University of Illinois at Urbana-Champaign
Rail Transportation and Engineering Center (RailTEC)

Guide to RailTEC Presentations
TRB 94th Annual Meeting
Washington, D.C.
January 11-15, 2015
Overview of Sessions with RailTEC Session Chairs or Presentations

SUNDAY

Innovative Doctoral Research from Dwight D. Eisenhower Transportation Fellowship Program
*Sunday 9:00AM - 12:00PM - Convention Center 202A*  
Workshop 121

Crude Oil by Rail Shipments: Logistics and Community Impacts  
*Sunday 1:30PM - 4:30PM - Convention Center, 150A*  
Workshop 186

MONDAY

Innovations in the Passenger Rail Equipment Industry  
*Monday 8:00AM - 9:45AM Convention Center, 143B*  
Session 226

Freight Rail Transportation Research  
*Monday 8:30AM - 10:15AM Convention Center, Hall E*  
Session 249

Research In Railroad Operating Technologies  
*Monday 8:30AM - 10:15AM Convention Center, Hall E*  
Session 248

Railway Track Structure Maintenance and Design  
*Monday 8:30AM - 10:15AM Convention Center, Hall E*  
Session 250

Railroad Track Structure System Design Committee  
*Monday 10:15AM - 12:00PM Marriott Marquis, Mount Vernon Square (M3)*

Human Factors Insights From Railroad Data Analysis  
*Monday 10:15AM - 12:00PM Convention Center, 144A*  
Session 363

Railroad Operating Technologies Committee  
*Monday 1:30PM - 3:15PM Marriott Marquis, Mount Vernon Square (M3)*

Railroad Environmental Issues  
*Monday 1:30PM - 3:15PM Convention Center, 144C*  
Session 363

Rail Transit Efficiency and Congestion Management  
*Monday 1:30PM - 3:15PM Convention Center, 143C*  
Session 360
Research Advances in Freight Rail Transportation  
*Monday 1:30PM- 3:15PM Convention Center, 145B*  
Session 364

Railroad Energy Management Systems  
*Monday 3:45PM- 5:30PM Convention Center, 145B*  
Session 423

Contemporary Theories and Practices in Freight Planning and Logistics  
*Monday 4:15PM- 6:00PM Convention Center, Hall E*  
Session 449

Railway Capacity Research-Advancing the State of Knowledge  
*Monday 7:30PM- 9:30PM Convention Center, 144C*  
Session 480

**TUESDAY**

Highway/Rail Grade Crossing Research  
*Tuesday 8:00AM- 9:45AM Convention Center, Salon B*  
Session 506

Railway Maintenance Research  
*Tuesday 8:00AM- 9:45AM Convention Center, 145B*  
Session 518

Freight Rail Transportation Committee  
*Tuesday 1:30PM- 5:30PM Marriott Marquis, Chinatown (M3)*

Railroad Wheel-Rail Interaction  
*Tuesday 1:30PM- 3:15PM Convention Center, 149*  
Session 627

Transit, Freight, and Logistics Modeling Subcommittee, ADB30(1)  
*Tuesday 3:45PM- 5:30PM Marriott Marquis, Independence C (M4)*

InterCity Passenger Rail Research Subcommittee, AR010(3)  
*Tuesday 3:45PM- 5:30PM Marriott Marquis, Treasury (M4)*

Railway Vibrations, Fastening Systems, Undersleeper Pads, and Ballast Modification  
*Tuesday 3:45PM- 5:30PM Convention Center, 143C*  
Session 700

Transit and Logistics  
*Tuesday, January 13, 2015 7:30PM - 9:30PM Convention Center, 146A*  
Session 738
SUNDAY

Innovative Doctoral Research from Dwight D. Eisenhower Transportation Fellowship Program
Sunday, January 11, 2015 9:00AM - 12:00PM Convention Center, 202A

Workshop 121
Fawn Thompson, Federal Highway Administration, presiding

This workshop features innovative research presented by second- and third-year Eisenhower doctoral fellowship recipients from top universities across the nation. The research covers a broad array of significant transportation topics, including infrastructure development and investment, safety, security, emerging green technologies, and a host of other relevant transportation topics.

