### Session

#### Jan 13 - Sunday

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Session Title</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8:00AM - 12:00PM</strong></td>
<td>Marriott - Congressional Meeting</td>
<td>Technical Activities Council, <strong>Members Only</strong></td>
</tr>
<tr>
<td><strong>8:30AM - 12:00PM</strong></td>
<td>Marriott - Thurgood Marshall West</td>
<td>Workshop 101: There Is Plenty of Room at the Bottom: Nanotechnology Applications for Asphalt and Concrete Materials panel discussion</td>
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<td><strong>Panel Discussion</strong></td>
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<td><strong>Dallas N. Little, TTI</strong></td>
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</tbody>
</table>
| **9:00AM - 12:00PM** | Hilton - International West       | Workshop 134: Pricing Start-ups: “Birth” Pains for Priced Roadway Projects

**Lessons Learned from Priced Road Projects Around the Nation**

**Ginger D. Goodin, TTI**

**Workshop 139: Interplay of Congestion Pricing and Alternative Modes**

**What Is the Difference Between Managed Lanes and Salt? I Don’t Know but They Both Hurt Slugs**

**Mark W. Burris, TAMU**

**Workshop 107: Pavement Marking Management: Best Practices and Safety Benefits**

**Specifications and Test Deck Evaluation: ASTM E2832-12 -- Measuring Coefficient of Retroreflective Luminance of Pavement Marking**

**TRB 2013**
### Specifications and Test Deck Evaluation: ASTM E2832-12--Measuring Coefficient of Retroreflected Luminance of Pavement Marking

Paul J. Carlson, TTI

### Doctoral Student Research in Transportation Modeling

*Examining Decision-Making Surrounding the Use of Managed Lanes by Katy Freeway Travelers: A Prospect Theory Approach*

Chao Huang, TTI

### Factoring Bicycle and Pedestrian Data

*Bicycle and Pedestrian Factors: Establishing the Need*

Shawn M. Turner, TTI

### The Future of National Household Travel Data: Getting Feedback from the User Community

Stacey Bricka, TTI

### Emerging Technologies for Quality Assurance–Quality Control of Transportation Infrastructure

*Use of Infrared and Ground-Penetrating Radar to Monitor Hot-Mix Quality*

Tom Scullion, TTI

### History of Superpave: Understanding the Past and Linking to the Future

*Development of Performance Prediction Models*

Robert Leonard Lytton, TAMU

### Strategies to Mitigate Impacts of Heavy Loads Associated with the Energy Sector on Low-Volume Roads

Jolanda P. Prozzi, TTI

### Assessment of Pavement Impacts due to Energy Developments in Texas

Cesar Quiroga, TTI
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<tr>
<td><strong>1:30PM - 4:30PM</strong></td>
<td><strong>Panel Discussion</strong></td>
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<tr>
<td>Workshop 149</td>
<td><strong>Analysis, Modeling, and Simulation in Support of Real-Time Operations and Management</strong></td>
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<td><em>ICM Dallas Project</em></td>
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<td>Presenter: Cesar Quiroga, TTI</td>
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<tr>
<td><strong>2:30PM - 7:00PM</strong></td>
<td><strong>Shoreham - Regency Ballroom</strong></td>
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<tr>
<td>Welcome Session</td>
<td><strong>New Attendees Welcome Session</strong></td>
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<td><em>Getting Involved in TRB</em></td>
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<td>Presenter: Katherine F. Turnbull, TTI</td>
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<tr>
<td><strong>6:00PM - 7:00PM</strong></td>
<td><strong>Marriott - McKinley</strong></td>
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<tr>
<td>Meeting</td>
<td><strong>Operations and Preservation, and Safety and Systems</strong></td>
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<td>Presenter: Paul J. Carlson, TTI</td>
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<tr>
<td><strong>Jan 14 - Monday</strong></td>
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<tr>
<td><strong>8:00AM - 9:45AM</strong></td>
<td><strong>Hilton - Columbia Hall 8</strong></td>
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<tr>
<td>Lectern Session 223</td>
<td><strong>Advances in Travel Survey Methods</strong></td>
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<td><em>Methodology to Gather Multimodal Trip Generation Data in Smart-Growth Areas</em></td>
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<td>Presenter: Benjamin R. Sperry, TTI</td>
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<tr>
<td>Lectern Session 231</td>
<td><strong>Network Modeling Applications and Origin-Destination Estimation</strong></td>
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<td><em>Development and Calibration of Long-Distance Passenger Traffic Assignment Model</em></td>
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<td>Presenter: Wen Wang, TAMU</td>
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<td>Presenter: Bruce Wang, TAMU</td>
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<td>Marriott - Virginia C</td>
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<td>Lectern Session 212</td>
<td><strong>Pavement Preservation Practices, Treatments, and Performance</strong></td>
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<td><em>Evaluating Worst-First and Benefit-Cost Analysis Approaches for Prioritizing Infrastructure Maintenance and Rehabilitation Activity</em></td>
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<td>Presenter: Jose Rafael Menendez, TAMU</td>
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<td>Presenter: Salar Zabihi, TAMU</td>
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</tbody>
</table>
### Evaluating Worst-First and Benefit-Cost Analysis Approaches for Prioritizing Infrastructure Maintenance and Rehabilitation Activity

