

2005 NEW YORK CITY BRIDGE CONFERENCE

PRELIMINARY PROGRAM

SEPTEMBER 12th-13th, 2005

KEYNOTE SESSION

An Architect's Perspective on Bridge Design P. Ove Jensen, Architect, Denmark

Latest Developments, Available Codes and Guidelines for Design of Curved Steel Girder Bridges J. M. Kulicki, President & CEO, Modjeski and Masters

The City Island Cable-Stayed Bridge in New York City
Henry Perahia, Chief Bridge Officer, New York City Department of Transportation

Success and Failure in Bridge Design
H. Petroski, A. S. Vesic Professor of Civil Engineering, Duke University

Cable Vibrations in Cable-Stayed Bridges
M. Virlogeux, Consulting Engineer and Designer, France

CABLE-SUPPORTED BRIDGES

State-of-the-Art Main Cable Corrosion Protection by Dehumidification
M. L. Bloomstine, Ove Sørensen, COWI, Denmark

Ironton Russell Single Tower Cable-Stayed Bridge Configuration - Optimization for Client Engineering Constraints Robert W. Bondi, Terrence J. Tiberio, M. Baker Jr., Inc., A. Schemmann, Buckland & Taylor Ltd, and Joseph E. Salvadori, Michael Baker Jr., Inc.

Puente Centenario Crossing the Panama Canal
K. Humpf, Lenhardt, Andra und Partner

Interactive Horizontal Load Model for Pedestrians Crossing Footbridges
P. Archbold, P. Fanning, University College Dublin, Ireland, A. Pavic, University of Sheffield, United Kingdom

Stay Cable Technology Applied to Suspension Bridges B. Lecinq, S. Petit, I. Zivanovic, Freyssinet International, France, A. Micklus, Freyssinet LLC, USA

Suspender Testing and Replacement Study for the George Washington Bridge S. Sloan, H. Patel, Port Authority of NY&NJ and D. Khazem, Parsons

BRIDGE AESTHETICS

Bridge Aesthetics: Cuckoo's Eggs -A Treatise On Context
K. Brownlie, Wilkinson Eyre Architects, England

The True Goals of Bridge Aesthetics
F. Gottemoeller, P.E., R.Arch., Bridgescape, LLC, USA

Bridge Design as Structural Architecture J. J. Arenas, Arenas & Associates, Spain

Bridge Aesthetics A. Chan, Architect, C.J. Projetos E Consultoria De Arquitetura, LTDA, Brazil

The Sauvie Island Bridge: Achieving Public Consensus on Design Issues J. Fox, RA T. Piotrowski, AIA, SARP, H2L2 Architects / Planners, LLP, USA

BRIDGE ANALYSIS & DESIGN (I)

Efficiency of Closed Stiffener Orthotropic Deck Panels for Railway Bridges
W. De Corte, P. Van Bogaert, and H. De Backer, Gent University, Belgium

Tension Field Action Behavior in the Hybrid Steel Girders For Ohio Approach Spans of Blennerhassett Island Bridge
F. Ahmad, and N. Zoubi, E.L. Robinson Engineering Co.

Analysis Techniques for Curved and Skewed Steel Girder Bridges
D. Coletti, and J. Yadlosky, HDR Engineering

Spatial Tubular Solution for Bridge Design
B. Briseghella, E. Siviero and T. Zordan, Bolina Ingegneria, Italy

Redundancy Issues for Steel Bridges
Sena Kumarasena and Ray McCabe, HNTB Corp.

Evaluation of Live-Load Distribution Factors for a Three-Span Continuous Girder Bridge N. Suksawangl and H. Nassif, Rutgers University

BRIDGE ANALYSIS & DESIGN (II)

Design and Construction of a Long-Span, Curved Steel Box Girder Bridge
B. N. Robson, Palmer Engineering, S. Waddle, Kentucky Transportation Cabinet, and J. Burchett, Jr., Bush & Burchett, Inc.

Context Sensitive Design for the Fulton Road Bridge Replacement
J. C. Dietrick, and J. Broadwater, Michael Baker Jr., Inc.

Evaluation and Retrofit of Floorbeam Cracking on a Tied Arch Bridge
R. J. Connor, I. C. Hodgson, and J. W. Fisher, Lehigh University

A General Method for Non-Linear Analysis of Bridge Structures M. Arici, University of Palermo, Italy

Experimental Influence Lines for Bridge Evaluation M. J. Chajes, University of Delaware

SEISMIC ANALYSIS & DESIGN (I)

Seismic Hazard Analysis for New York City Bridges R. McGuiure, G. Toro, Risk Engineering Inc, K. Kishore, J. Patel, A. Razzaq, S. Jain, New York City Department of Transportation, G. Fanjiang and R. Gajer, Weidlinger Associates Inc.

