

UTRC FACULTY

JANUARY 11-15

AT 94TH TRB
ANNUAL MEETING

2015

UNIVERSITY TRANSPORTATION RESEARCH CENTER - REGION 2



Papers and
Presentations by
Date and Time

Transportation Research Board 94th Annual Meeting

JANUARY 11-15, 2015 • WASHINGTON D.C.



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



Sunday

01/11/15

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

Event Title:

Urban Streets Subcommittee,
AHB40(3.3)

Event Date:

Sunday, January 11, 2015
1:30PM - 2:45PM

Presiding Officers:

Janice R. Daniel, New Jersey Institute of Technology, presiding

Sponsored By:

Highway Capacity and Quality of Service (AHB40)

Workshop 178

Event Title:

The Present and Future of Speed
Limits in a Toward Zero Deaths
(TZD) Framework

Event Date:

Sunday, January 13, 2013
1:30PM - 4:30PM

Presiding Officers:

Hillel Bar-Gera, Ben Gurion University of the Negev, Israel, presiding
Libby Thomas, University of North Carolina, Chapel Hill, presiding

Sponsored By:

Transportation Network Modeling (ADB30)
Transportation Safety Management (ANB10)
Safety Data, Analysis and Evaluation (ANB20)
Traffic Speed and Safety - Cross-cutting Issues (ANB20(5))

Event Description:

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.

Presentations:

Engineering and Expert Methods of Setting Speed Limits

Raghavan Srinivasan, University of North Carolina, Chapel Hill

Workshop 189

Event Title:

Critical Infrastructure—From Protection to Resilience: An Evolution to Meet the New Threats

Event Date:

Sunday, January 13, 2013
1:30PM - 4:30PM

Presiding Officers:

John M. Contestabile, Johns Hopkins University Applied Physics Laboratory, presiding
Jon S. Meyer, Meyer Associates, presiding
Laurel J. Radow, Federal Highway Administration, presiding

Sponsored By:

Critical Transportation Infrastructure Protection (ABE40)
Logistics of Disaster Response and Business Continuity (AT065)

Event Description:

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.

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

Event Title:

Welcome and Attendee Orientation Session

Event Date:

Sunday, January 13, 2013
2:30PM - 4:00PM

Presiding Officers:

Robert E. Skinner, Transportation Research Board, presiding

Sponsored By:

Technical Activities (A0000)

Event Description:

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.

Presentations:**Opportunities for Young Participants**

Alison J. Conway, City College of New York

Event Title:

Joint Meeting of the Freight Systems and Marine Group Executive Boards

Event Date:

Sunday, January 11, 2015
5:30PM - 8:00PM

Presiding Officers:

Thomas H. Wakeman, Stevens Institute of Technology, presiding
Barbara Ivanov, Washington State Department of Transportation, presiding

Sponsored By:

Freight Systems Group (AT000)
Marine Group (AW000)

Event Title:

Young Professionals Reception

Event Date:

Sunday, January 11, 2015
9:00PM - 10:30PM

Presiding Officers:

Alison J. Conway, City College of New York, presiding

Sponsored By:

Young Members Council (YMC) (A0040T)

Event Description:

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.

Monday

01/12/15

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 Fare 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 Riders' 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

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)

Session 266

Event Title:

What's Going on in Local Mixed-Use and TOD Environments

Event Date:

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

Presiding Officers:

John L. Renne, University of New Orleans, presiding

Sponsored By:

Transportation and Land Development (ADD30)

Presentations:

Repeal of Minimum Parking Requirements in the Green Code in Buffalo: New Directions for Land Use and Development

Daniel Baldwin Hess, State University of New York, Buffalo

Session 274

Event Title:

Rapid Asphalt Pavement Construction

Event Date:

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

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

Session 281

Event Title:

Safety Management Data Analytics

Event Date:

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

Presiding Officers:

Jake Kononov, DiExSys LLC, presiding

Sponsored By:

Transportation Safety Management (ANB10)

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

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 Transportations

Event Date:

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

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
Jizhan Gou, Sabra, Wang & Associates, Inc.
XiaoLing Li, Virginia Department of Transportation

