

2017 NEW YORK CITY BRIDGE CONFERENCE

NEW YORK MARRIOTT EAST SIDE HOTEL
AUGUST 21ST-22ND, 2017

PLENARY SESSION

Maintenance on New York City Bridges Robert O. Collyer, PE, Deputy Commissioner, Chief Bridge Officer, New York City Department of Transportation, USA

An International Multi-Country Living Bridge Laboratory Michael C Forde, Carillion Professor, School of Engineering, The University of Edinburgh, Scotland, UK

Setting up a Digital Bridge Asset Management System with Data from Robots, Drones & IoT sensors Lars Fuhr Pedersen, Technical Director, Sund & Baelt Holding A/S, Copenhagen, Denmark

Bridge Design for the First High Speed Train in Morocco Jean-Marc Tanis, Consultant, Egis JMI, France

CABLE-SUPPORTED BRIDGES I

Main Cable Dehumidification – Flow Testing and Other Innovations M. L. Bloomstine, J. Fredrik Melén, COWI A/S, Denmark

Management Strategies for Suspension Bridge Main Cables K. Mahmoud, BTC, USA, and W. Hindshaw, Transport Scotland, R. McCulloch, Arney, Scotland

Dehumidification of the Main Cables of the Delaware Memorial Bridge S. A. Einahal, S. K. Scindia, Delaware River and Bay Authority (DRBA), B. R. Colford & S. R. Beabes, AECOM, USA

Application of Dehumidification to Cable Management and Preservation Strategies S. R. Beabes, B. R. Colford, & J. D. Pudleiner, AECOM, USA

CABLE-SUPPORTED BRIDGES II

Conceptual design and typological structures of cable-stayed bridges H. C. Peiretti, Universidad Politecnica de Madrid, Spain, M. Arici, M. F. Granata, S. Amoroso, Università di Palermo, Italy

Fracture-based Analysis for the Cable Bands of Yavuz Sultan Selim Bridge in Turkey K. Mahmoud, BTC, USA

Ship Impact Assessment for Izmit Bay Bridge O. Cetinkaya, T. Kawakami and M. Yanagihara, IHI Infrastructure Systems Co. Ltd., Japan

Erection Engineering for the Cable-Stayed Spans of the Kosciuszko Bridge A. B. Halpern, O. Murat Hamutcuoglu, and J. A. Bryson, HNTB, USA

CABLE SUPPORTED BRIDGES III

M48 Severn Bridge – Managing the Main Cables since 2005 C. Cocksedge, AECOM, M. Maynard, Highways England, A. Burt, Severn River Crossing, and B. Urbans, S. A. Baron, AECOM, UK

Angus L. Macdonald Bridge Suspended Structure Replacement – An Owner's Perspective J. Eppell, Halifax Harbour Bridges, Canada

Design of John Greenleaf Whittier Memorial Replacement Bridge G. Wollmann, HNTB, USA

Design of a Short Span Suspension Bridge: Detailing for Success in Rural Kenya J. Smith & M. Bowser, WSP, Oakville, Canada and K. Severns, WSP/PB, Washington, DC, USA

FATIGUE ANALYSIS & ASSESSMENT

Fatigue Damage Assessment of Stay Cables for the Light Rail Transit Bridges J. Jiang WSP, Canada, and R. Coughlin, City of Vancouver, Canada

Multiaxial Fatigue Life Prediction of Welded Connections in Railway Steel Bridge under Constant and Variable Amplitude Loading K. Praveen, S. Mishra, National Institute of Technology Patna, India, P. Babu, DB Engineering and Consulting, India, and A. Spagnoli, A. Carpinteri, University of Parma, Italy

Bridge Rating Modification to Incorporate Potential Fatigue Damage from Truck Overloads B. Jang & J. Mohammadi, Illinois Institute of Technology, USA

Flexural fatigue performance of bridge decks with GFRP bar reinforced UHPC joint K.M. A. Hossain & C. Mak, Ryerson University, Canada

Phased Array Ultrasonic Testing (PAUT) performed on Electroslag Weld Specimen Subject to Cyclical Tension Load Testing M. Wahbeh, M. Foerder, and R. Boundouki, Alta Vista Solutions, USA

BRIDGE ANALYSIS & DESIGN I

New Littoral Road Precast Box Girder Viaduct on the Coast of la Réunion Island Jean-Marc Tanis, Consultant, Egis JMI, France

