THIS DOCUMENT ASSEMBLES THE SESSIONS IN WHICH UTRC FACULTY AND STAFF WILL BE PRESENTING AT THE TRANSPORTATION RESEARCH BOARD (TRB) 94TH ANNUAL MEETING.

THE MEMBER INSTITUTIONS OF THE UNIVERSITY TRANSPORTATION RESEARCH CENTER ARE:

City University of New York
Clarkson University
Columbia University
Cornell University
Hofstra University
Manhattan College
New Jersey Institute of Technology
New York Institute of Technology
New York University
Rochester Institute of Technology
Rowan University
Rensselaer Polytechnic Institute
Rutgers University*
State University of New York
Stevens Institute of Technology
Syracuse University
The College of New Jersey
University of Puerto Rico

*Member under SAFETEA-LU

Registration is required for all Annual Meeting attendees, including those who register to attend any workshop, visit the exhibits, or take advantage of services provided onsite. Register at: www.trb.org

University Transportation Research Center Region 2
### Workshop 113

**Event Title:** Interactive Communication About Complex Concepts  
**Event Date:** Sunday, January 11, 2015  
9:00AM - 12:00PM  

**Presiding Officers:**  
Joanne Waszczak, Federal Transit Administration, presiding  
Rusty Ennemoser, Florida Department of Transportation, presiding  

**Sponsored By:**  
Transportation Planning for Small and Medium-Sized Communities (ADA30)  
Public Involvement in Transportation (ADA60)  

**Event Description:**  
Transportation plans and projects can be very complex, involving a wide array of policies, demographics, data sets, and tools. Transportation professionals in communities of all sizes are eager to find interactive ways to engage the public. This workshop introduces storytelling and graphics as ways to create effective dialogue on complex topics. We will share ideas for long-range planning, project prioritization, business corridor plans, bicycle and transit plans and road usage charges.  

**Presentations:**  
**Keynote:** Open Plans and Story Maps—Creating Virtual Spaces for Community Engagement  
Laxmi Ramasubramanian, Hunter College  

### Workshop 143

**Event Title:** Influence of Airfield Surface Irregularity on Aircraft Life  
**Event Date:** Sunday, January 11, 2015  
9:00AM - 12:00PM  

**Presiding Officers:**  
João Merighi, Engineering Research Institute Pesquisas Ltda., presiding  
Waheed Uddin, University of Mississippi, presiding  

**Sponsored By:**  
Aircraft/Airport Compatibility (AV070)  

**Event Description:**  
Design issues related to the safety and security of aircraft during takeoff and landing operations are reviewed by examining the impact of surface irregularities, ponding, and the amplitude and wavelength of the pavement longitudinal profile. How can it affect the life of the main gear and consequently the aircraft safety and security? Potential moderators and speakers are aircraft industries experts, airport pavement asset managers, FAA, other agencies, and academics.  

**Presentations:**  
**Airfield Flexible Pavement Responses under Heavy Aircraft and High Tire Pressure Loading**  
Hao Wang, Rutgers University  
Maoyun Li, Rutgers University  
Navneet Garg, FAA William J. Hughes Technical Center
<table>
<thead>
<tr>
<th>Event Title:</th>
<th>Presiding Officers:</th>
<th>Sponsored By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Streets Subcommittee, AHB40(3.3)</td>
<td>Janice R. Daniel, New Jersey Institute of Technology, presiding</td>
<td>Highway Capacity and Quality of Service (AHB40)</td>
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<tr>
<td>Event Date:</td>
<td>Sponsored By:</td>
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<tr>
<td>Sunday, January 11, 2015</td>
<td>Highways Capacity and Quality of Service (AHB40)</td>
<td></td>
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<tr>
<td>1:30PM - 2:45PM</td>
<td>Logistics of Disaster Response and Business Continuity (AT065)</td>
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### Workshop 178

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<tr>
<th>Event Title:</th>
<th>Presiding Officers:</th>
<th>Sponsored By:</th>
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<tbody>
<tr>
<td>The Present and Future of Speed Limits in a Toward Zero Deaths (TZD) Framework</td>
<td>Hillel Bar-Gera, Ben Gurion University of the Negev, Israel, presiding</td>
<td>Transportation Network Modeling (ADB30)</td>
</tr>
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<td></td>
<td>Libby Thomas, University of North Carolina, Chapel Hill, presiding</td>
<td>Transportation Safety Management (ANB10)</td>
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<td></td>
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<td>Safety Data, Analysis and Evaluation (ANB20)</td>
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<tr>
<td>Event Date:</td>
<td></td>
<td>Traffic Speed and Safety - Cross-cutting Issues (ANB20(5))</td>
</tr>
<tr>
<td>Sunday, January 13, 2013</td>
<td>Event Description:</td>
<td>Sponsored By:</td>
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<tr>
<td>1:30PM - 4:30PM</td>
<td>Speed limit setting raises many issues relevant to a TZD National Highway Safety Strategy: balancing safety and mobility, estimating and disseminating safety and mobility impacts, accommodating inputs from all stakeholders, effects of design and enforcement, credibility of limits, emerging vehicle types, etc. This workshop explores current methods of setting speed limits in the United States and internationally, how various issues are addressed by each method, and what the future needs may be.</td>
<td>Logistics of Disaster Response and Business Continuity (AT065)</td>
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#### Presentations:

- Engineering and Expert Methods of Setting Speed Limits
  - Raghavan Srinivasan, University of North Carolina, Chapel Hill

### Workshop 189

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<tr>
<th>Event Title:</th>
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<tbody>
<tr>
<td>Critical Infrastructure—From Protection to Resilience: An Evolution to Meet the New Threats</td>
<td>John M. Contestabile, Johns Hopkins University Applied Physics Laboratory, presiding</td>
<td>Critical Transportation Infrastructure Protection (ABE40)</td>
</tr>
<tr>
<td></td>
<td>Jon S. Meyer, Meyer Associates, presiding</td>
<td>Logistics of Disaster Response and Business Continuity (AT065)</td>
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<tr>
<td></td>
<td>Laurel J. Radow, Federal Highway Administration, presiding</td>
<td>Event Description:</td>
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<tr>
<td>Event Date:</td>
<td></td>
<td>This workshop examines how the 12 years of critical infrastructure protection–related research since 9/11 prepares us for the new threat environment. The workshop summarizes research already undertaken and examines research that will need to be considered in adapting to the ever-changing threats faced now and in the future. Three panels explore past efforts and focus areas, the current threats, and anticipated future research in light of the relatively new concept of resilience.</td>
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<tr>
<td>Sunday, January 13, 2013</td>
<td>Presentations:</td>
<td></td>
</tr>
<tr>
<td>1:30PM - 4:30PM</td>
<td>Panel 3: TRB Evolving to address Resilience, Reliability and Response to Disasters</td>
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#### Presentations:

- Panel 3: TRB Evolving to address Resilience, Reliability and Response to Disasters
  - Thomas H. Wakeman, Stevens Institute of Technology
  - John M. Contestabile, Johns Hopkins University Applied Physics Laboratory
  - Jon S. Meyer, Meyer Associates
  - Brian Wolshon, Louisiana State University
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<tr>
<th>Event Title:</th>
<th>Welcome and Attendee Orientation Session</th>
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<tr>
<td>Presiding Officers:</td>
<td>Robert E. Skinner, Transportation Research Board, presiding</td>
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<tr>
<td>Sponsored By:</td>
<td>Technical Activities (A0000)</td>
</tr>
<tr>
<td>Event Description:</td>
<td>Whether you’re a first-time attendee, or a long-time veteran of the TRB Annual Meeting, you are invited to come and learn how to make the most of your time at the meeting. Offered are a brief overview of TRB, tips on navigating the meeting and on networking during the meeting, the role TRB can play in career development, and how to become involved in TRB activities. Refreshments are provided along with an opportunity for attendees to meet each other and TRB leaders.</td>
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<tr>
<td>Presentations:</td>
<td>Opportunities for Young Participants</td>
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<tr>
<td></td>
<td>Alison J. Conway, City College of New York</td>
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<tr>
<th>Event Title:</th>
<th>Joint Meeting of the Freight Systems and Marine Group Executive Boards</th>
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<tr>
<td>Presiding Officers:</td>
<td>Thomas H. Wakeman, Stevens Institute of Technology, presiding Barbara Ivanov, Washington State Department of Transportation, presiding</td>
</tr>
<tr>
<td>Sponsored By:</td>
<td>Freight Systems Group (AT000) Marine Group (AW000)</td>
</tr>
<tr>
<td>Event Description:</td>
<td>Co-hosted by the TRB Young Members Council and Young Professionals in Transportation, this reception celebrates all young professionals, students, and their supporters by providing opportunities for career development and networking with peers from around the world. Light refreshments will be served.</td>
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<tr>
<th>Event Title:</th>
<th>Young Professionals Reception</th>
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<tr>
<td>Presiding Officers:</td>
<td>Alison J. Conway, City College of New York, presiding</td>
</tr>
<tr>
<td>Sponsored By:</td>
<td>Young Members Council (YMC) (A0040T)</td>
</tr>
<tr>
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### Session 203

**Event Title:** Advances in Traffic Assignment and Equilibrium  
**Event Date:** Monday, January 12, 2015  
8:00AM - 9:45AM

**Presiding Officers:**  
David Hunt, Oliver Wyman, presiding

**Sponsored By:**  
Transportation Network Modeling (ADB30)

**Presentations:**  
- Modeling Mixed Equilibria in Transportation Networks with Link Constraints  
  Xia Yang, Rensselaer Polytechnic Institute  
  Rui Ma, University of California, Davis  
  Xuegang (Jeff) Ban, Rensselaer Polytechnic Institute

### Session 212

**Event Title:** Topics in Design and Rating of Concrete Bridges  
**Event Date:** Monday, January 12, 2015  
8:00AM - 9:45AM

**Presiding Officers:**  
Dennis R. Mertz, University of Delaware, presiding

**Sponsored By:**  
Concrete Bridges (AFF30)

**Event Description:**  
This session includes papers on topics relative to design or rating of concrete bridges. Topics include evaluation of redundancy factors, live load distribution factors for skewed multi-cell box girders, and consideration of slenderness effects in rating concrete arch bridges.

**Presentations:**  
- System Factors for Evaluating the Redundancy of Bridge Systems under Vertical Load  
  Jian Yang, City College of New York  
  Michel Ghosn, City College of New York

- System Factors for Evaluating the Redundancy of Bridge Systems under Lateral Load  
  Jian Yang, City College of New York  
  Michel Ghosn, City College of New York

### Session 223

**Event Title:** Transformative Applications of Transit Data  
**Event Date:** Monday, January 12, 2015  
8:00AM - 9:45AM

**Presiding Officers:**  
Catherine Theresa Lawson, State University of New York, Albany, presiding

**Sponsored By:**  
Public Transportation Group (AP000)  
Public Transportation Planning and Development (AP025)  
Bus Transit Systems (AP050)  
Transformative Transit Data (AP000(3))

**Event Description:**  
Recent advances in technology have produced many new forms of transit data. These data are emerging from a variety of sources such as Automatic Passenger Counters, Automatic Vehicle Location, Automatic Far Collection, General Transit Feed Specification, social media, etc. This data is being shaped, mined and integrated to transform it into information providing new insights into traveler behavior, but also leading to new applications in transit planning and management.
Session 225

**Event Title:**
Designing for LRT Success

**Event Date:**
Monday, January 12, 2015
8:00AM - 9:45AM

**Presiding Officers:**
Jason Lee, San Francisco Municipal Transportation Agency, presiding

**Sponsored By:**
Light Rail Transit (AP075)

**Event Description:**
Rarely do planners tie transit operating and investment strategies to long range regional objectives, such as increasing transit modal share by 10% over a 30 year period. The lead off paper in this session presents a method for doing that. The following papers analyze light rail performance to determine what variables contribute to favorable or unfavorable operating results.

