5th International Transportation Systems Performance Measurement and Data Conference

June 1–2, 2015
Denver, Colorado

Plus
Transportation Asset Management from Plans to Practice
A Workshop for State Practitioners

May 31, 2015

Organized by
Transportation Research Board

Sponsored by
Federal Highway Administration
Federal Transit Administration
Performance Measures Technical Transfer Pooled Fund

Cosponsored by
American Association of State Highway and Transportation Officials

www.trb.org/conferences/performancemeasures2015.aspx
## SCHEDULE OF EVENTS

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Asset Management from Plans to Practice:</td>
<td>Sunday, May 31</td>
<td>8:00 a.m.–5:30 p.m.</td>
<td>Mt. Sopris</td>
</tr>
<tr>
<td>A Workshop for State Practitionians</td>
<td></td>
<td>1:00 p.m.–3:00 p.m.</td>
<td>Torrey's Peak</td>
</tr>
<tr>
<td>Management and Productivity Committee (ABC20)</td>
<td></td>
<td>6:00 p.m.–7:30 p.m.</td>
<td>Mt. Columbia</td>
</tr>
<tr>
<td>Performance Measures Committee (ABC30)</td>
<td></td>
<td>6:00 p.m.–8:00 p.m.</td>
<td>Torrey's Peak</td>
</tr>
<tr>
<td>Transportation and Economic Development (ADD10)</td>
<td></td>
<td>7:00 a.m.–8:00 a.m.</td>
<td>Torrey's Peak</td>
</tr>
<tr>
<td>Management and Leadership Section (ABC00)</td>
<td></td>
<td>8:30 a.m.–10:00 a.m.</td>
<td>Imperial Ballroom</td>
</tr>
<tr>
<td>Driving Decisions: Aligning Performance Measures to Support Decisions</td>
<td></td>
<td>10:30 a.m.–Noon</td>
<td>Maroon Peak</td>
</tr>
<tr>
<td>A Few Good Measures: What Decision Makers Will Use</td>
<td></td>
<td>3:00 p.m.–4:30 p.m.</td>
<td>Mt. Sopris A</td>
</tr>
<tr>
<td>Communicating Your Data</td>
<td></td>
<td>Noon–1:00 p.m.</td>
<td>Mt. Sopris B</td>
</tr>
<tr>
<td>Mapping Business to System Performance</td>
<td></td>
<td>Noon–1:00 p.m.</td>
<td>Torrey's Peak</td>
</tr>
<tr>
<td>What’s Our Destination? Target Setting and Performance Management</td>
<td></td>
<td>Noon–1:00 p.m.</td>
<td>Torrey's Peak</td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway Traffic Monitoring Committee (ABJ35)</td>
<td>Monday, June 1</td>
<td>1:00 p.m.–2:30 p.m.</td>
<td>Imperial Ballroom</td>
</tr>
<tr>
<td>Tracking the Moves: Intermodal Performance Measurement</td>
<td></td>
<td>3:00 p.m.–4:30 p.m.</td>
<td>Mt. Sopris B</td>
</tr>
<tr>
<td>Moving Data to Help Move People and Goods</td>
<td></td>
<td>4:30 p.m.–5:30 p.m.</td>
<td>Imperial Ballroom</td>
</tr>
<tr>
<td>Breaking Freight Bottlenecks: Fluidity Metrics That Work!</td>
<td></td>
<td>5:30 p.m.–7:00 p.m.</td>
<td>Grand Ballroom</td>
</tr>
<tr>
<td>Intermodal or Multimodal: It’s About People and Freight</td>
<td></td>
<td>7:00 p.m.–8:00 p.m.</td>
<td>Torrey's Peak</td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint Meeting Special Task Force on Data for Decisions and Performance Measures (A0030T), Statewide Transportation Data and Information Systems Committee (ABJ20), and AASHTO Data Subcommittee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy and Organization Group (AB000)</td>
<td></td>
<td>7:00 a.m.–8:00 a.m.</td>
<td>Torrey's Peak</td>
</tr>
<tr>
<td>Untangling the Data Web: Utilizing Advances in Data and Technology to Support Performance Management</td>
<td></td>
<td>8:00 a.m.–9:30 a.m.</td>
<td>Imperial Ballroom</td>
</tr>
<tr>
<td>Getting Decision Makers to Use New, Big, and Different Data</td>
