Walnut Street Bridge, Mazeppa, Minnesota

Location and Description of Setting:

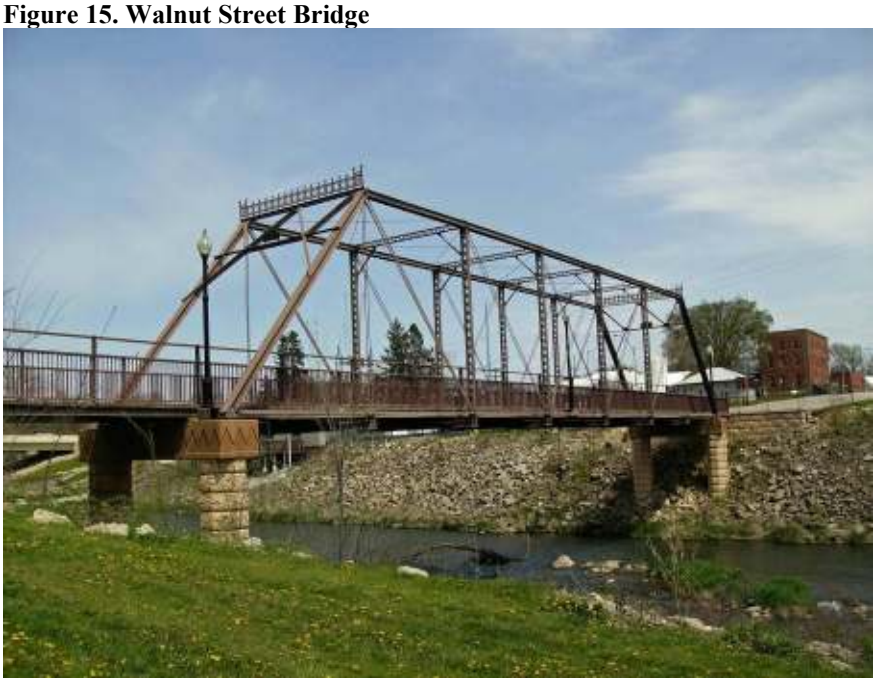
The Walnut Street Bridge crosses the Zumbro River in Mazeppa, Wabash County, Minnesota. The bridge provides direct access from Mazeppa's downtown area to a city park and ball fields.

Description of Bridge:

The Walnut Street Bridge, constructed in 1904, is a Pratt truss with riveted connections. The main span of the bridge is 118 feet.

Figure 14. Walnut Street Bridge

Figure 15. Walnut Street Bridge



Rehabilitation Project Information

Date/Cost for Rehabilitation:
The project took place in the summer of 2002. Total cost for the project was $455,000.

Project Designer:
Mead & Hunt, Inc.

Bridge Owner/Client:
City of Mazeppa, Minnesota

Source for Additional Information:
Duane Hofschulte
City of Mazeppa

Project Information

1. **Significant issues associated with project (e.g., bridge condition, reasoning behind decision to rehabilitate versus replacement, reasoning behind selected maintenance activity).**

   The Walnut Street Bridge was converted to pedestrian use in 1978, but the bridge had been closed due to deterioration. The city wanted to preserve the bridge for continued pedestrian use, however, and as a result, initiated the structure's rehabilitation. Load rating analysis confirmed that the bridge met AASHTO pedestrian load requirements. A new bridge railing was selected to blend with the historic appearance of the existing truss and comply with Minnesota DOT and AASHTO design requirements for bicycle use. A new timber bridge deck was selected to minimize load.

2. **Project description, including purpose and need.**

   A detailed inspection was performed to assess current deficiencies and needed repairs. Deteriorated bridge bearings, truss members, stringers, piers, and abutments were replaced to address that safety concerns that had closed the bridge. Repairs to the bottom chord were field connected with hex head bolts. Button head bolts were used for the upper chord repair in areas visible to pedestrians. Temporary bracing was used to support the truss during the chord repairs. The timber deck and railing were also replaced. New abutments and lengthened approach spans were designed to alleviate erosion problems that resulted from the area's steeply sloped banks. Formliners with architectural surface treatment and color staining were used on the new piers and abutments.

3. **Traffic levels, loading needs, and other related issues.**

   The bridge rehabilitation was designed to meet AASHTO pedestrian and maintenance vehicle loads.

4. **Section 106 effects finding (no adverse, adverse). Major issues discussed with State Historic Preservation Officer, and how issues were resolved.**

   The rehabilitation plans were prepared and carried out in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Weeks and Grimmer 1995). The Minnesota SHPO concurred with the Minnesota DOT that the project would have No Adverse Effect on historic properties since the rehabilitation was conducted in accordance with the Secretary of the Interior's Standards.

5. **Lessons Learned.**

   Pratt trusses, such as the Walnut Street Bridge, were a common, workhorse bridge on early twentieth-century roadways. This project shows that an abandoned bridge can be rehabilitated economically for a new use to forge a needed connection within a community. Agencies agreed to certain modern construction methods, including bolts and a concrete formliner, for cost savings. A standard Minnesota DOT pedestrian railing was an economical way to meet the project's aesthetic and design requirements.