



Western Bridge Engineers' Seminar



September 9–11, 2015

PRACTICAL SOLUTIONS TO BRIDGE ENGINEERING CHALLENGES

Peppermill Hotel | Reno, Nevada

Seminar managed by:



Conference Management

WASHINGTON STATE UNIVERSITY

Tuesday, September 8

6:00–8:00 pm ICEBREAKER RECEPTION

Wednesday, September 9

7:30 am–5:00 pm EXHIBIT HALL OPEN

7:30–8:30 am CONTINENTAL BREAKFAST

8:30–10:00 am WELCOME & OPENING REMARKS

- **Opening Remarks**
Rudy Malfabon • Director, Nevada Department of Transportation
- **Keynote: I-74 Mississippi River Bridge**
Norman McDonald • Iowa Department of Transportation

10:30 am–Noon TECHNICAL SESSIONS

2A ACCELERATED BRIDGE CONSTRUCTION

- **Utah SR201 Bridge Slide**
Richard Hansen • Michael Baker International
- **ABC Methods for Replacement SH55, North of Cascade (D)**
Leonard Ruminski • Idaho Department of Transportation
- **The Lardo Bridge Slide**
Brian Byrne • Lochner

2B BRIDGE FOUNDATION SEISMIC DESIGN

- **Modeling and Design of the Gilman Drive Overcrossing Foundations**
Garrett Dekker • Moffatt & Nichol

- **Seismic Design of Adjacent Rail Bridges in Deep Liquefiable Soils**
Kelly Burnell • Kleinfelder
Ebrahim Amirhormozaki • Kleinfelder
- **2D Seismic Site Response Analysis in a Subduction Zone Environment**
Zia Zafir • Kleinfelder

2C BRIDGE DESIGN CONSIDERATIONS

- **New Design Provisions for Lightweight Concrete in Bridges**
Reid Castrodale • Expanded Shale Clay and Slate Institute
- **FHWA Slide-in Bridge Construction Cost Estimation Tool**
Aj Yates • Michael Baker International
- **The Future of Bridge Design, Modeling and Analysis: 3D Modeling from Design to Decommission**
Barbara Day • Bentley Systems

2D BRIDGE REHABILITATION

- **Rehabilitation of Bridges**
Kash Nikzad • TranTech Engineering, LLC
- **Replacement of Trunnion Bering, 92nd Street Bascule Bridge, Chicago, IL**
Paul Bandlow • Stafford Bandlow Engineering, Inc.
- **Slausen Avenue Bridge Over San Gabriel River**
Bob Fish • AECOM Transportation

Noon

LUNCH

1:30 PM–3:00 PM TECHNICAL SESSIONS

3A ACCELERATED BRIDGE CONSTRUCTION

- **Accelerated Bridge Construction in Alaska**
Leslie Daugherty • Alaska DOT & PF
- **Alaskan Way Viaduct Replacement Program: Pre-cast Concrete Elements for ABC Construction**
Tim Moore • Washington State Department of Transportation
- **Context Sensitive ABC Policy: Adding to the Bridge Design Manual**
Patrick Gallagher • Washington State Department of Transportation
- **Innovative Bridge Designs for Rapid Renewal, SHRP2 RO4, Lessons Learned**
Finn Hubbard • Fish & Associates

3B BRIDGE DESIGN AND CONSTRUCTION

- **Design of the Gilman Drive Bridge over I-5 at the University of California, San Diego**
Gernot Komar • Moffatt & Nichol
Tony Sanchez • Moffatt & Nichol
- **Hybrid Spliced Girder Concept to Solve Bridge Constructability Challenges**
Sami Megally • Kleinfelder
- **Design of a Modern Cable-Stayed Bridge in a High Seismic Zone**
Patrick Montemerlo • David Evans & Associates, Inc.