<td></td>
<td>10:00 a.m.–11:30 a.m.</td>
<td>Maroon Peak</td>
</tr>
<tr>
<td>Using Your Data for Good Rather than Evil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working Smarter, Not Harder, with Data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “Data Pickle”: Do We Measure This or That?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td>11:30 a.m.–12:30 p.m.</td>
<td>Grand Ballroom</td>
</tr>
<tr>
<td>Transit Management and Performance Committee and Joint SGR Subcommittee</td>
<td>Tuesday, June 2</td>
<td>12:30 p.m.–2:00 p.m.</td>
<td>Imperial Ballroom</td>
</tr>
<tr>
<td>Practice Makes Perfect: State of the Practice and Opportunities</td>
<td></td>
<td>2:30 p.m.–4:00 p.m.</td>
<td>Maroon Peak</td>
</tr>
<tr>
<td>World of Opportunity: Transportation’s Future and Performance-Driven Decision Making</td>
<td></td>
<td>4:00 p.m.–5:00 p.m.</td>
<td>Mt. Sopris B</td>
</tr>
<tr>
<td>Data Business Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Transpo Talks&quot;: Traffic Analytics and Visualization</td>
<td></td>
<td>5:30 p.m.–7:30 p.m.</td>
<td>Mt. Sopris A</td>
</tr>
<tr>
<td>Stewardship Heavy, Oversight Light: Capability Maturity Model Workshop Facilitated</td>
<td></td>
<td>8:00 a.m.–11:00 a.m.</td>
<td>Mt. Harvard</td>
</tr>
<tr>
<td>Integrating Town Hall Discussion: Where Do We Stand and Where Are We Going with Performance-Based Management?</td>
<td>Wednesday, June 3</td>
<td>8:00 a.m.–Noon</td>
<td>Torrey's Peak</td>
</tr>
<tr>
<td>Planning Committee Debriefing</td>
<td></td>
<td>8:00 a.m.–1:00 p.m.</td>
<td>Gray's Peak: Floor 2 Atrium</td>
</tr>
<tr>
<td>Transit Management and Performance (AP010)</td>
<td></td>
<td>8:00 a.m.–5:00 p.m.</td>
<td>Mt. Sopris B</td>
</tr>
<tr>
<td>Transportation Economics Committee (ABE20)</td>
<td></td>
<td>8:30 a.m.–Noon</td>
<td>Mt. Sopris A</td>
</tr>
<tr>
<td>MIRE Reassessment Vetting Session</td>
<td></td>
<td>8:00 a.m.–5:00 p.m.</td>
<td>Mt. Sopris A</td>
</tr>
<tr>
<td>FTA State of Good Repair Roundtable (by invitation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Road Association (by invitation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AASHTO Standing Committee on Performance Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Road Association (by invitation)</td>
<td>Thursday, June 4</td>
<td>8:00 a.m.–5:00 p.m.</td>
<td>Mt. Sopris A</td>
</tr>
</tbody>
</table>
Welcome to the 5th International Transportation Systems Performance Measurement and Data Conference. We have brought together U.S. and international experts to address developing, applying, and delivering performance measures to support transportation decisions. Over the next two days, we will dive into this key function of transportation management, sharing new and proven ideas and tools and laying groundwork to assure the effective use of performance measurement to manage and develop transportation systems of the future. Through a mixture of plenary sessions and active workshops, we will explore ways to connect performance measurement to decision makers, to measure intermodal system performance, to make effective use of new technologies and big data, and to advance the practice of performance measurement and management. We encourage you to listen, share, and learn together as we push transportation performance management to new levels.