**Presentations:**
- Fill the Gap between Light Rail Service and Rider’s Move Choice: Evidence from Hudson-Bergen Light Rail
  - Xiaobo Liu, Southwest Jiaotong University, China
  - Yi Deng, Parsons
  - You-Lian Chu, Parsons
  - Rongfang Liu, NJIT & Yilin Li, Southwest Jiaotong University

Session 233

**Event Title:**
Transportation Funding and Financing Showcase

**Event Date:**
Monday, January 12, 2015
8:30AM - 10:15AM

**Presiding Officers:**
Jennifer R. Mayer, Ernst and Young, presiding

**Sponsored By:**
Revenue and Finance (ABE10)
Public-Private Partnerships (ABE10(1))

**Event Description:**
This poster session highlights research in the area of transportation funding and financing, including revenue tools and public-private partnership activities.

**Presentations:**
- Flat Versus Spatially Variable Tolling: Case Study in Fresno, California
  - Omid M. Rouhani, Cornell University
  - Deborah Niemeier, University of California, Davis
  - H. Oliver Gao, Cornell University
  - Raymond Richard Geddes, Cornell University

- Toll Price Elasticities of Demand for Toll Bridges and Tunnels in New York City
  - Dan Wan, City University of New York
  - Camille Kamga, City College of New York
  - Anil Yazici, Stony Brook University

Session 232

**Event Title:**
Climate Change and Energy Task Force

**Event Date:**
Monday, January 12, 2015
10:15AM - 12:00PM

**Presiding Officers:**
Robert B. Noland, Rutgers University, presiding

**Sponsored By:**
Special Task Force on Climate Change and Energy (A0020T)
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<th>Session 266</th>
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| **Event Title:**  
What's Going on in Local Mixed-Use and TOD Environments |
| **Presiding Officers:**  
John L. Renne, University of New Orleans, presiding |
| **Sponsored By:**  
Transportation and Land Development (ADD30) |
| **Event Description:**  
This session will focus on data driven decision support analysis in safety management using state of the art methods. It will address questions of safety policy and program development. |
| **Presentations:**  
- Why have traffic fatalities dropped in the US?  
  Robert B. Noland, Rutgers University  
  Feiyang Sun, Cornell University |

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<th>Session 274</th>
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</table>
| **Event Title:**  
Rapid Asphalt Pavement Construction |
| **Presiding Officers:**  
Frank Fee, Asphalt Pavement Technology, LLC, presiding |
| **Sponsored By:**  
General Issues in Asphalt Technology (AFK10) |
| **Event Description:**  
This session will review the overall management of Accelerated Asphalt Pavement Construction – from its inception to the final completion. It will also include some detailed examples of the exceptional approaches used to make this happen. In addition, some intangible aspects (e.g. sustainability, user delay, special materials, costs and other such issues) will be captured. |
| **Presentations:**  
- I-295 in New Jersey Reconstructed in Record Time  
  by Using Engineered Hot-Mix Asphalt  
  Thomas A. Bennert, Rutgers University  
  Robert W. Sauber, Consultant |

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<th>Session 281</th>
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| **Event Title:**  
Safety Management Data Analytics |
| **Presiding Officers:**  
Jake Kononov, DiExSys LLC, presiding |
| **Sponsored By:**  
Transportation Safety Management (ANB10) |
| **Event Description:**  
This session will review the overall management of Accelerated Asphalt Pavement Construction – from its inception to the final completion. It will also include some detailed examples of the exceptional approaches used to make this happen. In addition, some intangible aspects (e.g. sustainability, user delay, special materials, costs and other such issues) will be captured. |
| **Presentations:**  
- I-295 in New Jersey Reconstructed in Record Time  
  by Using Engineered Hot-Mix Asphalt  
  Thomas A. Bennert, Rutgers University  
  Robert W. Sauber, Consultant |
Session 297

Event Title:
Emerging Ideas in Performance Management

Event Date:
Monday, January 12, 2015
10:45AM - 12:30PM

Presiding Officers:
Tara Lakshmi Ramani, Texas A&M Transportation Institute, presiding

Sponsored By:
Performance Measurement (ABC30)

Presentations:
Characterizing Bridge Functional Obsolescence Using Congestion Performance Measures Determined from Anonymous Probe Vehicle Data
Andrew Joseph Bechtel, College of New Jersey
Thomas M. Brennan, College of New Jersey

Session 302

Event Title:
Innovative Analyses of National Household Transportation Survey

Event Date:
Monday, January 12, 2015
10:45AM - 12:30PM

Presiding Officers:
Thera Black, Thurston Regional Planning Council, presiding

Sponsored By:
Task Force on Understanding New Directions for the National Household Travel Survey (ABJ45T)

Event Description:
The goal of this session is to share and learn about innovative applications of the National Household Travel Survey with a focus on studies that use the NHTS with other large, publically available data sets; analyze travel patterns using visualization; characterize long-distance and rural trips; help understand broad public health topics related to transportation and disaster management; analyze transit or active modes; examine environmental issues; or answer questions important to MPOs.

Presentations:
Freight Deliveries Directly Generated by Residential Units: Analysis with 2009 NHTS Data
Yiwei Zhou, Rensselaer Polytechnic Institute
Xiaokun (Cara) Wang, Rensselaer Polytechnic Institute

Using NHTS 2001 and 2009 to Analyze Intrapersonal Variability in Travel Behavior
Ralph Buehler, Virginia Polytechnic Institute and State University
Andrea Hamre, Virginia Polytechnic Institute and State University
Session 303

**Event Title:** Research in Statistical Methods in Transportation

**Presiding Officers:**
Panagiotis Ch. Anastasopoulos, State University of New York, Buffalo, presiding

**Sponsored By:**
Statistical Methods (ABJ80)

**Presentations:**
- Bayesian Inference for Network Flow Problems Considering Unknown Route Choice Probabilities
  Zhen Tan, Cornell University
  H. Oliver Gao, Cornell University
- Performance Measure of Travel Time Reliability of Emergency Vehicles in an Urban Region
  Zhenhua Zhang, University at Buffalo, State University of New York
  Qing He, State University of New York, Buffalo
  XiaoLing Li, Virginia Department of Transportation
- A Doubly Stochastic Point Process Model for Modeling Crashes along a Corridor
  Sami Demiroluk, Rutgers University
  Kaan Ozbay, New York University
- A Fixed Effects Bivariate Ordered Probit Analysis of Perceived and Observed Aggressive Driving Behavior: A Driving Simulation Study
  Nima Golshani, State University of New York, Buffalo
  Panagiotis Ch. Anastasopoulos, State University of New York, Buffalo
  Kevin Hulme, State University of New York, Buffalo
- An Empirical Exploratory Analysis of Factors Affecting Highway Segment Hazard-Level Likelihood Using Random Parameters Ordered Probit Regression
  SeyedAta Nahidi, State University of New York, Buffalo
  Nima Golshani, State University of New York, Buffalo
  Panagiotis Ch. Anastasopoulos, State University of New York, Buffalo

Session 308

**Event Title:** Advances in Concrete for Transportation

**Presiding Officers:**
Paul J. Tikalsky, Oklahoma State University, presiding

**Sponsored By:**
Basic Research and Emerging Technologies Related to Concrete (AFN10)

**Presentations:**
- Elastic Modulus and Poisson’s Ratio of Alkali-Activated Cement-Free Concrete
  Robert Thomas, Clarkson University
  Sulapha Peethamparan, Clarkson University
- Strength and Setting Time Enhancement in Alkali-Modified High-Volume Fly Ash Binders
  Sulapha Peethamparan, Clarkson University
  Tesfamichael Yehdego, Clarkson University
Session 310

Event Title: Innovations in Concrete Materials and Test Methods

Event Date: Monday, January 12, 2015 10:45AM - 12:30PM

Presiding Officers: Mark E. Felag, Rhode Island Department of Transportation, presiding

Sponsored By: Properties of Concrete (AFN20)

Presentations:
- Investigation of High-Performance Concrete Containing Slag Under Restrained Shrinkage Conditions
  - Hani H. Nassif, Rutgers University
  - John Montemarano, ECI Group LLC
  - Chaekuk Na, Rutgers University

Session 313

Event Title: Concrete and Curing in Mixtures

Event Date: Monday, January 12, 2015 10:45AM - 12:30PM

Presiding Officers: Tara Cavalline, University of North Carolina, Charlotte, presiding

Sponsored By: Concrete Materials and Placement Techniques (AFN40)

Presentations:
- Real-Time 3-D Concrete Vibration Effort Tracking and Visualization with Ultra-Wide-Band Technologies
  - Jie Gong, Rutgers University
  - Yi Yu, Rutgers University
  - Trefor P. Williams, Rutgers University
  - Andres Roda, Rutgers University

Session 320

Event Title: Factors Affecting Transit Mode Choice and Ridership

Event Date: Monday, January 12, 2015 10:45AM - 12:30PM

Presiding Officers: Brendon Hemily, Hemily and Associates, presiding

Poster Session | Practice Ready Papers:
- Planning and Forecasting, Public Transportation

Sponsored By: Public Transportation Planning and Development (AP025)

Presentations:
- City Centers and Rapid Transit Ridership
  - Sharat Kalluri, CDM Smith
  - Herbert Levinson, UTRC

Event Title: Artificial Intelligence and Advanced Computing Applications Committee

Event Date: Monday, January 12, 2015 1:30PM - 5:30PM

Presiding Officers: Adel W. Sadek, State University of New York, Buffalo, presiding

Sponsored By: Artificial Intelligence and Advanced Computing Applications (ABJ70)
### Session 347
**Event Title:** Weather Effects on Roadways  
**Event Date:** Monday, January 12, 2015  
1:30PM - 3:15PM

**Presiding Officers:**  
Dave Bergner, Monte Vista Associates, LLC, presiding

**Sponsored By:**  
Surface Transportation Weather (AH010)  
Winter Maintenance (AHD65)

**Event Description:**  
The movement of goods and services is important all year round. These papers address ways of making sure that goods and services are not delayed on winter roads.

**Presentations:**  
- Development of a Life-Cycle Model to Optimize RWIS Locations  
  Liuhui Zhao, New Jersey Institute of Technology  
  I-Jy Chien, New Jersey Institute of Technology  
  Jay N. Meegoda, New Jersey Institute of Technology  
  Zhengzhao Luo, City University of New York

### Session 352
**Event Title:** Forecasting Performance to Loads and Environmental Factors for Bridge Management  
**Event Date:** Monday, January 12, 2015  
1:30PM - 3:15PM

**Presiding Officers:**  
Basak Aldemir-Bektas, Iowa State University, presiding

**Sponsored By:**  
Bridge Management (AHD35)

**Presentations:**  
- Probabilistic Approach for Forecasting the Performance of Girder Bridges  
  Dan Su, Rutgers University  
  Hani H. Nassif, Rutgers University  
  Eui-Seung Hwang, Kyung Hee University, South Korea

### Session 358
**Event Title:** Emerging Research in Emergency Evacuation  
**Event Date:** Monday, January 12, 2015  
1:30PM - 3:15PM

**Presiding Officers:**  
Brian Wolshon, Louisiana State University, presiding

**Sponsored By:**  
Emergency Evacuation (ANB80)

**Presentations:**  
- Using Dynamic Flashing Yellow for Traffic Signal Control under Emergency Evacuation  
  Charles Amoateng Asamoah, State University of New York - Buffalo  
  Qing He, State University of New York, Buffalo
Session 370

**Event Title:** Research in Transportation Economics

**Event Date:**
Monday, January 12, 2015
2:00PM - 3:45PM

**Presiding Officers:**
Mark W. Burris, Texas A&M University, presiding

**Sponsored By:**
Transportation Economics (ABE20)

**Event Description:**
This poster session includes research on many topics in transportation economics, including willingness to pay for advanced traveler information systems, benefit-cost analysis of autonomous vehicles, value-of-time calculations, public transit optimization, economic analysis of speed limit changes, and many more.