3C BRIDGE CONSTRUCTION

- **Girder Stability in Erection and Demolition**
Michael Garlich • Collins Engineers, Inc.
- **Project Risk Management on the New San Francisco Oakland Bay Bridge**
Richard Foley • California Department of Transportation
- **Response to Falsework Collapse During Bridge Construction**
Mark Creveling • Kleinfelder
Jeff Turner • Flatiron

3D BRIDGE REHABILITATION

- **In-Service Replacement of Box Girder Bottom Slab WSDOT Bridge 5/537S Span 11**
Craig Boone • Washington State Department of Transportation
- **Bridge Deck Replacement on Precast Concrete Bulb-T Girders with Sacrificial Flange Technique**
Tanarat Potisuk • Oregon Department of Transportation
- **Accelerated Bridge Construction, Rehabilitation of the I-280 in San Francisco**
Ric Maggenti • California Department of Transportation

3:00–3:30 pm COFFEE BREAK/EXHIBIT

3:30–5:00 pm TECHNICAL SESSIONS

4A ACCELERATED BRIDGE CONSTRUCTION

- **Accelerated Bridge Construction of the West Humbug Creek Bridge**
Jason Kelly • OBEC Consulting Engineers
- **Prefabricated Bridge Elements and Systems for Accelerated Bridge Construction**
Greg Banks • BergerABAM
- **Seattle's Not-So-Boring SR99 Bored Tunnel Project**
Tim Moore • Washington State Department of Transportation
- **New Development in Accelerated Bridge and Culvert Construction in Washington State**
Patrick Gallagher • Washington State Department of Transportation

4B BRIDGE DURABILITY AND MATERIALS

- **Use of Grade 80 Reinforcement in Oregon**
Craig Shike • Oregon Department of Transportation
- **Durability Design of Bridges**
Mike Bartholomew • CH2M Hill
- **Durability of Lightweight Concrete for Bridges**
Reid Castrodale • Expanded Shale Clay and Slate Institute

4C BRIDGE CONSTRUCTION

- **Lateral Slide of a Historic Warren Truss in Washington State**
Kevin Dusenberry • Jacobs
- **Tower Erection Engineering for the San Francisco-Oakland Bay Bridge Self-anchored Span**
William Wu • Kohn Crippen Berger LTD
David Dowdel • Kohn Crippen Berger LTD
- **Design and Construction of the St. Patrick's Island Pedestrian Bridge**
Brent Whitcomb • Parsons Brinckerhoff

4D BRIDGE REHABILITATION AND REPLACEMENT

- **San Elijo Lagoon Bridge Replacement**
Jeremy Lahaye • T.Y. Lin International
- **Tioga Pedestrian Bridge Replacement**
Bob Grubbs • Oregon Department of Transportation
- **Alexander Avenue Bridge Retrofit Project, Larkspur, California**
Carlos Ramirez • Parsons Brinckerhoff

5:00–8:00 pm EXHIBITOR RECEPTION & POSTER SESSION



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PRACTICAL SOLUTIONS TO BRIDGE ENGINEERING CHALLENGES

September 9–11, 2015 | Peppermill Hotel | Reno, Nevada

Thursday, September 10

7:30 am–5:00 pm EXHIBIT HALL OPEN

7:30–8:30 am CONTINENTAL BREAKFAST

8:30–10:00 am TECHNICAL SESSIONS

5A ACCELERATED BRIDGE CONSTRUCTION

- **Faster Construction and Better Seismic Performance: You Can Have Both**
Marc Eberhard • University of Washington
- **Innovative, Accelerated, and Cost Effective Options for Short Span Bridges**
Michael Barker • University of Wyoming
- **Novel Deconstructible and Resilient Columns for ABC in High Seismic Zones**
Sebastian Varela • University of Nevada, Reno

5B BRIDGE RESEARCH AND ANALYSIS

- **Instrumenting Anchorage Zone of Post-tensioned Box Girder Bridges**
*Ahmed Maree • University of Nevada, Reno
Marc Friedheim • California Department of Transportation*
- **Structural Response of Bent Caps in Reinforced Concrete Box-Girder Bridges**
Mohamed Moustafa • University of California, Berkeley
- **Computer Aided Design, Analysis, and Load Rating of Precast-Prestressed Spliced Girder Bridges**
Rick Brice • Washington State Department of Transportation

5C FOUNDATION DESIGN AND CONSTRUCTION

- **Thermal Integrity Profiling as a Drilled Shaft Quality Assurance Tool**
Mark Gaines • Washington State Department of Transportation
- **Honolulu Rail Transit Project: Drilled-Shaft Design Considerations and Challenges**
*Ahilan Selladurai • AECOM Transportation
Ahmad Abdel-Karim • AECOM*
- **Sellwood Bridge Perched Box Caisson Design & Construction**
*Garret Ellingson • McGee Engineering
Shayne Tennis • McGee Engineering*

5D BRIDGE MATERIALS AND MAINTENANCE

- **Specialized Post-Tensioning Inspection and Repair**
*Travis Green • Wiss, Janney, Elstner Associates, Inc.
Eric Anderson • Wiss, Janney, Elstner Associates, Inc.*
- **Bridge Materials and Methods**
Hormoz Seradj • Oregon Department of Transportation
- **Development of National Training for Bridge Maintenance**
Eric Thorkildsen • Greenman-Pedersen, Inc.

