National University Rail Center

Guide to Presentations TRB 94th Annual Meeting
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January 11-15, 2015

NURail Center Partners:
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University of Illinois, Chicago
Massachusetts Institute of Technology
Michigan Technological University
University of Kentucky
University of Tennessee, Knoxville
Rose-Hulman Institute of Technology

Rail Focused US DOT OST-R Tier 1 University Transportation Center
1. Cost and Delay of Railroad Timber and Concrete Crosstie Maintenance and Replacement  
   Alexander Hale Lovett, University of Illinois, Urbana-Champaign

   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign

   Graham Brisben, Professional Logistics Group, Inc.  
   Matthew K. Rose, BNSF Railway Company  
   Christopher P. L. Barkan, University of Illinois, Urbana-Champaign  
   Thomas D. Simpson, Railway Supply Institute

4. Reference Document: Construction  
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign

5. Scheduling and Routing of Service Trucks and Planning of Resource Replenishment Locations for Winter Roadway Maintenance  
   Leila Hajibabai, University of Illinois, Urbana-Champaign

6. Simple Feature-Based Function Approximation for Reinforcement Learning Traffic Signals in Oversaturated Networks  
   Juan C. Medina, University of Illinois, Urbana-Champaign  
   Rahim F. Benekohal, University of Illinois, Urbana-Champaign

7. Ballast Settlement Ramp to Mitigate Differential Settlement in a Bridge Transition Zone  
   Yu Qian, University of Illinois, Urbana-Champaign  
   Erol Tutumluer, University of Illinois, Urbana-Champaign  
   Youseff Hashash, University of Illinois, Urbana-Champaign  
   Jamshid Ghaboussi, University of Illinois, Urbana-Champaign  
   David D. Davis, Transportation Technology Center, Inc.

8. Tie-Ballast Interaction at Railroad Transitions  
   Stephen Wilk, University of Illinois at Urbana-Champaign  
   Timothy D. Stark, University of Illinois, Urbana-Champaign  
   Theodore R. Sussmann, Volpe National Transportation Systems Center

9. Quantifying Lateral Wheel Loading Variation Using Truck Performance Detectors  
   Andrew Scheppe, University of Illinois at Urbana-Champaign  
   J. Riley Edwards, University of Illinois, Urbana-Champaign  
   Marcus S. Dersch, University of Illinois, Urbana-Champaign
10. Examination of the Effect of Concrete Crosstie Rail Seat Deterioration on Rail Seat Load Distribution
Matthew Greve, University of Illinois at Urbana-Champaign
Marcus S. Dersch, University of Illinois, Urbana-Champaign
J. Riley Edwards, University of Illinois, Urbana-Champaign
Christopher P. L. Barkan, University of Illinois, Urbana-Champaign
Hugh B. Thompson, II, Federal Railroad Administration
Theodore R. Sussmann, Volpe National Transportation Systems Center
Michael McHenry, Transportation Technology Center, Inc.

11. Flexural Analysis of Prestressed Concrete Monoblock Crossties: Comparison of Current Methodologies and Sensitivity to Support Conditions
Henry E. Wolf, University of Illinois, Urbana-Champaign
Steve Mattson, voestalpine Nortrak Incorporated
J. Riley Edwards, University of Illinois, Urbana-Champaign
Marcus S. Dersch, University of Illinois, Urbana-Champaign
Christopher P. L. Barkan, University of Illinois, Urbana-Champaign

12. Chemical and Expansive Properties of Steel Furnace Slag Reclaimed Asphalt Pavement
Alexander Sebastian Brand, University of Illinois, Urbana-Champaign
Jeffery R. Roesler, University of Illinois, Urbana-Champaign

13. Characterization of Particle Shape and Asphalt Coating in Reclaimed Asphalt Pavement Using Advanced Image Processing Techniques
Maziar Moaveni, University of Illinois, Urbana-Champaign
Sedat Cetin, Afyon Kocatepe University, Turkey
Alexander Sebastian Brand, University of Illinois, Urbana-Champaign
Sachindra Dahal, University of Illinois, Urbana-Champaign
Jeffery R. Roesler, University of Illinois, Urbana-Champaign
Erol Tutumluer, University of Illinois, Urbana-Champaign

14. Bus Frequency Optimization Based on Uncertain Travel Time and Fixed Capacity
Xiasen Wang, University of Illinois, Urbana-Champaign
Yang Zhou, University of Illinois, Urbana-Champaign
Qinghui Nie, Southeast University, China
Xinlu Liu, University of Illinois, Urbana-Champaign

Priyanka Sarker, University of Illinois, Urbana-Champaign
Debakanta Mishra, Boise State University
Erol Tutumluer, University of Illinois, Urbana-Champaign
Scott Lackey, Illinois Department of Transportation
16. Field Performance Evaluations of Nontraditional Aggregates for Subgrade Replacement and Subbase over Weak Soils
Hasan Ahmed Kazmee, University of Illinois, Urbana-Champaign
Debakanta Mishra, Boise State University
Pengcheng Shangguan, University of Illinois, Urbana-Champaign
Erol Tutumluer, University of Illinois, Urbana-Champaign
Imad L. Al-Qadi, University of Illinois, Urbana-Champaign
Sheila Beshears, Illinois Department of Transportation

17. Impact of Thermal Inertia in Pavements and the Urban Heat Island
Sushobhan Sen, University of Illinois, Urbana-Champaign
Jeffery R. Roesler, University of Illinois, Urbana-Champaign

18. Scour Characterization due to Water Free Fall
Abdolreza Osouli, Southern Illinois University, Edwardsville
Timothy D. Stark, University of Illinois, Urbana-Champaign

19. Calibration of Car-following Laws for Traffic Oscillation Prediction
Christine Rhoades, University of Illinois, Urbana-Champaign
Xin Wang, University of Illinois, Urbana-Champaign
Yanfeng Ouyang, University of Illinois, Urbana-Champaign

20. A Coordinated Train Control Algorithm to Improve Regenerative Energy Receptivity in Metro Transit Systems
HAICHUAN TANG, University of Illinois, Urbana-Champaign
C. Tyler Dick, University of Illinois, Urbana-Champaign
Xiaoyun Feng, Southwest Jiaotong University, China

Giovanni DiDomenico, University of Illinois, Urbana-Champaign
C. Tyler Dick, University of Illinois, Urbana-Champaign

22. Concrete Slab Analyses with Field-Assigned Non-Uniform Support Conditions
Jeffery R. Roesler, University of Illinois, Urbana-Champaign
Hemant Chavan, E&I-Chicago Bridge & Iron/Dack Consulting Solutions Inc.
Daniel King, University of Illinois at Urbana-Champaign
Alexander Sebastian Brand, University of Illinois, Urbana-Champaign