**Presentations:**
- Costs and Benefits of a Road Diet Conversion
  Robert B. Noland, Rutgers University
  Dong Gao, Rutgers University
  Eric J. Gonzales, University of Massachusetts, Amherst
  Charles Brown, Rutgers University

Session 373

**Event Title:**
Tour de Data: Advances in Urban Data and Information Systems

**Event Date:**
Monday, January 12, 2015
2:00PM - 3:45PM

**Presiding Officers:**
Stacey Bricka, Texas A&M Transportation Institute, presiding

**Sponsored By:**
Urban Transportation Data and Information Systems (ABJ30)

**Presentations:**
- Graph-Based Approach to Measuring Efficiency of Urban Taxi Service System
  Xianyuan Zhan, Purdue University
  Xinwu Qian, Purdue University
  Satish V. Ukkusuri, Purdue University

Session 375

**Event Title:**
Travel Time and Speed Data Applications, Methods, and Performance Measures

**Event Date:**
Monday, January 12, 2015
2:00PM - 3:45PM

**Presiding Officers:**
Karl Petty, Iteris, Inc., presiding

**Sponsored By:**
Urban Transportation Data and Information Systems (ABJ30)
Highway Traffic Monitoring (ABJ35)
Travel Time, Speed and Reliability (ABJ30(3))

**Event Description:**
Increasing availability and fidelity of travel time and speed data from point detectors and probe sources have enabled their use for a growing number of applications. This session covers a range of topics related to the application, analysis, and summarization of speed and travel time data. Specific topics include travel time and flow state prediction, outlier detection, performance measure development and presentation, vehicle trajectory estimation, and travel time reliability measurement.

**Presentations:**
- Probabilistic Urban Link Travel Time Estimation Model Using Large-Scale Taxi Trip Data
  Xianyuan Zhan, Purdue University
  Satish V. Ukkusuri, Purdue University
Session 376

Event Title:
Highway Traffic Monitoring
Innovative and Advanced Methods and Technologies

Event Date:
Monday, January 12, 2015
2:00PM - 3:45PM

Presiding Officers:
Wiley Cunagin, Atkins, presiding

Sponsored By:
Highway Traffic Monitoring (ABJ35)
Weigh-in-Motion (ABJ35(2))

Event Description:
Emerging highway traffic-monitoring technologies are highlighted during this poster session. The session highlights advancements in weigh-in-motion technology, network sensor location models and traffic flow estimation, detector performance, video-based detection, GPS-enabled smartphones capturing traffic data, inertial measurement units, small drones for traffic surveillance, and using stop bar detector information.

Presentations:
Examining Applicability of Small Quadcopter Drone for Traffic Surveillance and Roadway Incident Monitoring
Joyoung Lee, New Jersey Institute of Technology
Zijia Zhong, New Jersey Institute of Technology
Kitae Kim, New Jersey Institute of Technology
Branislav Dimitrijevic, New Jersey Institute of Technology
Bo Du, New Jersey Institute of Technology
Slobodan Gueta, New Jersey Institute of Technology

Multiclass Vehicle Classification Using GPS Data
Zhanbo Sun, Western Michigan University
Xuegang (Jeff) Ban, Rensselaer Polytechnic Institute

Session 377

Event Title:
Information Technology
Applications in Transportation 2015

Event Date:
Monday, January 12, 2015
2:00PM - 3:45PM

Presiding Officers:
Guohui Zhang, University of New Mexico, presiding

Sponsored By:
Information Systems and Technology (ABJ50)
Geographic Information Science and Applications (ABJ60)

Presentations:
WIMAP: Work Zone Interactive Monitoring Application
Joyoung Lee, New Jersey Institute of Technology
Zijia Zhong, New Jersey Institute of Technology
Brijesh Singh, New Jersey Institute of Technology
Jeevanjot Singh, New Jersey Department of Transportation
Branislav Dimitrijevic, New Jersey Institute of Technology
Kitae Kim, New Jersey Institute of Technology
Bo Du, New Jersey Institute of Technology
I-Jy Chien, New Jersey Institute of Technology
Lazar N. Spasovic, New Jersey Institute of Technology

Extended Implementation Methodology for Virtual Sensors: Web-Based Real-Time Transportation Data Collection and Analysis for Incident Management
Abdullah Kurku, New York University
Ender Faruk Morgul, New York University
Kaan Ozbay, New York University
## Session 382

**Event Title:**
Congestion Pricing and Managed-Lane Showcase

**Event Date:**
Monday, January 12, 2015
2:00PM - 3:45PM

**Presiding Officers:**
Donald R. Samdahl, Fehr & Peers, presiding

**Sponsored By:**
Managed Lanes (AHB35)
Congestion Pricing (ABE25)

**Presentations:**

- **A Novel Peer-to-Peer Congestion Pricing Marketplace Enabled by Vehicle Automation**
  Scott Le Vine, SUNY New Paltz and Imperial College London, United Kingdom
  John W. Polak, Imperial College London, United Kingdom

- **Traffic Impacts of an Electronic Payment Biased Toll Pricing Initiative on Toll Bridges and Tunnels in New York City**
  Agyenim Oti, City College of New York
  Camille Kamga, City College of New York

- **Road Supply in Central London: Addition of an Ignored Social Cost**
  Omid M. Rouhani, Cornell University
  Christopher R. Knittel, University of California, Davis
  Deborah Niemeier, University of California, Davis
  H. Oliver Gao, Cornell University
  Raymond Richard Geddes, Cornell University

## Session 386

**Event Title:**
Data-Driven Safety Management: Multidisciplinary Approach

**Event Date:**
Monday, January 12, 2015
2:00PM - 3:45PM

**Presiding Officers:**
Jake Kononov, DiExSys LLC, presiding

**Sponsored By:**
Transportation Safety Management (ANB10)

**Event Description:**
This session focuses on the infrastructure and behavioral issues in safety management with state-of-the-art data analysis methods.

**Presentations:**

  Scott Johnson, City College of New York
  Camille Kamga, City College of New York

- **Effects of Private Road Management on Traffic Safety: Evidence from Mexico**
  Raymond Richard Geddes, Cornell University
  Xiaodi Li, Cornell University
  Omid M. Rouhani, Cornell University
### Session 393

**Event Title:** Economic Analysis of Environmental Impacts in Transportation  
**Presiding Officers:** Nancy Bergeron, Transport Canada, presiding  
**Sponsored By:** Transportation Economics (ABE20)  
**Presentations:**  
- Environmental and Economic Impacts of Regionalizing Food Systems: The Case of Fluid Milk Supply Chains in the Northeastern U.S.  
  - XI HE, Cornell University  
  - H. Oliver Gao, Cornell University

### Session 394

**Event Title:** Tort Liability and Risk Management  
**Presiding Officers:** Pamela S. Leslie, Miami-Dade Expressway Authority, presiding  
**Sponsored By:** Tort Liability and Risk Management (AL070)  
**Presentations:**  
- The Effects of New York’s Scaffold Law on Worker Safety  
  - Jacob E. Arluck, Cornell University  
  - Raymond Richard Geddes, Cornell University  
  - Xiaodi Li, Cornell University  
  - Omid M. Rouhani, Cornell University

### Session 398

**Event Title:** Activity Scheduling  
**Presiding Officers:** Khandker M. Nurul Habib, University of Toronto, Canada, presiding  
**Lectern Session:** Data and Information Technology, Planning and Forecasting  
**Sponsored By:** Traveler Behavior and Values (ADB10)  
**Presentations:**  
- A Queueing Framework and Analysis of Observed One-Day Travel and Activity Patterns  
  - Roger B. Chen, Rochester Institute of Technology  
  - Hani S. Mahmassani, Northwestern University

### Session 399

**Event Title:** Dynamic Network Modeling  
**Presiding Officers:** Henry X. Liu, University of Michigan, presiding  
**Sponsored By:** Transportation Network Modeling (ADB30)  
**Presentations:**  
- Continuous-time Instantaneous Dynamic User Equilibria on A Real World Traffic Network  
  - Rui Ma, University of California, Davis  
  - Xuegang (Jeff) Ban, Rensselaer Polytechnic Institute
### Session 407

**Event Title:**
Culvert Field Installation Case Studies

**Event Date:**
Monday, January 12, 2015
3:45PM - 5:30PM

**Presiding Officers:**
Brian Chestnut, Lane Enterprises Inc., presiding

**Sponsored By:**
Culverts and Hydraulic Structures (AFF70)
Subsurface Soil-Structure Interaction (AFS40)

**Presentations:**
Investigation of a Large Culvert Reconstruction Failure
Dawit Negussey, Syracuse University
Stephen Singh, Syracuse University
Chen Liu, Syracuse University
Luke Andrews, Syracuse University

### Session 413

**Event Title:**
Highway Capacity Level of Service: Love It or Leave It?

**Event Date:**
Monday, January 12, 2015
3:45PM - 5:30PM

**Presiding Officers:**
Christopher S. Kinzel, HDR Engineering, Inc., presiding

**Sponsored By:**
Highway Capacity and Quality of Service (AHB40)

**Presentations:**
History of the Debate
Roger P. Roess, Polytechnic Institute of New York University

### Session 416

**Event Title:**
Fleet Management: Safety, Prioritizing, and Planning

**Event Date:**
Monday, January 12, 2015
3:45PM - 5:30PM

**Presiding Officers:**
Scott Capps, North Carolina Department of Transportation, presiding
Henry Canipe, AgileAssets, Inc., presiding

**Sponsored By:**
Maintenance Equipment (AHD60)
Winter Maintenance (AHD65)

**Event Description:**
This is a diverse session in which papers and presentations address relevant issues pertaining to fleet management practice. The session includes equipment safety and visibility through a paper presentation related to luminosity for equipment service vehicles. A case study conducted in South Korea analyzing the aspects of fleet management needs for road maintenance projects will be explored. A third paper presents a stochastic dynamic fleet management model.

**Presentations:**
Luminous Intensity Requirements for Service Vehicle Warning Beacons
John D. Bullough, Rensselaer Polytechnic Institute
Mark S. Rea, Rensselaer Polytechnic Institute
Event Title: Tell Me About It! Real-time Customer Feedback to Improve Transit System Performance

Event Date: Monday, January 12, 2015 3:45PM - 5:30PM

Presiding Officers: Amy L. Van Doren, Marin County Transit District, presiding

Sponsored By: Transit Management and Performance (AP010)

Event Description: How can transit agencies integrate timely customer input to improve service? Well-designed customer feedback tools can lead to more responsive planning and system management decisions. This session will explore the role of social media, open data, and stated & revealed preference surveys.

Presentations:
Co-Monitoring for Transit Management
Sarah Kaufman, New York University
### Event Title: Visibility Committee

**Event Date:**
Monday, January 12, 2015  
7:30PM - 9:30PM

**Presiding Officers:**
John D. Bullough, Rensselaer Polytechnic Institute, presiding

**Sponsored By:**
Visibility (AND40)

### Event Title: Connected Vehicles

**Event Date:**
Monday, January 12, 2015  
7:30PM - 9:30PM

**Presiding Officers:**
Jane E. Lappin, Volpe National Transportation Systems Center, presiding

**Sponsored By:**
Intelligent Transportation Systems (AHB15)

**Presentations:**
- On Dynamic Information Propagation through Inter-Vehicle Communications  
Feng Zhu, Purdue University  
Satish V. Ukkusuri, Purdue University

### Event Title: Safety of Intelligent Transportation Systems

**Event Date:**
Monday, January 12, 2015  
7:30PM - 9:30PM

**Presiding Officers:**
Jane E. Lappin, Volpe National Transportation Systems Center, presiding

**Sponsored By:**
Intelligent Transportation Systems (AHB15)

**Presentations:**
- A Framework for the Deployment of Intelligent Transportation Systems in a Multi-Agency Urban Environment  
Arthur Thomas O’Connor, U.S. Department of Transportation  
John C. Falcocchio, New York University

### Event Title: Recent Progress in Vehicle-Highway Automation

**Event Date:**
Monday, January 12, 2015  
7:30PM - 9:30PM

**Presiding Officers:**
James Anderson, RAND Corporation, presiding

**Sponsored By:**
Vehicle-Highway Automation (AHB30)  
Emerging Technology Law (AL040)

**Presentations:**
- The Tension Between Autonomous Cars’ Impacts on Intersection Level of Service and Their Occupants’ Use of Travel Time for Leisure or Economically Productive Activities  
Scott Le Vine, SUNY New Paltz and Imperial College London, United Kingdom  
Alireza Zolfaghari, Imperial College London, United Kingdom  
John W. Polak, Imperial College London, United Kingdom

- Linear Programming Formulation for Autonomous Intersection Control and Dynamic Traffic Assignment Under Connected Vehicle Environment  
Feng Zhu, Purdue University  
Satish V. Ukkusuri, Purdue University
### Session 470