Multi-Jurisdictional Planning in an Era of Local Funding
David Philip Weinreich, University of Michigan

The theory of travel decision-making: A conceptual framework of active travel behavior
Patrick A. Singleton, Portland State University

Livability Index for Transportation Infrastructure to Determine the Level of Service of Urban Spaces
Ivelisse Gorbea Class, University of Puerto Rico, Mayaguez

Estimating bicycle volumes using a combination of sensor types
Frank Roland Proulx, UC Berkeley Safe Transportation Research and Education Center (SafeTREC)

Developing Index Parameters for Cracking in Asphalt Pavements Through Black Space and Viscoelastic Continuum Damage Principles
David J. Mensching, University of New Hampshire

Cost and Delay Of Railroad Timber and Concrete Crosstie Maintenance and Replacement
Alexander Hale Lovett, University of Illinois, Urbana-Champaign

Crude Oil by Rail Shipments: Logistics and Community Impacts
Sunday, January 11, 2015 1:30PM - 4:30PM Convention Center, 150A

Workshop 186
Libby Ogard, Prime Focus LLC, presiding

The growth in crude oil by rail has provided the rail industry with rapidly expanding marketing opportunities as well as challenges in safety and public perception. This workshop examines the petroleum industry's changing logistical patterns, operational and safety challenges, and equipment requirements, and discusses the public sector's response to the expansion of rail shipment of crude oil, including the public perception of risk and the effects on regions that receive crude oil.

Moving Crude Oil by Rail: Energy Sector Development Patterns, Railroad Developments, Risk Analysis, and Tank Car Issues
Graham Brisben, Professional Logistics Group, Inc.
Matthew K. Rose, BNSF Railway Company
Christopher P. L. Barkan, University of Illinois, Urbana-Champaign
William Finn, Railway Supply Institute Committee for Tank Cars

Public Sector Response to Crude by Rail
Denver D. Tolliver, Upper Great Plains Transportation Institute
Jeff Plale, Wisconsin Office of the Commissioner of Railroads
Tamara Nicholson, Iowa DOT
Sarah Gulick, Pennsylvania Department of Transportation
Theodore K. Dahlburg, Delaware Valley Regional Planning Commission
Innovations in the Passenger Rail Equipment Industry
Monday, January 12, 2015 8:00AM - 9:45AM Convention Center, 143B
Session 226
Eloy Eugene Martinez, LTK Engineering Services, presiding
Optimal Allocation of Life-Cycle Cost, System Reliability, and Service Reliability in Passenger Rail System Design
Yung-Cheng Lai, National Taiwan University
Chia-Tsung Lu, National Taiwan University
Ya-Wen Hsu, National Taiwan University
Determinants of Rolling Stock Maintenance Cost in Metros
Ruben Brage-Ardao, Imperial College London, United Kingdom
Daniel J. Graham, Imperial College London, United Kingdom
Richard Anderson, Imperial College London, United Kingdom
Procurement Auctions and Governmental Intervention: Rolling Stock Award Assessment for Madrid-Barcelona High-Speed Train
Fernando Barreiro-Pereira, National Distance Education University, Spain
Francisco Mochon, National Distance Education University, Spain

Freight Rail Transportation Research
Monday, January 12, 2015 8:30AM - 10:15AM Convention Center, Hall E - Poster Session
Session 249
Christopher P. L. Barkan, University of Illinois, Urbana-Champaign, presiding
Network Connectivity, Commodities, and the Adoption of Heavy Axle Loading by Short-line Railroads in Canada
Kristen Poff, University of Manitoba, Canada
Jonathan D. Regehr, University of Manitoba, Canada
Giuseppe Grande, University of Manitoba, Canada
Calculation of Line Capacity for Railways under Ice and Snow Conditions
Jie Xu, Beijing Jiaotong University, China
Yashu Kang, University of Nebraska, Lincoln
Yao Ning, Beijing Jiaotong University
Fei Dou, Beijing Jiaotong University, China
Li Wang, Beijing Jiaotong University, China
Xuelei Meng, Lanzhou Jiaotong University, China
Yong Qin, Beijing Jiaotong University, China
Limin Jia, Beijing Jiaotong University, China
Effects of Geometric Characteristics on HSR Operation Delay and Capacity Loss under Degraded Operations
Shou-Ren Hu, National Cheng Kung University, Taiwan
Shou-Shan Huang, Taiwan High Speed Rail Corporation
Automatic Approval of Railway Car Requisition Plans for One Type of Car
qiyuan PENG, Southwest Jiaotong University
Yongxiang Zhang, Southwest Jiaotong University
Chao Wen, Southwest Jiaotong University, China
Li Jianguang, Southwest Jiaotong University
jiang chaozhe, Southwest Jiaotong University, China
Capacity Constrained Accessibility
Yu Shen, Instituto Superior Técnico, Portugal
Jinhua Zhao, Massachusetts Institute of Technology
The Ferrobonus Incentive for Achieving Modal Shift to Rail: A Socio-Economic Evaluation
Dimitrios A. Tsamboulas, National Technical University of Athens, Greece
Andrea Chiappetta, Universita Degli Studi di Roma
Iosif Karoussos, National Technical University of Athens, Greece
Panayota Moraiti, National Technical University of Athens, Greece

