



ACCELERATED BRIDGE CONSTRUCTION
UNIVERSITY TRANSPORTATION CENTER

UTC Project Information	
Project Title	Laminated Wood Deck System for Folded Plate Girder
University	FIU
Principal Investigator	Azizinamini, Atorod
PI Contact Information	aazizina@fiu.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	ABC-UTC Funds: \$85,000 FIU Match Funds: \$42,500
Total Project Cost	Total Funds: \$127,500
Agency ID or Contract Number	Accelerated Bridge Construction University Transportation Center (ABC-UTC) 69A3551747121
Start and End Dates	03/01/2019 – 09/30/2020
Brief Description of Research Project	<p>Folded plate girder (FPG) is a superstructure bridge system which involves a cold bend out of a single sheet of steel with an open bottom flange. The cold bend eliminates the costly and inconsistent shop weld found in traditional girders. The FPG concept works for both traditional construction and accelerated bridge construction (ABC). In traditional construction, formwork is needed along with the placement of deck reinforcement then the concrete is placed. In ABC, the deck slab is fabricated in the factory with transverse steel reinforcing bars extended outside the cured slab portion to form closure joint with adjacent deck slab then ultra-high performance concrete (UHPC) is placed at closure joints. In order to reduce the construction time further, a laminated wood deck is suggested in this proposal in order to further accelerate the on-site construction. Many advantages can be achieved by integrating laminated wood deck with FPG such as lighter prefabricated modular unit, easy fabrication of the modular unit, reducing on-site construction by eliminated construction joints, and suitability for rural regions where heavy equipment or cranes are not accessible. The proposed research suggests experimental testing and finite element modelling for a modular unit of FPG with laminated wood deck. In the suggested experimental work, large scale specimen will be tested under fatigue loading for service life design and under ultimate load for AASHTO strength design.</p>

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	The outcomes will be tracked and reported once they are identified.
Impacts/Benefits of Implementation (actual, not anticipated)	The impacts will be tracked and reported once they are identified.
Web Links <ul style="list-style-type: none">• Reports• Project website	https://abc-utc.fiu.edu/research-projects/fiu-research-projects/laminated-wood-deck-system-for-folded-plate-girder/