**Event Title:**
Current Projects and New Developments in Vehicle-Highway Automation Showcase

**Event Date:**
Monday, January 12, 2015
7:30PM - 9:30PM

**Sponsored By:**
Traffic Control Devices (AHB50)

**Presentations:**
- A Ponzo Scheme for Roadway Safety: Modifying Chevron Size and Position to Reduce Driver Speeds on Curves
  - John D. Bullough, Rensselaer Polytechnic Institute
  - Mark S. Rea, Rensselaer Polytechnic Institute
  - Nicholas P. Skinner, Rensselaer Polytechnic Institute

### Session 471

**Event Title:**
Impacts of Traffic Control Devices on Speed and Road User Behavior

**Event Date:**
Monday, January 12, 2015
7:30PM - 9:30PM

**Sponsored By:**
Traffic Control Devices (AHB50)

**Presentations:**
- Vehicle Automation and Road Vehicle Speed Governance
  - Scott Le Vine, SUNY New Paltz and Imperial College London, United Kingdom
  - Alireza Zolfaghari, Imperial College London, United Kingdom
  - John W. Polak, Imperial College London, United Kingdom

### Session 477

**Event Title:**
Bicycle Transportation, Part 1: Behavior and Policy
(Part 2, Session 849)

**Event Date:**
Monday, January 12, 2015
7:30PM - 9:30PM

**Sponsored By:**
Bicycle Transportation (ANF20)

**Presentations:**
- Estimation of Optimal Inventory Levels at Stations of Bicycle-Sharing System
  - Pulkit Parikh, Purdue University
  - Satish V. Ukkusuri, Purdue University

- Biking for Goods Is Good: Assessment of CO2 Savings in Paris
  - Martin Koning, French Institute of Science and Technology for Transport, Development and Networks
  - Alison J. Conway, City College of New York
Session 484

Event Title: Climate Change and Transportation: Best Papers of 2015

Presiding Officers: Robert B. Noland, Rutgers University, presiding

Sponsored By:
- Strategic Management (ABC10)
- Transportation and Air Quality (ADC20)
- Climate Change (ADC70(2))
- Special Task Force on Climate Change and Energy (A0020T)
- Transportation Energy (ADC70)

Event Description:
This session is a special award program recognizing excellence in papers on climate change adaptation and mitigation in transportation. Peer reviewed with the assistance of multiple TRB committees, these four papers were selected among dozens of eligible papers for their innovation and content related to this very important topic.

Session 490

Event Title: New Applications of Travel Time Data from Probes

Presiding Officers: Michael Daniel Fontaine, Virginia Center for Transportation Innovation and Research, presiding

Sponsored By:
- Urban Transportation Data and Information Systems (ABJ30)
- Highway Traffic Monitoring (ABJ35)
- Travel Time, Speed and Reliability (ABJ30(3))

Event Description:
Probe data derived from private sector sources or electronic toll collection systems are an increasingly important data source for transportation agencies. This session discusses a number of new applications of this data. Topics covered include applications to performance measurement, methods to identify shockwave boundaries, and methods to validate arterial travel time data generated by a private sector source.

Presentations:
- Improved Travel Time Estimation for Reliable Performance
  Hong Yang, New York University
  Kaan Ozbay, New York University
  Kun Xie, New York University

- Measure Development for Closed Highways

- Performance Measures To Characterize Corridor Travel Time Delay Based On Probe Vehicle Data
  Thomas M. Brennan, College of New Jersey
  Stephen Matthew Remias, Purdue University
  Lucas Manili, The College of New Jersey
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<th>Session 492</th>
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<tr>
<td><strong>Event Title:</strong> Optimization and Network Design</td>
<td>Miguel Figliozzi, Portland State University, presiding</td>
<td>Transportation Network Modeling (ADB30)</td>
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<td><em>Simple Approach to Calculate Displacements and Rotations in Integral Abutment Bridges</em></td>
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<td>Suhail Albhaisi, Jacobs Engineering Group Inc.</td>
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<td><strong>Event Title:</strong> Accessibility, Commuting, and Income Dynamics</td>
<td>Ann M. Hartell, Vienna University of Economics and Business, Austria, presiding</td>
<td>Social and Economic Factors of Transportation (ADD20)</td>
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<td><strong>Event Date:</strong> Tuesday, January 13, 2015 8:00AM - 9:45AM</td>
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<td><strong>Event Description:</strong> This session includes papers that deal with the general topic of incident management.</td>
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<td><strong>Presentations:</strong></td>
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<td><em>A Look at Relationship Between Households’ Housing and Transportation Expenditures from a Lifestyle Perspective</em></td>
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<td>Devajyoti Deka, Rutgers University</td>
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<tr>
<td><strong>Event Title:</strong> Special Topics in Steel Bridges</td>
<td>Dennis R. Mertz, University of Delaware, presiding</td>
<td>Steel Bridges (AFF20)</td>
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<td><strong>Event Date:</strong> Tuesday, January 13, 2015 8:00AM - 9:45AM</td>
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Event Title: Public Transportation Marketing: User Perception, Satisfaction and Segmentation
Event Date: Tuesday, January 13, 2015
8:00AM - 9:45AM

Presiding Officers: Candace Brakewood, City College of New York, presiding
Sponsored By: Public Transportation Marketing and Fare Policy (AP030)
Presentations:
New website launch and demo Maite Pena Alvarez
Newsletter Update Penny Eickemeyer

Event Title: Innovative Teaching of Highway Capacity Manual Procedures
Event Date: Tuesday, January 13, 2015
8:00AM - 9:45AM

Presiding Officers: Janice R. Daniel, New Jersey Institute of Technology, presiding
Sponsored By: Highway Capacity and Quality of Service (AHB40)
Event Description: The Highway Capacity Manual 2010 (HCM) is utilized by a broad range of professionals. As part of the effort to promote effective teaching and training of highway capacity concepts, the Highway Capacity and Quality of Service (HCQS) Committee issued a call for papers to university faculty and lecturers requesting innovative approaches in teaching highway capacity concepts to university students and practicing engineers and planners.

Event Title: Adoption of Light-Emitting Diode Lighting by Airports: Planning and Design Issues
Event Date: Tuesday, January 13, 2015
8:00AM - 9:45AM

Presiding Officers: Isaac Richmond Nettey, Kent State University, presiding
Sponsored By: Environmental Impacts of Aviation (AV030)
Aircraft/Airport Compatibility (AV070)
Event Description: The advent of “Going Green at Airports” has ushered in the broad adoption of light emitting diodes (LEDs) to replace incandescent lighting as a critical means of reducing energy consumption and realizing ancillary benefits associated with the longer average life expectancy of LEDs over incandescent lighting at airports. This panel session will address planning and design issues arising from the adoption of LED lighting by airports.
Presentations:
Research Findings on Economic and Life-Cycle Impacts of Adoption of LED Lighting at Airports
John D. Bullough, Rensselaer Polytechnic Institute
### Session 528
**Event Title:**
Transportation Issues and Solutions in Major Cities

**Event Date:**
Tuesday, January 13, 2015
8:30AM - 10:15AM

**Presiding Officers:**
Aimee Jefferson, Center for Advanced Infrastructure and Transportation, presiding

**Sponsored By:**
Transportation Issues in Major U.S. Cities (ABE30)

**Event Description:**
Cities are where diverse populations, businesses, and health and academic institutions and agencies converge, creating a situation in which transportation modes and interests must operate within a confined spatial location. As such, transportation issues unique to urban environments arise that require major cities to be on the forefront of managing change and providing leadership. Please join us as we feature research that explores transportation issues and solutions in major cities.

**Presentations:**
- **Exploring Spatial Variation of Urban Taxi Ridership Using Geographically Weighted Regression**
  Xinwu Qian, Purdue University
  Satish V. Ukkusuri, Purdue University

- **Using Big Data of Automated Fare Collection System for Analysis and Improvement of Bus Rapid Transit Line in Istanbul, Turkey**
  Kevser Simsek, Instanbul Metropolitan Municipality, Turkey
  Ilgin Gokasar, Bogazici University, Turkey
  Kaan Ozbay, New York University

### Session 531
**Event Title:**
Current Issues in Transportation and Air Quality

**Event Date:**
Tuesday, January 13, 2015
8:30AM - 10:15AM

**Presiding Officers:**
Britt A. Holmen, University of Vermont, presiding

**Sponsored By:**
Transportation and Air Quality (ADC20)

**Presentations:**
- **Finding Link Driving Schedules for Integrated Traffic Emission Simulator by Clustering with Dynamic Time-Warping Measures**
  H. M. Abdul Aziz, Purdue University
  Satish V. Ukkusuri, Purdue University

### Session 533
**Event Title:**
Current Issues in Transportation-Related Noise and Vibration

**Event Date:**
Tuesday, January 13, 2015
8:30AM - 10:15AM

**Presiding Officers:**
Hugh Saurenman, ATS Consulting, presiding

**Sponsored By:**
Transportation-Related Noise and Vibration (ADC40)

**Presentations:**
- **Modeling Pavement Noise with Different Tire Configurations Using Coupled FEM-BEM Analysis**
  Hao Wang, Rutgers University
  Yangmin Ding, Rutgers University
Session 535

**Event Title:**
Current Issues in Waste Management and Resource Efficiency in Transportation

**Presiding Officers:**
Edward D. Wallingford, Virginia Department of Transportation, presiding

**Sponsored By:**
Waste Management and Resource Efficiency in Transportation (ADC60)
Transportation Infrastructure, Facilities, and Right-of-Ways as Sustainable Resources (ADC60(2))

**Presentations:**
Environmental Life-Cycle Assessment of Pavement Maintenance, Repair, and Rehabilitation Activities
Ossama Salem, Syracuse University
Sudipta Ghorai, Syracuse University

Session 537

**Event Title:**
Multimodal Traffic Control

**Presiding Officers:**
Eleni Christofa, University of Massachusetts, Amherst, presiding

**Sponsored By:**
Traffic Signal Systems (AHB25)

**Presentations:**
Modeling Multi-modal Manual Signal Control under Event Occurrences
Nan Ding, State University of New York, Buffalo
Qing He, State University of New York, Buffalo
Changxu Wu, State University of New York, Buffalo
Julie Fetzer, State University of New York, Buffalo

Session 538

**Event Title:**
Signal Control at Alternative Intersection Design

**Presiding Officers:**
Qing He, State University of New York, Buffalo, presiding

**Sponsored By:**
Traffic Signal Systems (AHB25)

Session 539

**Event Title:**
Traffic Flow Theory: Part 2 (Part 1, Session 445)

**Presiding Officers:**
Vikash V. Gayah, Pennsylvania State University, presiding

**Poster Session**
Operations and Traffic Management

**Sponsored By:**
Traffic Flow Theory and Characteristics (AHB45)

**Presentations:**
Accounting for Traffic Oscillation under the Mixed Connected Vehicle Environment in Microscopic Traffic Simulation
Feng Zhu, Purdue University
Satish V. Ukkusuri, Purdue University

Fine-Grained Modeling of Arterial Traffic: A Data Fusion and Information Integration Approach
Zhanbo Sun, Western Michigan University
Peng Hao, University of California, Riverside
Xuegang (Jeff) Ban, Rensselaer Polytechnic Institute
### Session 540

**Event Title:** Crash-Based Safety Analysis and Modeling  
**Event Date:** Tuesday, January 13, 2015  
8:30AM - 10:15AM

**Presiding Officers:**  
Alfonso Montella, University of Naples Federico II, Italy, presiding

**Sponsored By:**  
Safety Data, Analysis and Evaluation (ANB20)

**Presentations:**  
Investigating the Impact of Work Zones on Crash Severity by Comparative Analysis  
Ozgur Ozturk, Izmir Institute of Technology  
Kaan Ozbay, New York University  
Hong Yang, New York University

### Session 541

**Event Title:** Distracted Driving: Methods, Patterns, and Impact  
**Event Date:** Tuesday, January 13, 2015  
8:30AM - 10:15AM

**Presiding Officers:**  
William J. Horrey, Liberty Mutual Research Institute for Safety, presiding

**Sponsored By:**  
Vehicle User Characteristics (AND10)

**Presentations:**  
Characterizing Driver Cell Phone Use at Signalized Intersections Using Software-Defined Radio  
Thomas M. Brennan, College of New Jersey  
Joseph Jesson, College of New Jersey