23. Performance Evaluations of Unbound Aggregate Permanent Deformation Models for Different Aggregate Physical Properties
Yuanjie Xiao, University of Illinois, Urbana-Champaign
Erol Tutumluer, University of Illinois, Urbana-Champaign
Debakanta Mishra, Boise State University
   Marshall R. Thompson, University of Illinois, Urbana-Champaign

25. Sensitivity of Freight and Passenger Rail Fuel Efficiency to Infrastructure, Equipment and Operating Factors
   Garrett Fullerton, University of Illinois, Urbana-Champaign
   Giovanni DiDomenico, University of Illinois, Urbana-Champaign
   C. Tyler Dick, University of Illinois, Urbana-Champaign

26. Dynamic Snowplow Fleet Management Under Uncertain Demand and Service Disruption
   Leila Hajibabai, University of Illinois, Urbana-Champaign
   Yanfeng Ouyang, University of Illinois, Urbana-Champaign

27. Grain Supply Chain Network Design and Logistics Planning for Reducing Post-Harvest Loss
   Seyed Mohammad Nourbakhsh, University of Illinois, Urbana-Champaign
   Yun Bai, University of Illinois, Urbana-Champaign
   Guilherme Maia, University of Illinois, Urbana-Champaign
   Yanfeng Ouyang, University of Illinois, Urbana-Champaign
   Luis Rodriguez, University of Illinois, Urbana-Champaign

   Yang Zhou, University of Illinois, Urbana-Champaign
   Qinghui Nie, Southeast University, China
   Jingxin Xia, Southeast University, China
   Chengchuan An, Southeast University, China

29. Measuring Thin Pavement Layer Thickness from Ground Penetrating Radar Data Using Regularized Deconvolution Technique
   Shan Zhao, University of Illinois, Urbana-Champaign
   Pengcheng Shangguan, University of Illinois, Urbana-Champaign
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign

   Pengcheng Shangguan, University of Illinois, Urbana-Champaign
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign
   Aaron Coenen, Illinois Center for Transportation
   Shan Zhao, University of Illinois, Urbana-Champaign

31. Using Coarse GPS Data to Quantify City-scale Transportation System Resilience to Extreme Events
   Brian Donovan, University of Illinois, Urbana-Champaign
   Daniel B. Work, University of Illinois, Urbana-Champaign

32. Capacity and Level of Service Impact of Passenger Trains on Shared Rail Corridors with Multiple Types of Freight Trains
   Mei-Cheng Shih, University of Illinois, Urbana-Champaign
33. Influence of Siding Connection Length, Position, and Order on the Incremental Capacity of Transitioning from Single to Double Track  
Ivan Atanassov, University of Illinois at Urbana-Champaign  
C. Tyler Dick, University of Illinois, Urbana-Champaign

34. Capacity of Single-Track Railway Lines with Short Sidings to Support Operation of Long Freight Trains  
Ivan Atanassov, University of Illinois at Urbana-Champaign  
C. Tyler Dick, University of Illinois, Urbana-Champaign

35. Characterization and Stabilization of Quarry Byproducts for Sustainable Pavement Applications  
Vincent Mwumvaneza, University of Illinois, Urbana-Champaign  
Wenting Hou, University of Illinois, Urbana-Champaign  
Hasan Ozer, University of Illinois, Urbana-Champaign  
Erol Tutumluer, University of Illinois, Urbana-Champaign  
Imad L. Al-Qadi, University of Illinois, Urbana-Champaign  
Sheila Beshears, Illinois Department of Transportation

36. Macroscopic Models For Accident Prediction at Railroad Grade Crossings and Comparisons with the U.S. DOT Accident Prediction Formula  
Juan C. Medina, University of Illinois, Urbana-Champaign  
Rahim F. Benekohal, University of Illinois, Urbana-Champaign

37. Cost and Delay of Railroad Timber and Concrete Crosstie Maintenance and Replacement  
Alexander Hale Lovett, University of Illinois, Urbana-Champaign  
C. Tyler Dick, University of Illinois, Urbana-Champaign  
Conrad Ruppert, University of Illinois, Urbana-Champaign  
Christopher P. L. Barkan, University of Illinois, Urbana-Champaign

38. Evaluation of Tie Support at Transition Zones  
Timothy D. Stark, University of Illinois, Urbana-Champaign  
Stephen Wilk, University of Illinois at Urbana-Champaign  
Theodore R. Sussmann, Volpe National Transportation Systems Center

39. Methodology to Determine Energy and Greenhouse Gases from Asphalt Binder Production for Various Regions in the United States  
Rebekah Yang, University of Illinois, Urbana-Champaign  
Hasan Ozer, University of Illinois, Urbana-Champaign  
Imad L. Al-Qadi, University of Illinois, Urbana-Champaign

40. Effects of Pavement Surface Roughness and Congestion on Expected Freeway Traffic Energy Consumption
41. Effect of Pavement Surface Temperature Correction on Pavement-Tire Noise  
   Songsu Son, University of Illinois, Urbana-Champaign  
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign

42. Emission Mitigation via Longitudinal Control of Intelligent Vehicles in a Congested Platoon: An Exploratory Study  
   Zhaodong Wang, University of Illinois, Urbana-Champaign  
   Xiqun (Michael) Chen, Zhejiang University  
   Yanfeng Ouyang, University of Illinois, Urbana-Champaign  
   Meng Li, Tsinghua University, China

43. A Cell Transmission Model for Heterogeneous Multiclass Traffic Flow With Creeping  
   Shimao Fan, University of Illinois, Urbana-Champaign  
   Daniel B. Work, University of Illinois, Urbana-Champaign

44. Airfield Pavement Response due to Heavy Aircraft Takeoff: Advanced Modeling for Wheel Interaction Consideration  
   Jaime A. Hernandez, University of Illinois, Urbana-Champaign  
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign

   Kivanc A. Avrenli, University of Illinois, Urbana-Champaign  
   Barry J. Dempsey, University of Illinois, Urbana-Champaign

46. Implementation of Acoustic Emission Technique to Evaluate Embrittlement Temperatures of Asphalt Binders  
   Behzad Behnia, Western New England University  
   Eshan V. Dave, University of Minnesota, Duluth  
   William G. Buttlar, University of Illinois, Urbana-Champaign  
   Henrique Reis, University of Illinois, Urbana-Champaign

