

Welcome to Webinar on Accelerated Bridge Construction

PennDOT's Rapid Bridge Replacement Project Utilizing Folded Steel Plate Girder Bridge

Sponsored by

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

Florida International University



Website: abc-utc.fiu.edu

Email: abc@fiu.edu

April 20, 2017 – 1:00 p.m. to 2:00 p.m. Eastern

Today's Webinar

ABC Announcements

(10 minutes)

Featured Presentation

(35 minutes)

PennDOT's Rapid Bridge Replacement Project Utilizing Folded Steel Plate Girder Bridge

Tom Macioce, P.E., Chief Bridge Engineer, Pennsylvania Department of Transportation; **Charles Zugell, P.E.**, Design Build Coordinator, Walsh/Granite JV; and **Curt Beveridge**, Project Manager, Walsh/Granite JV

Question and Answer

(15 minutes)

Please post your questions in the question box

Mark Your Calendar

2017 National Accelerated Bridge Construction Conference

December 7 and 8, 2017: Conference

December 6: Workshops

Miami, FL



Reviews of abstracts are completed

**We will be notifying the authors on
Monday, April 24**



We are developing a Travel Scholarship fund to support bridge owners to attend the conference

During the 2014 and 2015 Conferences, we were able to support more than 150 bridge owners to attend each of the conferences; we hope to do the same for 2017

Each conference was attended by more than 750 bridge professionals

State DOT, county engineers, and other bridge owners interested in receiving travel scholarships should send an email to Atorod Azizinamini at aazizina@fiu.edu with the following information:

- 1. Name and affiliation**
- 2. Job title**
- 3. Reason attending the Conference**
- 4. Whether you are planning to use ABC in the near future**

Travel scholarships will cover the following expenses:

- 1. Airline ticket**
- 2. Three nights of hotel at Hyatt Regency**
- 3. Conference Registration**
- 4. Per diem for three days, based on the Florida State rate**

There may be some minor changes to the items listed above



**We hope to see many of you
at the Conference**

**Opportunities are available to
exhibit**

**Please visit
www.abc-utc.fiu.edu
for more information**

Congratulations on Retirement

April 2017!



**State Bridge Engineer,
Tennessee**

Wayne Seger, P.E.

Director of the Division of Structures,
Tennessee DOT

- 37 years with TDOT in the Division of Structures beginning in Hydraulic Design and then the Bridge Inspection and Repair side of the Division
- Last six years as Division Director
- Graduate of Tennessee Technological University

ABC-UTC

Quarterly Research Seminar

Friday, April 28, 2017 – 1:00-2:00 pm Eastern

Development of Prefabricated Bridge Railings: Phase I Testing and Results ABC-UTC / Iowa State University

Researcher Team Presenters:

- **Terry Wipf, Ph.D.**, Chair & Professor, Department of Civil, Construction, and Environmental Engineering, ISU
- **Ashley Ecklund, M.S.E.**, 2016 Graduate, ISU
- **Sri Sritharan, Ph.D.**, Professor, Department of Civil, Construction and Environmental Engineering, ISU

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

Upcoming Events

Every Day Counts Webinar Series:

Ultra-High Performance Concrete for Prefabricated Bridge Elements

Sponsored by Federal Highway Administration (FHWA)

Webinar 3 of 6:

Structural Design, Detailing, and Specifying UHPC for Prefabricated Bridge Element Connections (PBEC)

May 9, 2017 – 1:00-2:30 pm EST

To register, go to the following link:

<http://www.fhwa.dot.gov/innovation/everydaycounts/>

Upcoming Events

2017 International Bridge Conference – National Harbor, MD

June 4-8, 2017

Sponsored by Engineers' Society of Western PA (ESWP)

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

ABC Sessions:

- Tuesday, June 6, 8:00 am – 12:00 pm: ABC, Part 1
- Tuesday, June 6, 2:00 – 5:00 pm: ABC, Part 2

ABC Workshops:

- Wednesday, June 7, 9:00 am – 12:00 pm: W-06, FRP Composites Impact to Sustainable Design of Concrete Bridges and ABC
- Thursday, June 8, 8:00 am – 12:00 pm: W-12, ABC Systems – Concrete Filled Steel Tubes for Bridge Applications-Seismic

Early bird registration deadline: May 5, 2017

Upcoming Events

2018 Structures Congress – Fort Worth, TX

April 19-21, 2018

Sponsored by ASCE/Structural Engineering Institute (SEI)

<http://www.structurescongress.org/>

Call for Abstracts and Session Proposals

Deadline: June 5, 2017

<http://www.structurescongress.org/call-submissions>

ABC-UTC Website Home Page

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



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Development of
Prefabricated