### Session 543

**Event Title:** Various Aspects of User Information Research  
**Event Date:** Tuesday, January 13, 2015  
8:30AM - 10:15AM

**Presiding Officers:**  
C. Y. David Yang, Federal Highway Administration, presiding

**Sponsored By:**  
User Information Systems (AND20)

**Presentations:**  
Android Smartphone Application for Collecting, Sharing, and Predicting Border Crossing Wait Time  
Lei Lin, State University of New York, Buffalo  
Qian Wang, State University of New York, Buffalo  
Adel W. Sadek, State University of New York, Buffalo  
Gregory Kott, Xerox Corporation

### Event Title: Young Members Council (YMC) Task Force  
**Event Date:** Tuesday, January 13, 2015  
10:15AM - 12:00PM

**Presiding Officers:**  
Alison J. Conway, City College of New York, presiding

**Sponsored By:**  
Young Members Council (YMC) (A0040T)
### Session 553

**Event Title:**
Information and Communication Technologies and Travel: An International Scan

**Event Date:**
Tuesday, January 13, 2015
10:15AM - 12:00PM

**Presiding Officers:**
Xia Jin, Florida International University, presiding

**Sponsored By:**
Effects of Information and Communication Technologies (ICT) on Travel Choices (ADB20)

**Presentations:**
Analysis of the Relationship between Internet Usage and Allocation of Time for Personal Travel and out of Home activities: Case study of Scotland
Scott Le Vine, SUNY New Paltz and Imperial College London, United Kingdom
Charilaos Latinopoulos, Imperial College London, United Kingdom
John W. Polak, Imperial College London, United Kingdom

### Session 554

**Event Title:**
Role of Transit Investments in Promoting Development and Resilience

**Event Date:**
Tuesday, January 13, 2015
10:15AM - 12:00PM

**Presiding Officers:**
Gregory Bischak, U.S. Department of the Treasury, presiding

**Sponsored By:**
Transportation and Economic Development (ADD10)

**Event Description:**
This session presents several papers that investigate new dimensions in analyzing economic impacts of transit investments as well as the role of transit in promoting access and building resilience.

**Presentations:**
Economic Impacts of Rail Transit on Recreational Shore Communities:
Case of North Jersey Coast Line
Devajyoti Deka, Rutgers University
Michael L. Lahr, Rutgers University
Thomas W. Marchwinski, New Jersey Transit
Maia de la Calle, Rutgers University
**Session 558**

**Event Title:**
Significant Advancements of the Understanding of Asphalt Pavements through Full Scale Accelerated Pavement Testing

**Event Date:**
Tuesday, January 13, 2015 10:15AM - 12:00PM

**Presiding Officers:**
Michael I. Hammons, U.S. Air Force Research Laboratory, presiding

**Sponsored By:**
Full-Scale Accelerated Pavement Testing (AFD40)

**Event Description:**
Significant advancements of the understanding of asphalt pavements (roadway and airfield) though full scale accelerated pavement testing. Session includes case studies, implementation practices, and analysis of both asphalt binders and mix properties.

**Presentations:**
An Approach to Estimate Fatigue Endurance Limits of Flexible Airfield Pavements Using National Airport Pavement Test Facility Testing Results
Thomas Redles, Rowan University
Ayman Ali, Rowan University
Yusuf A. Mehta, Rowan University
Douglas Cleary, Rowan University

**Session 559**

**Event Title:**
Steel Bridge Fatigue and Fracture

**Event Date:**
Tuesday, January 13, 2015 10:15AM - 12:00PM

**Presiding Officers:**
Barton J. Newton, Parsons Brinckerhoff, presiding

**Sponsored By:**
Steel Bridges (AFF20)
Construction of Bridges and Structures (AFH40)
Fabrication and Inspection of Metal Structures (AFH70)

**Event Description:**
This session features four presentations on topics related to fatigue and fracture of steel girders and hydrogen embrittlement of steel anchor bolts. The presentations encompass issues related to relatively routine, short- to moderate-span bridges as well as a major signature bridge.

**Presentations:**
Direct Redundancy Evaluation of Bridges Designated as Fracture-Critical
Graziano Fiorillo, City College of New York
Feng Miao, HNTB Corporation
Michel Ghosn, City College of New York

**Session 560**

**Event Title:**
Building It Right: Recent Developments in Construction Quality Assurance

**Event Date:**
Tuesday, January 13, 2015 10:15AM - 12:00PM

**Presiding Officers:**
Katherine Holtz, Texas Department of Transportation, presiding

**Sponsored By:**
Management of Quality Assurance (AFH20)

**Presentations:**
Development of Performance-Related Pay Adjustment for In-Place Air Voids of Asphalt Pavements
Hao Wang, Rutgers University
Zilong Wang, Rutgers University
Robert Blight, New Jersey Department of Transportation
Eileen C. Sheehy, New Jersey Department of Transportation
### Session 573
**Event Title:** Perception of Roadway Signs, Signals and Delineation  
**Event Date:** Tuesday, January 13, 2015 10:15AM - 12:00PM  
**Presiding Officers:** John D. Bullough, Rensselaer Polytechnic Institute, presiding  
**Lectern Session**  
Operations and Traffic Management, Safety and Human Factors  
**Sponsored By:** Visibility (AND40)

### Session 574
**Event Title:** New Research in Car and Bikesharing  
**Event Date:** Tuesday, January 13, 2015 10:15AM - 12:00PM  
**Presiding Officers:** Matthew Ridgway, Fehr & Peers, presiding  
**Sponsored By:** Bicycle Transportation (ANF20)  
Emerging and Innovative Public Transport and Technologies (AP020)  
**Presentations:**  
Business and Bikeshare User Perceptions of the Economic Benefits of Capital Bikeshare  
Ralph Buehler, Virginia Polytechnic Institute and State University  
Andrea Hamre, Virginia Polytechnic Institute and State University

### Session 586
**Event Title:** Current Issues in Transportation Energy  
**Event Date:** Tuesday, January 13, 2015 10:45AM - 12:30PM  
**Presiding Officers:** Paul N. Leiby, Oak Ridge National Laboratory, presiding  
**Sponsored By:** Transportation Energy (ADC70)  
**Presentations:**  
Life-Cycle Greenhouse Gas Emissions Associated with Highway Reconstruction: New Jersey Case Study  
Christopher S. Hanson, Rutgers University  
Robert B. Noland, Rutgers University

### Session 587
**Event Title:** Current Issues in Alternative Transportation Fuels and Technologies  
**Event Date:** Tuesday, January 13, 2015 10:45AM - 12:30PM  
**Presiding Officers:** Timothy Lipman, University of California, Berkeley, presiding  
**Sponsored By:** Alternative Transportation Fuels and Technologies (ADC80)  
**Presentations:**  
Modeling Intrahousehold Interactions for Use of Battery Electric Vehicles  
Jee Eun Kang, State University of New York, Buffalo
**Session 588**

**Event Title:**
Research on Social and Economic Factors of Transportation

**Event Date:**
Tuesday, January 13, 2015
10:45AM - 12:30PM

**Presiding Officers:**
Steven Farber, University of Toronto, Canada, presiding

**Sponsored By:**
Social and Economic Factors of Transportation (ADD20)

**Presentations:**
Black Riders: Co-racial Comfort and Public Transportation
Michael Smart, Rutgers University
Chanel L. Donaldson, Rutgers University

**Session 589**

**Event Title:**
Emerging Topics in Seismic Design and Performance of Bridges

**Event Date:**
Tuesday, January 13, 2015
10:45AM - 12:30PM

**Presiding Officers:**
Michael D. Keever, California Department of Transportation, presiding

**Sponsored By:**
Seismic Design and Performance of Bridges (AFF50)

**Presentations:**
Real-Time Seismic Damage Assessment Method for Bridges Using Nonlinear Regression: Exploratory Analysis
Ioannis Anastasopoulos, Dundee University, United Kingdom
Panagiotis Ch. Anastasopoulos, State University of New York, Buffalo
Athanasios Agalianos, Dundee University, United Kingdom
Lampros Sakellariadis, Dundee University, United Kingdom

**Session 592**

**Event Title:**
Highway Capacity Analysis for Interrupted Facilities

**Event Date:**
Tuesday, January 13, 2015
10:45AM - 12:30PM

**Presiding Officers:**

**Sponsored By:**
Highway Capacity and Quality of Service (AHB40)

**Presentations:**
Evaluating the HCM 2010 Platoon Dispersion Model for Friction and Non-Friction Mid-Block Activity
Albert Forde, New Jersey Institute of Technology
Janice R. Daniel, New Jersey Institute of Technology

Short-term Freeway Work Zone Capacity Estimation Using Support Vector Machine Incorporated with Probe-vehicle Data
Bo Du, New Jersey Institute of Technology
Joyoung Lee, New Jersey Institute of Technology
Steven I-Jy Chien, New Jersey Institute of Technology
Branislav Dimitrijevic, New Jersey Institute of Technology
Kitae Kim, New Jersey Institute of Technology
Session 595

**Event Title:**
Research and Applications in Evacuation Planning

**Event Date:**
Tuesday, January 13, 2015
10:45AM - 12:30PM

**Presiding Officers:**
Brian Wolshon, Louisiana State University, presiding

**Sponsored By:**
Emergency Evacuation (ANB80)

**Presentations:**
Hurricane Evacuation Routing Strategy from Miami Beach:
Choice of Major Bridges
Arif Mohaimin Sadri, Purdue University
Satish V. Ukkusuri, Purdue University
Pamela Murray-Tuite, Virginia Polytechnic Institute and State University
Hugh Gladwin, Florida International University

Session 596

**Event Title:**
Current Issues in Aviation

**Event Date:**
Tuesday, January 13, 2015
10:45AM - 12:30PM

**Presiding Officers:**
John Werner Fischer, Consultant, presiding

**Sponsored By:**
Congestion Pricing (ABE25)

**Event Description:**
Factors such as reliable trip times, departure time flexibility and a perception of added safety are important to drivers considerations. Trip purpose and ultimate travel destinations are likely to have some significance in the decision making process and the pricing calculation.

**Presentations:**
Bayesian Estimation of Air Ticket Cancellation Behavior
Esther Chiew, Cornell University
Ricardo A. Daziano, Cornell University

Session 598

**Event Title:**
System Optimization and Externality Reduction Through Pricing Systems.

**Event Date:**
Tuesday, January 13, 2015
1:30PM - 3:15PM

**Presiding Officers:**
David H. Ungemah, Parsons Brinckerhoff, presiding

**Sponsored By:**
Congestion Pricing (ABE25)

**Event Description:**
Factors such as reliable trip times, departure time flexibility and a perception of added safety are important to drivers considerations. Trip purpose and ultimate travel destinations are likely to have some significance in the decision making process and the pricing calculation.

**Presentations:**
Implications of Fuel and Emissions Externalities, Spillovers to the Outside, and Temporal Variations on Zonal Congestion Pricing Schemes
Omud M. Rouhani, Cornell University
H. Oliver Gao, Cornell University
Hossain Zarei, AECOM
Arash Beheshtian, Cornell University

Session 597

**Event Title:**
Bicycle Transportation Committee

**Event Date:**
Tuesday, January 13, 2015
1:30PM - 5:30PM

**Presiding Officers:**
Ralph Buehler, Virginia Polytechnic Institute and State University, presiding

**Sponsored By:**
Bicycle Transportation (ANF20)
### Session 630

**Event Title:**
Incorporating Urban Freight Innovations: Selected Best Practices in the U.S. and Abroad

**Event Date:**
Tuesday, January 13, 2015
1:30PM - 3:15PM

**Presiding Officers:**
Kazuya Kawamura, University of Illinois, Chicago, presiding

**Sponsored By:**
Urban Freight Transportation (AT025)

**Event Description:**
While many cities across the world share similar challenges concerning urban freight – congestion, pollution, economic costs, etc. – the approaches to address them vary greatly. In this session, researchers from around the world will share their knowledge and experiences on promising strategies. The aim is to provide an arena for dissemination and exchange of knowledge, promoting transfer and cross fertilization of ideas among researchers and practitioners.