47. Rheological and Chemical Characterization of Biobinders from Different Biomass Resources  
   Heena Dhasmana, University of Illinois, Urbana-Champaign  
   Hasan Ozer, University of Illinois, Urbana-Champaign  
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign  
   Yuanhui Zhang, University of Illinois, Urbana-Champaign  
   Lance Schideman, University of Illinois, Urbana-Champaign
48. Impact of Aging and Moisture Conditioning on Moisture-Susceptible Asphalt Mixtures
   Ibrahim Mohammad Abuawad, University of Illinois, Urbana-Champaign
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign
   Hasan Ozer, University of Illinois, Urbana-Champaign

   Qazi Aurangzeb, Kercher Engineering, Inc.
   Hasan Ozer, University of Illinois, Urbana-Champaign
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign
   Harry H. Hilton, University of Illinois, Urbana-Champaign

50. Prediction of Fatigue Failure at Asphalt Concrete Layer Interface from Monotonic Testing
   Cristina Tozzo, Sapienza University of Rome, Italy
   Antonio D’Andrea, Sapienza University of Rome, Italy
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign

51. Forecasting High Speed Rail Ridership Using Aggregate Data: A Case Revisit of High Speed Rail in Taiwan
   Yu-Ting Hsu, National Taiwan University (NTU)
   Wei-Ren Lin, National Taiwan University (NTU)
   Yung-Cheng Lai, National Taiwan University
   Tsung-Chung Kao, University of Illinois, Urbana-Champaign

52. Quantification of Lateral Forces in Concrete Crosstie Fastening Systems
   Brent A. Williams, University of Illinois, Urbana-Champaign
   Marcus S. Dersch, University of Illinois, Urbana-Champaign
   J. Riley Edwards, University of Illinois, Urbana-Champaign
   Christopher P. L. Barkan, University of Illinois, Urbana-Champaign

53. Stone Blowing as a Remedial Measure Mitigating Differential Settlement at Bridge Approaches
   Erol Tutumluer, University of Illinois, Urbana-Champaign
   Steve Chrismer, National Railroad Passenger Corporation

54. Development of Present and Baseline Scenarios to Assess Sustainability Improvements of Illinois Tollway Pavements Using Life-Cycle Assessment Approach
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign
   Rebekah Yang, University of Illinois, Urbana-Champaign
   Seunggu Kang, University of Illinois, Urbana-Champaign
   Hasan Ozer, University of Illinois, Urbana-Champaign
   Eric Charles Ferrebee, University of Illinois, Urbana-Champaign
55. Micromechanical Computational Analysis of Effective Mesoscale Response of Bituminous Materials with Moisture Presence
   Ziad Ghauch, University of Illinois, Urbana-Champaign
   Hasan Ozer, University of Illinois, Urbana-Champaign
   Imad L. Al-Qadi, University of Illinois, Urbana-Champaign
   Heena Dhasmana, University of Illinois, Urbana-Champaign

56. Evaluation of Low-Temperature Viscoelastic Properties and Fracture Behavior of Bioasphalt Mixtures
   Brian Hill, University of Illinois, Urbana-Champaign
   Daniel Joshua Oldham, North Carolina A&T State University
   Elham H. Fini, North Carolina A&T State University
   William G. Buttlar, University of Illinois, Urbana-Champaign

57. Investigation of Effectiveness of Liquid Rubber as a Modifier for Asphalt Binder
   Shahrzad Hosseinnezhad Mohatarami, North Carolina A&T State University
   Elham H. Fini, North Carolina A&T State University
   Brajendra Kumar Sharma, University of Illinois, Urbana-Champaign
   Daniel Joshua Oldham, North Carolina A&T State University
   Bidhya Kunwar, University of Illinois, Urbana-Champaign

58. Optimized Speed Harmonization for Work Zones with Piecewise Speed-Density Functions
   Hani Ramezani, University of Illinois, Urbana-Champaign
   Rahim F. Benekohal, University of Illinois, Urbana-Champaign

59. Supply Chain Design under Uncertainties and Resource Competition: A Continuum Approximation Approach
   Xin Wang, University of Illinois, Urbana-Champaign
   Yanfeng Ouyang, University of Illinois, Urbana-Champaign
   Michael Kim Lim, University of Illinois, Urbana-Champaign

60. Urban Parking Space Management via Dynamic Performance-Based Pricing
   Daniel Mackowski, SF Park
   Yun Bai, University of Illinois, Urbana-Champaign
   Yanfeng Ouyang, University of Illinois, Urbana-Champaign

61. FIELD AGING AND DEVELOPMENT OF AGING MODEL FOR HOT-POURED CRACK SEALANTS
   Hasan Ozer, University of Illinois, Urbana-Champaign
   Seyed Saleh Yousefi, University of Illinois, Urbana-Champaign
62. Validation of Hot-Poured Crack Sealant Performance-Based Guidelines: Field Performance Analysis
   Hasan Ozer, University of Illinois, Urbana-Champaign

63. Competitive Supply Chain Network Design under Resource Constraints and Market Equilibrium
   Yun Bai, University of Illinois, Urbana-Champaign
   Yanfeng Ouyang, University of Illinois, Urbana-Champaign
   Jong-Shi Pang, University of Illinois, Urbana-Champaign

64. Decomposition of General Facility Disruption Correlations via Augmentation of Virtual Supporting Stations
   Siyang Xie, University of Illinois, Urbana-Champaign
   Xiaopeng Li, Mississippi State University
   Yanfeng Ouyang, University of Illinois, Urbana-Champaign

65. Supply Chain Design under Uncertainties and Resource Competition: A Continuum Approximation Approach (15-1016)
   Xin Wang, University of Illinois, Urbana-Champaign
   Yanfeng Ouyang, University of Illinois, Urbana-Champaign
   Michael Kim Lim, University of Illinois, Urbana-Champaign

Massachusetts Institute of Technology

   Alyona Michel, Massachusetts Institute of Technology
   Jinhua Zhao, Massachusetts Institute of Technology

67. Role of Use Phase and Pavement-Vehicle Interaction in Comparative Pavement Life-Cycle Assessment
   Xin Xu, Massachusetts Institute of Technology
   Jeremy Gregory, Massachusetts Institute of Technology
   Randolph Kirchain, Massachusetts Institute of Technology

68. Roughness-induced Pavement-vehicle Interactions: Key Parameters And Impact On Vehicle Fuel Consumption
   Arghavan Louhghalam, Massachusetts Institute of Technology
   Mehdi Akbarian, Massachusetts Institute of Technology
   Franz Josef Ulm, Massachusetts Institute of Technology

69. Optimizing A Flexible Mobility On Demand System
   Bilge Atasoy, Massachusetts Institute of Technology
   Takuro Ikeda, Fujitsu Laboratories
   Moshe E. Ben-Akiva, Massachusetts Institute of Technology
70. Digitalized Transportation Data as Disruptive Innovation: Prospects in Mexico City
   P. Christopher Zegras, Massachusetts Institute of Technology
   Emily Eros, Massachusetts Institute of Technology
   Shomik Raj Mehndiratta, World Bank

