

JULY 2024



ABOUT THIS PROJECT

PROJECT NAME: [Development of County Bridge Standards for Single Span Concrete Slab Bridges — Phase II](#)

PROJECT NUMBER: TR-812

PROJECT FUNDING PROGRAM:
Iowa Highway Research Board

PROJECTED END DATE: November 2024

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RESEARCH IN PROGRESS

Developing a standard design for single span concrete slab bridges

Approximately 11 percent of U.S. highway bridges are concrete slab bridges. When short bridge spans are needed (20 to 50 feet), single span concrete slab (SSCS) bridges are commonly built. Their popularity is a product of their low cost, ease of construction, and reduced long-term maintenance and inspection costs. These bridges are also preferred over box culverts, box beam bridges, and other short span bridge options due to better hydraulic performance, less required right of way, and less streambed disturbance. Regulatory changes are also making SSCS bridges preferable to culverts for use over small streams.

However, Iowa DOT does not have design plans for a standard SSCS bridge. “Developing and disseminating standard design plans

for single span concrete slab bridges to Iowa counties will be very useful to local engineers,” explained James Hauber, chief structural engineer, Iowa DOT Bridges and Structures Bureau. “By having readily available access to a budget-friendly bridge design, counties can replace bridges more quickly and economically.”

In Phase I, researchers reviewed the literature, collected information from county engineers, and developed design criteria and cost estimates for the final SSCS bridge design. This second phase of the project will incorporate the research to create final SSCS bridge design standards that will feature 24- and 30-foot roadway widths, spans ranging from 20 to 50 feet, and various rail and abutment types. The Bridges and Structures Bureau will oversee

the final bridge designs, update the plans as needed, and post the standard SSCS design plans to its website to make them readily available to local agencies.

As the number of bridges in Iowa that need replacement increases and budgetary resources remain limited, the design resulting from this project will be a fiscal benefit to local agencies.

The research is expected to conclude in November 2024.

To learn more about this project and subscribe to updates, visit [Idea #3874](#).

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