**Presentations:**

- **Modeling the Safety Impacts of Off-Hour Delivery Programs in Urban Areas**
  - Kun Xie, New York University
  - Kaan Ozbay, New York University
  - Hong Yang, New York University
  - Jose Holguin-Veras, Rensselaer Polytechnic Institute
  - Ender Faruk Morgul, New York University

### Session 635

**Event Title:**
Environmental Implications of Marine-Based Energy Production

**Event Date:**
Tuesday, January 13, 2015
1:30PM - 3:15PM

**Presiding Officers:**
Ben Chicoski, Na Ali’i, LLC, presiding

**Sponsored By:**
Marine Environment (AW030)

**Event Description:**
The session illuminates impacts and varying degrees of risk to the environment at production sites and along the supply chains resulting from hydrocarbon exploration and production, offshore wind, marine and hydrokinetic technology, and other river- and estuary-based energy production. Both the positives and the negatives of offshore energy production will be explored and an attempt to address externalities will be made.

**Presentations:**

- **Emissions Life Cycle of Liquid Natural Gas**
  - James J. Corbett, University of Delaware
  - James J. Winebrake, Rochester Institute of Technology

### Session 637

**Event Title:**
Critical Transportation Infrastructure Protection

**Event Date:**
Tuesday, January 13, 2015
2:00PM - 3:45PM

**Presiding Officers:**
Yi Qi, Texas Southern University, presiding

**Sponsored By:**
Critical Transportation Infrastructure Protection (ABE40)

**Presentations:**

- **Multimodal Transit Connectivity for Flexibility in Extreme Events**
  - Rae Zimmerman, New York University
  - Carlos E. Restrepo, New York University
  - Joshua Sellers, New York University
  - Arundathi Amirapu, New York University
  - T. R. Pearson, New York University

- **Bayesian Spatial Modeling and Risk Mapping of Downed Trees Along Roadways Using Data from Hurricanes Irene and Sandy**
  - Sami Demirolok, Rutgers University
  - Kaan Ozbay, New York University
Session 646

Event Title:
Sustainable Technologies in Asphalt Mixtures

Event Date:
Tuesday, January 13, 2015
2:00PM - 3:45PM

Presiding Officers:
Stacy Glidden, Mathy Technology & Engineering, presiding

Sponsored By:
Characteristics of Nonasphalt Components of Asphalt Paving Mixtures (AFK30)

Presentations:

High-Temperature Characterization of Crumb-Rubber-Modified Asphalt Binders and Mixtures in New York State
Thomas A. Bennert, Rutgers University
Raj N. Dongre, Dongre Laboratory Services Inc.
Christopher Ericson, Rutgers University
Zoeb Zavery, New York State Department of Transportation

Evaluating Laboratory-produced Asphalt Mixtures with RAP in Terms of Rutting, Fatigue, Predictive Capabilities, and High RAP Content Potential
Mohammadreza Sabouri, North Carolina State University, Raleigh
Thomas A. Bennert, Rutgers University
Jo Sias Daniel, University of New Hampshire
Y. Richard Kim, North Carolina State University, Raleigh

Investigation of High-Modulus Asphalt Mixture with High Content of Reclaimed Asphalt Pavement
Tao Ma, Southeast University, China
Hao Wang, Rutgers University
Yongli Zhao, Southeast University, China
Liang He, Chongqing Jiaotong University, China

Session 647

Event Title:
Design and Construction Issues for Asphalt Surface Mixtures

Event Date:
Tuesday, January 13, 2015
2:00PM - 3:45PM

Presiding Officers:
Danny Gierhart, Asphalt Institute, presiding

Sponsored By:
Characteristics of Asphalt-Aggregate Combinations to Meet Surface Requirements (AFK40)

Presentations:

Investigation of High and Low Los Angeles Values and Alternate Gradations for Open-Graded Friction Course Mixtures
David Herndon, Herndon Asphalt Engineering and Consulting
Feipeng Xiao, Tongji University, China
Serji Amirkhanian, University of Alabama
Hao Wang, Rutgers University

Session 651

Event Title:
Transformative Transit Data Research and Applications

Event Date:
Tuesday, January 13, 2015
2:00PM - 3:45PM

Presiding Officers:
Catherine Theresa Lawson, State University of New York, Albany, presiding

Sponsored By:
Public Transportation Group (AP000)

Presentations:

Method for Linking Transit Smart Card Data and Survey Responses to Evaluate Travel Behavior and Its Application to Before-and-After Analysis of Real-Time Information
Candace Brakewood, City College of New York
Kari Edison Watkins, Georgia Institute of Technology
### Session 657

**Event Title:** Automated Transit Systems  
**Event Date:** Tuesday, January 13, 2015  
2:00PM - 3:45PM

**Presiding Officers:**  
Matthew Lesh, Federal Transit Administration, presiding  

**Sponsored By:**  
Automated Transit Systems (AP040)

**Event Description:**  
This session includes acceptable papers covering the topic of planning and operating automated transit systems. The areas covered include personal rapid transit, shared autonomous fleets, dynamic ridesharing, unattended train operations, transit vehicle-to-vehicle and vehicle-to-infrastructure applications, automated guideway transit, and urban design and parking related to autonomous vehicles.

**Presentations:**  
**Proven Safety Advantages of Automated Guideway Transit Systems**  
Rongfang Liu, New Jersey Institute of Technology  
Nadereh Moini, University of Illinois, Chicago

### Session 658

**Event Title:** Intermodal Passenger Facilities: Design and Modeling (8)  
**Event Date:** Tuesday, January 13, 2015  
2:00PM - 3:45PM

**Presiding Officers:**  
Richard F. Clarke, Denver Regional Transportation District, presiding  
Deborah Matherly, Louis Berger Group, Inc., presiding  

**Sponsored By:**  
Intermodal Transfer Facilities (AP045)

**Event Description:**  
Many factors influence the optimal access, design, and travel of intermodal passenger facilities. Models have been developed to optimize flows and transfers. Research has also been conducted related to access features, design considerations, and efficiency of these intermodal facilities as featured in this session.

**Presentations:**  
**Optimizing Passenger Transfer Coordination in a Large-Scale Rapid Rail Network**  
Xiaobo Liu, Southwest Jiaotong University, China  
Hezhou Qu, Southwest Jiaotong University, China  
Steven I-Jy Chien, New Jersey Institute of Technology  
Lazar N. Spasovic, New Jersey Institute of Technology  
Bin Ran, University of Wisconsin, Madison  
Minghua Huang, Southwest Jiaotong University, China

### Session 659

**Event Title:** Recent Developments in Paratransit  
**Event Date:** Tuesday, January 13, 2015  
2:00PM - 3:45PM

**Presiding Officers:**  
Jennifer Martinez Frost, Dallas Area Rapid Transit, presiding  

**Sponsored By:**  
Paratransit (AP060)

**Presentations:**  
**Factors Associated with Travel Time Reliability of Disability Paratransit Trips**  
Devajyoti Deka, Rutgers University  

**Revisiting Labor Supply of New York City Taxi Drivers:**  
Empirical Evidence from Large-Scale Taxi Data  
Ender Faruk Morgul, New York University  
Kaan Ozbay, New York University
### Session 663

**Event Title:**
Logistics of Disaster Response and Business Continuity

**Event Date:**
Tuesday, January 13, 2015
2:00PM - 3:45PM

**Presiding Officers:**
Jon S. Meyer, Meyer Associates, presiding

**Sponsored By:**
Logistics of Disaster Response and Business Continuity (AT065)

**Presentations:**
*Multimodal Logical Architecture for Emergency Transportation Toward Better Decision Making in Humanitarian Logistics*
Eren Erman Ozguven, Florida State University
Kaan Ozbay, New York University
Shrisan Iyer, New York City Transit Authority
Ryan Whytlaw, Rutgers University
Jon Carnegie, Rutgers University

### Session 668

**Event Title:**
Pricing in Transportation

**Event Date:**
Tuesday, January 13, 2015
3:45PM - 5:30PM

**Presiding Officers:**
Mark W. Burris, Texas A&M University, presiding

**Sponsored By:**
Transportation Economics (ABE20)

**Event Description:**
This session looks at several issues with respect to road pricing.

**Presentations:**
*Jonathan Richard Peters, City University of New York, Staten Island*
David King, Columbia University
Cameron Elliott Gordon, University of Canberra, Australia
Nora Santiago, City University of New York, Staten Island

### Session 673

**Event Title:**
Advanced Traveler Information and Behavioral Patterns

**Event Date:**
Tuesday, January 13, 2015
3:45PM - 5:30PM

**Presiding Officers:**
Roger B. Chen, Rochester Institute of Technology, presiding

**Sponsored By:**
Effects of Information and Communication Technologies (ICT) on Travel Choices (ADB20)
Advanced Traveler Information Systems (ATIS) (AND20(2))

### Session 675

**Event Title:**
On-road and Not-on-Road Truck Activities and Emissions

**Event Date:**
Tuesday, January 13, 2015
3:45PM - 5:30PM

**Presiding Officers:**
John Koupal, Eastern Research Group, Inc., presiding

**Sponsored By:**
Transportation and Air Quality (ADC20)

**Presentations:**
*Analysis of Environmental and Infrastructure Impacts of Transportation Activities Associated with High-Volume Hydraulic Fracturing Operations in Marcellus Shale Formation*
Karl Korfmacher, Rochester Institute of Technology
Scott Hawker, Rochester Institute of Technology
James J. Winebrake, Rochester Institute of Technology
**Event Title:** Aircraft/Airport Compatibility Committee

**Event Date:**
Tuesday, January 13, 2015
3:45PM - 5:30PM

**Presentations:**
- Evaluation Of Fatigue Cracking Performance Of Asphalt Mixtures Under Heavy Static And Dynamic Aircraft
  Maria Chiara Guercio, Villanova University
  Yusuf A. Mehta, Rowan University
  Leslie Myers McCarthy, Villanova University

**Event Title:** Transformative Transit Data Joint Subcommittee of AP000, ABJ00

**Event Date:**
Tuesday, January 13, 2015
3:45PM - 5:30PM

**Event Description:**
The Joint Subcommittee on Transformative Trends in Transit Data (AP000/ABJ00) focuses on the generation, processing, and emerging opportunities for integrating existing and emerging transit data streams with other transit and transit-related data sets to strengthen the entire network of information.

**Event Title:** Sustainable Transportation Indicators and Measures - From Meta to Local Perspectives

**Event Date:**
Tuesday, January 13, 2015
3:45PM - 5:30PM

**Presentations:**
- A GIS-Based Performance Measurement System for Assessing Transportation Sustainability and Community Livability
  Qian Wang, State University of New York, Buffalo
  Shuai Tang, State University of New York, Buffalo
  Jinge Hu, State University of New York, Buffalo
  Xiao Chen, State University of New York, Buffalo
  Le Wang, State University of New York, Buffalo
Session 687
Event Title: Advances in Work Zone Safety
Event Date: Tuesday, January 13, 2015 3:45PM - 5:30PM
Presiding Officers: Steven D. Schrock, University of Kansas, presiding
Sponsored By: Work Zone Traffic Control (AHB55)
Presentations: Modeling Crash Risk of Highway Work Zones with Relatively Short Durations
Hong Yang, New York University
Kaan Ozbay, New York University
Kun Xie, New York University
Bekir Bartin, Istanbul Kemerburgaz University

Session 689
Event Title: Pavement Preservation Strategy Selection and Cost Impacts
Event Date: Tuesday, January 13, 2015 3:45PM - 5:30PM
Presiding Officers: Cindy K. Estakhri, Texas A&M Transportation Institute, presiding
Sponsored By: Pavement Preservation (AHD18)
Event Description: This session deals with selection of strategies for pavement preservation as well as the impact of pre-existing condition of strategy effectiveness.
Presentations: Developing Pavement Preservation Strategies Using Pavement Me Design For The State Of Rhode Island
Sean Coffey, Rowan University
Ayman Ali, Rowan University
Yusuf A. Mehta, Rowan University
Leslie Myers McCarthy, Villanova University

Session 690
Event Title: Risk Models and Deck Assessment for Bridge Management
Event Date: Tuesday, January 13, 2015 3:45PM - 5:30PM
Presiding Officers: Paul D. Thompson, Consultant, presiding
Sponsored By: Bridge Management (AHD35)
Presentations: Multi-Modal Non-Destructive Testing Damage Quantification, Presentation, and Condition Rating of Bridge Decks
Brian M. Pailes, Vector Corrosion Services
Nenad Gucunski, Rutgers University

Session 701
Event Title: Managing Pavement Use Under Heavy Vehicle Loads
Event Date: Tuesday, January 13, 2015 3:45PM - 5:30PM
Presiding Officers: Alison J. Conway, City College of New York, presiding
Event Description: This session deals with selection of strategies for pavement preservation as well as the impact of pre-existing condition of strategy effectiveness.
Session 711

Event Title: Environmental Justice in Transportation

Presiding Officers: P. S. Sriraj, University of Illinois, Chicago, presiding

Sponsored By: Environmental Justice in Transportation (ADD50)

Presentations:
- Long Routes to School? School Travel and Activity Participation Among High School Students
  Carole Turley Voulgaris, University of California, Los Angeles
  Brian D. Taylor, University of California, Los Angeles
  Michael Smart, Rutgers University

Event Date: Tuesday, January 13, 2015
4:15PM - 6:00PM

Session 716

Event Title: Aging of Asphalt Binders

Presiding Officers: Sheng Zhao, University of Tennessee, Knoxville, presiding

Sponsored By: Characteristics of Asphalt Materials (AFK20)
  Pavement Maintenance (AHD20)

Event Description: Community impact assessment (CIA) is a process for evaluating the effects of transportation actions on communities and the quality of life of their residents. This poster session showcases projects that highlight innovative CIA practices, especially through the use of technology; support sustainable transportation planning efforts; and focus on local economic development and the financial health or viability of neighborhoods and communities.