A Doubly Stochastic Point Process Model for Modeling Crashes along a Corridor

Sami Demiroglu, 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

Event Date:

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

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
Tefamichael 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:

Tara Cavalline, University of North Carolina, Charlotte, 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:

Mark E. Felag, Rhode Island Department of Transportation, 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**

Lihui 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 Kurkcu, 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:**Review of Swedish Road Safety Policy in United States
and Its Application in New York City Vision Zero Action Plan**

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

Event Date:

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

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

Event Title:

Tort Liability and Risk Management
Committee

Event Date:

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

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

Event Date:

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

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 Pat-
terns**

Roger B. Chen, Rochester Institute of Technology
Hani S. Mahmassani, Northwestern University

Session 399

Event Title:

Dynamic Network Modeling

Event Date:

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

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 Negusse, 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

Session 421

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

Session 444

Event Title:

Incident Management

Event Date:

Monday, January 12, 2015
4:15PM - 6:00PM

Presiding Officers:

Mecit Cetin, Old Dominion University, Norfolk, presiding

Sponsored By:

Freeway Operations (AHB20)

Event Description:

This session includes papers that deal with the general topic of incident management.

Presentations:**Spatial Analysis of Highway Incident Durations in the Context of Hurricane Sandy**

Kun Xie, New York University

Kaan Ozbay, New York University

Hong Yang, New York University

Session 449

Event Title:

Contemporary Theories and Practices in Freight Planning and Logistics

Event Date:

Monday, January 12, 2015
4:15PM - 6:00PM

Presiding Officers:

Xiubin Bruce Wang, Texas A&M University, presiding

Sponsored By:

Freight Transportation Planning and Logistics (AT015)

Presentations:**Landscape of Motor Freight Transportation and Warehousing:****Analysis and Findings from Six Large Metropolitan Areas in the U.S.**

Qian Wang, State University of New York, Buffalo

Tao Zhou, State University of New York, Buffalo

Shuai Tang, State University of New York, Buffalo

Li Yin, State University of New York, Buffalo

Freight Deliveries Directly Generated by Residential Units:**An Analysis with the 2009 NHTS Data**

Yiwei Zhou, Rensselaer Polytechnic Institute

Xiaokun (Cara) Wang, Rensselaer Polytechnic Institute

The Role Of Classification Systems In Freight Trip Attraction Modeling

Ivan Sanchez-Diaz, Chalmers University of Technology, Sweden

Shama Campbell, Rensselaer Polytechnic Institute

Miguel Jaller, University of California, Davis

Jose Holguin-Veras, Rensselaer Polytechnic Institute

Catherine Theresa Lawson, State University of New York, Albany

Event Title:

Visibility Committee

Presiding Officers:

John D. Bullough, Rensselaer Polytechnic Institute, presiding

Event Date:

Monday, January 12, 2015
7:30PM - 9:30PM

Sponsored By:

Visibility (AND40)

Session 464

Event Title:

Connected Vehicles

Presiding Officers:

Jane E. Lappin, Volpe National Transportation Systems Center, presiding

Event Date:

Monday, January 12, 2015
7:30PM - 9:30PM

Sponsored By:

Intelligent Transportation Systems (AHB15)

Presentations:**On Dynamic Information Propagation through Inter-Vehicle Communications**

Feng Zhu, Purdue University

Satish V. Ukkusuri, Purdue University

Session 465

Event Title:

Safety of Intelligent Transportation Systems

Presiding Officers:

Jane E. Lappin, Volpe National Transportation Systems Center, presiding

Sponsored By:

Intelligent Transportation Systems (AHB15)

Event Date:

Monday, January 12, 2015
7:30PM - 9:30PM

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. Falcochio, New York University

Session 469

Event Title:

Recent Progress in Vehicle-Highway Automation

Presiding Officers:

James Anderson, RAND Corporation, presiding

Sponsored By:

Vehicle-Highway Automation (AHB30)
Emerging Technology Law (AL040)

Event Date:

