

Welcome to Webinar on Accelerated Bridge Construction

Partial-Depth Precast Deck Panel Design and Construction in Texas

Sponsored by

*Accelerated Bridge Construction University Transportation Center
(ABC-UTC) at
Florida International University*



Website: abc-utc.fiu.edu

Email: abc@fiu.edu

April 19, 2018 – 1:00 p.m. to 2:00 p.m. Eastern



FIU News

Pedestrian Bridge FAQs

(<https://news.fiu.edu/2018/03/pedestrian-bridge-faq>)

- FIU awarded a Design-Build contract for the bridge through a competitive, public process as described in the FAQs
- FIU and its affiliated entities, including the Accelerated Bridge Construction University Transportation Center (ABC-UTC), did not design or build the bridge.

Also see <https://www.nts.gov/investigations/>

Today's Monthly Webinar



ABC Announcements (10 minutes)

Featured Presentation (35 minutes)

Partial-Depth Precast Deck Panel Design and Construction in Texas

Gregg Freeby, P.E., Director, Bridge Division, Texas Department of Transportation; **Sara Watts, E.I.T.**, Bridge Design Engineering Assistant, Bridge Division, TxDOT; and **Leon Flournoy, P.E.**, Bridge Construction & Maintenance Engineer, Bridge Division, TxDOT

Question and Answer (15 minutes)

Please post your questions in the question box

What is ABC?

<https://abc-utc.fiu.edu/>



ACCELERATED BRIDGE CONSTRUCTION
UNIVERSITY TRANSPORTATION CENTER



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- Project & Research Databases**
- ABC-UTC Reports

The main banner features the ABC UTC logo at the top center. Below it, the FIU logo and 'FLORIDA INTERNATIONAL UNIVERSITY' text are displayed. At the bottom, logos for partner institutions are shown: Iowa State University, University of Washington, and University of Nevada, Reno.

SEARCH

Google Custom Search

- UPCOMING EVENTS
- April 19, 2018 – April 21, 2018
ASCE/SEI Structures Congress 2018 - Fort Worth, TX
 - April 19, 2018
Partial-Depth Precast Deck Panel Design and



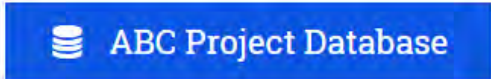
- Technology Transfer
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- In-Depth Web Training
- In-Depth Web Training Archives
- Conference Archives
- Continuing Education Courses
- Project & Research Databases**

Project & Research Databases

Project Database

The ABC-UTC is working in cooperation with FHWA, bridge owners, and other bridge professionals to accumulate available completed construction projects in which ABC technologies are used and research projects in which ABC technologies have been investigated. The **Project Database** has been expanded from its origin, the FHWA *National ABC Project Exchange*.

A user guide was developed to familiarize users with the database ([Project Database – User Guide](#)). Any additional questions on the database can be directed to David Garber (dgarber@fiu.edu).



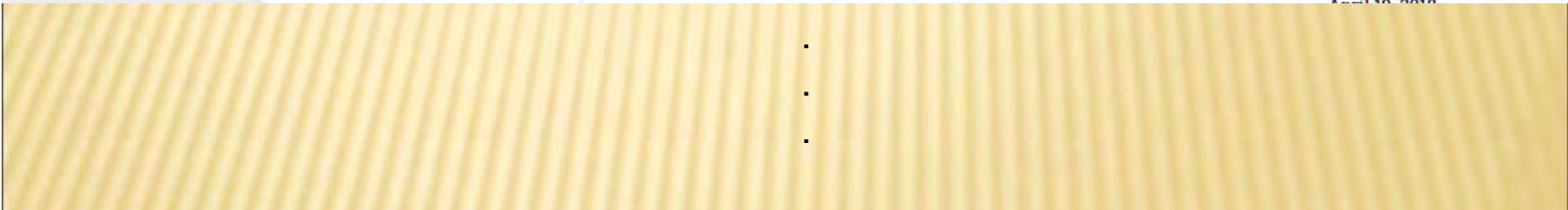
SEARCH

UPCOMING EVENTS

April 19, 2018 – April 21, 2018

ASCE/SEI Structures Congress 2018 - Fort Worth, TX

April 19, 2018



Keywords for Database Search

The Project Database and Research Database both utilize lists of ABC-related "Keywords" that have been used to classify and describe each ABC project. These keywords should be used in searching the databases and also for entering new projects into the databases.



