



American Concrete Institute

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MEETING AGENDA

342 - Evaluation of Concrete Bridges and Bridge Elements ACI Fall Convention 2016

Meeting Schedule: Sunday October 23, 2016 (8:30 AM-10:30 am)
Philadelphia Marriott Downtown - Grand Ballroom Salon I (Philadelphia, PA)

Mission: Develop and report information on evaluation of concrete bridges and bridge elements.

Goals: The committee seeks to provide guidance related to existing concrete bridges for professionals in the areas of bridge evaluation, inspection, and testing. With this charge, the committee aims to advance the state of the art of concrete bridge and bridge element evaluation through: 1) developing technical sessions; 2) developing Special Publications; and 3) disseminating committee expertise through technical document development. (**Proposed Revision 2**)

Committee Members

VOTING MEMBERS

Devin Harris – University of Virginia (Chair)

Nestor Rubiano – HNTB Corporation (Secretary)

Om Dixit - Dixit Consultants LLC

Andrew Foden Parsons Brinckerhoff

Andre Garner - Garner Consulting Group

Brock Hedegaard, University of Wisconsin

Riyadh Hindi – St. Louis University

Jimmy Kim – University of Colorado Denver

Mohamed Mahgoub - New Jersey Institute of Technology

Bruno Massicotte - Ecole Polytechnique
Montreal

John Myers - Missouri S&T

Rita Oglesby

Larry Olson - Olson Engineering Inc.

Johan Silfwerbrand - KTH Royal Institute of Technology

Jeffrey Smith – University of Kentucky

Mark Williams - Walter P Moore

1. Administrative [5 min]
 - 1.1. Introductions
 - 1.1.1. New Voting Members
 - 1.1.2. New Associate Members
 - 1.2. Announcements
 - 1.3. Intervening actions since last meeting.
 - 1.3.1. Revision of committee goals
2. Strategic Planning and Discussion [10 min]
 - 2.1. Proposed Revision of Committee Goals
 - 2.2. Membership
 - 2.2.1. New member recommendations
 - 2.3. Other committee/organization activities
3. Documents Under Development [30 min]
 - 3.1. 342.YR: Concrete Bridge Condition Assessment and Performance Monitoring
4. Invited Speaker Presentation



- 4.1. No speaker
- 4.2. Proposed speaker for Spring Convention (Detroit)
5. New Business [15 min]
 - 5.1. Sessions and SP focus topics for future conventions
 - Proposed Sessions
 - Detroit – Spring 2017: Beyond Chain Dragging - Nondestructive Evaluation of Bridge and Parking Decks and NDE Data Fusion (2 parts) (Larry Olson)
 - Anaheim – Fall 2017: Evaluation of Concrete Bridge Behavior Through Load Testing - International Perspectives (Pinar Okumus and Eva Lantsoght) - Preliminary Request submitted for 2 sessions
 - Requested Co-Sponsorship with TRB AFF 40
 - Salt Lake City - Spring 2018
 - Advances in Modeling and Analysis For Evaluating Concrete Bridges (Bruno Massicotte and Devin Harris) - Detroit
 - Rating Methods for Defining the Performance of Existing Concrete Bridges (Bruno Massicotte and Devin Harris) – Salt Lake City
 - Potential Session Topics
 - *Innovative techniques for evaluating concrete bridges/elements*
 - *Roll out of LDF Report*
 - *Load Rating of Concrete Bridges (above)*
 - ~~*Field Testing of Concrete Bridges (Diagnostic, Proof)*~~
 - *Analysis of Existing Concrete Bridges (above)*
 - *Non-destructive and Destructive Evaluation of Concrete Bridges*
 - *Data Analytics for Concrete Bridge Evaluation*
 - *SHM of Concrete Bridges*
6. Relevant Sessions for Current Convention [5 min]
 - None supported by Committee 342
 - Evaluation of Concrete Structures (not bridge related)
 - Sunday, October 23, 2016 1:00 PM - 3:00 PM, GRAND BALLROOM SALON B
 - Overview and Applications of Structural Health Monitoring (SHM) Technologies for Concrete Structures
 - Sunday, October 23, 2016 1:00 PM - 3:00 PM, GRAND BALLROOM SALON C
 - Using Service Life in Understanding Environmental Impacts
 - Tuesday, October 25, 2016 8:30 AM - 10:30 AM, GRAND BALLROOM SALON D
7. Upcoming Sessions at Future Conventions [5 min]
 - ACI Spring Convention 2017 – Detroit, MI - *Beyond Chain Dragging - Nondestructive Evaluation of Bridge and Parking Decks and NDE Data Fusion (2 parts) (Larry Olson)*
8. Adjournment
 - The next meeting(s) will be on March 26th, 2017 (8:30-10am) – tentatively



Session Descriptions:

Evaluation of Concrete Bridge Behavior Through Load Testing - International Perspectives

Moderators: Pinar Okumus and Eva Lantsoght - *Proposed for ACI Convention Fall 2017- Anaheim*

Description:

This session will discuss load testing for the evaluation of concrete bridges, both for newly built and existing structures. Diagnostic and proof load testing will be covered through case studies from different regions of the world. For newly built bridges, diagnostic load testing can be required as a verification of the design assumptions, particularly for atypical bridges. For existing bridges, diagnostic load testing can be used to improve analysis assumptions such as composite action, contribution of parapets and non-structural members to stiffness. Proof load testing can be used to demonstrate that a structure can carry a given loading, when there are doubts with regard to the effect of material degradation, or when sufficient information about the structure is lacking to carry out an assessment based on calculations.

The objectives of the session are to provide a global perspective on strategies for assessing the in-service performance of concrete bridges. The impact of differences in live loads, design codes, reserve capacities, age of structures, construction practices between global regions on assessment of concrete bridges will also be examined. Recent developments with regard to codes and standards around the world for load testing will be discussed based on case studies.

To discuss international perspectives, contributions from North America, South America, Europe, Asia, the Middle East, Africa and Oceania are welcomed. A list of potential speakers is provided below. The contributions will be case studies of bridges where load testing was used to improve the structural assessment or discussions of load testing methods.

Title - Advances in Modeling and Analysis For Evaluating Concrete Bridges

Moderators: Bruno Massicotte and Devin Harris

ACI Convention Spring 2018 - Salt Lake City

Summary: The session objective is to present state-of-the-art and emerging technologies for the strength and serviceability evaluation of concrete bridges. The following topics will be considered: advanced nonlinear modeling and nonlinear finite element analysis (NLFEA), system redundancy analysis, structural versus element rating, and determination of structure specific reliability indices.

Rating Methods for Defining the Performance of Existing Concrete Bridges

ACI Convention Spring 2018 – Salt Lake City

Summary: TBD