–Daniela Bremmer, Washington State Department of Transportation, and Joseph L. Schofer, Northwestern University, Cochairs
Open to all registrants unless noted.

**Sunday, May 31**

1:00 p.m.–3:00 p.m., Torrey’s Peak  
Management and Productivity Committee (ABC20)  
Maureen Hammer, Virginia Department of Transportation (DOT), presiding

6:00 p.m.–7:30 p.m., Mt. Columbia  
Performance Measurement Committee (ABC30)  
Mara Campbell, HERE, presiding

6:00 p.m.–8:00 p.m., Torrey’s Peak  
Transportation and Economic Development Committee (ADD10)  
Konstatina Gkritza, Purdue University, and Sharada Vadali, Texas A&M University, presiding

**Monday, June 1**

7:00 a.m.–8:00 a.m., Torrey’s Peak  
Management and Leadership Section (ABC00) (members only)  
Daniela Bremmer, Washington State DOT, presiding

Noon p.m.–1:00 p.m., Torrey’s Peak  
Highway Traffic Monitoring Committee (ABJ35)  
Jonathan Regehr, University of Manitoba, and Elizabeth Stolz, Sprinkle Consulting, Inc., presiding

7:00 p.m.–8:30 p.m., Torrey’s Peak  
Joint Meeting: Special Task Force on Data for Decisions and Performance Measures (A0030T), Statewide Transportation Data and Information Systems Committee (ABJ20), and American Association of State Highway and Transportation Officials (AASHTO) Data Subcommittee  
Joseph L. Schofer, Northwestern University; Coco Briseno, California Department of Transportation (Caltrans); and Gregory I. Slater, Maryland State Highway Administration, presiding

**Tuesday, June 2**

7:00 a.m.–8:00 a.m., Torrey’s Peak  
Policy and Organization Group (AB000) (members only)  
Hyun-A Park, Spy Pond Partners, LLC, presiding

11:30 a.m.–12:30 p.m., Mt. Harvard  
Transit Management and Performance Committee and Joint State of Good Repair Subcommittee  
William E. Robert, Spy Pond Partners, LLC, presiding

5:30 p.m.–7:30 p.m., Mt. Harvard  
Planning Committee Debriefing

5:30 p.m.–9:00 p.m., Torrey’s Peak  
Transit Management and Performance Committee (AP010)  
Amy Van Doren, Marin Transit, presiding
Wednesday, June 3

8:00 a.m.–11:00 a.m., Mt. Harvard
Transportation Economics Committee (ABE20)
Mark Burris, Texas A&M University, presiding

8:00 a.m.–Noon, Torrey's Peak
MIRE Reassessment Vetting Session
Nancy X. Lefler, VHB, presiding

8:00 a.m.–1:00 p.m., Gray's Peak
Federal Transit Administration State of Good Repair Roundtable (by invitation)
Rotimi Ogunsuyi, Federal Transit Administration, presiding

8:00 a.m.–5:00 p.m., Mt. Sopris A
World Road Association (by invitation)
Brendan Nugent, Transport for New South Wales, presiding

8:30 a.m.–Noon, Mt. Sopris B
AASHTO Standing Committee on Performance Management
Janet Oakley, Secretary of Transportation, South Carolina DOT, presiding

Thursday, June 4

8:00 a.m.–5:00 p.m., Mt. Sopris A
World Road Association (by invitation)
Brendan Nugent, Transport for New South Wales, presiding
Monday, June 1

8:00 a.m.–8:30 a.m.  
**Cochairs’ Introduction**  
Daniela Bremmer, Washington State DOT, and Joseph L. Schofer, Northwestern University

**Welcome**  
Michael Lewis, Deputy Executive Director, Colorado DOT

8:30 a.m.–10:00 a.m., Imperial Ballroom  
**Driving Decisions: Aligning Performance Measures to Support Decisions**  
Patricia G. Hendren, Spy Pond Partners, LLC, *presiding*

Addressed in this session are the connections between decision making and performance measurement: availability and suitability of measures, effective modes and channels for information delivery, different information needs for different decisions and stakeholders, and success stories from the use of performance measures for decision support.

**Making Measures Resonate with Elected Officials**  
Max Tyler, State Representative, Colorado General Assembly

**Performance Management: Advancing a National Transportation System**  
Jeffrey Paniati, Executive Director, Federal Highway Administration (FHWA)

**Why Performance Management Matters, No Matter What Chair You Are In**  
Deb Miller, Acting Chairman, Surface Transportation Board

**Keeping Score for the Game Our Customers Care About**  
Kenneth McDonald, President and CEO, Long Beach Transit

10:30 a.m.–Noon, Imperial Ballroom

**Driving Decisions**

**A Few Good Measures: What Decision Makers Will Use**  
Margaret Schilling, Federal Transit Administration (FTA), *presiding*

This breakout workshop will draw from themes discussed by the plenary speakers to address the challenges of turning existing data into meaningful performance metrics that agency and political decision makers can use to inform operating and strategic planning decisions. It will also address and identify data gaps to improve metrics and outcomes.

The workshop will open with a group discussion of themes from the plenary speaker presentations. The group will be asked to identify the types of measures that the speakers are requesting and to discuss the strengths and weaknesses in their data. The workshop then will transition into two or three presentations from practitioners who have used their data to inform and drive decisions.

**Transportation and Economic Competitiveness**  
Cory Pope, Director, Program Development, Utah DOT

**Putting Transportation in Layman’s Terms**  
Charles (Muggs) Stoll, Director of Land Use and Transportation Planning, San Diego Association of Governments
Linking Transportation and Health
Geoffrey Whitfield, Epidemic Intelligence Service Officer, Centers for Disease Control and Prevention

10:30 a.m.–Noon, Mt. Sopris A

Tracking the Moves

Mapping Business to System Performance
Nicole Katsikides, FHWA, presiding

This breakout workshop will draw from themes discussed by the plenary speakers to address the types of performance indicators used in supply chain management. Also explored are the ways in which the private sector uses these data to make decisions and the challenges facing supply chain management.