Deadline - 2018 Design-Build Project / Team Awards

June 11, 2018 – June 14, 2018

2018 International Bridge Conference - National Harbor, MD

Keywords for Database Search (ABC Terminology)

[https://abc-utc.fiu.edu/technology-transfer/project-research-databases/
project-database-keywords/](https://abc-utc.fiu.edu/technology-transfer/project-research-databases/project-database-keywords/)

Accelerated Bridge Construction (ABC)

ABC is bridge construction that uses innovative planning, design, materials, and construction methods to reduce the on-site construction time that occurs when building new bridges or replacing and rehabilitating existing bridges.

Categories of ABC types:

- Project Planning
- Geotechnical Solutions
- Structural Solutions

Keywords for Database Search (ABC Terminology)

STRUCTURAL SOLUTIONS

Prefabricated Bridge Elements and Systems (PBES)

PBES are the structural components of a bridge that are built off-site or near the site of a bridge, and include features that reduce the on-site construction time and mobility impact time that would occur if conventional construction methods were used.

Prefabricated Elements

Prefabricated elements are a category of PBES which comprise a single structural component of a bridge.

Deck Elements

- Full-Depth Precast Deck Panel w/PT
- Full-Depth Precast Deck Panel w/o PT
- Partial-Depth Precast Deck Panel
- FRP Deck Panel {fiber-reinforced polymer deck panel}
- Steel Grid (open) Deck
- Steel Grid (concrete filled) Deck
- Aluminum Deck
- Exodermic Deck
- Orthotropic Deck
- UHPC Waffle Deck
- Other Deck Element

Keywords for Database Search (ABC Terminology)

Prefabricated Bridge Elements and Systems (PBES)

PBES are the structural components of a bridge that are built off-site or near the site of a bridge, and include features that reduce the on-site construction time and mobility impact time that would occur if conventional construction methods were used.

Prefabricated Elements

Prefabricated elements are a category of PBES which comprise a single structural component of a bridge.

TX - 2004



← Element

System →

UT - 2007



Prefabricated Systems

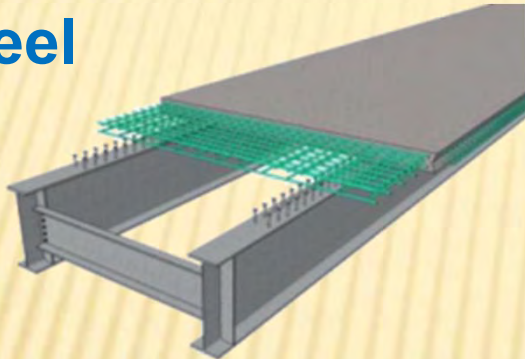
Prefabricated systems are a category of PBES that consists of an entire superstructure, an entire superstructure and substructure, or a total bridge that is procured in a modular manner such that traffic operations can be allowed to resume after placement. Prefabricated systems are rolled, launched, slid, lifted, or otherwise transported into place, having the deck and preferably the parapets in place such that no separate construction phase is required after placement.

Prefabricated Bridge ELEMENTS

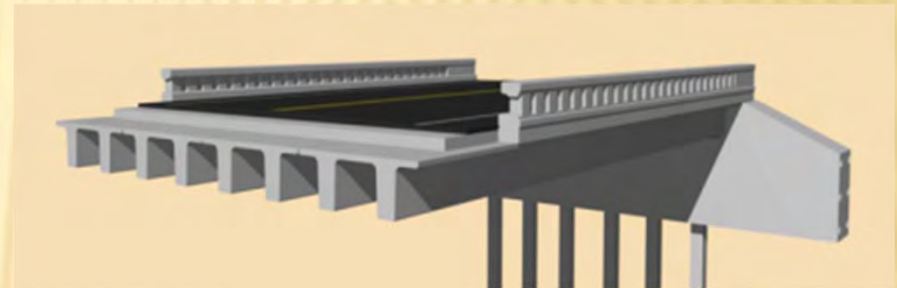
Currently of Most Interest Nationally

Modular Decked Beams

Steel



Concrete



Prefabricated Bridge SYSTEMS

Currently of Most Interest Nationally

Superstructure Span Moves

Self-Propelled Modular Transporters (SPMTs)

Lateral Slides

FL - 2006



Most appropriate for:
Bridges over heavily trafficked roadways

OR - 2008



Most appropriate for:
Stream crossings & low-volume underpasses

History of ABC Implementation in the U.S.