- Paul John Ross Narciso, TTI
- Nasir G. Gharaibeh, TAMU

### Survival Analysis of Thin Overlay and Chip Seal Treatments Using Long-Term Pavement Performance Data

- Litao Liu, TAMU
- Nasir G. Gharaibeh, TAMU

#### Lectern Session 217  Seeking Solutions to Marine Environmental Challenges

**Marine Highway Transport of Toxic Inhalation Hazard Materials**

- Annie Protopapas, TTI
- Carl James Kruse, TTI
- Leslie Olson, TTI

#### Marriott - Salon 2

**Poster Session 236  Concrete Pavement: Slab-Base Friction, Joint Load Transfer, and DARWin-ME Climate Data**

**Modeling and Calibration of Concrete Slab Interfacial Effects**

- Muhammad Ehsanul Bari, TTI
- Dan G. Zollinger, TAMU

**Poster Session 238  Construction Management: Selected Research Topics**

**Highway Construction and Performance-Based Contracting**

- Meena Nageeb, TAMU
- Ivan D. Damnjanovic, TAMU
- Stuart Anderson, TAMU

**Poster Session 239  Flexible Pavements: Perpetual Pavements, MEPDG, Material Properties, and More**

**Evaluation of Long-Lasting Perpetual Asphalt Pavement Using Life-Cycle Cost Analysis**

- Maryam Sakhaeifar, TAMU

#### Shoreham - Blue Room Foyer

**Poster Session 248  Current Research in Freight Transportation and Logistics Planning and Operations**

**Incorporating Urban Area Truck Freight Value into Texas A&M Transportation Institute’s Urban Mobility Report**

- William L. Eisele, TTI
- David Lynn Schrank, TTI
<table>
<thead>
<tr>
<th>Session</th>
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</table>
| 8:30AM - 10:15AM | Incorporating Urban Area Truck Freight Value into Texas A&M Transportation Institute’s Urban Mobility Report  
Gregory Larson, TTI  
Presenter |
| 10:15AM - 12:00PM | Mobility Analysis and Sustainable Cities in the Developing World  
Quality Control of Toll Data for Mobility Performance Measures on Jingshen Expressway in China  
Tongbin Teresa Qu, TTI  
Presenter |
| Hilton - Columbia Hall 5 | Pavement Condition Evaluation: What's Below the Surface?  
Development and Initial Testing of Total Pavement Acceptance Device  
Tom Scullion, TTI  
Presenter  
Wenting Liu, TTI  
Presenter |
Budget Allocation for Dredging Project Selection to Maximize Waterway System Capacity Improvement  
Bruce Wang, TAMU  
Presenter  
Mohammadadel Khodakarami, TAMU  
Presenter |
| Shoreham - Capitol | Freight Modeling Subcommittee  
Bruce Wang, TAMU  
Presiding |
| Lectern Session 264 | Modeling Theories and Practices in Freight Planning and Logistics, Part 1 (Part 2, Session 321)  
Bruce Wang, TAMU  
Presiding |
| Lectern Session 269 | Nondestructive Evaluation of Transportation Structures  
Concrete Tunnel Lining Evaluation Using Nondestructive Techniques: Multimethod Case Study at Eisenhower Tunnel, Colorado  
Joshua White, TAMU  
Presenter  
Stefan Hurlebaus, TAMU  
Presenter  
Andrew Wimsatt, TAMU  
Presenter |
| Lectern Session 271 | Truck Size and Weight Enforcement  
Impacts of Route Restrictions on the Movement of Oversize and Overweight Loads  
TRB 2013 |
### Session Title

#### 10:15AM - 12:00PM

*Impacts of Route Restrictions on the Movement of Oversize and Overweight Loads*

- Dan Middleton, TTI
- Yingfeng Li, TTI

#### 10:45AM - 12:30PM

**Hilton - International Center**

**Poster Session 294**

*Congestion Pricing, Parking Pricing, and Managed Lanes Showcase*

1. **Distance-Based Charging in the New Transportation Ecosystem**
   - Richard Tremain Baker, TTI
   - Ginger D. Goodin, TTI

2. **Enforcement Evaluation of I-10 Katy Freeway Managed Lanes**
   - Nicholas S. Wood, TTI

3. **I-35W South Mnpass High-Occupancy-Toll Lanes**
   - Katherine F. Turnbull, TTI

4. **Short-Run Impact of Gas Price Fluctuations on Toll Road Use**
   - Chao Huang, TTI
   - Mark W. Burris, TAMU

**Poster Session 296**

*Revenue and Finance Showcase*

1. **Feedback Loop Dynamics in Financial Stress Testing of Toll Road Projects**
   - David Ford, TAMU
   - Ivan D. Damnjanovic, TAMU

2. **Performance-Based Framework to Include Air Quality in Mileage-Based User Fees: Framework Structure**
   - Mohamadreza Farzaneh, TTI
   - Richard Tremain Baker, TTI
   - Mark W. Burris, TAMU

**Poster Session 298**

*Transportation Economics*

- Mark W. Burris, TAMU

**Marriott - Salon**

**Poster Session 289**

*Highway Safety Performance*

1. **Influence of Land Use and Driveway Placement on Safety Performance of Arterial Highways**
   - Raul E. Avelar, TTI
   - Karen K. Dixon, TTI

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### Session Title

#### Jan 14 - Monday

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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>10:45AM - 12:30PM</td>
<td><strong>Severity Distribution Function For Freeway Segments</strong></td>
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<tr>
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<td>Srinivas Geedipally, TTI  Presenter</td>
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<td>Michael Paul Pratt, TTI  Presenter</td>
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<td>Dominique Lord, TAMU  Presenter</td>
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#### Poster Session 292

**Pavement Materials and the Urban Climate: Another Step Forward**

*Durability Quantification for TiO2 Photocatalytic Concrete and Asphalt Pavements*

Somayeh Asadi, TAMU, Kingsville  Presenter

**Using Artificial Intelligence Models to Evaluate Field Performance of Photocatalytic Asphalt Pavement for Ambient Air Purification**

Somayeh Asadi, TAMU, Kingsville  Presenter

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<tr>
<td>1:30PM - 3:15PM</td>
<td><strong>Trends in U.S. Transportation Systems: Freight</strong></td>
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<td>Katherine F. Turnbull, TTI  Presiding</td>
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#### Hilton - Columbia Hall 6

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<thead>
<tr>
<th>Session</th>
<th>Title</th>
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<tbody>
<tr>
<td>332</td>
<td>Trends in U.S. Transportation Systems: Freight</td>
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#### Marriott - Park Tower Suite 8222

<table>
<thead>
<tr>
<th>Subcommittee</th>
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<tbody>
<tr>
<td>Freeway Safety and Operations Subcommittee</td>
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#### Marriott - Park Tower Suite 8222

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<tr>
<th>Session</th>
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<tr>
<td>302</td>
<td>Ensuring Data Quality: What Are the Pitfalls and How Can We Overcome Them?</td>
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<td>ifford H. Spiegelman, TAMU  Presiding</td>
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<tr>
<th>Session</th>
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<tbody>
<tr>
<td>312</td>
<td>Vehicle Forward Lighting: Applications and Innovations</td>
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</table>

*Applying Sign Luminance Computation Model to Study Effects of Other Vehicles on Sign Luminance*