Capacity Coordination Simulation for High-speed Rail Stations and Lines
LI Jianguang, Southwest Jiaotong University
Chao Wen, Southwest Jiaotong University
Yu Haiqing, Southwest Jiaotong University, China
Yuhong Chen, Southwest Jiaotong University
Xiaozhu Chen, China Railway Eryuan Engineering Group Co.Ltd
peng qiyuan, Southwest Jiaotong University, China

Research In Railroad Operating Technologies
*Monday, January 12, 2015 8:30AM - 10:15AM Convention Center, Hall E – Poster Session*

Session 248
Yung-Cheng Lai, National Taiwan University, presiding

Nikola Besinovic, Delft University of Technology, Netherlands
Egidio Quaglietta, Delft University of Technology, Netherlands
Rob M.P. Goverde, Delft University of Technology, Netherlands

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

Proposing a New Train Rescheduling Approach with Simultaneous Consideration of Cancelling, Delaying and Re-Ordering Policies
Mohammad Tamannaei, Tarbiat Modares University
Mahmoud Saffarzadeh, Tarbiat Modares University, Iran
Amin Jamili, University of Tehran
Seyedehsan Seyedabrishami, Tarbiat Modares University
Seyed Ramtin Bagheri, Tarahan Parseh Transportation Research Center

Optimization of Freight Train Service Network-Design Problem with Bidirectional Service Stations
Zhimei Wang, BJTU University, Beijing
Xingchen Zhang, BJTU University, Beijing
Avishai Ceder, University of Auckland, New Zealand
Bin Xu, BJTU University, Beijing
Yunming Zhang, University of Auckland, New Zealand

New Methods for Train Operation Control in Strong Winds at East Japan Railway Company
Yosuke Nagumo, East Japan Railway Company
Hirotu Suzuki, East Japan Railway Company
Tatsuya Kamase, East Japan Railway Company

A Sensitivity Analysis of Recovery Solutions in the Case of Rail Disruption Management
Antonio Placido, University of Naples Federico II, Italy
Luca D’Acierno, University of Naples Federico II, Italy
Marilisa Botte, University of Naples Federico II, Italy
Mariano Gallo, Universita degli Studi del Sannio, Italy
Bruno Montella, University of Naples Federico II, Italy

Assessing Network Cognition in the Dutch Railway System Through Communication: Theoretical and Methodological Approaches Using Social Network Analysis
Railway Track Structure Maintenance and Design

Monday, January 12, 2015 8:30AM - 10:15AM Convention Center, Hall E - Poster Session

Session 250
Dwight W. Clark, Union Pacific Railroad, presiding
David D. Davis, Transportation Technology Center, Inc., presiding

Solitary Waves for the Assessment of Thermal Stress and Neutral Temperature in Slender Structures
Abdollah Bagheri, University of Pittsburgh
Emma La Malfa Ribolla, University of Pittsburgh
Piervincenzo Rizzo, University of Pittsburgh
Leith A-Nazer, Federal Railroad Administration

Relationship Between Missing Ballast and Development of Track Geometry Defects
Allan M. Zarembski, University of Delaware
Gregory T Grissom, Georgetown Rail Equipment Company
Todd L Euston, Georgetown Rail Equipment Company
John J Cronin, University of Delaware

Bi-objective Track Inspection Scheduling: Formulation And Solution Analysis
Hadi Farhangi, Missouri University of Science and Technology
Dincer Konur, Missouri University of Science and Technology
Suzanna Long, Missouri University of Science and Technology
Jennifer Harper, Missouri Department of Transportation

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.

Railroad Concrete Tie Failure Modes and Research Needs
Hailing Yu, Volpe National Transportation Systems Center
David Jeong, Volpe National Transportation Systems Center
Brian Marquis, Volpe National Transportation Systems Center
Michael Coltman, Volpe National Transportation Systems Center

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

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
Christopher P. L. Barkan, University of Illinois, Urbana-Champaign

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.