Monday, January 12, 2015
7:30PM - 9:30PM

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

Poster Session | Spotlight Session

Hot Topic: Connected-Automated Vehicles, Operations and Traffic Management, Safety and Human Factors, Vehicles and Equipment

Sponsored By:

Vehicle-Highway Automation (AHB30)

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 471

Event Title:

Impacts of Traffic Control Devices on Speed and Road User Behavior

Event Date:

Monday, January 12, 2015
7:30PM - 9:30PM

Presiding Officers:

David A. Noyce, University of Wisconsin, Madison, presiding
Paul J. Carlson, Texas A&M Transportation Institute, presiding

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 477

Event Title:

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

Event Date:

Monday, January 12, 2015
7:30PM - 9:30PM

Presiding Officers:

Christopher R. Cherry, University of Tennessee, Knoxville, presiding
Gabe Rousseau, Federal Highway Administration, presiding
Jeffrey J. LaMondia, Auburn University, presiding

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

Tuesday

01/13/15

Session 484

Event Title:

Climate Change and Transportation:
Best Papers of 2015

Event Date:

Tuesday, January 13, 2015
8:00AM - 9:45AM

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

Event Date:

Tuesday, January 13, 2015
8:00AM - 9:45AM

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

Measure Development for Closed Highways

Hong Yang, New York University
Kaan Ozbay, New York University
Kun Xie, New York University

**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

Session 492

Event Title:

Optimization and Network Design

Event Date:

Tuesday, January 13, 2015
8:00AM - 9:45AM

Presiding Officers:

Miguel Figliozzi, Portland State University, presiding

Sponsored By:

Transportation Network Modeling (ADB30)

Presentations:**Surrogate Optimization Techniques for Solving Discrete Transportation Network Design Problems**

Omid M. Rouhani, Cornell University

Juliane Müller, Cornell University

H. Oliver Gao, Cornell University

Christine Shoemaker, Cornell University

Eric Jun Wang, Cornell University

Session 493

Event Title:

Accessibility, Commuting,
and Income Dynamics

Event Date:

Tuesday, January 13, 2015
8:00AM - 9:45AM

Presiding Officers:

Ann M. Hartell, Vienna University of Economics and Business, Austria, presiding

Sponsored By:

Social and Economic Factors of Transportation (ADD20)

Event Description:

This session includes papers that deal with the general topic of incident management.

Presentations:**A Look at Relationship Between Households' Housing and Transportation Expenditures from a Lifestyle Perspective**

Devajyoti Deka, Rutgers University

Session 499

Event Title:

Special Topics in Steel Bridges

Event Date:

Tuesday, January 13, 2015
8:00AM - 9:45AM

Presiding Officers:

Dennis R. Mertz, University of Delaware, presiding

Sponsored By:

Steel Bridges (AFF20)

Event Description:

This session covers four topics related to steel bridges. The topics address issues related to a variety of steel bridge types including both relatively routine, short- and moderate-span bridges and also specialty and long-span bridges.

Presentations:**Simple Approach to Calculate Displacements and Rotations in Integral Abutment Bridges**

Suhail Albhaisi, Jacobs Engineering Group Inc.

Hani H. Nassif, Rutgers University

Event Title:

Intercity Passenger
Rail Committee

Event Date:

Tuesday, January 13, 2015
8:00AM - 12:00PM

Presiding Officers:

David P. Simpson, David P. Simpson Consultants, LLC, presiding

Sponsored By:

Intercity Passenger Rail (AR010)

Presentations:

New website launch and demo Maite Pena Alvarez
Newsletter Update Penny Eickemeyer

Session 505

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.