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ABC History

Accelerated bridge construction implementation in the U.S. has been significantly advanced due to the leadership of state DOTs in partnership with the Transportation Research Board, the American Association of State Highway and Transportation Officials, the Federal Highway Administration, and academic and industry partners. This paper provides a history of those collaborative efforts.

[Read More](#)

Construction in Texas

April 19, 2018
(1:00 pm – 2:00 pm EST)



[Webinar Archives](#)

2016 Highlights Report

The 2016 Highlights Report summarizes the ABC-UTC's work during 2016.

[In-Depth Web Training Archives](#)

2016 Meeting - Minneapolis, MN

May 8, 2018
[Call for Award Nominations - Submission Deadline - IRF Global Road Achievement Awards: Showcasing Global Industry Excellence](#)

May 23, 2018
[Call for Award Nominations -](#)

Call for Papers

**ASCE *Journal of Bridge Engineering* –
Special Online Collection of Accelerated
Bridge Construction**

**Extended Deadline for Paper Submissions:
April 30, 2018**

Types of papers that you can submit:

- Case studies of unique ABC projects
- Technical papers contributing to ABC
- Technical notes – short technical information

Call for Papers

ASCE *Journal of Bridge Engineering* – Special Online Collection of Accelerated Bridge Construction
Sponsored by American Society of Civil Engineers (ASCE)
<https://www.asce.org/>

Note: All papers submitted through this solicitation will undergo the standard journal peer review process. Accepted papers will be published in regular issues of the ASCE Journal as they are accepted and will be added to the special online collection.

Paper Submission Deadline: Papers will be accepted until end of April. But please submit them asap

Guest Editor: Dr. Atorod Azizinamini

For questions, contact **Chief Editor:**
Dr. Anil K. Agrawal, jbe.agrawal@gmail.com

Submit papers online:
<https://www.editorialmanager.com/jrnbeeng/>

Upcoming Events

2018 AASHTO-NSBA Collaboration Spring 2018 Meeting – Minneapolis, MN

May 1-3, 2018

Sponsored by American Association of State Highway and Transportation Officials (AASHTO) and National Steel Bridge Alliance (NSBA)

<https://www.transportation.org/>

<https://www.aisc.org/nsba/>

For more information:

<https://www.aisc.org/nsba/nsba-publications/aashto-nsba-collaboration/>

Jeff Carlson, NSBA, carlson@steelbridges.org

Upcoming Events

2018 International Bridge Conference – National Harbor, MD

June 11-14, 2018

Sponsored by Engineers' Society of Western Pennsylvania

<http://www.eswp.com/bridge/>

ABC-related Workshop – Tues., June 12, 1:00-4:30 p.m.:
***W-4, FRP Composite Bridge Materials: Design, Build,
Strengthen***

Sponsored by the American Composites Manufacturers
Association, <http://www.acmanet.org>

For more information: Contact John Busel at
jbusel@acmanet.org

ABC-UTC

2018 In-Depth Web Training

NEW DATE: Tuesday, September 4, 2018
11:00 a.m. to 3:00 p.m. Eastern

VTrans' Programmatic Implementation of ABC

by

Vermont Agency of Transportation (VTrans)

Six 40-minute modules

ABC-UTC

Quarterly Research Seminar

Friday, April 27, 2018 – 1:00-2:00 p.m. Eastern

Alternative ABC Connections Utilizing UHPC: Cap-to-Column Connections in Seismic and Non-Seismic Regions

Atorod Azizinamini, Ph.D., P.E., Principal Investigator

Mohamadreza Shafieifar, Ph.D. Student

ABC-UTC / Florida International University

To register, go to:

<http://abc-utc.fiu.edu/>

Next Monthly Webinar



Thursday, May 17, 2018 – 1:00-2:00 p.m. Eastern

Featured Presentation

Owner Perspective on ABC – Spotlight on SHRP2 R04 Fort Goff Creek Project and Caltrans' Laurel Street Overcrossing Project

by

Pamela Hutton, P.E., SHRP2 Implementation Manager,
AASHTO; and **Dorie E. Mellon, P.E.**, Senior Bridge Engineer,
Caltrans

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