

UTC Project Information	
Project Title	MPC-545 – Self-Centering Bridge Bent for Accelerated Bridge Construction in Seismic Regions
University	University of Utah
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Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT, Research and Innovative Technology Administration \$108,935 Private Investor, Structural Technologies, Corebrace \$113,900
Total Project Cost	\$222,835
Agency ID or Contract Number	69A3551747108
Start and End Dates	November 15, 2017 to July 31, 2022
Brief Description of Research Project	Accelerated Bridge Construction (ABC) has been practiced in many parts of the country; however, in high seismic regions the challenge of providing ductile connections between columns and footings and columns and pier-caps is a topic of research currently still in progress. All similar research carried out so far on post-tensioned columns has considered a single bridge column. The proposed research considers a two-column bent with scaled dimensions representing an actual bridge bent that has been built in the state of Utah. Moreover, the debonding of the steel bars is an innovative feature that is expected to improve displacement ductility of the bridge bent.
Describe Implementation of Research Outcomes (or why not implemented)	Currently under review by UDOT.
Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	This is the first time unbonded post-tensioned bars are combined with stretch length anchors (SLAs) in a hybrid bridge system. The replaceable feature of the SLAs makes the system seismically resilient which means that the bridge can recover after an earthquake and be functional quickly. Given the observed residual displacement, lateral strength, hysteretic energy dissipation, and minimal damage, it is recommended that the hybrid bridge bent can be used in accelerated construction of bridges in seismic zones.
Web Links • Reports	<ul style="list-style-type: none"> • MPC Research Report

- Project Website