The workshop will open with two speakers from the private sector followed by discussions on the opportunities and threats related to supply chain data—and steps to improve freight movement in the United States.

Page Siplon, Chief Executive Officer, Team One Logistics
Theodore Prince, Chief Operating Officer, Tiger Cool Express LLC

10:30 a.m.–Noon, Maroon Peak

Data Web

Communicating Your Data
Timothy J. Lomax, Texas A&M Transportation Institute (TTI), presiding

The panel will address innovative approaches that have been used to turn data into useful information for a range of decision makers and the public. Each of you has novel approaches that other agencies can use to advance the state of the practice. We think everyone can benefit from an exchange of ideas.

Communicating Performance Management
Hyun-A Park, Spy Pond Partners, LLC

Multistate Mobility Performance
Peter Rafferty, TSM&O Program Manager, University of Wisconsin–Madison

Maryland Mobility Dashboard
Gregory Slater, Maryland State Highway Administration

Asset Investment Management System
William Johnson, Colorado DOT

10:30 a.m.–Noon, Mt. Sopris B

State of the Practice

What’s Our Destination? Target Setting and Performance Management
Keith Williams, FHWA Office of Safety, presiding

This breakout workshop will focus on the topic of target setting for performance measures. Speakers will share perspectives on developing and setting targets and the relationship between performance targets and transportation systems management.
Setting Meaningful Targets: How MnDOT Is Adapting Its Approach to Target Setting in an Age of Uncertainty and Fiscal Constraint
Deanna Belden, Director of Performance, Risk, and Investment Analysis, Minnesota DOT

Envisioning Better State of Good Repair Performance Measures and Understanding How Measure Selection May Affect Metropolitan Planning Organization (MPO) Funding Prioritization
David Vautin, Project Manager, and Kristen Carnarius, Transportation Planner and Analyst, Metropolitan Transportation Commission

Target Setting for Transit
Shintaro Terabe, Associate Professor, Tokyo University of Science

1:00 p.m.—2:30 p.m., Imperial Ballroom
Tracking the Moves: Intermodal Performance Measurement
Mara K. Campbell, HERE, presiding

This session addresses the importance of intermodal performance indicators and the results and outcomes that affect organizational performance and economic vitality. Intermodal performance measures can help managers identify bottlenecks in networks and discover better ways to use available capacity—and can inform customers’ travel and shipment choices. This track addresses intermodal performance measures for passenger and freight movement, data availability and quality, analysis tools, applications at various scales, and best practices for using such measures for decision support.

The Supply Chain Point of View: Multimodal Analysis and Investment Opportunities
Louis-Paul Tardif, Director, Economic Analysis and Research, Transport Canada

Public-Sector Supply Chain Analysis for Investment Decisions
Marygrace Parker, Program Coordinator: Freight Mobility Safety and Security, I-95 Corridor Coalition

Performance + Transportation = Economic Prosperity
Page Siplon, Chief Executive Officer, Team One Logistics

3:00 p.m.—4:30 p.m., Imperial Ballroom
Driving Decisions

Driving Decisions About Intermodal Investments and Operations
Jane D. Hayse, Center for Livable Communities Atlanta Regional Commission, presiding

No single transportation measure performs independently and similar transportation decisions are not made in a vacuum. This workshop will explore how organizations have brought the many factors that affect outcomes—from economic conditions to weather conditions—into a performance-based decision-making approach. We will take real-world experiences focused on intermodal and multimodal performance measurement and will explore how organizations communicate transportation system performance. Ultimately, transportation decisions involve making tradeoffs between competing needs. This workshop also will explore how competing measures have been analyzed and the complexities of tradeoff analyses—including unintended consequences.

The panel includes representatives from state and regional organizations, as well as from the private sector. Panelists will share their experiences using performance measures in various levels of decision making.

Tracking Freight Movement Throughout Iowa
Garrett D. Pedersen, Planning Team Leader, Iowa DOT

Deciding Who Gets Access to Rail: People or Goods?
Lynnette Ciavarella, Senior Division Director, Strategic Capital Planning, Metra
**Using a New Freight Competitiveness Index**  
Machelle Watkins, Director, Transportation Planning, Missouri DOT

**Intermodal Performance Measures from Decision Makers’ Perspective**  
Mike Meyer, Senior Advisor, Parsons Brinckerhoff

**Defining Mobility as the Movement of People and Freight**  
Doug McLeod, Project Manager, Florida DOT

3:00 p.m.–4:30 p.m., *Mt. Sopris A*

**Tracking the Moves**

**Breaking Freight Bottlenecks: Fluidity Metrics that Work!**  
Kitty Hancock, Virginia Polytechnic Institute and State University, *presiding*

This workshop considers how freight bottlenecks occur and identifies possible mitigation strategies. Speakers will discuss associated performance measures, how organizations are currently collecting and reporting them, and gaps where additional metrics are needed to improve decision making.