10:00–10:30 am COFFEE BREAK/EXHIBIT

10:30–Noon TECHNICAL SESSIONS

6A BRIDGE DESIGN AND CONSTRUCTION

- **Design and Construction Complexities of the Yerba Buena Island Transition Structures for the New East Span - SFOBB**
Robert Dameron • Moffatt & Nichol
- **Replacement of the Highway 85 Bridge Over the Missouri River Near Williston, North Dakota**
*Michael Marks • KLJ
Colin Moran • KLJ*
- **US-34 Missouri River Pushing the Design and Construction Limits for a Haunched Steel Girder with Substringer Bridge**
Phil Rossbach • HDR Engineering, Inc.

6B BRIDGE DESIGN AND CONSTRUCTION

- **Maximizing the Flexibility of Precast Concrete to Accommodate Unusual Bridge Geometry in a Constrained Urban Environment**
*Yuling Teo • City of Seattle
Hong Guan • CH2M Hill*
- **Salt Creek Half Viaducts**
Bob Goodrich • OBEC Consulting Engineers
- **MSS Box Girder Transverse Design of Gerald Desmond Bridge Replace Project**
Sammy Tu • STV Inc.

6C BRIDGE MATERIALS AND DETAILS

- **Material Properties of Lightweight Concrete for Bridge Design**
Reid Castrodale • Expanded Shale Clay and Slate Institute
- **Good Bridges, Bad Details, and Ugly Cracks: A Study in Titanium Alternatives to Fiber Reinforced Polymers**
Paul Strauser • Oregon Department of Transportation
- **Crack-less Bridge Decks**
Craig Knapp • California Department of Transportation

6D INVENTORY AND MAINTENANCE

- **Utilizing 3D Models for Better Bridge Asset Inspection and Management of Complex Bridges**
Lee Tanase • Bentley Systems
- **Where's the Guidance? An Interim Approach for Load Rating Culverts and Flexible Buried Bridges**
Joel Hahn • Big R Bridge



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- **Developing Risk Assessment Protocols for Six Iconic Willamette River Bridges**
*Douglas Lampkin • David Evans and Associates Inc.
Ian Cannon • Multnomah County*

Noon

LUNCH

1:30–3:00 pm

TECHNICAL SESSIONS

7A BRIDGE SEISMIC DESIGN

- **Seismic Design of Light Rail Transit Bridges with Fault Rupture**
*James Gingery • Kleinfelder
Ebrahim Amirhormozaki • Kleinfelder*
- **Seismic Design Considerations for Single-Column Piers Supporting Highly Curved Ramp Bridges**
Greg Griffin • AECOM Transportation
- **Sellwood West Approach Interchange Bridge - Design Challenges and Project Delivery**
Vu Phan • CH2M Hill

7B BRIDGE DESIGNS AND SCOUR CHALLENGES

- **Design of the 13th Street Bridge at Vandenberg AFB for Hydraulics, Scour, and Seismic**
Tony Sanchez • Moffatt & Nichol
- **Acquiring and Implementing TIGER Grant Funding for the I-15 Virgin River Bridge #6 Superstructure Replacement and Substructure Widening**
Rafael Davis • Arizona Department of Transportation
- **History of the Oldest Bridge Pons Fabricius**
Luong Tran • Washington State Department of Transportation

7C BRIDGE SEISMIC DESIGN

- **Performance of Bridge Columns Under Long Duration Ground Motions**
Mohammed Mohammed • University of Nevada - Reno
- **Maximizing Bridge Value with Advanced Seismic Analysis**
Christopher Pitt • KPFF Consulting Engineers
- **Application of Performance Based Earthquake Engineering (PBEE)**
*Yeo (Tony) Yoon • California Department of Transportation
Toorak Zokaie • California Department of Transportation*

7D INSTRUMENTATION AND INSPECTION

- **Implementing the Next Generation of Bridge Inspection and Management Systems**
Lee Tanase • Bentley Systems
- **Economics of Infrastructure Health Monitoring**
Brian Westcott • Intelligent Structures, Inc.