Session 515

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)

Session 522

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, Istanbul Metropolitan Municipality, Turkey

Ilgın 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

Event Date:

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

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

Event Date:

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

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 Designs

Event Date:

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

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)

Event Date:

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

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**

Ozgun 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)

Event Title:

Mechanistic Characterization of Pavement Layers Subcommittee, AFD80(1)

Event Date:

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

Presiding Officers:

Lynne H. Irwin, Cornell University, presiding

Sponsored By:

Strength and Deformation Characteristics of Pavement Sections (AFD80)
Mechanistic Characterization of Pavement Layers (AFD80(1))

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

Lectern Session | Spotlight Session |**AICP Certification Maintenance Session**

Data and Information Technology, Planning and Forecasting

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) through 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:

Aviation Group (AV000)

Aviation Economics and Forecasting (AV040)

Aircraft/Airport Compatibility (AV070)

Aviation Security and Emergency Management (AV090)

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

Omid M. Rouhani, Cornell University

H. Oliver Gao, Cornell University

Hossain Zarei, AECOM

Arash Beheshtian, Cornell University

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 Demiroglu, 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

Presiding Officers:

Geoffrey Scott Baskir, CSSI, Inc., presiding

Sponsored By:

Aircraft/Airport Compatibility (AV070)

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

Presiding Officers:

Catherine Theresa Lawson, State University of New York, Albany, presiding

Sponsored By:

Public Transportation Group (AP000)

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 datasets to strengthen the entire network of information.

Session 677**Event Title:**

Sustainable Transportation
Indicators and Measures - From
Meta to Local Perspectives

Event Date:

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

Presiding Officers:

Todd Alexander Litman, Victoria Transport Policy Institute, Canada, presiding

Sponsored By:

Transportation and Sustainability (ADD40)

Event Description:

Sustainable indicators and performance measures help conceptualize and operationalize sustainability objectives into various levels of transportation-related planning and decision-making. These presentations explore the concept of sustainable indicators and performance measures from a board meta-framework to local perspectives and tools that help integrate sustainability objectives into agency planning (using case study examples of Buffalo, NY and Santa Cruz, CA)..

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

Event Date:

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

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

Session 716

Event Title:

Aging of Asphalt Binders

Event Date:

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

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

Session 720

Event Title:

Experimental and Numerical
Modeling of Asphalt Mixtures
and Pavements

Event Date:

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

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

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

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

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

Event Title:

Marine and Intermodal Caucus

Event Date:

Tuesday, January 13, 2015
5:45PM - 7:15PM

Presiding Officers:

Thomas H. Wakeman, Stevens Institute of Technology, presiding
Barbara Ivanov, Washington State Department of Transportation, presiding

Sponsored By:

Freight Systems Group (AT000)
Marine Group (AW000)

Event Description:

This reception provides an opportunity for those involved or interested in marine and freight transportation to meet or get reacquainted with individuals from industry, government, and academia. A no-host bar will be provided.

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

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

Wednesday

01/14/15

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:**Travel Mode Identification with Smartphones**

Xing Su, The City College of the City University of New York/CUNY

Hernan Andres Caceres Venegas, State University of New York, Buffalo

Hanghang Tong, Arizona State University

Qing He, State University of New York, Buffalo

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 808

Event Title:

New Technologies for Foundation Reuse and Enhancement: Lake Mary Road Bridge, Arizona

Event Date:

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

Presiding Officers:

Scott A. Anderson, 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:**Load Testing for Reuse of Lake Mary Bridge Foundation**

Masoud Sanayei, Tufts University
Sayed M. Sayed, GCI Incorporated
Anil Agrawal, City University of New York, Staten Island
Ahmet Emin Aktan, Drexel University
Nathan T. Davis, Tufts University

Session 815

Event Title:

Advances in Technology, Facilities, and Operations for Winter Maintenance

Event Date:

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

Presiding Officers:

Michael Fitch, Virginia Department of Transportation, presiding

Sponsored By:

Winter Maintenance (AHD65)

Presentations:**Optimization of Vehicle Routing and Scheduling for Winter Road Maintenance Considering Travel Time Variability**

Haifeng Yu, New Jersey Institute of Technology
I-Jy Chien, New Jersey Institute of Technology

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:

Floriea 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

Thursday

01/15/15

Workshop 861

Event Title:

Tools for Evaluating Greenhouse Gas Reduction Strategies

Event Date:

Thursday, January 15, 2015
8:00AM - 12:00PM

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 -- from 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

Workshop 866

Event Title:

Status of Long-Term Bridge Performance Program

Event Date:

Thursday, January 15, 2015
8:00AM - 12:00PM

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



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