Presentations:
- Investigation of Impact of Aging and Amount of Reclaimed Asphalt Pavement on Effectiveness of Rejuvenators
  Ayman Ali, Rowan University
  Yusuf A. Mehta, Rowan University
  Aaron Nolan, Rowan University
  Thomas A. Bennert, Rutgers University

Event Date: Tuesday, January 13, 2015
4:15PM - 6:00PM

Session 720

Event Title: Experimental and Numerical Modeling of Asphalt Mixtures and Pavements

Presiding Officers: Roberto Soares, PSI Technologies, Inc., Canada, presiding
  Shadi Saadeh, California State University, Long Beach, presiding

Sponsored By: Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements (AFK50)

Presentations:
- Numerical Analysis of Semicircular Bending Test for Asphalt Concrete with Heterogeneous Microstructure
  Jian Wang, Rutgers University
  Hao Wang, Rutgers University
  Jiaqi Chen, Central South University, China

Event Date: Tuesday, January 13, 2015
4:15PM - 6:00PM
**Session 729**

**Event Title:**
Advanced Research and Practices in Urban Freight Transportation

**Event Date:**
Tuesday, January 13, 2015
4:15PM - 6:00PM

**Presiding Officers:**
Qian Wang, State University of New York, Buffalo, presiding

**Sponsored By:**
Transportation Issues in Major U.S. Cities (ABE30)
Urban Freight Transportation (AT025)

**Event Description:**
Recent years have witnessed increased concern for urban freight transport because of the concentration of urban population and the negative externalities produced by freight movement. In a complex urban setting, coordinating freight movement needs into planning and management practices while reducing emissions and fuel consumption has become more and more challenging. This poster session showcases innovation, best practices, and the latest research in urban and regional freight transportation.

**Presentations:**

**OFF-HOUR DELIVERIES: LESSONS LEARNED FROM THE OUTREACH IN NEW YORK CITY**
Jeffrey Wojtowicz, Rensselaer Polytechnic Institute
Stacey Darville Hodge, New York City Department of Transportation
Shama Campbell, Rensselaer Polytechnic Institute
Jose Holguin-Veras, Rensselaer Polytechnic Institute
Xiaokun (Cara) Wang, Rensselaer Polytechnic Institute

**Geography of Warehousing in Urban Areas: Spatial Analysis and Findings of Transportation Warehouses and Distribution Centers in New York Metropolitan Region**
Qian Wang, State University of New York, Buffalo
Shuai Tang, State University of New York, Buffalo
Tao Zhou, State University of New York, Buffalo
Li Yin, State University of New York, Buffalo

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**Session 730**

**Event Title:**
Urban Freight Parking Research: To Curb or Not To Curb

**Event Date:**
Tuesday, January 13, 2015
4:15PM - 6:00PM

**Presiding Officers:**
Ema Yamamoto, City of Philadelphia, presiding

**Sponsored By:**
Transportation Issues in Major U.S. Cities (ABE30)
Urban Freight Transportation (AT025)
Parking Management (ABE50(1))

**Event Description:**
In major cities and other urban environments, competition for the existing, limited curb space is intensifying. This poster session showcases research from around the world that uniquely examines the interaction of freight activities and on-street parking, all within the hectic, multimodal urban environment.

**Presentations:**

**Empirical Analysis of Delivery Vehicle On-Street Parking Pattern in Manhattan Area**
Wei Zou, Rensselaer Polytechnic Institute
Xiaokun (Cara) Wang, Rensselaer Polytechnic Institute
Alison J. Conway, City College of New York
Quanquan Chen, City College of New York

**Empirical Investigation of Commercial Vehicle Parking Violations in New York City**
Qian Wang, State University of New York, Buffalo
Satyavardhan Gogineni, State University of New York, Buffalo
### Session 731
**Event Title:**
Current Trends in Trucking Industry Research

**Event Date:**
Tuesday, January 13, 2015
4:15PM - 6:00PM

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**Presiding Officers:**
Stephen V. Burks, University of Minnesota, Morris, presiding

**Sponsored By:**
Trucking Industry Research (AT060)

**Presentations:**
- Pricing and Demand Segmentation of Bids in Truckload Combinatorial Auctions
  - Rodrigo Mesa-Arango, Purdue University
  - Satish V. Ukkusuri, Purdue University

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### Session 755
**Event Title:**
Characteristics of Pedestrian Interactive Behaviors under the Different Level of Service on Walkways

**Event Date:**
Tuesday, January 13, 2015
7:30PM - 9:30PM

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**Presiding Officers:**
Tarek Sayed, University of British Columbia, Canada, presiding

**Sponsored By:**
Pedestrians (ANF10)

**Presentations:**
- Investigation of Factors Affecting Pedestrian Crossing Speeds at Signalized Intersections
  - Weizhe Yu, Polytechnic Institute of New York University
  - Weili Yang, Polytechnic Institute of New York University
  - H. Joon Park, New York City Department of Transportation
  - Elena S. Prassas, Polytechnic Institute of New York University
  - Roger P. Roess, Polytechnic Institute of New York University
Session 760

Event Title:
Innovative Transportation Workforce Development Models

Event Date:
Wednesday, January 14, 2015
8:00AM - 9:45AM

Presiding Officers:
Victoria F. Beale, Ohio Department of Transportation, presiding

Sponsored By:
Transportation Education and Training (ABG20)

Event Description:
As more innovations are identified, transferring the proper knowledge and information becomes key for implementation. Training and education are the means by which the transfer can and does occur. This session describes new developments in how adult learners and students are being engaged to enhance their learning experiences.

Presentations:
Inverted Classroom and Its Influence on Students’ Attitudes Across Learning Styles: Before-and-After Study
Ivette Cruzado, University of Puerto Rico, Mayaguez
Edgardo M. Román, University of Puerto Rico, Mayaguez

Session 770

Event Title:
New Technologies and Case Histories for Foundation Reuse and Enhancement

Event Date:
Wednesday, January 14, 2015
8:00AM - 9:45AM

Presiding Officers:
Frank Jalinoos, Federal Highway Administration, presiding
Silas C. Nichols, Federal Highway Administration, presiding

Sponsored By:
Low-Volume Roads (AFB30)
Soil and Rock Properties (AFP30)
Transportation Earthworks (AFS10)
Soils and Rock Instrumentation (AFS20)
Foundations of Bridges and Other Structures (AFS30)
Subsurface Soil-Structure Interaction (AFS40)

Presentations:
Case Studies on Reuse of Bridge Foundations
Anil Agrawal, City University of New York, Staten Island
Mohammed A. Mulla, North Carolina Department of Transportation
Shunyi Christopher Chen, North Carolina Department of Transportation
Ehssan Hoomaan, City University of New York, Staten Island
### Session 772

**Event Title:**
The Effects of Weather on Mobility and Roadway Conditions

**Event Date:**
Wednesday, January 14, 2015
8:00AM - 9:45AM

**Presiding Officers:**
Laura Fay, Montana State University, Bozeman, presiding

**Sponsored By:**
Surface Transportation Weather (AH010)

**Event Description:**
From urban to rural areas, the effects of weather on travel can be seen throughout the world. These papers deal with the influence that weather has on mobility from traffic performance to crash reduction.

**Presentations:**

- **A Validation of Inclement Weather Traffic Models in Buffalo, New York**
  Andrew Bartlett, State University of New York, Buffalo
  Anna Racz, State University of New York, Buffalo
  Adel W. Sadek, State University of New York, Buffalo

- **Modeling the Impacts of Inclement Weather on Freeway Traffic Speed: An Exploratory Study Utilizing Social Media Data**
  Lei Lin, State University of New York, Buffalo
  Ming Ni, State University of New York at Buffalo
  Qing He, State University of New York, Buffalo
  Jing Gao, State University of New York at Buffalo
  Adel W. Sadek, State University of New York, Buffalo

### Session 784

**Event Title:**
Innovations in Travel Surveys

**Event Date:**
Wednesday, January 14, 2015
8:30AM - 10:15AM

**Presiding Officers:**
Guy Rousseau, Atlanta Regional Commission, presiding

**Sponsored By:**
Travel Survey Methods (ABJ40)

**Presentations:**

- **Inference of Activity Pattern Trajectories Using Passive Data**
  Mahdieh Allahviranloo, City College of the City University of New York/CUNY
  Will Recker, University of California, Irvine
  Hanghang Tong, Arizona State University
  Qing He, State University of New York, Buffalo

- **Understanding Household Priorities when Scheduling Activities**
  Robert Regue, University of California, Irvine
  Mahdieh Allahviranloo, City College of New York
  Will Recker, University of California, Irvine

### Session 785

**Event Title:**
Travel Demand Models R Us Poster Session

**Event Date:**
Wednesday, January 14, 2015
8:30AM - 10:15AM

**Presiding Officers:**
Jeremy Raw, Federal Highway Administration, presiding

**Sponsored By:**
Transportation Demand Forecasting (ADB40)

**Presentations:**

- **Inference of Activity Pattern Trajectories Using Passive Data**
  Mahdieh Allahviranloo, City College of New York
  Will Recker, University of California, Irvine

- **Understanding Household Priorities when Scheduling Activities**
  Robert Regue, University of California, Irvine
  Mahdieh Allahviranloo, City College of New York
  Will Recker, University of California, Irvine

- **Constructing Full-Day Feasible Space-Time Polyhedron Using Activity-Based Space-Time Prisms**
  Jee Eun Kang, State University of New York, Buffalo
### Session 786

**Event Title:**  
Contemporary Research in Land Use and Transportation Planning

**Event Date:**  
Wednesday, January 14, 2015  
8:30AM - 10:15AM

**Presiding Officers:**  
Noreen McDonald, University of North Carolina, Chapel Hill, presiding

**Sponsored By:**  
Transportation and Land Development (ADD30)  
Eminent Domain and Land Use (AL060)

**Presentations:**  
- Multinomial Logistic Regression for Land Use Classification with Remote Sensing  
  Qian Wang, State University of New York, Buffalo  
  Shuai Tang, State University of New York, Buffalo  
  Xiao Chen, State University of New York, Buffalo  
  Le Wang, State University of New York, Buffalo

- Effects of Jobs-Residence Balance on Commuting Patterns: Differences in Employment Sectors and Urban Forms  
  Dapeng Zhang, Rensselaer Polytechnic Institute  
  Xiaokun (Cara) Wang, Rensselaer Polytechnic Institute

### Session 787

**Event Title:**  
Structural and Functional Performance of Flexible Pavements

**Event Date:**  
Wednesday, January 14, 2015  
8:30AM - 10:15AM

**Presiding Officers:**  
M. Zia Alavi, University of California, Davis, presiding  
Menna Noureldin, Purdue University, presiding

