	Redwood	City of Sanborn	Highway	Municipal		Yes	Yes	Yes	28.4	Open - Load Posted	No	Yes	Yes
89859	Ramsey Park Swayback Bridge	RW-RFC-018	Redwood	Redwood County	Highway	CSAH	Yes	No	Yes	Yes	48.9	Closed	Yes	Yes	No
89850		RW-DLT-003	Redwood	Redwood County	Highway	CSAH		Yes	Yes	Yes	3	Open - Load Posted	Yes	Yes	Yes
1238A		RW-SBC-005	Redwood	City of Sanborn	Highway	Municipal		Yes	Yes	Yes	29.9	Open - Load Posted	No	Yes	Yes
L4646		RK-BCC-003	Rock	City of Beaver Creek	Highway	Municipal	Yes	No	Yes	Yes	56.3	Open	No	Yes	Yes
L2194		RK-MGT-002	Rock	Magnolia Township	Highway	Township		Yes	Yes	No	54.9	Open	No	Yes	No
L2340		RK-BCT-005	Rock	Beaver Creek Township	Highway	Township		Yes	Yes	Yes	22.1	Open	No	Yes	Yes
L2257		RK-LVC-032	Rock	City of Luverne	Highway	Municipal		Yes	Yes	Yes	41.8	Open	No	Yes	Yes
1482		RK-LVT-001	Rock	Luverne Township Park	Pedestrian; Bicycle	County	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
5704		SC-JRC-053	Scott	City of Jordan	Highway; Pedestrian	Municipal		Yes	Yes	Yes	32.5	Open - Load Posted	No	Yes	Yes
7771		SL-HBC-189	St Louis	County	Highway; Pedestrian	Municipal	No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No Inv.	No	No	No
L8505		SL-DUL-2668	St. Louis	City of Duluth	Highway	Municipal	No	No	Yes	Yes	91	Open	No	No	No
L8796		SL-DUL-2427	St. Louis	St. Louis County	Highway	Township		Yes	Yes	Yes	35.9	Open	No	Yes	Yes
L8515		SL-DUL-2426	St. Louis	City of Duluth	Highway; Pedestrian	Municipal	No	No	Yes	Yes	74.9	Open - Load Posted	No	No	No
L8506		SL-DUL-2669	St. Louis	City of Duluth	Highway	Municipal	Yes	No	Yes	Yes	77.2	Open	No		Yes
L8477			St. Louis	City of Duluth	Highway	MSAS	Yes	No	Yes	Yes	84.5	Open	No	No	No
L6116	Aerial Lift Bridge	SL-DUL-2380	St. Louis	City of Duluth	Highway; Pedestrian	MSAS	Yes	No	Yes	Yes	50.5	Open - Other Posted	Yes	Yes	Yes
L6113		SL-DUL-2423	St. Louis	City of Duluth	Highway; Pedestrian	MSAS	No	No	Yes	Yes	96.7	Open	No	No	No
L6007		SL-DUL-2366	St. Louis	City of Duluth	Highway	Municipal		Yes	Yes	Yes	55.2	Open - Load Posted	No	Yes	Yes
L8507		SL-DUL-2403	St. Louis	City of Duluth	Highway	Municipal	Yes	No	Yes	Yes	86.5	Open	No	No	No
L8503		SL-DUL-2404	St. Louis	City of Duluth	Highway	Municipal	Yes	No	Yes	Yes	86.5	Open	No	No	No
L5573	Clinton Falls Bridge	ST-CLI-008	Steele	Clinton Falls Township	Pedestrian; Bicycle	Township	N/A	N/A	Yes	Yes	N/A	Closed - Ped	No	No	No
L7075		TO-HAR-009	Todd	Turtle Creek Township	Highway	Township	No	No	Yes	Yes	71.1	Open	No	No	No
L7069		TO-TUR-003	Todd	Turtle Creek Township	Highway	Township	No	No	Yes	Yes	81.1	Open	No	No	No

Pre-1971 Historic Bridges Eligible for Highway Funding

Bridge Number	Bridge Name	SHPO Number	County	Owner	Service on Bridge	Route Sys	Functionally Obsolete?	Structurally Deficient?	MN Bridge Length	Fed Bridge Length	Sufficiency Rating	Open / Posted?	Eligible State Aid Funding?	Eligible for State Bridge Bonds?	Eligible Federal Hwy Funding?
3219	Zumbro Parkway Bridge	WB-HPK-003	Wabasha	Wabasha County	Highway	County	No	No	Yes	Yes	71.1	Open	No	No	No
R0412	Walnut Street Bridge	WB-MZC-029	Wabasha	City of Mazeppa	Pedestrian; Bicycle	Municipal	N/A	N/A	Yes	Yes	N/A	Open - Ped	No	No	No
6527		WW-MDT-003	Watonwan	Watonwan County	Pedestrian; Bicycle	County	N/A	N/A	Yes	Yes	N/A	Open - Ped - Posted	No	No	No
L7969		YM-MNF-012	Yellow Medicine	Minnesota Falls Township	Highway	Township		Yes	Yes	Yes	16.6	Closed	Yes	Yes	Yes
L7898		YM-NMA-007	Yellow Medicine	Normania Township	Highway	Township	No	No	Yes	No	74.1	Open	No	No	No
L7897		YM-NMA-006	Yellow Medicine	Normania Township	Highway	Township	No	No	Yes	No	73.1	Open	No	No	No
Known Historic Bridges owned by Federal Agencies															
06390		CP-TUN-012	Chippewa	Corps of Engineers (Civil)	Highway	CSAH	No	No	Yes	Yes	97.8	Open	No	No	No
06389		CP-TUN-011	Chippewa	Corps of Engineers (Civil)	Highway	CSAH	No	No	Yes	Yes	97.6	Open	No	No	No
06391		XX-BRI-005	Lac qui Parle	Corps of Engineers (Civil)	Highway; Pedestrian	CSAH	No	No	Yes	Yes	84.8	Open	No	No	No