The workshop will open with speakers giving short presentations. Participants will then join one of three small groups to talk in more depth about experiences with bottlenecks. Each group will bring key points from these discussions back to the general discussion.

Jeffrey Short, Senior Research Associate, American Transportation Research Institute  
Anne-Severine Poupeleer, Project Manager, Flemish Agency for Road and Traffic  
Joseph G. B. Bryan, Principal Consultant, Parsons Brinckerhoff  
William Eisele, Senior Research Engineer, TTI

3:00 p.m.–4:30 p.m., *Maroon Peak*

**Data Web**

**Moving Data to Help Move People**  
Amy Van Doren, Director of Policy & Legislative Programs, Marin Transit, *presiding*

Advanced data analysis is a feature of public transportation systems. From planning and design through operations and maintenance, panelists will discuss methods to improve transit system performance and efficiency.

**It’s Not Me, It’s You: Refocusing Transit Agency Data To Be About Customers and for Customers**  
Dominick Tribone, Special Assistant for Strategic Initiatives, Massachusetts Bay Transit Authority

**Making Performance Measures Matter: Transparency, Accountability, and Advocacy**  
Donna Anderson, Division Manager, Chicago Regional Transportation Authority

**Using Passenger Service Delay to Improve Customer Experience and Agency Performance**  
Louis Cripps, Asset Management, System Administrator, Regional Transportation District (Denver)

**From Operations to Strategy: Making Better Decisions Through Performance Measurement**  
Chris Pangilinan, Transportation Planner, New York Metropolitan Transportation Authority

3:00 p.m.–4:30 p.m., *Mt. Sopris B*

**State of the Practice**

**Intermodal or Multimodal: It’s About People and Freight**  
Penelope Weinberger, AASHTO, *presiding*
This breakout workshop will focus on the state of the practice for measuring system performance for all travelers. Speakers will present information about measuring the movement of people and goods across modes.

**Estimating Walking and Cycling At the State Level**  
Michael Sellinger, Alta Planning and Design, and Krista Nordback, Research Associate, Portland State University

**Mobility Performance Management: Maryland State Highway Administration’s Performance-Based Approach for Improving Mobility, Reliability, and Multimodalism**  
Greg Slater and Subrat Mahapatra, Maryland State Highway Administration

**Best Practices in Evaluating Transit Performance**  
Nina Verzosa and Corinne Donahue, CDM Smith, and Diane Quigley, Senior ITS Specialist, Florida DOT

4:30 p.m.–5:30 p.m., *Imperial Ballroom*  
**Integrating Plenary: What Have We Learned? What Are the Gaps?**  
Daniela Bremmer, Washington State DOT, and Joseph L. Schofer, Northwestern University, *presiding*

Patricia G. Hendren, Spy Pond Partners, LLC  
Mara K. Campbell, HERE  
Timothy J. Lomax, TTI  
Matthew Haubrich, Iowa DOT

5:30 p.m.–7:00 p.m., *Grand Ballroom*  
**Poster Session and Reception**

*For a list of presenters and titles, see pages 11–12.*
Tracking the Moves

Calculating Vessel Travel Times on the Inland Marine Transportation System with Automatic Information System Data
Patricia DiJoseph and Ned Mitchell, U.S. Army Engineering Research and Development Center

Truck Freight Bottlenecks: Analysis and Integration into a Performance Management Program

A Trip-Based Supply Chain Approach to Monitoring Long-Distance Truck Freight Travel
Christopher Lamm and Richard Margiotta, Cambridge Systematics, Inc.

Florida’s Multimodal Mobility Performance Measures Approach
Doug McLeod, Florida DOT

Identifying Passenger and Freight Bottlenecks on Florida’s Strategic Intermodal System
Praveen Pasumarthy, CDM Smith

Discovering the Space–Time Pattern Between Freight and Passenger Car Speeds Using the National Performance Measurement Research Data Set
Karl Petty and Scott Perley, Iteris

Use of Multiple Data Sources for Freight Performance Measures
Tyrone Scorsone and Hui Chen, Cambridge Systematics, Inc.