71. Agglomeration and Diversification: Bilevel Analysis of 15-Year Impacts of Madrid-Seville High-Speed Rail
   Yu Shen, Instituto Superior Técnico, Portugal
   Jinhua Zhao, Massachusetts Institute of Technology
   João de Abreu e Silva, Instituto Superior Técnico, Portugal
   Luis Miguel Garrido Martinez, International Transport Forum, France

72. Probabilistic Safety Analysis using Traffic Microscopic Simulation
   Carlos Lima Azevedo, Singapore-MIT Alliance for Research and Technology
   João Lourenço Cardoso, National Laboratory for Civil Engineering, Portugal
   Moshe E. Ben-Akiva, Massachusetts Institute of Technology

73. An integrated stop-mode detection algorithm for real world smartphone-based travel survey
   Ajinkya Ranjeet Ghorpade, Singapore-MIT Alliance for Research and Technology
   Francisco C. Pereira, Massachusetts Institute of Technology
   Fang Zhao, Singapore-MIT Alliance for Research and Technology
   P. Christopher Zegras, Massachusetts Institute of Technology
   Moshe E. Ben-Akiva, Massachusetts Institute of Technology

74. SimMobility Mid-Term Simulator: A State of the Art Integrated Agent Based Demand and Supply Model (15-3937)
   Yang Lu, Singapore-MIT Alliance for Research and Technology
   Muhammad Adnan, Singapore-MIT Alliance for Research and Technology
   Kakali Basak, Singapore-MIT Alliance for Research and Technology
   Francisco C. Pereira, Massachusetts Institute of Technology
   Carlos Carrion, Massachusetts Institute of Technology
   Vahid Hamishagi Saber, Singapore-MIT Alliance for Research and Technology
   Harish Loganathan, Singapore-MIT Alliance for Research and Technology
   Moshe E. Ben-Akiva, Massachusetts Institute of Technology

75. Activity Pattern Models with Well-Being Indicators (15-3714)
   Carlos Carrion, Massachusetts Institute of Technology
   Annesha Enam, University of Connecticut
   Varun Pattabhiraman, Massachusetts Institute of Technology
   Maya Abou-Zeid, American University of Beirut, Lebanon
   Moshe E. Ben-Akiva, Massachusetts Institute of Technology

76. Dealing with Uncertainty in Detailed Calibration of Traffic Simulation Models for Safety Assessment
   Carlos Lima Azevedo, Singapore-MIT Alliance for Research and Technology
77. Car Pride: Psychological Structure and Behavioral Implications
   Zhan Zhao, Massachusetts Institute of Technology
   Jinhua Zhao, Massachusetts Institute of Technology

78. Humanizing Travel: How E-hail Apps Transform Stakeholder Relationships in the U.S. Taxi Industry
   Corinna Li, Massachusetts Institute of Technology
   Jinhua Zhao, Massachusetts Institute of Technology

79. Latent-Class Routing Policy Choice Model with Revealed-Preference Data
   Jing Ding, University of Massachusetts, Amherst
   Song Gao, University of Massachusetts, Amherst
   Erik Jenelius, KTH Royal Institute of Technology, Sweden
   Mahmoud Rahmani, KTH Royal Institute of Technology, Sweden
   Francisco C. Pereira, Massachusetts Institute of Technology
   Moshe E. Ben-Akiva, Massachusetts Institute of Technology

80. The Impact Of Repeated Exposure To A Multi-level Working Memory Task On Physiological Arousal And Driving Performance
   Daniel Belyusar, Massachusetts Institute of Technology
   Bruce Mehler, Massachusetts Institute of Technology
   Erin Solovey, Drexel University
   Bryan Reimer, Massachusetts Institute of Technology

81. Public Transport Policies in Beijing: "Success and Failures"
   Jinhua Zhao, Massachusetts Institute of Technology

82. Analysis of Potential Implementations of Pushback Rate Control at LaGuardia Airport
   Hector Fornes Martinez, Massachusetts Institute of Technology
   Hamsa Balakrishnan, Massachusetts Institute of Technology

83. Probabilistic Life-Cycle Cost Analysis of Pavements: Drivers of Variation and Implications of Context
   Omar Swei, Massachusetts Institute of Technology
   Jeremy Gregory, Massachusetts Institute of Technology
   Randolph Kirchain, Massachusetts Institute of Technology

84. Integrated Real-Time Transit Signal Priority Control for High-Frequency Transit Service
   Felipe Delgado, Pontificia Universidad Católica de Chile
   Juan Carlos Munoz, Pontificia Universidad Católica de Chile
   Ricardo Giesen, Pontificia Universidad Católica de Chile
85. Methodology for Assessing Bus Delay in Mixed Traffic to Identify Pinpoint Transit Priority Improvement Locations in Cambridge, Massachusetts  
   Jeffrey Rosenblum, Massachusetts Institute of Technology  
   Duncan White Allen, IBI Group  
   Tegin Teich Bennett, City of Cambridge, Massachusetts  
   Ritesh Warade, IBI Group  
   Cleo Stoughton, Northeastern University

86. Analyzing the Financial Relationship between Railway Industry Players in a Vertically-Separated Environment: The Train Operator’s Perspective  
   Samuel Joseph Levy, Massachusetts Institute of Technology  
   Maite Pena-Alcaraz, Massachusetts Institute of Technology  
   Aleksandr Prodan, Instituto Superior Técnico, Portugal  
   Joseph M. Sussman, Massachusetts Institute of Technology

87. Exploratory Analysis of a Smartphone-Based Travel Survey in Singapore  
   Fang Zhao, Singapore-MIT Alliance for Research and Technology  
   Francisco C. Pereira, Massachusetts Institute of Technology  
   Rudi Ball, Massachusetts Institute of Technology  
   Youngsung Kim, Massachusetts Institute of Technology  
   Yafei Han, Massachusetts Institute of Technology  
   P. Christopher Zegras, Massachusetts Institute of Technology  
   Moshe E. Ben-Akiva, Massachusetts Institute of Technology

88. Price as a Signal for Policy Fine-tuning  
   Marisol Andrea Castro, University of Texas, Austin  
   Jinhua Zhao, Massachusetts Institute of Technology

89. Network Analysis of Virginia’s Interstate Pavement-Vehicle Interactions: Mapping of Roughness and Deflection-Induced Excess Fuel Consumption  
   Mehdi Akbarian, Massachusetts Institute of Technology  
   Arghavan Loughghalam, Massachusetts Institute of Technology  
   Sameer S. Shetty, Virginia Department of Transportation  
   Franz Josef Ulm, Massachusetts Institute of Technology