Fan Ye, TTI  Presenter
Paul J. Carlson, TTI  Presenter
Bradford Brimley, TTI  Presenter
### Session Title

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<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Committee</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>1:30PM - 3:15PM</td>
<td>Shoreham - Senate</td>
<td>Marine Environmental Committee</td>
<td>Carl James Kruse, TTI</td>
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<tr>
<td>1:30PM - 5:30PM</td>
<td>Marriott - Washington B5</td>
<td>Pavement Preservation Committee</td>
<td>Roger E. Smith, TAMU</td>
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<tr>
<td>2:00PM - 3:45PM</td>
<td>Hilton - International Center</td>
<td>Ongoing Research in Paratransit Modeling</td>
<td>Luca Quadrifoglio, TAMU</td>
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<tr>
<td>3:45PM - 5:30PM</td>
<td>Hilton - International Center</td>
<td>Performance Measurement</td>
<td>Timothy J. Lomax, TTI</td>
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</tbody>
</table>

**Session Intercity Passenger Rail: Forecasting Its Role, Understanding Its Impacts**

*Development of A Multi-Criteria Decision Method for High-Speed Rail Corridor Evaluation*

**Presenter**

Benjamin R. Sperry, TTI

**Committee**

Marine Environmental Committee

**Session**

**Committee**

Pavement Preservation Committee

**Benefits of Subsurface Utility Engineering Services in Transportation Projects**

Yingfeng Li, TTI
Edgar Kraus, TTI
Cesar Quiroga, TTI

**Ongoing Research in Paratransit Modeling**

*Binational Contexts: Social and Economic Consequences of Border Delays*

*Modeling Spatial Effects on Demand Estimation of ADA Paratransit Services*

Pei-Fen Kuo, TAMU
Chung-Wei Shen, TAMU
Luca Quadrifoglio, TAMU

**Performance Measurement**

*Addressing Sustainability and Strategic Planning Goals Through Performance Measures: Study of Bus Rapid Transit Systems in El Pa*

Tara Ramani, TTI
Josias Zietsman, TTI

*Creating a New Method to Identify the Worst Bottlenecks in Texas*

David Lynn Schrank, TTI
Timothy J. Lomax, TTI
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<tr>
<th>Poster Session</th>
<th>Session Title</th>
<th>Presenter(s)</th>
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</table>
| 356           | Socioeconomic Tools and Measures to Improve Outcomes of Transportation Investments to Communities  
*Binational Contexts: Social and Economic Consequences of Border Delays*  
Sharada R. Vadali, TTI | Marriot - Salon 2                                                                                                                              |
| 336           | Current Topics in Traffic Control Devices  
*Driving Simulator Study of Signing for Complex Interchanges*  
Kay Fitzpatrick, TTI  
Alicia A. Nelson, TTI  
Vichika Iragavarapu, TTI  
*Evaluation of Lighted Pavement Marking System for Lane Delineation*  
Roma Garg Stevens, TTI  
Jonathan Tydlacka, TTI  
Anthony Voigt, TTI  
*Modeling Pedestrian Delay at High-Intensity Activated Crosswalk with Generalized Linear Models*  
Yunlong Zhang, TAMU |                                                                                                                                             |
| 339           | Modeling Work Zone Safety and Operations  
*Enhancing Work Zone Travel Time Estimation Using Smart Work Zone Data*  
Praprut Songchitrakra, TTI  
Dan Middleton, TTI  
*Simulation-Based Evaluation of Dynamic Queue Warning System Performance*  
Geza Pesti, TTI  
Chi-Leung Chu, TTI  
Hassan Charara, TTI  
Gerald L. Ullman, TTI  
Kevin N. Balke, TTI |                                                                                                                                             |
| 351           | Health Analysis Applied to Transportation  
*Integrated Analysis of Workers' Physically Active Activity and Active Travel Choice Behavior*  
Ipek Nese Sener, TTI | Shoreham - Blue Room Foyer                                                                                                                    |
| 344           | Maritime Infrastructure: Funding, Performance, and Economic Impacts  
*TRB 2013* |                                                                                                                                               |
Session Title

**2:00PM - 3:45PM**

*Cruise Line Revenue Management at Disney World*

Qing Miao, TAMU  
Presenter

Bruce Wang, TAMU  
Presenter

*Measuring the Direct Economic Effects of Reduced Depth from a Lack of Maintenance Dredging of Ship Channels*

Carl James Kruse, TTI  
Presenter

Annie Protopapas, TTI  
Presenter

**Poster Session 345  Recent Research on Inland Waterways Transportation**

*Modal Comparison of Domestic Freight Transportation Effects on the General Public*

Annie Protopapas, TTI  
Presenter

Carl James Kruse, TTI  
Presenter

Leslie Olson, TTI  
Presenter

**3:45PM - 5:30PM**

**Hilton - Columbia Hall 9**

*Network Models for Transit and Facility Location*

*U.S. Postal Airmail Routing Optimization*

Bruce Wang, TAMU  
Presenter

Qing Miao, TAMU  
Presenter

**Marriott - Virginia C**

*Roadway Illumination Systems: Meeting Drivers' Visual Needs*

*Analyzing Nighttime Visibility of In-Service Pavement Markings*

Fan Ye, TTI  
Presenter

Paul J. Carlson, TTI  
Presenter

Jeffrey David Miles, TTI  
Presenter

**Shoreham - Ambassador**

*Tire-Pavement Friction*

*Comparative Evaluation of Locked-Wheel and Fixed-Slip Skid Systems*

Emmanuel G. Fernando, TTI  
Presenter

Richard Zimmer, TTI  
Presenter

**4:15PM - 6:00PM**

**Hilton - International Center**

*Field Monitoring and Maintenance of Highway Bridge*
### Analysis of Texas Superheavy Load Criteria for Bridges

Byungik Chang, West TAMU  
Presenter

Hao Zou, West TAMU  
Presenter

### SHRP 2 Capacity and Reliability: Works in Progress

**Traveler Information and Travel Time Reliability**

Beverly T. Kuhn, TTI  
Presenter

### Transportation Data Applications

**Innovations in the Use of Utility Conflict Matrices to Optimize Project Development and Delivery**

Edgar Kraus, TTI  
Presenter

Cesar Quiroga, TTI  
Presenter

### Best of the Fourth Urban Street Symposium

**Before-and-After Study of Effectiveness of Rectangular Rapid-Flashing Beacons Used with School Sign in Garland, Texas**

