



Accelerated Bridge Construction Award



PBES

SR 288 Main Street Bridge Project Wampum Borough, Pennsylvania

This is a first for PADOT to incorporate an all precast project built in an accelerated manner using UHPC.

Team Members

PennDOT
(Engineering District 11-0)
Owner

Joseph B. Fay
General Contractor

**Johnson, Mirmiran and Thompson, Inc.,
and Raudenbush Engineering Inc.**
Consultants

The SR 288 Bridge Replacement was completed in seven days. The bridge is a modular 78 ft steel rolled beam structure founded on integral abutments and built entirely of precast concrete substructure elements (precast abutment pile caps, cheekwalls, wingwalls and backwalls, precast deck panels, precast sleeper slabs, precast approach slabs with UHPC (ultra high performance concrete) for joint closures.



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Lateral Slide

Milton-Madison Bridge Replacement Project Milton, Kentucky and Madison, Indiana

While other projects have used the Lateral Slide technique for ABC, this is the largest lateral slide project to date. By rehabilitating the existing river piers to accommodate current code provisions, the project demonstrates sustainability.

Team Members

Indiana Department of Transportation
and Kentucky Transportation Cabinet
Owners

Walsh Construction Company
General Contractor

Burgess & Niple Engineers
and Buckland & Taylor
Consultants

The entire superstructure was replaced with a new wider four span continuous steel truss bridge with new concrete girder approach spans. The main truss spans are 600 ft, 600 ft, 727 ft. and 500 ft with 48 ft center to center trusses. The two truss spans over the main river channel after being assembled on barges were floated out and lifted 80 ft into place using strand jacks. All the sections were connected to create the 2,430 ft truss which was then slid into place.



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Self-Propelled Modular Transporters [SPMT]

Sam White Bridge over I-15 I-15 CORE (Corridor Expansion) DB Project Provo, Utah

The Sam White Bridge is one of the longest and first multi-span bridge to be replaced using SPMTs where interstate traffic was fully opened within eight hours.

The bridge replacement consisted of constructing the bridge superstructure off site and then moving the 254 ft, 1,910 ton, two-span continuous steel girder structure into place using SPMTs to minimize I-15 closure times, reduce traffic impacts, increase worker and the traveling public's safety, and improve project schedule.

Team Members

Utah Department of Transportation
Owner

PRC/Flour Enterprises [Lead], Ames Construction, Ralph L. Wadsworth, Wadsworth Brothers
General Contractors

Michael Baker
Lead Consultant

Ralph L. Wadsworth
Lead Contractor

The Sarens Group
SPMT

Utah Pacific Bridge and Steel
Steel Fabricator



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Emergency Replacement

Eggners Ferry Bridge Replacement Project Aurora, Kentucky

The Eggners Ferry project demonstrates the industry's ability to quickly convene in a collaborative manner. Unique features include the use of all rolled sections that saved time and money during fabrication. This project only used 37 sheets for fabrication and construction.

Team Members

Kentucky Transportation Cabinet
Owner

Hall Contracting of Kentucky, Inc.
General Contractor

Michael Baker
Consultant

Padget, Inc. and United Steel
Steel Fabricator

On January 26, 2012 a 8,679 ton cargo ship struck a 322 ft long span of the 43 span 3,348 ft long Eggner's Ferry Bridge, severing a critical connection to recreational, business and educational centers. The bridge carries US-68 over Kentucky Lake on the Tennessee River. The closure required a 42 mile detour. A new 300 ton steel truss was floated on a barge down the lake to the bridge site and two cranes lifted the span into place. The bridge was reopened in 17 weeks.



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Honorable Mention for Innovative Engineering and Aesthetic Value

West 7th Street Project Fort Worth, Texas

The West 7th street project is the first all concrete network tied arch in the U.S., and the first tied arch that uses all prefabricated elements. Beyond aesthetics, there are many unique features of the project which include building the substructure around the existing structure to minimize mobility impacts, the use of the arch dead load to pretension the cable stays, and the elimination of the top and bottom laterals.

Team Members

Texas Department of Transportation
Owner

Sundt Construction
General Contractor



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Honorable Mention for Unique
and Innovative Construction

Layton Parkway over I-15 SPUI Bridge Launch Layton, Utah

The Layton Parkway/I-15 SPUI project is Utah's first bridge launch. To expedite the approach settlement, the bridge was built 15 ft over burrow material used to surcharge the approach foundations. By building high, foundation and bridge construction activities were allowed to occur concurrently. After the surcharge material was removed, the bridge was lowered then laterally launched into place.

Team Members

Utah Department of Transportation
Owner

Ralph L. Wadsworth Construction
General Contractor

Michael Baker
Consultant

Utah Pacific Bridge & Steel
Steel Fabricator

HW Lochner and Nordholm Rentals
Additional Contributors

Accelerated Bridge Construction Award

Most Influential Person Contributing to ABC

Mary Lou Ralls, P.E.

Mary Lou Ralls, P.E., earned a B.S. in Civil Engineering and a M.S. in Engineering from the University of Texas at Austin in 1981 and 1984, respectively. In 1984 she joined the Texas Department of Transportation (TxDOT), and became a licensed professional engineer in 1987. During her 20-year tenure at TxDOT she worked in various engineering positions before being appointed the state bridge engineer and director of the Bridge Division in 1999.

Throughout her career, Ms. Ralls has worked to advance innovative technologies, in particular accelerated bridge construction. From 2001 to 2004, Ms. Ralls was chair of the American Association of State Highway and Transportation Officials (AASHTO) Technology Implementation Group's *Implementation Panel on Prefabricated Bridge Elements and Systems*; from 2002 to 2003 she was chair of the National Cooperative Highway Research Program (NCHRP) Project 20-58(1), *Future Strategic Highway Research Program (F-SHRP) Renewal Panel, Detailed Planning for Research on Accelerating the Renewal of America's Highways*; and in 2004 was AASHTO chair of the FHWA / AASHTO /Transportation Research Board (TRB) *International Scan on Prefabricated Bridge Elements and Systems*.

Ms. Ralls left TxDOT in 2004 to become an engineering consultant and principal of Ralls Newman, LLC, where she continues to actively promote ABC across the U.S. Through the years she has participated in various panels and committees, including NCHRP ABC projects as member of the panel or research team. Ms. Ralls serves as the ABC-UTC Director of Technology Transfer, provides AASHTO support to the AASHTO Subcommittee on Bridges and Structures' Technical Committee for Construction, and is vice-chair of the TRB ABC Subcommittee. She has authored a number of ABC articles and publications including the FHWA *Framework for Prefabricated Bridge Elements and Systems (PBES) Decision-Making*, the FHWA 2006 *PBES Cost Study*, and the FHWA *Manual on Use of Self-Propelled Modular Transporters to Remove & Replace Bridges*.



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