**Sponsored By:**  
Flexible Pavement Design (AFD60)  
Strength and Deformation Characteristics of Pavement Sections (AFD80)

**Presentations:**  
- Evaluation of Nonconventional Surface-Initiated Transverse Cracking  
  Shihui Shen, Pennsylvania State University  
  Weiguang Zhang, Washington State University  
  Hao Wang, Rutgers University  
  Haifang Wen, Washington State University  
  Shenghua Wu, Washington State University

- Evaluation of Flexible Pavement Performance due to Variations in Aggregate Base Layer Properties  
  Hao Wang, Rutgers University  
  Maoyun Li, Rutgers University
Session 790
Event Title: Truck and Bus Safety
Event Date: Wednesday, January 14, 2015
8:30AM - 10:15AM

Presiding Officers:
Brenda Lantz, North Dakota State University, presiding

Sponsored By:
Truck and Bus Safety (ANB70)

Presentations:
Impact of Truck-Auto Separation on Crash Severity
Hong Yang, New York University
Kaan Ozbay, New York University
Kun Xie, New York University

Investigating Temporal Effects on Truck Accident Occurrences in Manhattan
Robyn Marquis, Rensselaer Polytechnic Institute
Xiaokun (Cara) Wang, Rensselaer Polytechnic Institute

Truck Accident Severity in New York City: Investigation of Spatiotemporal Effects and Vehicle Weight
Wei Zou, Rensselaer Polytechnic Institute
Xiaokun (Cara) Wang, Rensselaer Polytechnic Institute
Dapeng Zhang, Rensselaer Polytechnic Institute

Session 792
Event Title: Contemporary Issues in International Trade and Transportation
Event Date: Wednesday, January 14, 2015
8:30AM - 10:15AM

Presiding Officers:
Katina Gad, North Carolina State University, presiding

Sponsored By:
International Trade and Transportation (AT020)

Presentations:
Impact of International Crises on Maritime Transportation-Based Global Value Chains
Rodrigo Mesa-Arango, Purdue University
Badri Narayanan, Purdue University
Satish V. Ukkusuri, Purdue University
## Session 796

### Event Title:
Changes in Gender Roles Related to Household Travel and Time Use

### Event Date:
Wednesday, January 14, 2015
10:15AM - 12:00PM

### Presiding Officers:
Cristina Marolda, European Commission, Belgium, presiding

### Sponsored By:
Women's Issues in Transportation (ABE70)

### Event Description:
Are you curious to know about changes in travel characteristics and household activity trends? Who is spending more time commuting? Who spends more time taking care of the kids? Who does the chores? How has these trends changed in recent years? What trade-offs are being made to accommodate life-work balance in households? This session will provide some insight on these trends and will posit ideas for further thought on how we can continue to improve the quality of life for all members of society

### Presentations:
- **A helping hand: Analyzing time use and travel in three-generation households**
  - Kelcie Ralph, University of California, Los Angeles
  - Michael Smart, Rutgers University
  - Brian D. Taylor, University of California, Los Angeles

- **Sex or sexuality: Exploring household labor and travel among gay, lesbian, and straight households**
  - Michael Smart, Rutgers University
  - Anne E. Brown, University of California, Los Angeles
  - Brian D. Taylor, University of California, Los Angeles

## Session 799

### Event Title:
Data Needs for the Future – The Big Picture

### Event Date:
Wednesday, January 14, 2015
10:15AM - 12:00PM

### Presiding Officers:
Adella Santos, Federal Highway Administration, presiding

### Sponsored By:
National Transportation Data Requirements and Programs (ABJ10)
Urban Transportation Data and Information Systems (ABJ30)
Travel Survey Methods (ABJ40)
Task Force on Understanding New Directions for the National Household Travel Survey (ABJ45T)

### Event Description:
This panel session fosters discussion around the context of travel behavior changes: How do we expect the way people live, work, and use technology to influence their travel? The panelists will focus on A) important trends to keep in mind as we move through the next 3-5 years; B) What is important to know from NHTS respondents about these issues; and C) What questions is the NHTS designed/intended/expected to answer? For those questions not really suited for the NHTS, what are the alternatives?

### Presentations:
- **Discussant**
  - Nancy McGuckin, Consultant
  - Daniel G. Chatman, University of California, Berkeley
Session 818

Event Title:
The Vision and Potential Impacts of Automated Transit Systems in the United States

Event Date:
Wednesday, January 14, 2015
10:15AM - 12:00PM

Presiding Officers:
Walter Kulyk, Retired from FTA, presiding

Sponsored By:
Automated Transit Systems (AP040)

Event Description:
This Session will discuss the vision and potential impacts of automated transit systems in the United States from the perspective of a private sector consultant, two non-profit research organization leaders, and the Federal Transit Administration. The session will address automated bus technology, automated transit networks, and automated systems to provide passengers with effective connections at the beginning or end of their fixed guideway rail trip.

Presentations:
The Future of Automated Transit Technology and Its Positive Impact on Transit Operations
Alain L. Kornhauser, Princeton University
### Session 822

**Event Title:**
China's World Trade Perspective

**Event Date:**
Wednesday, January 14, 2015
10:15AM - 12:00PM

**Presiding Officers:**
Shmuel Yahalom, SUNY Maritime College, presiding

**Sponsored By:**
International Trade and Transportation (AT020)
Marine Environment (AW030)

### Session 841

**Event Title:**
Social Networks and Activity-Travel Behavior

**Event Date:**
Wednesday, January 14, 2015
2:45PM - 4:30PM

**Presiding Officers:**
Juan Carlos Carrasco Giménez, Universidad de Málaga, Spain, presiding

**Sponsored By:**
Traveler Behavior and Values (ADB10)

**Presentations:**
- Exploring Effects of Social Ties on Joint Trip Frequency: Egocentric Social Network Approach
  - Arif Mohaimin Sadri, Purdue University
  - Seungyoon Lee, Purdue University
  - Satish V. Ukkusuri, Purdue University

### Session 842

**Event Title:**
Dynamics in Travel Behavior Analysis and Modeling

**Event Date:**
Wednesday, January 14, 2015
2:45PM - 4:30PM

**Presiding Officers:**

**Sponsored By:**
Traveler Behavior and Values (ADB10)

**Presentations:**
- On the Problem of Measuring Discount Rates in Intertemporal Transportation Choices
  - Ricardo A. Daziano, Cornell University
  - Chen Wang, Cornell University

### Session 843

**Event Title:**
GPS and Smartphone Tracking of Travel Behavior

**Event Date:**
Wednesday, January 14, 2015
2:45PM - 4:30PM

**Presiding Officers:**
Floridea Di Ciommo, Universidad Politécnica de Madrid, Spain, presiding

**Sponsored By:**
Women's Issues in Transportation (ABE70)

**Presentations:**
- On Making More Efficient Location Prediction
  - Menglin Wang, Cambridge Systematics, Inc.
  - Cynthia Chen, University of Washington
  - Jingtao Ma, Mygistics Inc.

- Time-of-Day Dependence of Location Variability:
  - Application of Passively Generated Mobile Phone Data Set
    - Menglin Wang, Cambridge Systematics, Inc.
    - Cynthia Chen, University of Washington
    - Jingtao Ma, Mygistics Inc.
### Session 844

**Event Title:** Activity and Travel Behavior  
**Event Date:** Wednesday, January 14, 2015  
2:45PM - 4:30PM

**Presiding Officers:**  
Eric J. Miller, University of Toronto, Canada, presiding

**Sponsored By:**  
Traveler Behavior and Values (ADB10)

**Presentations:**  
- Value of Reliability by Time of Day: Evidence from Actual Usage Data from SR-167 HOT Lanes  
  Ender Faruk Morgul, New York University  
  Kaan Ozbay, New York University

### Session 845

**Event Title:** Technology, Time Use, and Travel  
**Event Date:** Wednesday, January 14, 2015  
2:45PM - 4:30PM

**Presiding Officers:**  
Xianbiao Hu, Metropia Inc., presiding

**Sponsored By:**  
Effects of Information and Communication Technologies (ICT) on Travel Choices (ADB20)

**Event Description:**  
This session includes posters on topics such as telecommuting, e-shopping, use of data from social media, and the impacts of new traveler information systems.

**Presentations:**  
- Location Contexts of User Check-ins to Model Geo Lifestyle Patterns  
  Samiul Hasan, Commonwealth Scientific and Industrial Research Organization, Australia  
  Satish V. Ukkusuri, Purdue University

- Empirical Application of Expenditure Diary Instrument to Quantify Relationships Between In-store and Online Grocery Shopping: Case Study of Greater London  
  Esra Suel, Imperial College London, United Kingdom  
  Scott Le Vine, SUNY New Paltz and Imperial College London, United Kingdom  
  John W. Polak, Imperial College London, United Kingdom

### Session 846

**Event Title:** Networking Modeling  
**Event Date:** Wednesday, January 14, 2015  
2:45PM - 4:30PM

**Presiding Officers:**  
Elise Miller-Hooks, University of Maryland, College Park, presiding

**Sponsored By:**  
Transportation Network Modeling (ADB30)

**Presentations:**  
- Continuous-time Instantaneous Dynamic User Equilibria on A Real World Traffic Network (15-1652)  
  Rui Ma, University of California, Davis  
  Xuegang (Jeff) Ban, Rensselaer Polytechnic Institute

- Modeling Mixed Equilibria in Transportation Networks with Link Constraints (15-5300)  
  Xia Yang, Rensselaer Polytechnic Institute  
  Rui Ma, University of California, Davis  
  Xuegang (Jeff) Ban, Rensselaer Polytechnic Institute

- Surrogate Optimization Techniques for Solving Discrete Transportation Network Design Problems (15-1449)  
  Omid M. Rouhani, Cornell University  
  Juliane Müeller, Cornell University  
  H. Oliver Gao, Cornell University  
  Christine Shoemaker, Cornell University  
  Eric Jun Wang, Cornell University
Workshop 861

Event Title:
Tools for Evaluating Greenhouse Gas Reduction Strategies

Presiding Officers:
Robert Chamberlin, RSG, presiding

Sponsored By:
Environmental Analysis in Transportation (ADC10)
Transportation and Air Quality (ADC20)
Special Task Force on Climate Change and Energy (A0020T)
Transportation Energy (ADC70)
Alternative Transportation Fuels and Technologies (ADC80)

Event Description:
With growing interest in tools for evaluating transportation-based greenhouse gas (GHG) emissions, such emissions are becoming part of the MPO and DOT planning process at multiple levels—from corridor planning and transportation improvement plans to statewide climate action plans. In response, several software tools have been developed to meet the needs of these plans. This workshop illustrates the capacity of these tools to broaden and simplify analysis. Workshop Objective: There is growing interest in tools and data for evaluating transportation-based greenhouse gas emissions. GHG emissions are becoming part of the MPO and DOT planning process at multiple levels—corridor planning and Transportation Improvement Plans to statewide Climate Action Plans. In response, several software tools and data sources have been developed to meet these needs. The purpose of this workshop is to illustrate the capacity of these tools to broaden and simplify analysis. This workshop is targeted to practitioners, which includes analysts and policymakers who can use the output and insights from these tools to make decisions.

Presentations:
Estimating Life-Cycle Emissions from Transportation Construction Projects: New Jersey’s GASCAP Model
Robert B. Noland, Rutgers University

Wrap-Up - Synthesis of Workshop
Robert B. Noland, Rutgers University

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Workshop 866

Event Title:
Status of Long-Term Bridge Performance Program

Presiding Officers:
Susan Nancy Lane, Federal Highway Administration, presiding
Hamid Ghasemi, Federal Highway Administration, presiding

Sponsored By:
Structures Maintenance (AHD30)

Event Description:
Presentations in this workshop provide a snapshot of various activities in FHWA’s Long-Term Bridge Performance Program, including outreach activities and highlights of current findings. The long-term data collection phase is described in detail, and initial information is provided on clusters in the sample population of bridges by bridge type and location.

Presentations:
Data Driven Models - Closing the Gap
Robert Zobel, Federal Highway Administration
Ali Maher, Rutgers University