Marcus A. Brewer, TTI  
Presenter

Kay Fitzpatrick, TTI  
Presenter

### Driver and Worker Behavior in Work Zones

Gerald L. Ullman, TTI  
Presiding

**Motorists Understanding of Automated Flagger Assistance Devices in Work Zones**

Nada Trout, TTI  
Presenter

Melisa Dayle Finley, TTI  
Presenter

Brooke R. Ullman, TTI  
Presenter

### Current Research in Urban Freight Transportation

**Estimating Urban Freight Congestion Costs: Methodologies, Measures, and Applications**

William L. Eisele, TTI  
Presenter

David Lynn Schrank, TTI  
Presenter

Timothy J. Lomax, TTI  
Presenter
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</table>
| 6:00PM - 7:15PM | Marriott - Thurgood Marshall North | **Communicating Through Traffic Control Devices**<br>Developing Long-Range Vision and Strategic Plan for the Future of the Manual on Uniform Traffic Control Devices<br>Katherine F. Turnbull, TTI  
Possible Expectancy Violations on Frontage Roads and Conventional Roads at Interchanges and Lane Assignment Traffic Control Devices<br>H. Gene Hawkins, TAMU  
Jonathan Tydлacka, TTI  
Anthony Voigt, TTI |
| 7:30PM - 9:30PM | Marriott - Thurgood Marshall North | **Intelligent Transportation Systems in Practice: Present Experience and Future Outlook**<br>State of the Practice on Use of Intelligent Transportation Systems at U.S.-Mexico Land Border Crossings<br>Shoreham - Empire | Rajat Rajbhandari, TAMU  
Juan Carlos Villa, TTI  
Roberto Macias, TTI |

### Jan 15 - Tuesday

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<tr>
<th>Time</th>
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<th>Session Title</th>
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| 8:00AM - 12:00PM | Hilton - Columbia Hall 11 & 12 | **New W-Beam Guardrail Designs**<br>MASH TI-2 Guardrail-to-Bridge-Rail Transition Compatible with 31-in. Guardrail<br>Roger P. Bligh, TTI  
Dusty Arrington, TTI |
|               |                   | **New MASH-Compliant Guardrail System for Placement on Slope**                |
|               |                   | Akram Abu-Odeh, TTI |

**Committee**<br>Transportation Economics Committee

Mark W. Burris, TAMU  
Presiding
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| **8:00AM - 12:00PM** | *Understanding Perception-Reaction Time and Associated Driver Behavior on Urban Roadways through Stimulation*  
Brown, Lacy, TAMU  
Presenter  
Marriott - Washington B5  
Committee  
Pedestrians Committee  
Shawn M. Turner, TTI  
Presiding |
| **8:00AM - 9:45AM** | |
| Marriott - Virginia B |  
**Lectern Session 461**  
*Advances in Composite Technology Around the World, Part 3 (Part 1, Session 300; Part 2, Session 426)*  
*Comparative Experimental Performance of Bridge Deck Slabs with AFRP and Steel Prestressed Precast Panels*  
Shobeir Pirayeh Gar, TAMU  
Presenter  
Stefan Hurlebaus, TAMU  
Presenter  
John Mander, TAMU  
Presenter  
**Lectern Session 467**  
*Moisture Damage Characterization of Asphalt Mixtures*  
*Continuum-Coupled Moisture-Mechanical Damage Model for Asphalt Concrete*  
Maryam Shakiba, TAMU  
Presenter  
Rashid K. Abu Al-Rub, TAMU  
Presenter  
Masoud K. Darabi, TTI  
Presenter  
Taesun You, TAMU  
Presenter  
Eyad A. Masad, TAMU  
Presenter  
Dallas N. Little, TTI  
Presenter |
| Shoreham - Regency Ballroom |  
**Lectern Session 479**  
*On the Ground Managing Pavements: State of the Practice and Agency Experience*  
*Current Practices for Prioritization of Rehabilitation and Preventive Maintenance of Pavement Projects in Texas*  
Paul E. Krugler, TAMU  
Presenter  
Thomas Freeman, TTI  
Presenter |
| **8:30AM - 10:15AM** | |
| Hilton - International Center |  
**Poster Session 503**  
*Current Issues in Transportation Energy, Alternative Fuels, and Climate Change*  
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<td>Impacts of Energy Developments on Highway Systems</td>
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<td><strong>Poster Session 505</strong> Innovations in Public Involvement</td>
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<td>I-35 Mobility Coordination Project of Texas Department of Transportation, Waco, Texas</td>
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<td>Christopher M. Poe, TTI</td>
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<tr>
<td>9:45AM - 9:55AM</td>
<td>Hilton - Monroe</td>
<td>The Future of National Household Travel Data: Getting Feedback from the User Community</td>
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<td>Stacy Bricka, TTI</td>
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<tr>
<td>10:15AM - 12:00PM</td>
<td>Marriott - Park Tower Suite 8206</td>
<td><strong>Subcommittee LIST Transportation Research Thesaurus Subcommittee</strong></td>
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<td>Sandra L. Tucker, TAMU</td>
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<td><strong>Lectern Session 530</strong> Artificial Intelligence Tools for Using Publicly Available Transportation Data Sets</td>
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<td>Yunlong Zhang, TAMU</td>
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<td><strong>Lectern Session 534</strong> Energy Developments and the Transportation System: Current and Future Challenges, Research Needs, and Opportunities</td>
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<td>Yingfeng Li, TTI</td>
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<td>Edgar Kraus, TTI</td>
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<td>Karen K. Dixon, TTI</td>
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<td><strong>Lectern Session 517</strong> Measurement and Prediction of Asphalt Pavement Surface Characteristics</td>
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<td>Development of Predictive Model for Skid Loss of Asphalt Pavements</td>
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<td>Development of Predictive Model for Skid Loss of Asphalt Pavements</td>
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<td>Emad Kassem, TTI Presenter</td>
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<td>Retrofit Bridge Rail Design and Testing for Historic Texas Steel Truss Bridge</td>
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<td>William Williams, TTI Presenter</td>
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<td>Poster Session 557</td>
<td>Current Issues in Transportation and the Environment</td>
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<td>Environmentally Conscious Highway Design for Vertical Grades</td>
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<td>Myunghoon Ko, TTI Presenter</td>
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<td>Dominique Lord, TAMU Presenter</td>
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<td>Josias Zietsman, TTI Presenter</td>
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<td>Evaluation of CO and NOx Emissions from MOVES and MOBILE6.2 in Southeast Texas Using Source-Oriented CMAQ Model</td>
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<td>Sri Harsha Kota, TAMU Presenter</td>
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<td>Qi Ying, TAMU Presenter</td>
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<td>Hongliang Zhang, TAMU Presenter</td>
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<td>Gunnar W. Schade, TAMU Presenter</td>
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<td>Probability Model for Understanding Effect of Detector Delay on Right-Turn-on-Red Traffic</td>
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<td>Xiaosi Zeng, TAMU Presenter</td>
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<td>Yunlong Zhang, TAMU Presenter</td>
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<td>Praprut Songchitrunka, TTI Presenter</td>
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<td>Poster Session 546</td>
<td>New Developments in User Information</td>
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</table>
Univariate Volatility-Based Models for Improving Quality of Travel Time Reliability Forecasting
Ranye Sun, TAMU
Xiaosi Zeng, TAMU

