

# 1. Introduction

## A. Project background

The Nebraska Department of Roads (NDOR), in cooperation with the Nebraska State Historical Society, State Historic Preservation Office (SHPO), is updating its statewide inventory of historic bridges, a process involving the evaluation of the historic and engineering significance of 1,405 bridges built from 1947 to 1965. The inventory update is part of NDOR's ongoing efforts to document historic bridges and to identify bridges that are eligible for the National Register of Historic Places (National Register). This assessment process is mandated by federal preservation laws that require NDOR to consider historic properties, including bridges that are listed in, or eligible for listing in, the National Register when making improvements to the state's transportation system. Applicable laws include Section 106 of the National Historic Preservation Act of 1966 (as amended) and Section 4(f) of the U.S. Department of Transportation Act of 1966. The inventory update will facilitate NDOR's compliance with these laws and allow NDOR and SHPO to make informed and timely reviews of proposed bridge projects to determine effects on historic properties.

This inventory update is an extension of an earlier NDOR project that evaluated bridges built before 1947 and resulted in *Nebraska Historic Bridge Inventory*, 1991, and *Nebraska Historic Bridge Inventory Update*, 1996, as well as the National Register Multiple Property Document *Highway Bridges in Nebraska 1870-1942*.

## B. Bridges being evaluated

The current project evaluated Nebraska highway bridges constructed from 1947 to 1965, allowing generous consideration of the 50-year guideline of the National Register. National Register eligibility was based primarily on the evaluation of bridge superstructures. For this study, the Bridge Inspection System of Nebraska (BISON) provided the basic data to identify, categorize, and analyze bridges.<sup>1</sup> NDOR uses BISON to record structural and inspection data for the Federal Highway Administration's (FHWA) National Bridge Inventory (NBI), as required by federal law. BISON follows the FHWA's *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges*.

The use of some data items in BISON for historical evaluation is limited by particular coding rules used in both BISON and the NBI. To identify bridges in the subject period, the BISON database was filtered for year-built dates within the subject period of 1947 to 1965. In addition to the year-built field, BISON also includes a year-reconstructed field that records the date of a bridge's most recent reconstruction. The *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges* states: "for a bridge to be defined as reconstructed, the type of work performed, whether or not it meets current minimum standards, must have been eligible for funding under any of the Federal-aid funding categories." Examples of eligible work not considered to be reconstruction include safety features, painting structural

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<sup>1</sup> A version of BISON from October 2006 supplied by NDOR was used as the baseline of data for this inventory and the preparation of the Historic Bridge Database.

steel, utility work, and bridge deck overlay. Following the coding rules, therefore, the year-reconstructed date is related to bridge improvements that are eligible for federal funding, but not necessarily related to structural issues of historical significance in terms of the National Register. Based on conversations with NDOR staff, bridges with a year-reconstructed date within the subject period were included in the study because the date *may* indicate the replacement of the superstructure, the main component of a bridge being evaluated for historical significance.

Considering these date issues, a list of 1,405 bridges from the period 1947 to 1965 was generated from BISON. These bridges were evaluated for the National Register as part of this inventory. Table 1 presents a categorization of these bridges by bridge type, using both type name and BISON numeric type code.

**Table 1**  
**Bridges in the inventory (1947 to 1965)**  
 (As identified in BISON prior to field survey)

Concrete channel beam (122)	3
Concrete continuous box beam or girders (205)	2
Concrete continuous slab (201)	180
Concrete continuous tee beam (204)	3
Concrete girder and floor beam system (103)	2
Concrete rigid frame (107)	4
Concrete slab (101)	55
Concrete stringer/multi-beam/girder (102)	20
Concrete tee beam (104)	10
Prestressed concrete channel beam (522)	2
Prestressed concrete continuous beam/girder (602)	10
Prestressed concrete continuous box beam w/girders (505)	4
Prestressed concrete stringer/multi-beam/girder (502)	88
Prestressed concrete tee beam (504)	2
Steel continuous girder and floor beam system (403)	3
Steel continuous stringer/multi-beam/girder (402)	40
Steel deck truss (309)	1
Steel girder and floor beam system (303)	52
Steel stringer/multi-beam/girder (302)	519
Steel truss (310 and 410)	112
Wood/timber stringer/multi-beam/girder (702)	293
<b>Total</b>	<b>1,405</b>

Several small groups of bridges were not evaluated as part of this study, although they are identified in BISON and are from the subject period. NDOR and the SHPO agreed to exclude the following structures from the inventory:

- Culverts and pedestrian overpasses were excluded from evaluation.<sup>2</sup>
- Bridges owned and maintained by non-NDOR state agencies, local agencies, and private owners were excluded because NDOR does not expect to administer federal funds for these structures. A list of the bridges excluded from further analysis due to ownership is included in Appendix A.
- Structures with a year-reconstructed date in BISON after 1965 were excluded because the structure is not likely to be eligible for the National Register due to its recent age or lack of historic integrity.

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<sup>2</sup> Excluded from evaluation in this study were culverts (coded in BISON Item 43 – span type with second and third digit codes = 19 or culvert) and pedestrian overpasses (coded in BISON Item 42 – type of service on = 3 pedestrian/bicycle and BISON Item 7 – facility carried by structure = pedestrian overpass).