90. Activity Pattern Models with Well-being Indicators  
   Carlos Carrion, Massachusetts Institute of Technology  
   Annesha Enam, University of Connecticut  
   Varun Pattabhiraman, Massachusetts Institute of Technology  
   Maya Abou-Zeid, American University of Beirut, Lebanon  
   Moshe E. Ben-Akiva, Massachusetts Institute of Technology
   Joonbum Lee, Massachusetts Institute of Technology
   Bryan Reimer, Massachusetts Institute of Technology
   Bruce Mehler, Massachusetts Institute of Technology
   Linda S. Angell, Touchstone Evaluations, Inc.
   Bobbie Danielle Seppelt, University of Iowa
   Joseph F. Coughlin, Massachusetts Institute of Technology

92. Simulation-based Adaptive Traffic Signal Control Algorithm
   Xiao Chen, University of Coimbra, Portugal
   Carolina Osorio, Massachusetts Institute of Technology
   Michael Marsico, New York City Department of Transportation
   Mohamad A. Talas, New York City Department of Transportation
   Jingqin Gao, New York City Department of Transportation
   Shitao Zhang, New York City Department of Transportation

93. Event-Driven Holding Control for High-Frequency Transit
   Gabriel Eduardo Sánchez-Martínez, Massachusetts Institute of Technology
   Haris N. Koutsopoulos, Northeastern University
   Nigel H. M. Wilson, Massachusetts Institute of Technology

94. D-Efficient or Deficient? A Robustness Analysis of SP Experimental Designs in a VOT Estimation Context
   Joan L. Walker, University of California, Berkeley
   Yanqiao Wang, UC Berkeley
   Mikkel Thorhauge, DTU Transport, Denmark
   Moshe E. Ben-Akiva, Massachusetts Institute of Technology

Michigan Technological University

95. Demonstrations for Implementation of the Unsurfaced Road Condition Assessment System
   Richard Dobson, Michigan Tech Research Institute
   Colin Neil Brooks, Michigan Technological University
   Chris Roussi, Michigan Tech Research Institute
   Timothy K. Colling, Michigan Technological University
   David Dean, Michigan Tech Research Institute
   Valerie D. Lefler, University of Nebraska, Lincoln

96. Sustainable Geotechnical Asset Management along the Transportation Infrastructure Environment Using Remote Sensing
   Thomas Oommen, Michigan Technological University
   Richard Dobson, Michigan Tech Research Institute
   Adrian Bohane, TRE Canada Inc.
   Colin Neil Brooks, Michigan Technological University
   Stanley James Vitton, Michigan Technological University
   Keith Cunningham, University of Alaska Fairbanks
   Pasi Tapio Lautala, Michigan Technological University
97. Self-powered vibration measurement for bridge scour monitoring
Ye Sun, Michigan Technological University
R. Andrew Swartz, Michigan Technological University
TING BAO, Michigan Technological University
Zhen Liu, Michigan Technological University

98. Sensing Technologies Subcommittee
Colin Neil Brooks, Michigan Technological University, presiding

99. Physicochemical Behavior of Soils and Industrial Byproducts
Zhen Liu, Michigan Technological University, presiding
Angelica M. Palomino, University of Tennessee, Knoxville, presiding

100. Aggregate Numerical Representation Construction Using Ball Growth Model Based on Realistic Aggregate Shapes
Xu Yang, Michigan Technological University
Zhanping You, Michigan Technological University
Can Jin, Hefei University of Technology, China
Hainian Wang, Chang’an University, China

101. A Fiber-Based Model for Seismic Performance of Reinforced Concrete Bridge Piers with Reinforcing Bar Corrosion
Chao Zhang, Michigan Technological University
Peng Deng, Colorado School of Mines
Zhen Liu, Michigan Technological University

102. The Future of Domestic Intermodal Freight Transportation
Pasi Tapio Lautala, Michigan Technological University, presiding

103. Capacity Evaluation Of Directional And Non-directional Operational Scenarios Along A Multiple-track U.S. Corridor
Hamed Pouryousef, Michigan Technological University
Pasi Tapio Lautala, Michigan Technological University

104. A Bayesian Adaptive Inference Approach to Estimating Heterogeneous Gap Acceptance Functions
Juanping Zhu, Yunnan University, China
Kuilin Zhang, Michigan Technological University

105. POLARIS: Agent-Based Modeling Framework Development and Implementation for Integrated Travel Demand and Network and Operations Simulations
Joshua Auld, Argonne National Laboratory
Michael B. Hope, Argonne National Laboratory
Hubert Ley, Argonne National Laboratory
Vadim Sokolov, Argonne National Laboratory
Bo Xu, Nokia
106. Rethinking Bridge Scour Detection Using the Natural Frequency: Numerical Insights
   TING BAO, Michigan Technological University
   R. Andrew Swartz, Michigan Technological University
   Stanley James Vitton, Michigan Technological University
   Ye Sun, Case Western Reserve University
   Zhen Liu, Michigan Technological University

107. Empirical assessment of Pavement Roughness to Estimate pavement life cycle Use-Phase Emissions
   Benjamin T. Ciavola, Life Cycle Solutions, LLC
   Amlan Mukherjee, Michigan Technological University

108. Optimizing Multi-Layer Merge-In-Transit Supply Chains
   Dengfeng Yang, Infor
   Kuilin Zhang, Michigan Technological University

109. Multiscale modeling of fracture-healing performance of asphalt mixture system
   Qingli Dai, Michigan Technological University

110. Polaris: Agent-Based Modeling Framework Development and Implementation for Integrated Travel
     Demand and Network and Operations Simulations (15-5072)
     Joshua Auld, Argonne National Laboratory
     Michael B. Hope, Argonne National Laboratory
     Hubert Ley, Argonne National Laboratory
     Vadim Sokolov, Argonne National Laboratory
     Bo Xu, Argonne National Laboratory
     Kuilin Zhang, Michigan Technological University

111. Optimizing Multi-Layer Merge-In-Transit Supply Chains (15-1937)
     Dengfeng Yang, Infor
     Kuilin Zhang, Michigan Technological University

University of Illinois, Chicago

112. Walking Access to Transit Stations: Evaluating Barriers Using Stated Preference
     Nebiyou Yonas Tilahun, University of Illinois, Chicago
     Moyin Li, University of Illinois, Chicago

113. See Spot Taxed: The Global Experience with Parking Levies
     Ana Martha Legorreta, University of Illinois at Chicago
     Greg Newmark, Center for Neighborhood Technology
     Gregory L. Newmark, Center for Neighborhood Technology