Simulation and Measurement of Driver Performance
Evaluation and Development of Vehicle-Type-Specific Acceleration Models
Caoyi Gu, TAMU
Yunlong Zhang, TAMU

Transportation Visualization
Multiresolution Visualization Tools to Aid in Conducting Road Safety Audits
Jeffrey A. Shelton, TTI
Gabriel A. Valdez Ceniceros, TTI

Visibility and Visual Information for Roadways
Assessment of Background Complexity of Overhead Guide Signs from Nighttime Digital Images of Roadway Scenes by Image Proces
Hancheng Ge, TAMU
Yunlong Zhang, TAMU
Jeffrey David Miles, TTI
Paul J. Carlson, TTI

Performance Evaluation of Permeable Friction Courses in Texas
Edith Arambula, TTI
Lorena Garcia Cucalon, TTI
Divya Valluri, TTI
Amy Epps Martin, TAMU
Cindy K. Estakhri, TTI

Premature Cracking in Foamed Asphalt Pavement: Peru-Brazil Highway Case Study
Jose Rafael Menendez, TAMU

Keys to Deploying Research Results
Katherine F. Turnbull, TTI Presiding
### 1:30PM - 3:15PM

#### Marriott - Washington B5

**Committee**: Operational Effects of Geometrics Committee  

**Meeting Title**: Nondestructive Evaluation Of Concrete Linings At Hanging Lake Tunnel  

**Presenter**: Stefan Hurlebaus, TAMU

#### Marriott - Balcony B

**Committee**: Tunnels and Underground Structures Committee

**Meeting Title**: Nondestructive Evaluation Of Concrete Linings At Hanging Lake Tunnel  

**Presenter**: Joshua White, TAMU

### Marriott - Washington B5

**Meeting Title**: Traffic Law Enforcement Applications to Enhance Officer Safety, Efficiency, and Highway Safety

**Presenter**: Myunghoon Ko, TTI

### Marriott - Balcony B

**Meeting Title**: Work Zone Intelligent Transportation Systems: Where Are We Now?

**Presenter**:Robert E Brydia, TTI

### Marriott - Washington B5

**Meeting Title**: Construction Traveler Information Systems for I-35 Widening in Central Texas

**Presenter**: Christopher M. Poe, TTI

### Marriott - Washington B5

**Meeting Title**: Construction Traveler Information Systems for I-35 Widening in Central Texas

**Presenter**: Anthony Voigt, TTI

### Marriott - Washington B5

**Meeting Title**: Construction Traveler Information Systems for I-35 Widening in Central Texas

**Presenter**: Gerald L. Ullman, TTI

### Marriott - Washington B5

**Meeting Title**: Traffic Law Enforcement Applications to Enhance Officer Safety, Efficiency, and Highway Safety

**Presenter**: Srinivas Geedipally, TTI

### Marriott - Washington B5

**Meeting Title**: Traffic Law Enforcement Applications to Enhance Officer Safety, Efficiency, and Highway Safety

**Presenter**: Troy Duane Walden, TTI

### Marriott - Washington B5

**Meeting Title**: Work Zone Intelligent Transportation Systems: Where Are We Now?

**Presenter**: Andrew Wimsatt, TAMU
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<th>Presenter</th>
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<td>609</td>
<td>Applications of Artificial Intelligence in Transportation</td>
<td>Yunlong Zhang, TAMU</td>
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<td>Forecasting of Short-Term Urban Rail Transit Passenger Flow with Support Vector Machine Hybrid Online Model</td>
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<tr>
<td>611</td>
<td>Applying New Methodologies and Practices to Decision-Making Challenges</td>
<td>LuAnn Theiss, TTI</td>
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<td>Development of an Asset Management Screening Tool</td>
<td>Beverly T. Kuhn, TTI</td>
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<td>Yonggao Yang, P V &amp;M</td>
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<td>Judy A. Perkins, P V &amp;M</td>
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<tr>
<td>613</td>
<td>Dwight David Eisenhower Transportation Fellowship Program, Part 1 (Part 2, Session 663)</td>
<td>Evelio Siller, TAMU, Kingsville</td>
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<tr>
<td>615</td>
<td>Innovations in Travel Surveys</td>
<td>Prem Chand Devarasetty, TAMU</td>
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<td>Examining Differences Between Travelers’ Revealed Versus Actual Travel Time Savings</td>
<td>Mark W. Burris, TAMU</td>
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<td>Chao Huang, TTI</td>
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<td>596</td>
<td>Asphalt Additives and Processes Affecting Its Workability and Performance: Traditional and Nontraditional</td>
<td>Fujie Zhou, TTI</td>
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<td>Recycled Asphalt Shingle Binder Characterization and Blending with Virgin Binders</td>
<td>Hongsheng Li, TTI</td>
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<td>Tom Scullion, TTI</td>
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<td>599</td>
<td>Characterization and Modeling of Asphalt Mixtures, Part 1 (Part 2, Session 653)</td>
<td>Lubinda F. Walubita, TTI</td>
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<td>Characterization of Hot-Mix Asphalt Permanent Deformation: Flow Number Test and Fn Index Concept</td>
<td>Jun Zhang, TTI</td>
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<td>Tom Scullion, TTI</td>
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<td>Constitutive Modeling of Cyclic Viscoplastic Response of Asphalt Concrete</td>
<td>Masoud K. Darabi, TTI</td>
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<td>Rashid K. Abu Al-Rub, TAMU</td>
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### Constitutive Modeling of Cyclic Viscoplastic Response of Asphalt Concrete
- Eyad A. Masad, TAMU
- Dallas N. Little, TTI