When bearing is not enough – Uplift Bearings A. Kutumbale, G. Moor & O. Maass, Mageba, Switzerland

The Sarah Mildred Long Bridge P. Roody, S. Harlacker & F. Sieh, Hardesty & Hanover, USA

Testing of long-term performance of bridge expansion joints – a critical factor in minimizing life-cycle costs B. Baillés, G. Moor & S. Hoffmann, Mageba, Switzerland

Development of AASHTO Wind Load Provisions W. Wassef & J. Raggett, West Wind Laboratory, USA

The Effect of New Interchange Solutions on Structure Type Selection H. Sinson & S. Heimbürg, Hardesty & Hanover, USA

BRIDGE ANALYSIS & DESIGN II

Cross-Frame and Connection Design for Ensuring Brace Effectiveness in Skewed Steel Bridges J. Zhou, C. Bennett & A. Matamoros, University of Kansas, USA

Analysis and Design of the South Road Double Composite Steel Tub Girder Bridge M. Loureiro, M. Ingram & M. Loizias, JACOBS, USA

High Load Multirrotational Bearings for the New Goethals Bridge R. Watson, R.J. Watson, Inc., USA

A Conceptual Design of a Footbridge Over Kizilirmak River That Allows Pedestrian Induced Vibrations O. T. Turan & N. E. Kesici & N. Saban & M. A. Ersoylu & H. G. Oztekin & I. Senol, Middle East Technical University Ankara, Turkey, and A. I. Yilmaz, Sismolab, Ankara, Turkey

The Kew Gardens Interchange Project M. Liona, Hardesty & Hanover, USA

Bending Stresses in Parallel Wire Suspension Bridge Cables A. Gjelsvik, Columbia University & B. Yanev, New York City Department of Transportation, USA

BRIDGE ANALYSIS & DESIGN III

Design and Construction of the New Champlain Bridge M. Nader, Z. McGain, S. Demirdjian, J. Rogerson and G. Mailhot, TY Lin, USA

Exploration of EUROCODE Live Load Distribution Factors for Multi Girder Bridges M. Çınar, M. Açıklan Altunlu, BridgeWiz, New York, USA and A. Caner, Middle East Technical University, Turkey

A Fresh Start – The New Geotechnical Design Manual for the New Jersey Turnpike Authority M. Riegel, D. GE, J. DiMaggio, K. Ravishankar, HNTB

Case Studies of FRP Composite Pedestrian Bridges in Japan W. Zatar & H. Nguyen, College of Information Technology and Engineering, Marshall University, USA and H. Mutsuyoshi, Dept. of Civil and Environmental Engineering, Saitama University, Japan

Interaction Between Pedestrian Loading and Vibration response of a Laboratory-Scale FRP Composite Footbridge P. Archbold & B. Mullarney, Materials Research Institute, Athlone Institute of Technology, Ireland

BRIDGE ANALYSIS & DESIGN IV

Load-carrying capacity of deformed steel girder due to collision E. Yamaguchi, H. Tsuji, and Y. Tanaka, Kyushu Institute of Technology, Japan

Non-Destructive Testing, Evaluation and Forensics of Suspender Cables Utilizing Offshore Technology F. Williams, Bridon-Bekaert, The Ropes Group, Québec, Canada

Non-uniform Temperature Fluctuations Effect on Partially Fixed Single Span Post-Tensioned Box Girder Bridges R. Ferhadi, The American University of Kurdistan

The Design and Construction of Kemaliye Bridge S. Caculi and E.Namlı, EMAY, TURKEY

Bridge 19 Vessel Impact Analysis and Repairs D. Marcic, Hardesty & Hanover, USA and M. R. Palumbo, St. Lawrence Seaway Management Corporation, Ontario, Canada

BRIDGE MODELING

Finite element modeling of the influence of residual weld stresses on buckling A. Outtier & H. De Backer, Ghent University, Belgium

Study on FE Models of Composite Bridge Using Concrete Filled Steel I-Girder W. Safi and S. Nakamura, Tokai University, Japan

Numerical modeling of drilled shaft lateral response adjacent to existing caisson foundation – Pulaski Skyway L. Wei, D. Ha and S. Patel, JACOBS, USA

3D Structural Modeling of Stringer-Bent Connections on Gowanus Expressway WSP, USA