Seismic Response and Retrofit Design Recommendations for Braced Steel Bridge Piers J. W. Berman and M. Bruneau, State University of New York at Buffalo

Seismic Performance of Bridges in the San Francisco Bay Area Transportation Network E.C. Stergiou and A. Kiremidjian, Stanford University

SEISMIC ANALYSIS & DESIGN (II)

Geographic Information Systems for Ground Motion Evaluation in Seismic Bridge Analysis S. Nikolaou, Mueser Rutledge Consulting Engineers and M. P. Gaus, Gaus Association

Determination of Response Modification Factor for Seismic Design
A. Mechakhchekh, and M. Ghosn, City College of New York

Seismic and Marathon Analysis of the Verrazano-Narrows Bridge
M. J. Abrahams et al., Parsons Brinckerhoff Quade & Douglas, Inc.

BRIDGE SEISMIC RETROFIT (I)

FHWA'S 2005 Seismic Retrofitting Manual, Part 1-Bridges
P. Yen, J. O'Fallong, Federal Highway Administration and J. S. O'Connor, State University of New York at Buffalo

Effectiveness of Commercial Oil Pressure Seismic Devices for Bridges M. Merli, S. Bergonzoni, T. Trombetti, and G. Gasparini, University of Bologna, Italy

Seismic Vulnerability Assessment and Retrofit of Kosciuszko Bridge
C. Fan, F. Lin, A. C. Shroff, Edwards & Kelcey, and R. Adams, New York City Department of Transportation R11

BRIDGE SEISMIC RETROFIT (II)

Seismic Retrofitting Manual for Highway Structures: Retaining Structures, Slopes, Tunnels, Culverts and Roadways G. Smith, Federal Highway Administration

Seismic Retrofit of an Historic Arch Rib Bridge S. S. Morcos, B. Reznikov, HDR, and R. Mardirosian, City of Pasadena Department of Public Works

Detailed Seismic Evaluation and Retrofit Studies of Goethals Bridge Main Spans B. Sivakumar, A. Wolek, A. Yazdani, Lichtenstein Consulting Engineers, Inc., and S. Sloan, The Port Authority of NY & NJ

MOVEABLE BRIDGES

Proper Maintenance of Movable Bridges J. W. Newman, Modjeski and Masters

A Case Study of The Resolution of Design/Construction Issues for the Stutson Street Rolling Lift Bridge P. J. Davis, Bergmann Associates

Knapp Street Towerless Vertical Lift Bridge W. E. Nickoley, HNTB Corp.

Advancements in the Field of Wire Rope Design and Manufacturing for Movable Bridge Applications T. W. Klein, Wire Rope Corporation of America

SEGMENTAL & POST-TENSIONED BRIDGES

Advancing Segmental Construction
R. A. Lawrie, and C. Redfield, Lawrie & Associates, LLC

Structural Form of the Route 52 Causeway Segmental Concrete Bridge
W. Gottshall, Michael Baker Jr. Inc., D. Lambert, and N. Kasbekar, New Jersey Department of Transportation

Sensitivity Studies of Grout Defects in Post-tensioned Bridges Using Impact Echo Scanning Technique Y. Tinkey, L. Olson, and A. Gibson, Olson Engineering, Inc.

Finite Element Analysis of Segmental Concrete Structures
A. da Silva Ribeiro, A. Rodrigues Pacheco, and A. Campos Filho, Universidade Federal do Rio Grande do Sul, Brazil

INNOVATIVE BRIDGE TECHNOLOGY

Lessons for Rapid Urban Bridge Construction from the International Scan of Prefabricated Bridge Elements and Systems in Japan and Europe H. A. Capers, Jr. PE, New Jersey Department of Transportation
Mary Lou Ralls, Ralls Newman, LLC and B. Tang, PE, Federal Highway Administration

Numerical Analysis of Shear Debonding at FRP-Concrete Interface
M. Ahmad, K. Subramaniam, and M. Ghosn, City College of New York

Norway Bridges Utilizing Lightweight Concrete
K. S. Harmon, Carolina Stalite Company

Mitigation of Alkali-Silica Reaction Damage Using Post-Tensioning
W. Wassef, M. Smith, Modjeski and Masters, Inc., C. Bognacki, and S. Sloan, Port Authority of NY & NJ

Innovative Floor Beam Replacement Procedures for the Chicago Skyway Bridge M. Basar Civelek, Edwards and Kelcey, S. McNally, McNally Design & Construction, LLC, and R. Schickel, Edwards & Kelcey

BRIDGE INSPECTION & MANAGEMENT

New Bridges in Croatia J. Radic, Z. Savor, University of Zagreb, and J. Bleiziffer, Croatian Institute for Bridge and Structural Engineering, Croatia

City of Philadelphia: from Paper to Computers in Bridge Inspection and Management System J. Shaffer, and M. Schellhase, InspectTech

Proposal of Concrete Bridges and Viaducts Management System
J. Wippich Lencioni, M. Geimba de Lima, and F. Morelli, Instituto Tecnológico de Aeronáutica (ITA), Brazil

Specific Features of Standard Inspections of Engineering Structures in Major Cities Y. Yenyutin, V. Fedoseyev, Gormost, Russia, and E. Brodskaya, AGA Group, USA