114. Environmental Justice in Transportation
115. Changes in Containerized Freight Distribution by Capacity Increase on the Maritime Network into the United States
   Sanghyeon Ko, University of Illinois, Chicago
   Jaehoon Kim, University of Alabama, Huntsville
   Michael David Anderson, University of Alabama, Huntsville
   Abolfazl Mohammadian, University of Illinois, Chicago

116. Theoretical And Numerical Derivation Of Stress Tensor From Thick Steel Plates Using Acoustoelasticity
   Zeynab Abbasi, University of Illinois at Chicago
   Didem Ozevin, University of Illinois, Chicago
   Jose Anaya, University of Illinois at Chicago

117. Transportation Networks, People, and Buildings: Characterization of Urban System Components
   Farideddin Peiravian, University of Illinois, Chicago
   Matthieu de Lapparent, French Institute of Science and Technology for Transport, Development and Networks
   Sybil Derrible, University of Illinois, Chicago

118. Urban Freight Survey Sampling: Challenges and Strategies
   Takanori Sakai, University of Illinois at Chicago
   Kazuya Kawamura, University of Illinois, Chicago
   Tetsuro HYODO, Tokyo University of Marine Science and Technology

119. Evaluation of VMT Estimation Methods Using GPS Travel Survey Data
   Alejandro Martin Blei, University of Illinois, Chicago
   Kazuya Kawamura, University of Illinois, Chicago
   Mahmoud Javanmardi, University of Illinois, Chicago
   Abolfazl Mohammadian, University of Illinois, Chicago

120. Parking Reservation for Managing Downtown Curbside Parking (15-5008)
   Zhibin Chen, University of Florida
   Yafeng Yin, University of Florida
   Fang He, University of Florida
   Jane Jie Lin, University of Illinois, Chicago

121. Geography of Close Contacts and Face-to-Face Meetings
   Nebiyou Yonas Tilahun, University of Illinois, Chicago
   Moyin Li, University of Illinois, Chicago

122. Behavioral Analysis of Containerized Freight Shipments into the US: An Extension of FAME (Freight Activity Micro-simulation Estimator) Model
   Sanghyeon Ko, University of Illinois, Chicago
123. Carsharing-Transit Card: Is It Good for Public Transportation?  
Gregory L. Newmark, Center for Neighborhood Technology  
Melissa C. Schramm, University of Illinois, Chicago

124. New Technologies Subcommittee, ABJ40(4)  
Elaine Murakami, Federal Highway Administration, presiding  
Abolfazl Mohammadian, University of Illinois, Chicago, presiding

125. Discussion P15-7156  
Jane Jie Lin, University of Illinois, Chicago  
Josias Zietsman, Texas A&M Transportation Institute  
Douglas S. Eisinger, Sonoma Technology, Inc.  
Michael Claggett, Federal Highway Administration  
Jacki Ploch, Texas Department of Transportation  
Tim Sexton, Minnesota Department of Transportation

Ahmadreza Talebian, University of Illinois at Chicago  
Bo Zou, University of Illinois, Chicago

127. Demographic Characterization of Anonymous Trace Travel Data  
Joshua Auld, Argonne National Laboratory  
Abolfazl Mohammadian, University of Illinois, Chicago  
Marcelo Simas, Westat Inc.  
Jean L. Wolf, Westat Inc.  
William Bachman, Westat Inc.

128. A Mixed Joint Discrete-Continuous Model of Non-Mandatory Out-of-Home Activity Type and Activity Duration  
Behzad Karimi, University of Illinois, Chicago  
Zahra Pourabdollahi, RS&H, Inc.  
Ramin Shabanpour Anbarani, University of Illinois, Chicago  
Abolfazl Mohammadian, University of Illinois, Chicago

129. Green Vehicle Routing Problem Considering Joint Effect of Vehicle Load and Speed  
Wei Zhou, University of Illinois, Chicago  
Qin Chen, Here (Nokia)  
Jane Jie Lin, University of Illinois, Chicago

130. The Observe-Driver-and-Learn Platform for Relevance Estimation in VANET Safety Warning Applications  
Jane Jie Lin, University of Illinois, Chicago  
Piotr Szcurek, Lewis University  
Ouri Wolfson, University of Illinois, Chicago
131. Reducing Commuting-Related Environmental Impacts in the Healthcare Sector: An Exploratory Study
   Bo Xu, Nokia
   Ning Ai, University of Illinois, Chicago
   Susan Kaplan, University of Illinois, Chicago
   Peter Orris, University of Illinois Hospital and Health Sciences System
   P. S. Sriraj, University of Illinois, Chicago

132. Transportation and Air Quality Committee
   Jane Jie Lin, University of Illinois, Chicago, presiding

133. Incorporating Urban Freight Innovations: Selected Best Practices in the U.S. and Abroad
   Kazuya Kawamura, University of Illinois, Chicago, presiding

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

135. Evaluating the State of Mobility Management and Human Service Transportation Coordination
   Jeremy Mattson, North Dakota State University
   James Miller, Upper Great Plains Transportation Institute
   Jay A. Goodwill, University of South Florida
   P. S. Sriraj, University of Illinois, Chicago
   Jill Hough, North Dakota State University

University of Kentucky

136. Quantification of Benefits from Constructability Reviews
   Nikiforos Stamatiadis, University of Kentucky
   Roy Sturgill, Kentucky Transportation Center
   Paul M. Goodrum, University of Colorado, Boulder

137. The Use of Matrix Based Tactile Surface Sensors to Assess the Fine Scale Ballast-Tie Interface Pressure Distribution in Railroad Track
   Michael McHenry, Transportation Technology Center, Inc.
   Michael O. Brown, Transportation Technology Center, Inc.
   Joseph LoPresti, Transportation Technology Center, Inc.
   Jerry G. Rose, University of Kentucky
   Reginald R. Souleyrette, University of Kentucky

138. Advances in Performance Metrics for Context-Sensitive Solution Projects
   Nikiforos Stamatiadis, University of Kentucky, presiding

139. Determining Reference Speed for Urban Arterials Using GPS-Based Speed Data
Xu Zhang, University of Kentucky
Mei Chen, University of Kentucky

140. Applications of Context-Sensitive Solutions
   Nikiforos Stamatiadis, University of Kentucky, presiding

141. CSS Applications for Road Diet Projects
   Adam Kirk, University of Kentucky

142. Fiber-Reinforced Polymer Composites in Infrastructure, Part 1 (Part 2, Session 743)
   Issam E. Harik, University of Kentucky, presiding
   Abdeldjelil Belarbi, University of Houston, presiding

143. Safety Data and Information Technology Challenges
   Reginald R. Souleyrette, University of Kentucky, presiding
   David L. Harkey, University of North Carolina, Chapel Hill, presiding

144. Improving the Effectiveness of Contractor Evaluation at the Kentucky Transportation Cabinet
   Ying Li, University of Kentucky
   Roy Sturgill, Kentucky Transportation Center
   Timothy Taylor, University of Kentucky
   Maegan Mansfield, ICA Engineering, Inc.