BRIDGE SECURITY

Robust Bridge Design to Blast, Fire, and other Extreme Threats S. Marjanishvili, and F. Fayad, Hinman Consulting Engineers, Inc., USA

Effects of extreme fire scenarios on bridges

I. Kaundinya, U. Bergerhausen, Federal Highway Research Institute (BAST), Bergisch Gladbach, and J. Schmidt, Leipzig Institute for Materials Research and Testing, Leipzig, Germany

Instrumentation and Monitoring Metro-North Park Avenue Viaduct after Fire Damage Jesse D. Sipple, B. Commander, BDI, and M. R. Sheehan, N. Ziegler, Metro-North Railroad, USA

Investigation of Existing Warning Systems for Overhead Clearance Detection M. Maghiar, G. Maldonado & M. Jackson, Georgia Southern University, USA

BRIDGE FOR HIGH SPEED & LIGHT RAIL

Rail-Structure Interaction in Freight and High-Speed Rail Viaducts G. Wollmann, HNTB

Concrete Time-Dependent Effects on Track-Structure Interaction Analysis for High-Speed Trains E. Honarvar, A. Ranasinghe, S. Albhaisi, and P. Banibayat, JACOBS, USA

Ride comfort assessment of Light Rail Vehicles M. Nelson, I. Ashcroft & D. Harrison, Ove Arup and Partners, USA

Design of Bridges for High Speed Rail Loads and Requirements A. Ranasinghe, E Honarvar, S. Albhaisi, and P. Banibayat, JACOBS, USA

BRIDGE CONSTRUCTION

Accelerated Bridge Construction Project and Research Database D. Garber & Mary Lou Ralls, Director of Technology Transfer, ABC University Transportation Center, USA

Route 110 Bridge Design-Build E. Tormey Stehlgens & K. Griesing, Hardesty & Hanover, USA

Five (5) Mile Belt Parkway Reconstruction Project - Six (6) Bridges between Pennsylvania Avenue and Knapp Street, Brooklyn, NY D. Hom, New York City Department of Transportation, W. Ferdinandsen, Greenman Pedersen, Inc., P. Dombrowski, AECOM, USA

Concrete Filled Tube Columns For Rapid Construction of Bridge Superstructure and Substructure Components D. Lehman & C. Roeder, University of Washington, USA

Construction of the Ohio River Bridges East End Crossing Cable-stayed Bridge M. Loizias, JACOBS, USA

Design and Construction of a Bus/HOV Ramp at the Verrazano Narrows Bridge P. Blasko, G. Zikely, HNTB and A. Zulinska, MTA Bridges & Tunnels, USA

Design-Build Replacement of the I-278 Kosciuszko Bridge - Approaches and Connectors Design Challenges and Solutions P. D'Ambrosio, G. Decorges, and B. Sivakumar, HNTB, USA

BRIDGE PAINTING & REPAIR

Widening of I-55 Over I-220 Near Jackson, MS with Shallow Depth Steel Girders L. Rolwes Jr., HNTB, USA

An Overview of the Behavior of Concrete Bridges Strengthened with CFRP Laminates C. A. Issa, Lebanese American University, Lebanon

Continuous Galvanized Rebar (CGR): How the new ASTM spec replacing the traditional spec for hot-dip galvanizing (HDG) creates better corrosion resistance M. Stroia, AZZ Metal Coatings, USA

Surface Preparation of Hot-Dip Galvanized Iron and Steel and Hardware Surfaces for Painting K. Irving, AZZ Metal Coatings, USA

STRUCTURAL HEALTH MONITORING OF BRIDGES

Structural Health Monitoring of Cable Stay Bridges as Applied on the New Champlain Bridge in Montreal, Canada S. Rassy, G. Moor & B. Baillés, Mageba, Switzerland

Protection of Existing Structures Using Health Monitoring A. Ramakrishna and R. Mankbadi, Hardesty & Hanover, USA

Data-to-Decision Framework for Monitoring Railroad Bridges S. Alampalli, S. Alampalli, Prospect Solutions, M. Etouney, Mohammed Etouney, LLC, & J. Lynch, University of Michigan

Structural health monitoring of a historical suspension bridge G.W. William, AECOM, S.N. Shoukry, West Virginia University, Morgantown, West Virginia and M.Y. Riad, Sargent and Lundy, LLC, Chicago, Illinois, USA