Selecting the Right Data and Tools for Performance-Based Planning Under the Moving Ahead for Progress in the 21st Century Act (MAP-21)
Kyung-Hwa Kim, Atlanta Regional Commission

Driving Decisions

Performance-Based System Operations During Nonrecurring Events: Lessons Learned from Virginia
Ramkuma Venkatanarayana, Virginia Center for Transportation Innovation and Research, and Simona Babiceanu, University of Virginia

Using Performance Data to Assess Operations Project Benefits and Costs
Kenneth Voorhies and Anita Vandervalk, Cambridge Systematics, Inc.

Multiyear Waterway Network Maintenance Optimization Using Genetic Algorithms
Corey Winton and Ned Mitchell, U.S. Army Corps of Engineers

Arizona DOT: Needs-Based Maintenance Budget Allocation Model
Rob Zilay and Jeff Holabaugh, Dye Management Group, Inc.

Asset Investment Management System
William Johnson and JoAnn Mattson, Colorado DOT

Using Data for Better Operational Results
Frances Harrison, Spy Pond Partners, LLC, and Deb Miller, Surface Transportation Board

Using Data for Better Strategic Results
Deb Miller, Surface Transportation Board, and Frances Harrison, Spy Pond Partners, LLC
### State of the Practice

**Environmental Performance Measures for State DOTs**  
Jeff Ang-Olson, ICF International, and Joe Crossett, High Street Consulting Group

**Texas DOT’s Portfolio Planning and Resource Planning Initiative**  
Lauren Garduno and Maureen Wakeland, Texas DOT

**Using Vehicle Probe Data to Analyze Performance on the Boston Area MPO Roadways for the Congestion Management Process**  
Ryan Hicks and Scott Peterson, Boston Region MPO

**Successful Models of Long-Range Transportation Plans: Incorporating Performance-Based Planning**  
Jody McCullough and Egan Smith, FHWA, and Michael Grant, ICF International

**System Performance Measurement Applications in Rhode Island**  
Sudhir Murthy and Deanna Peabody, TrafInfo Communications, Inc.

**Real-World Problems, Real-World Answers: Probe Data Analytics in Action!**  
Michael Pack, University of Maryland Center for Advanced Transportation (CATT) Laboratory

**Implementation of Traffic Incident Management Performance Measures**  
Kelley Pecheux, Applied Engineering Management Corporation

**System Performance Measures: Past, Present, and Future**  
Monali Shah, HERE

**An Alternative Look at Arterial Performance Measures**  
Stanley Young and Reuben Juster, University of Maryland Center for Advanced Transportation Technology

**Performance Management by Assessing and Forecasting Bridge Condition: A Case Study from Iowa**  
Basak Aldemir Bektas, Iowa State University

### Data Web

**Transition from Modeled to Measured Data for Calculation of Mobility Performance Measures**  
Hui Chen and Anita Vandervalk, Cambridge Systematics, Inc.

**SaaS Data Fusion Tool for Railway Axle-Bearing Monitoring**  
Emanuele Fumeo and Stefano Terribile, University of Genoa, Italy

**Conducting a Transportation Data Assessment to Support Performance Measurement Improvement**  
Frances Harrison, Spy Pond Partners, LLC, and Stan Burns and Ron Vibbert, Michigan DOT

**Leveraging the National Performance Measurement Research Data Set**  
Scott Perley and Leon Raykin, Iteris

**Scaling Performance Management Platform to Billions of Data Points Using the Cloud: National Performance Management Research Data Set Example**  
Jane Berner, Iteris

**Exploring Multisource ITS Data for Multimodal Arterial Performance Measurement**  
Shu Yang and Yao-Jan Wu, University of Arizona
5th International Transportation Systems Performance Measurement and Data Conference

Tuesday, June 2

8:00 a.m.–9:30 a.m., Imperial Ballroom

Untangling the Data Web: Utilizing Advances in Data and Technology to Support Performance Management
Gregory Slater, Maryland State Highway Administration, presiding

Are we now in an era of rapidly evolving technologies and analysis tools and too much data? This session explores ways to use recent and emerging technologies to enhance transportation system performance measurement, planning, and management. These include a variety of channels, decision-making processes, tools for fusing multiple data sources, connected vehicle applications, and big data.

Transforming a DOT into an Information Agency
Paul Trombino III, Director, Iowa DOT

Held Hostage by Your Data: What Does “Data-Driven” Decision Making Really Mean?
Heather Rothenberg, Senior Transportation Engineer, Sam Schwartz Engineering

What Does User Experience Have to Do with Big Data?
Peeter Kivestu, Director, Global Industry Solution Travel, Transport and Government, Teradata

10:00 a.m.–11:30 a.m., Imperial Ballroom

Driving Decisions

Getting Decision Makers to Use New, Big, and Different Data
Patricia Hendren, Spy Pond Partners, LLC, presiding

This panel and audience discussion will explore how data and technology are changing the use and communication of performance to decision makers.

