



ACCELERATED BRIDGE CONSTRUCTION  
UNIVERSITY TRANSPORTATION CENTER

<b>UTC Project Information</b>	
Project Title	Synthesis of Available Methods for Repair of Reinforced Concrete and Prestressed Concrete Girders
University	University of Nevada, Reno
Principal Investigator	Mohamed Moustafa
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Funding Source(s) and Amounts Provided (by each agency or organization)	ABC-UTC funds: \$45,000 UNR Match fund: \$22,500
Total Project Cost	\$67,500
Agency ID or Contract Number	Accelerated Bridge Construction University Transportation Center (ABC-UTC) 69A3551747121
Start and End Dates	01/01/2019-08/01/2020
Brief Description of Research Project	<p>Many bridges in the United States are aging and due for repair or strengthening. Corrosion of reinforced concrete and prestressed concrete girders is a problem that can significantly reduce the bearing capacity of bridges. Moreover, over-height vehicles continue to collide and impact bridge girders around the country, which compromise the flexural capacity of bridge girders. Several research studies and state DOTs initiatives looked into innovative repair and strengthening methods for girder end zones and/or mid span impacts. The goal of this project is to synthesize the available literature on bridge girder repair methods with focus on reinforced concrete and prestress girders and end zones damage. The synthesis will summarize and compare the design and application procedure of different methods to provide a guide or catalog for bridge engineers working on girders and end zone repair. The objective of this project is to collect all the available information from research studies and DOT practices on reinforced concrete and prestressed concrete girders and end zone repair, and synthesize this information for a comprehensive summary of the methods and application procedure and guidelines.</p>

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	In August 2020, a design firm (Quiroga Pfeiffer Engineering Corporation) requested research project outputs to assist with a bridge girder project that they were engaged in for a State DOT; relevant references were provided.
Impacts/Benefits of Implementation (actual, not anticipated)	No impacts/benefits to report. The impacts will be tracked and reported once they are identified.
Web Links <ul style="list-style-type: none"><li>• Reports</li><li>• Project website</li></ul>	<a href="https://abc-utc.fiu.edu/research-projects/unr-research-projects/synthesis-of-available-methods-for-repair-of-prestress-girder-ends/">https://abc-utc.fiu.edu/research-projects/unr-research-projects/synthesis-of-available-methods-for-repair-of-prestress-girder-ends/</a>