### Effect of Confinement Pressure on the Nonlinear-Viscoelastic Response of Asphalt Concrete at High Temperatures
- Eisa Rahmani, TAMU
- Rashid K. Abu Al-Rub, TAMU
- Masoud K. Darabi, TTI
- Emad Kassem, TTI
- Eyad A. Masad, TAMU
- Dallas N. Little, TTI

### Mechanistic Modeling of Fracture in Asphalt Mixtures Under Compressive Loading
- Yuqing Zhang, TAMU
- Rong Luo, TTI
- Robert Leonard Lytton, TAMU

### Modeling Water Vapor Diffusion in Pavement and Its Influence on Fatigue Crack Growth of Fine Aggregate Mixture
- yunwei tong, TAMU
- Rong Luo, TTI
- Robert Leonard Lytton, TAMU

### X-Ray CT-Based Three-Dimensional Microstructural Modeling of Asphalt Concrete
- Taesun You, TAMU
- Rashid K. Abu Al-Rub, TAMU
- Eyad A. Masad, TAMU
- Dallas N. Little, TTI

#### Poster Session 604 Test Methods, Modeling, and Applications of New Tools to Characterize and Predict Binder Properties

**Obtaining Nanorheology of Asphalt Binders Using Atomic Force Microscope and Modified Fischer-Cripps Solution**
- Rezwan Jahangir, TAMU
- R. Grover Allen, TAMU
- Dallas N. Little, TTI

**Structural Characterization of Micromechanical Properties in Asphalt Using Atomic Force Microscopy**
- R. Grover Allen, TAMU
- Dallas N. Little, TTI

#### Poster Session 606 TRB’s IDEA Programs: Sponsoring Innovation in Transportation

**Determination of the Longitudinal Stress in Rails, Safety IDEA Project 15**
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</table>
| **Determination of the Longitudinal Stress in Rails, Safety IDEA Project 15**  
Stefan Hurlebaus, TAMU  
Presenter |
| **Shoreham - Blue Room Foyer**  
Poster Session 608  
Current Issues in Aviation  
**Productivity Performance of U.S. Passenger Airlines Since Deregulation**  
Judy A. Perkins, P V A&M  
Presenter |
| 3:45PM - 5:30PM |
| **Subcommittee Household Travel Surveys Subcommittee**  
Stacey Bricka, TTI  
Presiding |
| **Hilton - International East**  
Lectern Session 640  
Bicycle and Pedestrian Counting Data and Collection Methods  
**Quality Counts for Pedestrians and Bicyclists: Quality Assurance Procedures for Nonmotorized Traffic Count Data**  
Shawn M. Turner, TTI  
Presenter  
Philip H. Lasley, TTI  
Presenter |
| **Lectern Session 647  
Research on Transportation Planning in Small and Medium-Sized Communities**  
**Examining Attitudes and Valuation of High-Speed Rail Travel Among Residents of Small and Medium-Sized Communities**  
Benjamin R. Sperry, TTI  
Presenter  
Mark W. Burris, TAMU  
Presenter  
Kyle M. Woosnam, TAMU  
Presenter |
| **Marriott - Thurgood Marshall North**  
Lectern Session 625  
Recent Work Zone Safety and Mobility Research  
**Field Evaluation of Automated Flagger Assistance Devices in Work Zones on Two-Lane Roads**  
Melisa Dayle Finley, TTI  
Presenter |
| **Shoreham - Ambassador**  
Lectern Session 631  
Roadway Departure Crashes and Countermeasures  
**New Run-off-Road Crash Prediction Models for the Highway Safety Manual**  
Karen K. Dixon, TTI  
Presenter |
<p>| 4:15PM - 6:00PM |</p>
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<td>Hilton - International Center</td>
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| Poster Session 663 | Dwight David Eisenhower Transportation Fellowship Program, Part 2 (Part 1, Session 613)  
_Nanotechnology in Concrete: How Sustainable Is This New Technology?_  
La Sasha Walker, P V A & M  
Steven Lewis, P V A&M  
Presenter                                                                                                                                 |
| Marriott - Salon 2 |                                                                                                                                                                                                             |
| Poster Session 653 | Characterization and Modeling of Asphalt Mixtures: Part 2 (Part 1, Session 599)  
_Constitutive Modeling of Fatigue Damage Response of Asphalt Concrete Materials_  
Masoud K. Darabi, TTI  
Rashid K. Abu Al-Rub, TAMU  
Eyd A. Masad, TAMU  
Dallas N. Little, TTI  
Presenter  
_Fracture Energy Index Concept: Comparing Monotonic Loading Hot-Mix Asphalt Crack Tests_  
Abu Nayeem Md. Faruk, TTI  
Lubinda F. Walubita, TTI  
Tom Scullion, TTI  
Presenter  
_Laboratory HMA Cracking Testing: Evaluation of Three Repeated Loading Crack Tests_  
Lubinda F. Walubita, TTI  
Abu Nayeem Md. Faruk, TTI  
Tom Scullion, TTI  
Presenter  
_Modified Paris’ Law to Predict Entire Crack Growth in Asphalt Mixtures_  
Xue Luo, TTI  
Rong Luo, TTI  
Robert Leonard Lytton, TAMU  
Presenter |
| Poster Session 654 | Emulsified Asphalts: Tests, Properties, Performance, and Field Applications  
_Revision and Further Validation of Surface-Performance Graded Specification for Surface Treatment Binders_  
Aishwarya Vijaykumar, TAMU  
Amy Epps Martin, TAMU  
Edith Arambula, TTI  
Presenter |
| Poster Session 657 | Rutting and Thermal Segregation of Hot-Mix Asphalt  
_Creep and Repeated Creep-Recovery as Rutting Performance Tests for Airport Hot-Mix Asphalt Mix Design_  
Dallas N. Little, TTI  
Presenter |
Analyzing Different Functional Forms of the Varying Weight Parameter for Finite Mixture of Negative Binomial Regression Models

