



ACCELERATED BRIDGE CONSTRUCTION
UNIVERSITY TRANSPORTATION CENTER

UTC Project Information	
Project Title	Multi-Span Lateral Slide Laboratory Investigation: Phase I
University	ISU
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Funding Source(s) and Amounts Provided (by each agency or organization)	\$70,000 from Accelerated Bridge Construction University Transportation Center (ABC-UTC) \$35,000 from Match funds from Iowa DOT
Total Project Cost	\$105,000
Agency ID or Contract Number	69A3551747121
Start and End Dates	January 2018–June 2021
Brief Description of Research Project	<p>Lateral slide-in bridge construction (sometimes referred to as slide-in bridge construction) has gained increasing attention as a viable Accelerated Bridge Construction (ABC) approach. With lateral slide construction, the majority of the bridge superstructure is constructed off alignment, typically parallel to the final position, and usually on a system of temporary works. The construction of this portion of the bridge is often completed while the original bridge is still open to traffic. In some instances, portions of the substructure are also constructed while the original bridge is still open to traffic – a technique designed to further reduce traffic impacts. Common techniques for accomplishing this include building substructure elements outside of the original bridge footprint as well as using innovative techniques to complete construction under the bridge with consideration of clearance limitations, stability of the underlying soil, and others. Once the construction of the superstructure is essentially complete, the original bridge is demolished and new substructure construction is completed. Then, usually over a relatively short period time (hours to a day commonly), the new bridge superstructure is slid laterally from the temporary worksite onto the in-place substructure.</p> <p>While many DOTs have completed lateral slide construction of single span bridges and have common connection details already established, these details do not directly apply to multi-span slides. The addition of</p>

	<p>more spans creates a more complex system that will require connections (and other details) that were previously not needed in a single span slide. Further, the fact that the multi-span bridge will need to slide on abutments plus piers (as opposed to just abutments in a single span case) creates possible uplift and overturning scenarios.</p> <p>The main objective of this project is to analyze the behavior of bridge elements during multi-span lateral slide efforts to ensure proper performance and expected behavior. This objective will be achieved via instrumented laboratory testing.</p>
<p>Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here</p>	<ul style="list-style-type: none"> • Match funds from Iowa DOT • Iowa DOT expressed strong interest in continuing the project into Phase 2 due to outputs from this Phase 1 project
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<p>The impacts will be tracked and reported once they are identified.</p>
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project website 	<p>https://abc-utc.fiu.edu/research-projects/isu-research-projects/multi-span-lateral-slide-laboratory-investigation-phase-1/</p>