Being Popular or Prudent? Making Tough Decisions Backed by State-of-the-Art Technology
Alice Mathews, Company Secretary and Risk Officer, South African National Roads Agency Limited

Performance Metrics and Supportive Analysis Methodologies for Highly Urbanized, Multimodal Systems
Jamie Henson, Manager, Policy, Planning, and Sustainability Administration, District of Columbia DOT

Moving From “You’re Only as Good as Your Last Rush Hour” to “Strategic Data is My Friend”
Yvonne Carney, Senior Performance Analyst, Washington Metropolitan Area Transit Authority

Still Making Decisions Based on Assumptions? The Benefits of Big Data Analytics and Visualization
Monique de los Rios-Urban, Performance Program Manager, Maricopa Association of Governments (MAG)

10:00 a.m.–11:30 a.m., Mt. Sopris A

Tracking the Moves

Working Smarter, Not Harder, with Data
Hugh Louch, Cambridge Systematics, presiding

This workshop will highlight the tremendous amount of data available to the transportation industry and how data are key in decision making. During this session, participants will better understand the magnitude...
and sources of data and how these data will address not only system performance but also intermodal performance. Panelists will address how to collect and process performance metrics as well as the data and metrics that appear to be missing. After the presentations, there will be plenty of time for robust questions and answers.

Nicole Katsikides, FHWA
Terri Johnson, HERE
Marygrace Parker, Program Coordinator: Freight Mobility Safety and Security, I-95 Corridor Coalition
Ned Mitchell, Research Civil Engineer, U.S. Army Corps of Engineers

10:00 a.m.–11:30 a.m., Maroon Peak

Data Web
Using Your Data for Good Rather than Evil
William Johnson, Colorado DOT, *presiding*

This panel discussion will explore how data and technology are changing the use and communication of condition and performance information to decision makers across the disciplines of asset condition and system performance.

**Using Big Data to Support Asset Management Decision Making**
Kevin Heaslip, Associate Professor, Virginia Tech, and Sue McNeil, Professor, University of Delaware

**PaveRank: Crowdsourcing and Cloud Computing Toward Trustful Pavement Condition Ranking**
ZhiQiang Chen, Assistant Professor, University of Missouri–Kansas City, and Yeying Bian, GreenBean City Inc.

**Computing Performance with HERE, INRIX, TomTom, and the NPMRDS**
Michael Pack, Director, University of Maryland CATT Laboratory

10:00 a.m.–11:30 a.m., Mt. Sopris B

State of the Practice
The “Data Pickle”: Do We Measure This or That?
David Putz, Management Analyst, Organizational Improvement Team, Iowa DOT, *presiding*

Figuring out what to measure is critical to improved transportation system performance. But what and where to start, and how to change course when new data and new methodologies become available? This session will explore the “data pickle” state of practice.

**Multistate Collaboration with MPO for Common Data Sourcing and Performance Measures Calculation**
Wenjing Pu, Transportation Engineer, Metropolitan Washington Council of Governments

**Applying Performance Management for Investment Reporting at Rhode Island DOT**
Mike Lewis, Former Director, Rhode Island DOT, and Deputy Executive Director, Colorado DOT, and Hyun-A Park, Spy Pond Partners, LLC

**Connecting the Dots: National Level Performance Trends**
David Winter, Office of Policy, FHWA
12:30 p.m.–2:00 p.m., Imperial Ballroom

Practice Makes Perfect: State of the Practice and Opportunities
Matthew Haubrich, Iowa DOT, presiding

This session addresses bringing performance management into transportation programs, including meeting MAP-21 mandates and success stories about management with performance data, effective data collection, target setting, condition and performance reporting, assessing investment strategies, and measuring progress toward performance targets.

Moving a DOT to Excellence with Performance Measures
Christos Xenophontos, Assistant Director, Rhode Island DOT

Measurement-Driven Operations Management
Alan Colegate, Business Manager, Western Australia Main Roads

Collaborating Toward Successful Performance Management: FHWA and the States Working Together
Pete Stephanos, Director, Office of Transportation Performance Management, FHWA

2:30 p.m.–4:00 p.m., Imperial Ballroom

Driving Decisions

World of Opportunity: Transportation’s Future and Performance-Driven Decision Making
Julie Lorenz, Burns and McDonnell, and Joe Crossett, High Street Consulting Group, presiding

This workshop explores the connections between the changing transportation world and the performance measures needed to prepare for and manage it. In this moderated workshop, participants will hear a lively presentation about some key trends shaping the transportation horizon, and will break into groups to discuss future signposts for managing performance and the barriers to implementing them. Key focus areas include:

- Technology: Could autonomous cars alter the way we measure mobility?
- Demographics: Will changing population patterns alter system performance?
- Climate: Might resiliency force a change in measuring preservation needs?
- Energy: If cars plug in to fill up, will we need new measures to show how we pay for roads?