Resources: State DOTs

<http://abc-utc.fiu.edu/resources/state-dot-websites/>



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[For more information, contact Ahmad Abu-Hawash, Chief Structural Engineer, Ahmad.Abu-Hawash@dot.iowa.gov]

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- [Innovative Bridge Research and Construction/Deployment \(IBRC/IBRD\) Program](#)

Massachusetts DOT

[For more information, contact Thomas P. Donald, Director of Bridge Project Management, thomas.donald@state.ma.us]

- [Accelerated Bridge Program](#)
- [LRFD Bridge Manual, Part III – Prefabricated Elements](#)

Michigan DOT

[For more information, contact Dave Juntunen, Bridge Development Engineer, JuntunenD@michigan.gov]

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- [RC-1610 – Accelerated Bridge Construction and Structural Move – Workshop \(Dec. 2013\)](#)
- [RC-1618B – Bridge Slide Showcase \(Aug. 2014\)](#)
- [RC-1620 – Evaluation and Analysis of Decked Bulb T Beam Bridges \(March 2015\)](#)
- [Presentation: ABC Policy and ABC Slide Technologies \(Nov. 2014\)](#)
- Videos of Bridge Construction:
 - [2011 Decked Box Beam Bridge \(M-25 Bridge over the White River\)](#)
 - [2012 Composite Arch \(M-25 Bridge over Harbor Creek\)](#)
- Slide-in Bridge Construction (lateral slides)
 - [Animation of typical slide over Highway](#)
 - [2015 Slide \(M-100 Bridge over Canadian National Railroad\)](#)

Minnesota DOT

[For more information, contact Paul Rowekamp, Bridge Standards Engineer, paul.rowekamp@state.mn.us]

- [Accelerated Bridge Construction Website](#)

Oregon DOT

[For more information, contact Bruce V. Johnson, State Bridge Engineer, Bruce.V.JOHNSON@odot.state.or.us]

- [Bridge Design & Drafting Manual, Section 3.24, ABC Guidelines](#)

Texas DOT

- [ABC online standards](#) include prestressed decked slab beams, prestressed slab beams, prestressed box beams, precast bent caps, and prestressed partial-depth deck panels

Utah DOT

Testing and Results

June 5, 2017 – June 8, 2017
2017 International Bridge Conference - National Harbor, MD

June 11, 2017 – June 15, 2017
2017 AASHTO SCOBS Annual Meeting - Spokane, WA

June 12, 2017 – June 14, 2017
fib Symposium 2017 - Maastricht, The Netherlands

August 21, 2017 – August 22, 2017
2017 New York City Bridge Conference NYC, NY



Resources: State DOTs – MN



[Search](#) [MnDOT A to Z](#) [General Contacts](#)

Bridges and Structures

Accelerated Bridge Construction

[Bridge Home](#) [ABC](#) [Design](#) [Construction and Maintenance](#) [Inventory](#) [Hydraulics](#) [Training](#) [Contacts](#)

Accelerated Bridge Construction

Implementation

- [Implementation memo \(PDF\)](#)
- [District project manager roles and responsibilities for ABC \(PDF\)](#)
- [Key contacts \(PDF\)](#)

Project selection process

- Stage 1
 - [Stage 1 forms \(PDF\)](#)
 - [List of stage 1 "yes" bridges let after 2018 by district \(Excel\)](#)
 - [Stage 1 results for all bridges by district \(Excel\)](#)

Resources: State DOTs – MN

Stage 1 - Selection of Accelerated Bridge Construction Projects

MnDOT Decision Making Tool (DMT) v9 07/22/2013

Score computed using Bridge Management Data (5 Criteria):

Daily Vehicle Operating Costs - Dependent on Bridge Length 30% Wt.

"On Bridge" AADT and HCAADT Only	Distribution	Score	Criteria
Bridge Length Factor:	16.0%	0	No user costs
Total Length from 10'-100' = 1.0	16.7%	1	Less than \$4,150
Total Length from 100'-300' = 1.2	16.9%	2	\$4,150 to \$9,250
Total Length from 300'-500' = 1.6	16.8%	3	\$9,251 to \$18,100
Total Length greater than 500' = 2.0	16.9%	4	\$18,101 to \$44,000
	16.7%	5	More than \$44,000

User Cost Formula = (AADT x \$0.31/mile + HCAADT x \$0.64/mile) x Detour Length x Br Length Factor

Average Annual Daily Traffic (AADT) 20% Wt.