Yajie Zou, TAMU
Yunlong Zhang, TAMU
Dominique Lord, TAMU
Yichuan Peng, TAMU

Comparison of Sichel and Negative Binomial Models in Estimating Empirical Bayes Estimates

Yajie Zou, TAMU
Dominique Lord, TAMU
Yunlong Zhang, TAMU
Yichuan Peng, TAMU

Evaluating Double Poisson Generalized Linear Model

Srinivas Geedipally, TTI
Dominique Lord, TAMU

Economic Impacts of Amtrak Intercity Passenger Rail Service in Michigan: Community-Level Analysis

Benjamin R. Sperry, TTI

Assessment of Introductory Transportation Engineering Course and General Transportation Engineering Curriculum

H. Gene Hawkins, TAMU
### Jan 15 - Tuesday

#### 7:30PM - 9:30PM

**Lectern Session** 685  **Implementing Sustainability in Transportation Agencies**

Tara Ramani, TTI  Presiding

#### Marriott - Salon 2

**Poster Session** 668  **Intelligent Transportation Systems**

*Vehicle-to-Vehicle Connectivity on Two Parallel Roadways with General Headway Distribution*

Kai Yin, TAMU  Presenter
Xiubin Bruce Wang, TAMU  Presenter
Yunlong Zhang, TAMU  Presenter

**Poster Session** 669  **Pedestrian Design, Safety, and Behavior**

*Effect of Left-Turn Operational Mode on Pedestrian Safety: Development of Models and Guidelines*

Michael Paul Pratt, TTI  Presenter
Praprut Songchitruxska, TTI  Presenter

#### Shoreham - Capitol

**Committee**  Freight Transportation Planning and Logistics Comm

Kiubin Bruce Wang, TAMU  Presiding

### Jan 16 - Wednesday

#### 6:30AM - 9:00AM

**Marriott - Capitol Boardroom**

**Meeting**  Operations and Preservation Group Executive Board

Paul J. Carlson, TTI  Presiding

#### 8:00AM - 12:00PM

**Hilton - Gunston**

**Task Force**  Task Force on Understanding New Directions for the National Household Travel Survey Task Force

Stacey Bricka, TTI  Presiding
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<tr>
<td>Committee</td>
<td>Signing and Marking Materials Committee</td>
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<td>Optimization Design and Experiment on Plane Layout of Edge Line Marking for Speed Reduction</td>
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<td>Lingzi Cheng, TAMU</td>
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<td>8:00AM - 9:45AM</td>
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<td>Hilton - Jefferson East</td>
<td>Knowledge Transfer within Transportation Research Board Standing Committees</td>
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<td>Lectern Session</td>
<td>Response from TRB Chairs</td>
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<td>Katherine F. Turnbull, TTI</td>
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<td>Marriott - Washington B3</td>
<td>Active Traffic Management Joint Subcommittee of AHB20, AHB35</td>
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<td>Beverly T. Kuhn, TTI</td>
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<td>Advanced Planning Applications</td>
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<td>Poster Session</td>
<td>TourCast: Trade-offs in Activity-Based Model Implementations</td>
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<td>James A. Mullins III, TTI</td>
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<td>Finding Our Way: Modeling Route Choice</td>
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<td>Investigating Changes in Willingness to Pay for Managed Lane Systems: Quasi-Panel Approach</td>
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<td>Mark W. Burris, TAMU</td>
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<td>Prem Chand Devarasetty, TAMU</td>
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### Session Title

#### 8:30AM - 10:15AM

**Poster Session 727** Innovations in Geometric Design Research

*Modeling Operating Speed using Traffic, Posted Speed Limit, and Geometric Characteristics*

- Kay Fitzpatrick, TTI
- James Robertson, TTI
- Eun Sug Park, TTI
- Vichika Iragavarapu, TTI

**Poster Session 730** Roadside Barrier Simulation, Testing, and Performance

*Crash Wall Design to Protect Mechanically Stabilized Earth Retaining Walls*

- Akram Abu-Odeh, TTI

*Design and Full-Scale Testing of Texas Department of Transportation Type T131RC Bridge Rail*

- William Williams, TTI

*Development Guidance for Minimum Sign Area for Slipbase Supports*

- Chiara Silvestri, TTI
- Dusty Arrington, TTI
- Roger P. Bligh, TTI

#### 10:15AM - 12:00PM

**Hilton - Georgetown West**

**Lectern Session 760** Measuring Reliability in the Context of MAP-21

*Measuring and Reporting Travel Time Reliability Statistics for the Most Congested Corridors in the United States: Methodology and*

- William L. Eisele, TTI
- David Lynn Schrank, TTI
- Timothy J. Lomax, TTI

**Marriott - Washington B3**

**Committee** Managed Lanes Committee

**Ginger D. Goodin, TTI** Presiding

**Lectern Session 742** Emerging Roadside Barrier Issues Identified by National Transportation Safety Board

*Research Aspects of the NTSB Barrier Recommendations*

- Roger P. Bligh, TTI

**Shoreham - Hampton**

**Lectern Session 749** Financing 21st Century International Land Ports of Entry: Doing Things Smarter, Better, Faster

- Juan Carlos Villa, TTI

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### Hilton - Monroe

**Committee**  
Transportation and Sustainability Committee  
**Presiding**  
Josias Zietsman, TTI

#### Lectern Session 793
**Innovations in Spatial Analysis Techniques and Applications in Transportation**  
**Presiding**  
Cesar Quiroga, TTI

#### Lectern Session 797
**Smarter, Better, and Faster in Planning and Operating Rural Public Transportation: National and International Experience**  
**Connection Between Rural Transit and Rural Livability**  
- Suzie Edrington, TTI  
- Jonathan Paul Brooks, TTI

**Measuring Transit and Livability in Rural America, Rural Transit Livability Index (RTLI)**  
- Jonathan Paul Brooks, TTI  
- Suzie Edrington, TTI

### Marriott - Thurgood Marshall North

#### Lectern Session 768
**Active Traffic Management: Technology, Data, and Users**  
**Presiding**  
Beverly T. Kuhn, TTI