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

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

Influence of Contact Loss underneath Concrete Underlayer on Dynamic Performance for Prefabricated Concrete Slab Track
Juanjuan Ren, Southwest Jiaotong University, China
Feng Dai, Southwest Jiaotong University, China
Ping Wang, Southwest Jiaotong University, China
Xiaobo Yan, Chang zhou Rail Transit Development Company Limited

Impact of Water Level Rise on the Performance of High-Speed Railway Track Structure and Substructure: Full-Scale Experimental Investigation
Hongguang Jiang, Zhejiang University, China
Xuecheng Bian, Zhejiang University, China
Yunmin Chen, Zhejiang University, China
Jie Han, University of Kansas

Railroad Track Structure System Design Committee
Monday, January 12, 2015 10:15AM - 12:00PM  Marriott Marquis, Mount Vernon Square (M3)
David D. Davis, Transportation Technology Center, Inc., presiding

Human Factors Insights From Railroad Data Analysis
Monday, January 12, 2015 10:15AM - 12:00PM Convention Center, 144A
Session 290
Jennifer E. Lincoln, National Institute for Occupational Safety and Health, presiding

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

Xiang Liu, Rutgers, The State University of New Jersey
Railway Accidents due to Human Error: A historic analysis of the UK railways (1945-2012)
Miltos Kyriakidis, Delft University of Technology, Netherlands
Kam To Pak, Centre for Transport Studies
Arnab Majumdar, Imperial College London, United Kingdom

The Effects of Cognitive Distraction on Rail Operators: Experimental Results and Conclusions
George Elsmore, GE-Safety Associates, LLC

Railroad Operating Technologies Committee
Monday, January 12, 2015 1:30PM - 3:15PM Marriott Marquis, Mount Vernon Square (M3)
Yung-Cheng Lai, National Taiwan University, presiding

Railroad Environmental Issues
Monday, January 12, 2015 1:30PM - 3:15PM Convention Center, 144C
Session 363
J. Lee Hutchins, Jr., AECOM, presiding

Time-Based Life-Cycle Assessment for Environmental Policy Making: Greenhouse Gas Reduction Goals and Public Transit
Alex Cano, Arizona State University
Mikhail V. Chester, Arizona State University

Methods of Analyzing and Comparing Energy Efficiency of Passenger Rail Systems
Giovanni DiDomenico, University of Illinois, Urbana-Champaign
C. Tyler Dick, University of Illinois, Urbana-Champaign

Cost-Effectiveness of Reductions in Greenhouse Gas Emissions from High-Speed Rail and Urban Transportation Projects in California
Juan Matute, University of California, Los Angeles
Mikhail V. Chester, Arizona State University

Northeast Corridor Future: Approach to Integrating Transportation Planning and National Environmental Policy Act
Stephanie Camay, Parsons Brinckerhoff
Ruby A. Siegel, AECOM, United Kingdom
Rebecca Reyes-Alicea, Federal Railroad Administration
Amishi Castelli, Volpe National Transportation Systems Center

Rail Transit Efficiency and Congestion Management
Monday, January 12, 2015 1:30PM - 3:15PM Convention Center, 143C
Session 360
Gregory L. Newmark, Center for Neighborhood Technology, presiding

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

Determinants of Train Service Costs in Metro Operations.
Ruben Brage-Ardao, Imperial College London, United Kingdom
Daniel J. Graham, Imperial College London, United Kingdom
Richard Anderson, Imperial College London, United Kingdom

Mining Rail-transit Use Patterns from Mobile Phone Data: Case Study of Three Communities in Shanghai
Weifeng Li, Tongji University, China
Xiaoyun Cheng, Tongji University, China
Dongyuan Yang, Tongji University, China
Zhengyu Duan, Tongji University, China
Gaohua Guo, Tongji University, China

Strategies To Relieve Subway Crowding: Case Study From The Toronto Context
Becca Nagorsky, Metrolinx, Canada
Jeffrey Casello, University of Waterloo, Canada
Amer Shalaby, University of Toronto, Canada

Research Advances in Freight Rail Transportation
Monday, January 12, 2015 1:30PM - 3:15PM  Convention Center, 145B
Session 364
Christopher P. L. Barkan, University of Illinois, Urbana-Champaign, presiding

