

TITLE OF PROJECT

Subtitle

SFN XXXX or PID XXXX or other necessary number

Location details or additional project information



The environmental review, consultation, and other actions required by applicable federal environmental laws for these projects are being, or have been, carried out by ODOT pursuant to 23 U.S.C. 327 and a memorandum of understanding dated December 11, 2015, and executed by FHWA and ODOT.

Submitted to *Name of the sponsoring division or office*
Date (month & Year)

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ABSTRACT

This document fulfills Stipulation 1 (Recordation) of the Memorandum of Agreement Number 30216 for the replacement of the County Route 32 Bridge (SFN 6054129) over the Muskingum River in Harrison and Wayne Townships, Muskingum County, Ohio. This stipulation is a measure to minimize harm due to the removal of the historic bridge and resulting adverse effect pursuant to Section 106 of the National Historic Preservation Act (NHPA).

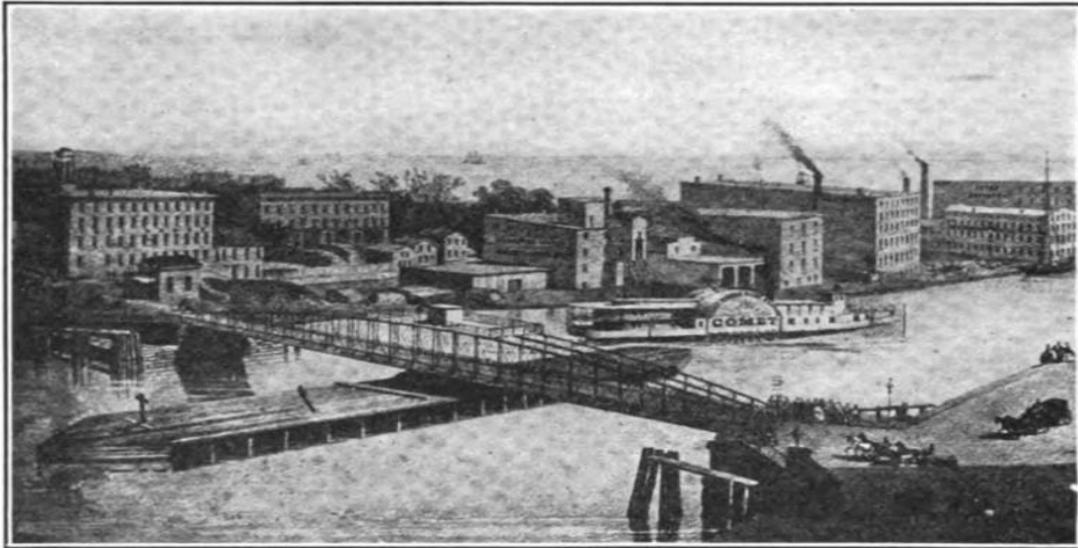
The document covers the historic context of vehicular and pedestrian swing-span truss bridges in Ohio. It provides a literature review and research of selected extant and demolished, operable and inoperable swing-bridges constructed from the early to mid-20th century. In addition, it provides a general context of swing bridge construction history, descriptions, and types.

Context of Swing-Span Bridges

History and Description

A swing span bridge is a type of a movable bridge built for highway or railroad transportation that intersects with waterways. Movable bridges are adjustable so that they can accommodate waterway navigation where it is uneconomical or difficult to construct a bridge with a significant clearance to allow for unobstructed navigation.¹ Technological advances in electric motors and techniques for counterbalancing weight allowed for the modernization of moveable bridge construction.²

The United States has many different interpretations of movable bridges, but the three primary and most common types are the swing, the bascule, and the vertical lift. Swing bridges are the earliest of the three, with the first wooden constructions built in Europe as early as the 17th century.³ The first all-iron swing-span bridge in the United States was built across the Chicago River in 1856 and named the Rush Street Bridge (Figure 1). The next notable construction of the swing bridge was built in 1863 over the Mississippi River in Clinton, Iowa.⁴



Chicago Historical Society.

Figure 1. Chicago Rush Street Bridge⁵

Swing bridges were the dominant type of movable bridge until approximately 1910 when bascule and vertical lift types became more popular due to the increasing costs of construction as well as functional shortcomings of the swing type.⁶ At its height, swing-span bridges were considered superior because it was “the simplest, best, and most economical

¹ Parsons Brinckerhoff, Engineering and Industrial Heritage. (2005). “A Context for Common Historic Bridge Types.” NCHRP Project 25-25, Task 15. 3-115.

² Ibid.

³ “Movable Bridges.” Maryland Department of Transportation. http://sha.md.gov/OPPEN/SECT_VI.pdf. 92.

⁴ Ibid.

⁵ Otis Ellis Hovey.(1926). *Movable Bridges*. Vol. I. John Wiley & Sons, New York.

⁶ T. L. Koglin. (2003). *Movable bridge engineering*. Hoboken, NJ: J. Wiley & Sons.