145. Controlling Crest Vertical Curvature Rates Based On Variable Grade Stopping Sight Distance Calculation
   Stergios Mavromatis, Technological Educational Institute of Athens, Greece
   Nikiforos Stamatiadis, University of Kentucky
   Basil M. Psarianos, National Technical University of Athens, Greece
   George Yannis, National Technical University of Athens, Greece

146. High-Performance Public Involvement: Frameworks, Performance Measures, and Data
   Keiron Bailey, University of Arizona
   Theodore H. Grossardt, Kentucky Transportation Cabinet
   John Ripy, University of Kentucky

147. Structural Fiber Reinforced Polymers Committee
   Issam E. Harik, University of Kentucky, presiding

148. Context Sensitive Design/Solutions (CSD/CSS) Task Force
   Nikiforos Stamatiadis, University of Kentucky, presiding

149. Fiber-Reinforced Polymer Composites in Infrastructure, Part 2 (Part 1, Session 458)
   Wael A. Zatar, Marshall University, presiding
   Abheetha Peiris, University of Kentucky, presiding

150. FRP Retrofit of Impacted Concrete Bridge Girders
151. Sensitivity Analysis of New Simulation-Based Conflict Metrics
   Chen Wang, Tongji University, China
   Nikiforos Stamatiadis, University of Kentucky

152. Quantifying Rail-Highway Grade Crossing Roughness: Accelerations and Dynamic Modeling
   Teng Wang, University of Kentucky
   Reginald R. Souleyrette, University of Kentucky
   Daniel Lau, University of Kentucky
   Ahmed Aboubakr, University of Illinois, Chicago
   Edward Randerson, University of Illinois, Chicago

153. New River Jobs Research and the Potential to Contribute Payroll Tax Revenue to the Government
   Mark Burton, University of Tennessee
   Ted Grossardt, University of Kentucky

154. Cancelled. The Role of Freight Transportation in Economic Competitiveness: The 8th UTC Spotlight Conference
   Reginald R. Souleyrette, University of Kentucky, presiding

155. UTC Spotlight Conference: Freight Supply Chains
   Melissa S. Tooley, Texas A&M Transportation Institute
   Reginald R. Souleyrette, University of Kentucky

156. Intermodal Network Model of Coal Distribution in the United States
   Benjamin L. Blandford, University of Kentucky
   Theodore H. Grossardt, Kentucky Transportation Cabinet
   Michael Shouse, Kentucky Transportation Center
   John Ripy, University of Kentucky

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157. Short-Term Speed Profiling and Prediction based on Spatio-Temporal Dynamics
   Jianjiang Yang, University of Tennessee, Knoxville

158. Impacts of New Data and Information Technologies on Transforming Traveler Experience
   Jeffrey Adler, Open Roads Consulting, Inc., presiding
   Asad J. Khattak, University of Tennessee, Knoxville, presiding
   Robert Rupert, Federal Highway Administration, presiding

159. Design and Laboratory Evaluation of Open-Graded Asphalt Mixtures
   Baoshan Huang, University of Tennessee, Knoxville, presiding
160. Transportation Planning for Small and Medium-Sized Communities Committee
   Jerry D. Everett, University of Tennessee, Knoxville, presiding

161. Simulation of Coastline’s Echo on Marine Radar Simulator Based on Fractal Theory
   Shuguang Ji, University of Tennessee, Knoxville
   Zhang Zhang, Tangshan Maritime Safety Administration, China
   Hongbiao Yang, University of Tennessee, Knoxville
   Dan Liu, National Police University of China
   Rapinder Sawhney, University of Tennessee, Knoxville

162. Sequencing and Scheduling in Railway Classification Yards
   Haodong Li, Beijing Jiaotong University, China
   Mingzhou Jin, University of Tennessee, Knoxville
   Shiwei He, Beijing Jiaotong University, China

163. Non-crossing Rail-Trespassing Crashes in the Past Decade: A Spatial Approach to Analysis of Injury Severity
   Xin Wang, University of Tennessee, Knoxville
   Asad J. Khattak, University of Tennessee, Knoxville
   Jun Liu, University of Tennessee, Knoxville
   David B. Clarke, University of Tennessee, Knoxville

164. Rail Research In Practice
   David B. Clarke, University of Tennessee, Knoxville, presiding

165. Physicochemical Behavior of Soils and Industrial Byproducts
   Zhen Liu, Michigan Technological University, presiding
   Angelica M. Palomino, University of Tennessee, Knoxville, presiding

166. Exploring Nonlinear Effects of Traffic Crash Determinants Using a Novel Poisson-Mixed Multivariate Adaptive Regression Splines Model
   Yanru Zhang, University of Maryland, College Park
   Ximiao Jiang, Federal Highway Administration
   Ali Haghani, University of Maryland, College Park
   Baoshan Huang, University of Tennessee, Knoxville

167. Global System for Transportation Simulation and Visualization in Emergency Evacuation Scenarios
   Wei Lu, Oak Ridge National Laboratory
   Cheng Liu, Oak Ridge National Laboratory
   Neil Thomas, Oak Ridge National Laboratory
   Budhendra L. Bhaduri, Oak Ridge National Laboratory
   Lee D. Han, University of Tennessee, Knoxville

168. Rural-to-Urban Intercity Deviated Fixed-Route Design: Application in Tennessee
169. Fair Representation of Transportation Research Record’s Impacts: A Case Study on Journal Citation Reports’ Impact Factor

Lee D. Han, University of Tennessee, Knoxville
Shashi S. Nambisan, University of Tennessee, Knoxville
Ebony Latrice Lemons, University of Tennessee, Knoxville
Christopher R. Cherry, University of Tennessee, Knoxville
Ryan Overton, Trine University

170. Ranking Cities for Safety Investigation by Potential for Safety Improvement

Wen Cheng, California State Polytechnic University, Pomona
Ximiao Jiang, University of Tennessee, Knoxville
Weihua Lin, University of Arizona
Xudong Jia, California State Polytechnic University, Pomona
Xinkai Wu, California State Polytechnic University, Pomona
Jiao Zhou, Wipro (Shanghai) Limited, China

171. Alternative Approach to Parking Demand Forecast Modeling: Case Study of Downtown Knoxville, Tennessee

Hyeonsup Lim, University of Tennessee, Knoxville
Grant T. Williams, University of Tennessee, Knoxville
Dua Abdelqader, University of Tennessee, Knoxville
Joseph Amagliani, University of Tennessee, Knoxville
Ziwen Ling, University of Tennessee, Knoxville
Davids William Priester, University of Tennessee, Knoxville
Christopher R. Cherry, University of Tennessee, Knoxville