Analysis and Optimization of Railway Container Transportation Business Process
Qiaochu Wang, Shanghai Jiao Tong University
Hao Hu, Jiaotong University, China
Ling Xu, Southwest Jiaotong University

An Event-Based Model for Optimizing Shunting Yards Operations
Mahnam Saeednia, Swiss Federal Institute of Technology, Zurich
Dirk Bruckmann, ETH Zurich
Ulrich Alois Weidmann, Swiss Federal Institute of Technology, Zurich

Rail Freight Commodity Model for Iowa: Methodology & First Steps
Mary Lupa, Parsons Brinckerhoff
Ronald Eash, Parsons Brinckerhoff
Phillip J. Mescher, Iowa Department of Transportation
Jeff Tyler von Brown, Iowa Department of Transportation
Carlee A Clymer, Parsons Brinckerhoff

Capacity Allocation in Vertically Integrated Railway Systems: A Rubinstein Sequential Bargaining Game Approach
Ahmadreza Talebian, University of Illinois at Chicago
Bo Zou, University of Illinois, Chicago

Railroad Energy Management Systems
Monday, January 12, 2015 3:45PM - 5:30PM  Convention Center, 143A
Session 423
Robert A. Kollmar, Association of American Railroads (AAR), presiding

Strategies for Increasing the Energy Efficiency of Rail Freight Service in Switzerland
Dirk Bruckmann, ETH Zurich
Mahnam Saeednia, ETH Zurich
Andrew Nash, GreenCityStreets.com
Ulrich Alois Weidmann, Swiss Federal Institute of Technology, Zurich

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

GE Transportation Systems' Trip Optimizer
David A. Eldredge, GE Transportation Systems

New York Air Brake's Locomotive Engineer Assist/Display & Event Recorder (LEADER)
William Sturtz, New York Air Brake Corporation
Electro-Motive Diesel's Functionally Integrated Railroad Electronics (FIRE) System
Dennis J. Melas, Electro-Motive Diesel, Inc.

Contemporary Theories and Practices in Freight Planning and Logistics
Monday, January 12, 2015 4:15PM - 6:00PM Convention Center, Hall E
Session 449
Xiubin Bruce Wang, Texas A&M University, presiding

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

The Interdisciplinary Decision Map - A Reference Model for Production, Logistics and Traffic
Manfred Boltze, Technische Universitaet Darmstadt
Frederik Ruhl, Technische Universitaet Darmstadt
Ulrich Berbner, Technische Universitaet Darmstadt
Hanno Friedrich, Technische Universitaet Darmstadt

Freight Traffic Assignment Methodology for Large-Scale Road-Rail Intermodal Networks
Md Majbah Uddin, University of South Carolina
Nathan N. Huynh, University of South Carolina

Reliable Intermodal Freight Network Expansion Considering Demand and Network Uncertainties
Fateme Fotuh, University of South Carolina
Nathan N. Huynh, University of South Carolina

Railway Capacity Research-Advancing the State of Knowledge
Monday, January 12, 2015 7:30PM - 9:30PM Convention Center, 144C
Session 480
David B. Clarke, University of Tennessee, Knoxville, presiding

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
C. Tyler Dick, University of Illinois, Urbana-Champaign
Christopher P. L. Barkan, University of Illinois, Urbana-Champaign

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

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

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
Highway/Rail Grade Crossing Research
Tuesday, January 13, 2015 8:00AM - 9:45AM Convention Center, Salon B
Session 506
Steve Laffey, Illinois Commerce Commission, presiding
Analysis of Fatal Train-Pedestrian Collisions in Metropolitan Chicago 2004-2012
Ian Savage, Northwestern University
Macroscopic Models For Accident Prediction at Railroad Grade Crossings and Comparisons with the U.S. D.O.T. Accident Prediction Formula
Juan C. Medina, University of Illinois, Urbana-Champaign
Rahim F. Benekohal, University of Illinois, Urbana-Champaign
Light Rail Crossing Safety Performance Functions
Pamela M. Fischhaber, Colorado Public Utilities Commission
Bruce N. Janson, University of Colorado, Denver
First Responders’ Response Time Analysis Considering At-Grade Crossing Blockage: City of Saskatoon Case Study
Peter Y. Park, University of Saskatchewan, Canada
Wook Rak Jung, University of Saskatchewan, Canada
Godfred Yeboah, University of Saskatchewan, Canada
Garreth Rempel, Montufar Group
Dan Paulsen, Saskatoon Fire Department
Dave Rumpel, Saskatoon Fire Department