Combined "On and Under" Bridge	Distribution	Score	Criteria
	16.2%	0	Less than 2,400
	16.7%	1	2,401 to 6,650
	16.9%	2	6,651 to 13,500
	16.7%	3	13,501 to 31,000
	16.7%	4	31,001 to 75,000
	16.9%	5	More than 75,000

Heavy Commercial Average Annual Daily Traffic (HCAADT) 10% Wt.

Combined "On and Under" Bridge	Distribution	Score	Criteria
	16.0%	0	Less than 165
	16.7%	1	166 to 485
	16.7%	2	486 to 1,085
	16.9%	3	1,086 to 1,950
	16.7%	4	1,951 to 3,750
	16.9%	5	More than 3,750

Detour Length 30% Wt.

Detour Length on Similar Functional Class Rdwy	Distribution	Score	Criteria
	15.9%	0	No Detour
	9.8%	1	Less than 1 mile

Resources: State DOTs – MN

Full depth bridge deck panels

Bridge 69071

- [New bridge example plan - Br 69071 \(PDF\)](#)
- [New bridge example special provision - Br 69071 \(PDF\)](#)
- [Bridge construction timeline \(PDF\)](#)
- [Lessons learned \(PDF\)](#)
- [Photos](#)

Bridge 27504

- [Bridge rehabilitation example plan - Br 27504 \(PDF\)](#)
- [Lessons learned \(PDF\)](#)
- [Photos](#)

Lateral bridge slide

- [New bridge example plan - Br 62646 Larpenteur Ave over I-35E, St. Paul \(PDF\)](#)
- [Contractor slide system details \(PDF\)](#)
- [New bridge example special provision - Br 62646 \(PDF\)](#)
- [Lessons learned \(PDF\)](#)
- Videos
 - [Larpenteur Ave bridge deck slide time lapse \(Youtube\)](#)
 - [Larpenteur Ave bridge slide: Interview with David Herzog \(Youtube\)](#)

Self-Propelled Modular Transporters

Bridge 62626

- [New bridge example plan - Br 62626 Maryland Ave over I-35E, St. Paul \(PDF\)](#)
- [Contractor SPMT drawings \(PDF\)](#)
- [Design-build example special provision - Br 62626 \(PDF\)](#)

Resources: State DOTs

<http://abc-utc.fiu.edu/resources/state-dot-websites/>

Vermont Agency of Transportation

[For more information, contact Wayne Symonds, Structures and Hydraulics Program Manager, Wayne.Symonds@vermont.gov]

- [Accelerated Bridge Program Web Page](#)
- [Accelerated Bridge Construction Videos](#)
- [Planned Bridge Closures](#)
- [Public SharePoint Site \(Project External Website\)](#)

Washington State DOT

[For more information, contact Bijan Khaleghi, State Bridge Design Engineer, KhalegB@wsdot.wa.gov]

- [WSDOT BDM CH 14- Accelerated and Innovative Bridge Construction](#)
- [Accelerated Bridge Construction Resources Website](#)
- [WSDOT 2015 ABC Workshop – April 2015 – Tumwater, WA](#)

Wisconsin DOT

[For more information, contact William (Bill) Oliva, Structures Development Chief, William.Oliva@dot.wi.gov]

- [Bridge Manual Chapter 7 on Accelerated Bridge Construction](#) (pdf)
- Videos:
 - [2017 ABC Lightbulb](#) (8 minutes)
 - [2016 Local Roads GRS-IBS Bridge Replacement Project](#), built with help of FHWA AID grant (4 minutes)
- [ABC Bridge Standards](#) (GRS, PBE – Piers)