172. How much information is lost when sampling driving behavior data?

Jun Liu, University of Tennessee, Knoxville
Asad J. Khattak, University of Tennessee, Knoxville
Lee D. Han, University of Tennessee, Knoxville

173. The Value of Confirmation Lights and their Unintended Impact on Driver Compliance and/or Deterrence to Run a Red Light

Kwaku F. Boakye, The University of Tennessee, Knoxville
Eric J. Fitzsimmons, Kansas State University
Steven D. Schrock, University of Kansas
Tomas E. Lindheimer, Texas A&M Transportation Institute

174. Analyzing Failure Probability of LTPP Pavement Preventive Maintenance Treatments through Survival Analysis
175. Using Social Network Analysis to Identify and Mitigate Transportation Congestion and Delays
   Eric Vechan, Mississippi State University
   Islam El-Adaway, University of Tennessee, Knoxville
   Marwa M. Hassan, Louisiana State University

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

177. Emerging Vehicles for Low Speed Transportation Joint Subcommittee of ANF20, ANF10, ANB40, ANF30, AP020
   Christopher R. Cherry, University of Tennessee, Knoxville, presiding
   Geoffrey Rose, Monash University, Australia, presiding

178. Effects of Distance to Medical Facilities and Rescue Time on Traffic Mortality Utilizing Geographic Information System
   Wei Hu, University of Tennessee Knoxville
   Qiao Dong, University of Tennessee, Knoxville
   Baoshan Huang, University of Tennessee, Knoxville

179. Creating Indices for How People Drive in a Region: A Comparative Study of Driving Performance
   Jun Liu, University of Tennessee, Knoxville
   Asad J. Khattak, University of Tennessee, Knoxville
   Xin Wang, University of Tennessee, Knoxville

180. Supporting Instantaneous Driving Decisions through Trajectory Data
   Asad J. Khattak, University of Tennessee, Knoxville
   Jun Liu, University of Tennessee, Knoxville
   Xin Wang, University of Tennessee, Knoxville

181. The US/CUTC experience in cooperation across transport research organisations
   Shashi S. Nambisan, University of Tennessee, Knoxville

182. Empirical Investigation of Airline Taxi Fuel Consumption Rates
   Megan Smirti Ryerson, University of Pennsylvania
   Mark Hansen, University of California, Berkeley
   Dua Abdelqader, University of Tennessee, Knoxville

   David Lloyd Greene, University of Tennessee, Knoxville
   Changzheng Liu, Oak Ridge National Laboratory
   Tun-Hsiang Edward Yu, University of Tennessee, Knoxville
   Burton C. English, University of Tennessee, Knoxville
   Lixia He, University of Tennessee, Knoxville
   James A. Larson, University of Tennessee, Knoxville
   James A Calcagno, University of Tennessee, Knoxville
   Joshua S. Fu, University of Tennessee, Knoxville
   Bradly Wilson, University of Tennessee, Knoxville

185. **What Are the Differences in Driver Injury Outcomes at Highway-Rail Grade Crossings? Role of Passive and Active Controls (15-0959)**
   Jun Liu, University of Tennessee, Knoxville; et al.

186. **Determination of Discrete Retardation Spectra of Asphalt Binders Using a Modified Windowing Method**
   Yiren Sun, Dalian University of Technology, China
   Jingyun Chen, Dalian University of Technology, China
   Baoshan Huang, University of Tennessee, Knoxville

187. **Quantitative Characterization of Binder Blending: How Much RAP-RAS Binder Is Mobilized During Mixing?**
   Sheng Zhao, University of Tennessee, Knoxville
   Baoshan Huang, University of Tennessee, Knoxville
   Xiang Shu, University of Tennessee, Knoxville
   Mark Woods, Tennessee Department of Transportation

188. **Generating Fuel Economy Information to Support Cost-effective Vehicle Choices: Comparing Standard and Customized Driving Cycles**
   Xin Wang, University of Tennessee, Knoxville
   Jun Liu, University of Tennessee, Knoxville
   Asad J. Khattak, University of Tennessee, Knoxville

189. **Aging of Asphalt Binders**
   Sheng Zhao, University of Tennessee, Knoxville, presiding

190. **Field investigation into performance of asphalt mixture overlay on steel bridge deck**
   Xiaoyang Jia, University of Tennessee - Knoxville
   Baoshan Huang, University of Tennessee, Knoxville
   Shangjiang Chen, Guizhou Transportation Planning, Surveying and Design Institute, Co. Ltd
   Dawei Shi, Guizhou Expressway Group Co. Ltd
   Sampson Udeh, Tennessee Department of Transportation

191. **Pedestrian Level of Service at Signalized Intersections in China Using an Intercept Survey Method**
192. Comparing Safety-Related Riding Behaviors on Bicycles and Electric Bicycles
   Brian Casey Langford, University of Tennessee, Knoxville
   Jiaoli Chen, University of Tennessee, Knoxville
   Christopher R. Cherry, University of Tennessee, Knoxville

193. Rail Capacity Joint Subcommittee of AR040, AR030, AP070, AT010, AR010
   David B. Clarke, University of Tennessee, Knoxville, presiding

194. What Are the Differences in Driver Injury Outcomes at Highway-Rail Grade Crossings? Role of Passive and Active Controls
   Jun Liu, University of Tennessee, Knoxville
   Asad J. Khattak, University of Tennessee, Knoxville
   Stephen Richards, University of Tennessee, Knoxville
   Shashi S. Nambisan, University of Tennessee, Knoxville

195. Metrics & Lessons from Building the Planet’s Longest Biofuels Corridor – All 1,786 Miles of I-75
   Jonathan G. Overly, University of Tennessee, Knoxville

196. National Transportation Data Requirements and Programs Committee
   Shashi S. Nambisan, University of Tennessee, Knoxville, presiding
   Steven E. Polzin, University of South Florida, presiding

197. HM Access: Using Technology to Provide Enhanced Information, Efficiency and Safety to the Current HM Shipping Paper Requirement, Thereby Facilitating the Ability to Effectively Respond to Incidents and Roadside Safety Inspections
   Bob Richard, Labelmaster
   Shashi S. Nambisan, University of Tennessee, Knoxville

   Sangsoo Park, University of Tennessee, Knoxville
   Changzheng Liu, Oak Ridge National Laboratory
   Zhenhong Lin, Oak Ridge National Laboratory

199. Introduction/Keynote Address
   David Lloyd Greene, University of Tennessee, Knoxville