Railway Maintenance Research
Tuesday, January 13, 2015 8:00AM - 9:45AM Convention Center, 145B
Session 518
Dwight W. Clark, Union Pacific Railroad, presiding
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
Maintenance Decision Indicators for Treating Squats in Railway Infrastructures
Ali Jamshidi, TUDelft
Alfredo Nunez, Delft University of Technology, Netherlands
Zili Li, Delft University of Technology
Rolf Dollevoet, Delft University of Technology
A Rail Wear Model Of High-speed Railway Based On Non-Hertz Theory
Ye LU, Key Laboratory of Road and Traffic Engineering of the Ministry of Education, Tongji University
Yude xu, Key Laboratory of Road and Traffic Engineering of Ministry of Education of Tongji University
Ruiying CHEN, Key Laboratory of Road and Traffic Engineering of the Ministry of Education, Tongji University
Kai Wei, Key Laboratory of Road and Traffic Engineering of Ministry of Education of Tongji University
Effect of Rail Profile Optimization on the Rail Head Check Initiation
Yu Zhou, Tongji University, China
Jie Zhang, Tongji University, China
Junnan Jiang, Tongji University, China
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

**Freight Rail Transportation Committee**
*Tuesday, January 13, 2015 1:30PM - 5:30PM Marriott Marquis, Chinatown (M3)*
George Avery Grimes, Patriot Rail Corporation, presiding

**Rail Growth: Past, Present, and Future**
Owen Zidar, Kansas City Southern Railway

**Current Issues in Rail Regulation**
Debra Miller, Surface Transportation Board

**Alternative Financing Approaches for Passenger and Freight Rail Projects - NCRRP Project 07-01**
Marc-André Roy, CPCS Transcom Ltd., Canada

**Railroad Wheel-Rail Interaction**
*Tuesday, January 13, 2015 1:30PM - 3:15PM Convention Center, 149*
Session 627
David D. Davis, Transportation Technology Center, Inc., presiding

**Redesigned Number 8 and Number 10 Turnouts**
David E. Staplin, National Railroad Passenger Corporation

**Vehicle-Track Model: Wheel-Rail Contact Force and Ride Quality**
Hai Huang, Pennsylvania State University, Altoona

**Wheel-Rail Interaction at Rail Joints**
Steve Chrismer, National Railroad Passenger Corporation

**Interaction of Track Deflection and Wheel-Rail Forces**
Michael Thomson Hendry, University of Alberta, Canada

**Transit, Freight, and Logistics Modeling Subcommittee, ADB30(1)**
*Tuesday 3:45PM- 5:30PM Marriott Marquis, Independence C (M4)*
Yanfeng Ouyang, University of Illinois, Urbana-Champaign, presiding

**Intercity Passenger Rail Research Subcommittee, AR010(3)**
*Tuesday, January 13, 2015 3:45PM - 5:30PM Marriott Marquis, Treasury (M4)*
Valerio Oricchio, T.Y. Lin International, presiding

**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

**Railway Vibrations, Fastening Systems, Undersleeper Pads, and Ballast Modification**
*Tuesday, January 13, 2015 3:45PM - 5:30PM Convention Center, 143C*
Session 700
Hai Huang, Pennsylvania State University, Altoona, presiding

**Calculating Critical Velocity of Trains from Rayleigh Waves Using Conventional Site Investigation Parameters**
David Connolly, Heriot-Watt University, United Kingdom
Michael Christopher Forde, University of Edinburgh, United Kingdom

**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

**Effects of Under-sleeper Pads on Ballast Contact Pressure, Settlement, and Breakdown**
Hannes Gräbe, University of Pretoria, South Africa

**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

**Performance of No. 20 Turnouts with Undersleeper Pads Under Heavy-Axle-Load Traffic**
David D. Davis, Transportation Technology Center, Inc.

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**Transit and Logistics**

*Tuesday, January 13, 2015 7:30PM - 9:30PM  Convention Center, 146A*

**Session 738**
Salvador Hernandez, Oregon State University, presiding

**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
RailTEC Faculty, Staff, Students and Alumni extend our sincerest thanks to the people, partners and organizations supporting railroad engineering research and education at the University of Illinois at Urbana-Champaign.

We are deeply grateful and appreciate the opportunity to work with you!