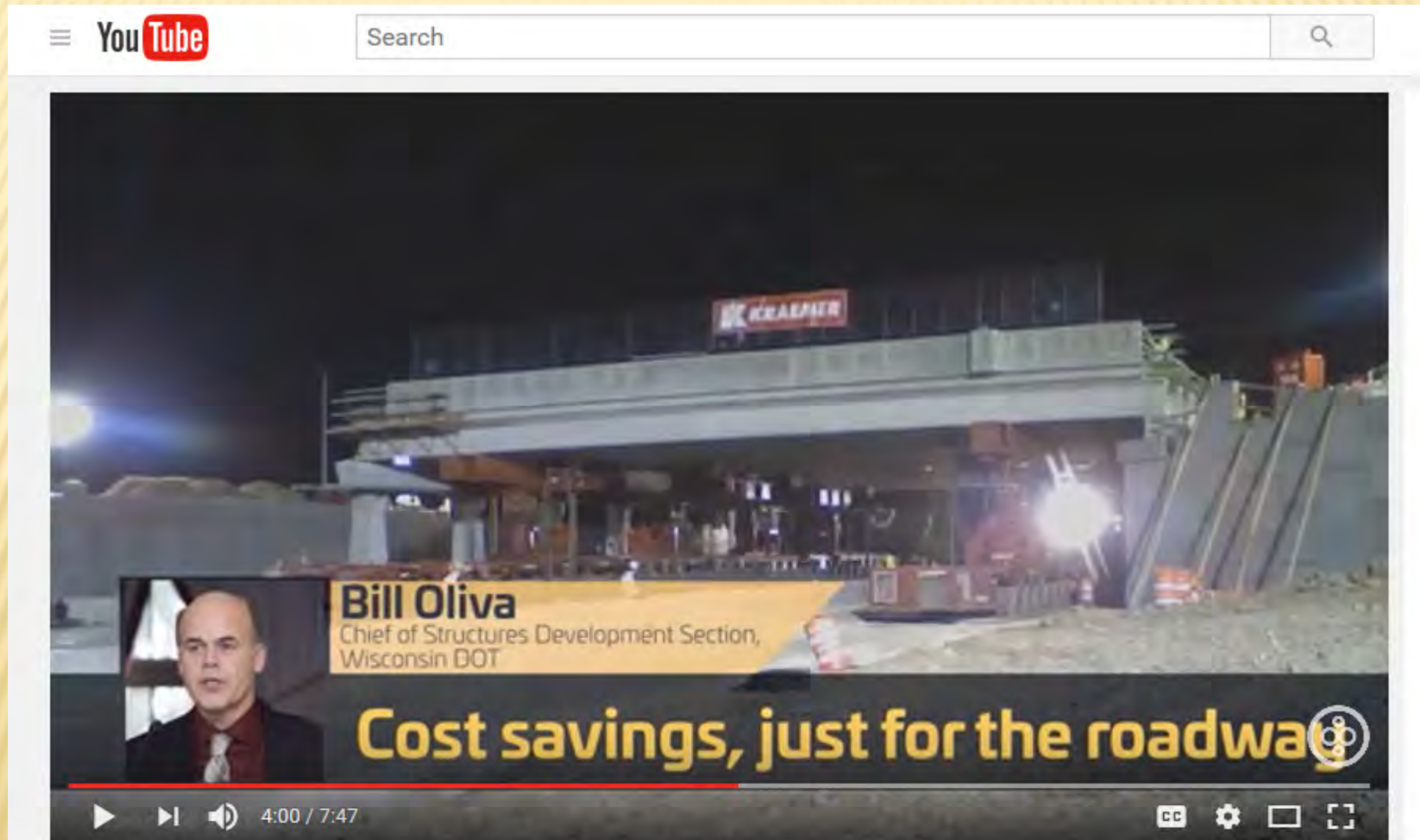
Resources: State DOTs – WI



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Resources: State DOTs – WI




The image shows a YouTube video player interface. At the top left is the YouTube logo. To its right is a search bar with the word "Search" inside. The main video area shows a night-time construction site for a bridge. A large concrete structure is being built, with a sign that says "KRAEPIER" visible. In the bottom left corner of the video, there is a small inset photo of a man in a suit and tie. To the right of the photo, the text reads: "Bill Oliva" in bold, followed by "Chief of Structures Development Section, Wisconsin DOT". Below this, the video title "Cost savings, just for the roadway" is displayed in large yellow letters. At the bottom of the video player, there are standard controls: a play button, a volume icon, a progress bar showing "4:00 / 7:47", and icons for closed captions, settings, and full screen.

How we're building bridges better, faster – and with less impact to traffic

Resources: State DOTs – WI

YouTube Search



The pre-stressed box girders – or superstructure – are installed.

2:19 / 4:01

CC Settings Full Screen

GRS-IBS Bridge Replacement in Dodge Co., Wisconsin

Resources: State DOTs

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Next Webinar

Thursday, May 18, 2017 (1:00 – 2:00 p.m. Eastern)

Featured Presentation

Virginia's Rehabilitation of I-64 Dunlap Creek Bridges Using High-Performance Link Slabs and Overlay Materials: ABC Component

by

Adam Matteo, P.E., Ass't. State Structure & Bridge Engineer for Maintenance, VDOT; **Rex Pearce, P.E.**, Staunton District Bridge Engineer, VDOT; and **Celik Ozyildirim, Ph.D., P.E.**, Principal Research Scientist, Virginia Transportation Research Council

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(15 minutes)

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