- **Macro vs. Micro: The Future and Past of Bridge Instrumentation**
Shaun Dustin • Campbell Scientific

3:00–3:30pm

COFFEE BREAK/EXHIBIT

3:30–5:00 pm

TECHNICAL SESSIONS

8A BRIDGE JOINTS AND BEARINGS

- **High Load Multirotational Bearings for the Sellwood Bridge**
Ron Watson • R.J. Watson, Inc.
- **Nenana River Bridge Seismic Retrofit**
Travis Arndt • Alaska DOT & PF
- **Innovations in Bridge Engineering**
Iman Talebinejad • SC Solutions

8B RAIL AND RETAINING STRUCTURES

- **Design Optimization for Sound Transit's Light Rail Lynnwood Extension**
Yuhe Yang • Parametrix
- **Significant Changes for Design and Construction Costs of Earth Retaining Structures Caused by Changes in Recent AASHTO LRFD Design Criteria**
*Ahilan Selladurai • AECOM Transportation
Robert Fish • AECOM*
- **Lightweight Cellular Concrete Fill to Mitigate Railroad Bridge Approach Settlement**
*Nathan Johnson • Kleinfelder
Moises Arzamendi • Kleinfelder*

8C BRIDGE SEISMIC DESIGN

- **Base Isolating the New NY Bridge**
*Nick McDowell • HDR Engineering
Ted Bush • HDR Engineering*
- **2nd Street Connector, Gateway to Historic Sacramento**
Ali Seyedmadani • Parsons Brinkerhoff
- **Seismic Design of Walnut Avenue Overpass**
Ali Rejaie • HNTB

8D LOAD RATING

- **Methods for Improving Load Rating of Existing Bridges**
Kash Nikzad • TranTech Engineering, LLC
- **An Innovative Procedure for Load-Rating of Suspension Bridges**
Hassan Sedarat • SC Solutions
- **Snake River Load Test: Addressing Bridge Management Issues**
*Brice Carpenter • Bridge Diagnostics
Shanon Murgioitio • Idaho Transportation Department*

5:00–9:00 pm

EXHIBITOR MOVE-OUT



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7:30–8:30 am CONTINENTAL BREAKFAST

8:30–10:00 am TECHNICAL SESSIONS

9A BRIDGE DESIGN AND CONSTRUCTION

- **Hells Canyon Bridge SR89**
Mike Morrison • Arizona Department of Transportation
- **Design and Construction of an International Airport Bridge between California and Mexico**
Paul Morel • Kleinfelder
- **Seismic Retrofit and Reconstruction of the Historic Georgia Street Concrete Arch Bridge**
Ebrahim Amirhormozaki • Kleinfelder
Nathan Johnson • Kleinfelder

9B BRIDGE ANALYSIS

- **Effect of Curved Alignment and Skewed Supports on Bridge Response**
Lucas Miner • Drake Haglan and Associates
- **Liveload Distribution on Bridge Abutments**
Toorak Zokaie • California Department of Transportation
- **Impact of Air Pressure Testing on Post-Tensioned Anchorage Ducts**
Brett Allen • Eclipse Engineering

9C BRIDGE DESIGN AND CONSTRUCTION

- **Accelerated Scheduling for I-90/Cliff Ave. Bridges**
Hadley Eisenbeisz • South Dakota Department of Transportation
- **Seismic Retrofit of Ogden Siphon Pipe Suspension Bridge**
Mark Reno • Quincy Engineering, Inc.
- **I Didn't Know They Could Do That! Capabilities and Design Considerations for Flexible Buried Bridges**
Joel Hahm • Bridge R Bridge

9D BRIDGE INSPECTION

- **Vertical Clearance Measurements and Posting of VC Signs**
Homer Saidi • Arizona Department of Transportation
- **Underwater Inspection of the Golden Gate Bridge: The Image of an Icon**
Daniel Stromberg • Collins Engineers, Inc.
- **Summary of Safety Inspection Practices for Bridges with Fracture Critical Members**
Brian Leshko • HDR Engineering, Inc.

10:00–10:30 am COFFEE BREAK

10:30–Noon GENERAL SESSION

- **Keynote: The Tappan Zee Bridge**
Jeff Han • HDR Engineering
- **Closing Remarks & Invitation to 2017 Conference**
- **Adjourn**