Alternative Waterproof System & Wearing Course For Bridge Decks and Approaches D. Zuberer, Director Business Development Chase SCG/Royston Labs

BRIDGE HEALTH MONITORING & MAINTENANCE (I)

Using Stainless Steel Rebars in Concrete Bridges to Reduce Maintenance Costs and Extend Service Lifetimes F. Smith, Queens College, Canada

Life Cycle Cost of RC Slab Deteriorated by Anti-Freezing Agent
Y. Mimura, I. Yoshitake, K. Tsuji, and S. Hamada, Yamaguchi University, Japan

Evaluation and Validation of Ground Penetrating Radar for Bridge Deck Condition Assessment D. A. Grivas, Institute for Infrastructure Asset Management, F. A. Romero, WaveTech-GEOVision Geophysical Services, and R. L. Roberts, Geophysical Survey Systems, Inc.

BRIDGE HEALTH MONITORING & MAINTENANCE (II)

Maintaining Safety and Serviceability of Concrete Bridges in Croatia
J. Radic, University of Zagreb, J. Bleiziffer, Croatian Institute for Bridge and Structural Engineering, and D. Tkalcic, Civil Engineering Institute of Croatia

Instrumentation and Health Monitoring of Star City Bridge, WV
S. Shoukry, M. Riad and G. William, West Virginia University

Optical-Fiber Sensor Measurements for Safety Assessment and Monitoring of Bridges and Large Structures R. Bernini, National Research Council, Italy, M. Fraldi, A. Minardo, V. Minutolo, F. Caranmante, L. Nunziante, and L. Zeni, University of Napoli "Federico II", Italy

BRIDGE SCOUR

Impact of the Federal Highway Administration's Scour Evaluation Program on Highway Bridges in the United States J. E. Pagan-Ortiz, Federal Highway Administration

Bridge Health Scour Monitoring B. E. Hunt, Hardesty & Hanover

Treating Channel Instability at Bridges P. Johnson, Penn State University

Case Study: Tidal Hydraulic and Scour Analysis for Two NYC Bridges
S. Mahmutoglu, and R. Edison, EarthTech

BRIDGE SECURITY

The Challenge of Economically Balancing Security and Mobility Needs of New Jersey's Bridge Infrastructure
H. A. Capers Jr., New Jersey Department of Transportation

Risk methods as applied to bridge security S. King, Weidlinger Associates

Behavior of Bridges: A Security Outlook A. Agrawal, City College of New York

Multihazard Considerations of Bridges M. Ettouney, Weidlinger Associates, and S. Alampalli, New York State Department of Transportation

BRIDGES PERFORMANCE AND REHABILITATION

Rehabilitation of the New Hope-Lambertville Toll Supported Truss Bridge
W. Gottshall, Michael Baker Jr. Inc., A.P. Ranasinghe, McCormick Taylor, Inc., and C. Harney, Delaware River Joint Toll Bridge Commission

Rehabilitation of Novoarbatsky Bridge in Moscow
Y. Ponomarev, Gidromost, Russia, and G. Brodski, AGA Group, USA

Lessons from the Kinzua Viaduct Collapse T. G. Leech, J. McHugh, Gannett Fleming, and G. Dicarlantonio, Pennsylvania Department of Conservation and Natural Resources

Performance Design of a Shear-Key System of High Speed Railroad Bridges E. H. Wang, M. Hsin University of Science and Technology, Taiwan, and Forrest H S Wu, Li-Joe Engineering Consultant

OPEN SESSION

Rolling the Northeast 8th Street Bridge J. Lem, and L. Kyle, HDR Engineering

Replacement of Route 9W Viaduct over Washington Street
S. W. Smith, P. Bousader, and W. S. Najjar, Chas. H. Sells, Inc., Consulting Engineers

Replacement of the Belt Parkway Bridge over Ocean Parkway
C. Sklavounakis, NYCDOT, P. Atkins, Granite Halmar Construction Co., C. Norrish, III, Gannett Fleming, and J. Liebowitz, HAKS Engineering

Finite Element Analysis of Bridge Approach Slabs Considering Soil-Structure Interaction Y. A. Khodair and H. Nassif, Rutgers University

Reconstruction of the Historic Animal Bridge
D. P. Vimawala, and S. Leimer, CTE Engineers, Inc.

Replacement of I-287 Curved Girder Bridge over Route 119 M. Buonocore, P. Bousader, and W. S. Najjar, Chas. H. Sells, Inc., Consulting Engineers

Lateral Earth Pressure Behind an Integral Abutment Bridge
S. Hassiotis, and Y. A. Khodair, Stevens Institute of Technology

Interactive Seismic Analysis and Design of the Roslyn Viaduct
R. Eslinger, B. Yin, Hardesty & Hanover, T. Sung, and M. Novak, New York State Department of Transportation

Evaluation of Highway Bridge Strength Considering Parapets B. Brenner, M. Sanayei, D. Lattanzi Tufts University and E.S. Bell, University of New Hampshire