#### Lectern Session 773
**Evaluating Effectiveness of Sealing Portland Cement Concrete Joints**  
**Evaluation of Joint Sealant Effectiveness on Moisture Infiltration and Erosion Potential in Concrete Pavement**  
- Keivan Neshvadian Bakhsh, TAMU  
- Dan G. Zollinger, TAMU  
- Youn-Su Jung, TTI

#### Lectern Session 774
**Retroreflectivity and Wet Night Visibility of Pavement Markings**  
**Investigation of Longitudinal Pavement Marking Retroreflectivity and Safety**  
- Paul J. Carlson, TTI

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Session 775  
**Investigation of Longitudinal Pavement Marking Retroreflectivity and Safety**
- Eun Sug Park, TTI  
- Dong Hun Kang, TTI  

**Lectern Session 775**  
**Understanding Characteristics of Managed-Lane Users**
- Prem Chand Devarasetty, TAMU  
- Mark W. Burris, TAMU  
- Winfred Arthur, TAMU  
- Jennifer McDonald, TAMU  
- Gonzalo Munoz, TAMU  

**Impacts to Transit from Variably Priced Toll Lanes: Results from U.S. Department of Transportation Urban Partnership Agreements**
- Katherine F. Turnbull, TTI  

**Lectern Session 799**  
**Evaluating, Improving, and Implementing Innovative Concrete Curing Technologies for Concrete Pavements**
- Dan G. Zollinger, TAMU  

**Shoreham - Ambassador**  
**Session 780**  
**Advances in Assessing Impact of Data on Pavement Management Decisions**
- Siamak Saliminejad, TAMU  
- Nasir G. Gharaibeh, TAMU  

**Lectern Session 781**  
**Application of ITE's Recommended Practice: Designing Walkable Urban Thoroughfares--A Context-Sensitive Approach**
- Beverly Storey, TTI  

**Panel Discussion**
- Beverly Storey, TTI  

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**Session Understanding Characteristics of Managed-Lane Users**
- Can Psychological Traits Help Predict the Use of Managed Lanes?
- Prem Chand Devarasetty, TAMU  
- Mark W. Burris, TAMU  
- Winfred Arthur, TAMU  
- Jennifer McDonald, TAMU  
- Gonzalo Munoz, TAMU  

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Session 780  
**Impact of Error in Pavement Condition Data on Output of Network-Level Pavement Management Systems**
- Siamak Saliminejad, TAMU  
- Nasir G. Gharaibeh, TAMU  

**Panel Discussion**
- Beverly Storey, TTI  

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Session 799  
**Evaluation of Concrete Curing Effectiveness Using Concrete Abrasion Testing in Texas**
- Dan G. Zollinger, TAMU  

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**Session Application of ITE's Recommended Practice: Designing Walkable Urban Thoroughfares--A Context-Sensitive Approach**
- Beverly Storey, TTI  

**Panel Discussion**
- Beverly Storey, TTI  

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### Session Title

#### Hilton - International Center

**Poster Session 800** Advances in Network Modeling

*Development and Calibration of Long-Distance Passenger Traffic Assignment Model (13-4108)*

- Wen Wang, TAMU
- Presenter
- Bruce Wang, TAMU
- Presenter

*U.S. Postal Airmail Routing Optimization (13-4708)*

- Qing Miao, TAMU
- Presenter
- Bruce Wang, TAMU
- Presenter

#### Hilton - Lincoln West

**Lectern Session 815** E-shopping, Teleworking, and Internet Use During Travel: Some New Results

Ipek Nese Sener, TTI

**Presiding**

### Marriott - Thurgood Marshall West

**Lectern Session 804** Managed-Lane Operations

Ginger D. Goodin, TTI

**Presiding**

### Lectern Session 805 Measuring Retroreflectivity and Performance of Traffic Signs

*Current State of Research on the Long-Term Deterioration of Traffic Signs*

- Bradford Brimley, TTI
- Presenter
- Paul J. Carlson, TTI
- Presenter

*Measurement Bias and Reproducibility of In-Service Sign Retroreflectivity Readings Made with Handheld Instruments*

- Bradford Brimley, TTI
- Presenter
- Paul J. Carlson, TTI
- Presenter
- Fan Ye, TTI
- Presenter

### Lectern Session 808 Pavement Maintenance Patching and Repair Practices

*Assessment of Pavement Impacts due to Energy Developments in Texas*

- Emmanuel G. Fernando, TTI
- Presenter
- Cesar Quiroga, TTI
- Presenter

*Performance of Various Pavement Repairs in Low-Volume Roadways over Expansive Soil*

- Sang Ick Lee, TTI
- Presenter
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<td>Jan 16 - Wednesday</td>
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| **4:30PM - 6:30PM** | **Tire-Pavement Noise and Quieter Pavements, Part 2 (Part 1, Session 785)**  
 Relationship Between Tire-Pavement Interaction Noise and Surface Characteristics in 2009 Pavement Test Track Cycle  
 Maryam Sakhaeifar, TAMU | Presenter |
| **7:30PM - 9:30PM** | **Subcommittee Crash Modification Factors Subcommittee**  
 Marriott - Coolidge | Karen K. Dixon, TTI | Presiding |
| Jan 17 - Thursday |  |
| **8:00AM - 12:00PM** | **Progress Toward Performance Grade-Based Emulsified Asphalt Specifications**  
 Marriott - Thurgood Marshall North | Field Validation of Emulsion Performance Specifications  
 Amy Epps Martin, TAMU | Presenter |
| **8:00AM - 9:45AM** | **Vehicle Ownership, Usage, and Fuel Use**  
 Hilton - Jefferson East | Accommodating Immigration Status and Self-Selection Effects in Joint Model of Household Auto Ownership and Residential Location  
 Karen Marie Lorenzini, TTI | Presenter |
| **Lectern Session 833** | **Assessing Compaction, Volumetrics, and Stiffness for Asphalt Concrete Mixtures**  
 Marriott - Salon 1 | Development of Predictive Model for Laboratory Compaction of Asphalt Mixtures  
 Ahmed Awed, TAMU | Presenter  
 Emad Kassem, TTI | Presenter  
 Eyad A. Masad, TAMU | Presenter  
 Dallas N. Little, TTI | Presenter |