

**PRELIMINARY
ANNOUNCEMENT AND CALL FOR PAPERS**

**6th INTERNATIONAL
BRIDGE
ENGINEERING CONFERENCE**

***Reliability, Security, and Sustainability
in Bridge Engineering***



*Leonard P. Zakim Bunker Hill Bridge, Boston
Photo courtesy of Central Artery/Tunnel Project*

**July 17-20, 2005
The Westin Copley Place Boston
Boston, Massachusetts**

Paper Synopses due November 15, 2003

CONFERENCE SPONSORS

Federal Highway Administration

**Transportation Research Board
of
The National Academies**

Reliability, Security, and Sustainability in Bridge Engineering is the theme for the *Sixth International Bridge Engineering Conference (6th IBEC)*, to be held at The Westin Copley Place Boston in Boston, Massachusetts, July 17-20, 2005. This conference, which is being organized and conducted by the Transportation Research Board (TRB), will bring attendees up to date on the latest bridge research results and technical information on planning, design, construction, maintenance, repair, rehabilitation, replacement, management, security and safety of vehicular and railroad bridges. The conference will focus on problems and solutions of interest to bridge engineers and administrators of highway, railroad, and transit agencies. Research results from the American Association of State Highway and Transportation Officials (AASHTO) sponsored National Cooperative Highway Research Program (NCHRP) bridge studies as well as federal, state, and other research agencies' programs will be highlighted.

The previous five conferences in this series attracted bridge engineers from many countries. These conferences were held in St. Louis, Missouri, in September 1978; Minneapolis, Minnesota, in September 1984; Denver, Colorado, in March 1991; San Francisco, California, in August 1995; and Tampa, Florida, in April 2000. All of these conferences were well attended by bridge engineering executives, practicing bridge engineers, researchers, and the bridge construction industry. Much has transpired since the 2000 conference.

The 6th IBEC is co-sponsored by the Federal Highway Administration (FHWA) and TRB. An advance registration fee of approximately \$400 (U.S.) will apply to all participants. A preliminary program with meeting registration and hotel accommodation information will be available in December 2004.

BACKGROUND

With typical service life of less than 50 years, many of the bridges in the United States are currently in need of rehabilitation or replacement, and many more are approaching the end of their service life. Over a quarter of the Nation's 590,000 bridges, including 125,000 bridge-class culverts, are classified as structurally deficient or functionally obsolete according to FHWA criteria. Compounding the problems related to an aging infrastructure are increasing vehicle weights and the public's increasing frustration with highway construction projects that interfere with their ability to reliably plan their travel time. Bridge systems are needed that accommodate reduced on-site construction time, while ensuring longer-lasting facilities. With available funding that covers only a fraction of the current rehabilitation and replacement needs, innovative methods and materials are urgently needed to more effectively address the public's demand to "get in, get out, and stay out."

The public is also expressing more interest in the appearance of bridges, requesting early and continuous involvement to build bridges that complement adjacent surroundings. An additional design priority is the implementation of AASHTO's Load and Resistance Factor Design (LRFD), with the 2007 date for its full use fast approaching. Load and Resistance Factor Rating (LRFR) tools are also now available, and these may improve our knowledge regarding the performance of the Nation's network of bridges.

In addition, infrastructure security is now a heightened concern. Bridges and tunnels are the nodes of the highway infrastructure, and as such must maintain their function to allow for the flow of people, goods, and services. Cost-effective countermeasures, including changes to design specifications, are now considerations for both existing and new critical infrastructure.

The current issues related to bridges and tunnels are concerns of the U.S. State DOTs and many other agencies and nations. Attendees will be brought up to date on these issues at this conference.

FORMAT

The conference begins with an icebreaker on Sunday evening, July 17, 2005, and continues for 2 ½ days with approximately 20 sessions. Included is a plenary session with a featured speaker each morning, followed by concurrent sessions on various topics through noon Wednesday, July 20, 2005. The sessions will consist of paper presentations and poster displays, as well as panel discussion sessions. Questions and discussions will be encouraged throughout the conference. To receive future notices and program information, please send an email to IBEC6@nas.edu.

CALL FOR PAPERS

Papers for presentation are being solicited by the Steering Committee. Any paper appropriate to the following general themes will be considered by the committee:

- Design for Durability / Performance
- Health and Security Monitoring
- Design for Security
- Prefabricated Systems for Rapid Construction and Repair
- Aesthetics / Context Sensitive Design
- Innovative Methods and Materials
- Systematic Preventive Maintenance
- Load and Resistance Factor Design (LRFD)
- Load and Resistance Factor Rating (LRFR)
- Poster Session: Owners' Projects Showcase

SUBMISSION OF SYNOPSES

The committee will make a preliminary selection of conference papers based on a review of written synopses. Authors interested in preparing a paper for the conference should electronically submit a synopsis not to exceed 250 words to IBEC6@nas.edu by November 15, 2003. The synopsis should clearly indicate the conference theme(s) addressed.

SUBMISSION OF PAPERS

The committee will complete the selection process and invite selected authors to prepare papers for peer review by February 2004. Draft copies of invited papers are due by June 15, 2004, with final papers due by November 15, 2004.

PEER REVIEW AND EDITORIAL PROCESS

Papers are subject to peer review in accordance with standard TRB policies and practices. All submissions must be sent to the TRB web site. Additional information regarding the conference and paper requirements will be available on the web site. Conference proceedings will be published in English.

Time Line

November 15, 2003 – Deadline for Submitting Synopses

June 15, 2004 – Due Date for Draft Invited Papers

September 15, 2004 – Review Comments to Authors

November 15, 2004 – Due Date for Final Papers

January 2005 – Preliminary Program Available

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