Structural Health Monitoring of the Pulaski Skyway X. Li, and T. Gallagher, HNTB

SEISMIC ANALYSIS & FOUNDATION DESIGN

Design-Oriented Seismic Soil-Pile-Superstructure Interaction Analysis using a Dynamic p-y Method A. Taghavi, J. Chung, M. Davidson, Engineering School of Sustainable Infrastructure & Environment, College of Engineering, University of Florida, USA

Seismic Retrofit Design of Highway-Railway Combined Suspension Bridges Y. Hirayama, M. Nishitani, and C. Kawatoh, Honshu-Shikoku Bridge Expressway Co., Ltd., Kobe, Japan

Geosynthetic Reinforced Soil Integrated Bridge Systems and Retaining Walls, B. Maguire, GSI, USA

Seismic Isolation of Cable Supported Railway Bridges C. Mendez-Galindo, G. Moor & M. Brüninghold, Mageba, Switzerland

Foundation Reuse in Urban Bridge Projects F. Jalinoos, FHWA R&D and A. Agrawal, The City College of New York, USA

ORTHOTROPIC BRIDGE DECK DESIGN & FABRICATION

Innovative fatigue design of orthotropic steel decks

H. De Backer, A. Outtier, W. Nagy & K. Schotte, Ghent University, Belgium

Riding Surface for the Orthotropic Portion of San Mateo/Hayward Bridge R. Maggenti, California Department of Transportation & S. Shatnawi, Shatec Engineering Consultants, LLC, USA

Fabrication of the Orthotropic Deck for the Yavuz Sulan Selim (Third Bosphorus) Bridge B. Uner, Gemak, Turkey

Fabricating orthotropic deck panels for the Macdonald Bridge, Halifax, NS, Canada S. Ross, Cherubini Metal Works Limited, Canada

Open Panel Discussion on Orthotropic Bridge Deck

BRIDGE INSPECTION & REHABILITATION

In-depth Inspection of I-10 over Lake Calcasieu River Presenting Author: M. D. Schrepfer, and D. H. Krone, TRC, USA

Extending the Life of Bridge Decks and Tunnels from the Inside Out P. S. Rhodes,Hycrete Inc., USA

Illinois's First Precast Deck Panel Bridge with UHPC Joints

D. Liu, Gec-Group and J. Schiff, Illinois Department of Transportation, USA

Garden State Parkway Interchange 163 Mainline Bridge over NJ Route 17 D. Hicks, Dewberry, USA

MOVABLE BRIDGES

The Gut Bridge P. Roody, Hardesty & Hanover, USA

Innovative Cable System Designs T. W. Klein, WireCo World Group, USA

Repairs to 13 Movable Bridges in NYC after Hurricane Sandy E. Kelly, HNTB, & B. Gusani, New York City Department of Transportation, USA

The New Johnson Street Bridge – A Unique Bridge in a Unique Project K. R. Griesing, Hardesty & Hanover, USA

BRIDGE MAINTENANCE & REPLACEMENT

Design-Build Replacement of the I-278 Kosciuszko Bridge - Approaches and Connectors Design Challenges and Solutions P. D'Ambrosio, G. Decorges, and B. Sivakumar, HNTB, USA

Weekend Replacement and Widening of SimpleSpan Superstructures for an Interchange using Prefabricated Superstructure Units and Micropiles G. Ricks & H. Jovani, HNTB, USA

Design-Build Services for Ellison Avenue Bridge Replacement J. Stern, Greenman-Pedersen, Inc., USA

Modern non-bituminous flexible plug expansion joints – minimizing noise, maximizing driver comfort and accelerating bridge maintenance R. Bradley, G. Moor & G. Gallai, Mageba, Switzerland

BRIDGE HISTORY & AESTHETICS

The Hell Gate Arch Bridge in New York K. Gandhi, Gandhi Engineering, USA

Painting New York's Bridges Stuart Rothwell, Stuart Rothwell & Associates, Australia

Visual impact of signature bridges in urban settings E. Sadek, Consultant, Egypt

The Failure and Reconstruction of the Quebec Bridge K. Gandhi, Gandhi Engineering, USA

The Impact of Ancient History, Conflict and Globalization on Bridge Aesthetics in Iran R. Mansour, International Bridge Technologies, Canada

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