2:30 p.m.–4:00 p.m., Mt. Sopris A

Tracking the Moves

“Transpo Talks”: Traffic Analytics and Visualization
Brendan Nugent, Transport for New South Wales, presiding

A takeoff of Ted Talks, which are billed as a platform for “ideas worth spreading,” this workshop will feature representatives from various universities, the private sector, and government agencies sharing their knowledge on how to capture and communicate transportation mobility stories—at every level. Everyone knows a wealth of data exists—but data alone won’t communicate how investments enhance mobility or lead to good planning decisions. This session will share powerful ideas and suggestions on how to communicate performance data.

Larry Redd, Consultant, Redd Engineering
Scott Perley, Iteris, Inc.
Ted Trepanier, Executive Director, INRIX
Michael Pack, Director, University of Maryland CATT Laboratory
Data Business Planning
Erik Sabina, Branch Manager, Colorado DOT, *presiding*

This workshop on performance-based data business planning highlights innovative practices to guide data warehousing strategies and illustrates novel applications.

**Florida’s Approach to Maximizing Advances in Data and Technology for Performance Management**
Anita Vandervalk, Principal, Cambridge Systematics, and Dana Knox, Florida DOT

**Reinventing the MPO Performance Monitoring Process in the Era of Interactive Data Visualizations**
Kristen Carnarius, Transportation Planner and Analyst, Metropolitan Transportation Commission

**Monitoring and Assessing Arterial Traffic Performance**
Stanley E. Young, Research Engineer, University of Maryland CATT Laboratory

2:30 p.m.–4:00 p.m., *Mt. Sopris B*

State of the Practice

**Stewardship Heavy, Oversight Light: Capability Maturity Model Workshop Facilitated**
Michael Nesbitt, FHWA, *presiding*

The use of capability maturity models is an emerging best practice across multiple transportation disciplines. This workshop will introduce participants to the Transportation Performance Management (TPM) Capability Maturity Model (CMM). Modeled after the successful Transportation Systems Management and Operations CMM, the TPM CMM covers the people, processes, and technology and data aspects of implementing TPM. From a process perspective, this model aligns with—and uses terminology that is consistent with—existing guidance and agency practice for performance-based planning and programming.

The TPM CMM consists of 10 specific model components:

1. Strategic framework
2. Target setting
3. Performance-based planning
4. Performance-based programming
5. Monitoring and assessment
6. Reporting and communication
7. Performance measurement organization and culture
8. External collaboration
9. Data usability and analysis capabilities
10. Data management
4:00 p.m.–5:00 p.m., *Imperial Ballroom*

**Integrating Town Hall Discussion: Where Do We Stand and Where Are We Going with Performance-Based Management?**
Daniela Bremmer, Washington State DOT, and Joseph L. Schofer, Northwestern University, *presiding*

In a town hall setting, participants will bring together the ideas and opportunities discussed at this conference to identify better ways to address their own performance measurement and management challenges and to set future directions for the field and for the data required to support these directions.

Patricia G. Hendren, Spy Pond Partners, LLC  
Mara K. Campbell, HERE  
Timothy J. Lomax, TTI  
Matthew Haubrich, Iowa DOT

5:30 p.m.–7:30 p.m., *Mt. Harvard*

**Planning Committee Debriefing (members only)**

**Hotel Information**
1750 Welton Street  
Denver, CO 80202  
303-295-1234  
www.granddenver.hyatt.com

For more information, contact:  
Thomas M. Palmerlee, TPalmerlee@nas.edu  
Mai Q. Le, MQLe@nas.edu

**Save the Date**

**11th National Conference on Transportation Asset Management**

Sunday, July 10, to Tuesday, July 12, 2016  
Marriott City Center, Minneapolis, Minnesota

**Coming Soon**
The Iowa Department of Transportation once again will be soliciting partners for a pooled fund to help support future Transportation Asset Management conference activities. The next pooled fund will allow partners to participate in TAM conferences in 2016, 2018, 2020, or any combination of these years. Watch your email for information about this pooled-fund opportunity.
Transportation Research Board
2016 Annual Meeting

Join more than 12,000 transportation professionals at the TRB 95th Annual Meeting, January 10–14, 2016, in Washington, D.C.

The program will cover all transportation modes, with more than 5,000 presentations in nearly 750 sessions, addressing topics of interest to policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions.

Also, many sessions and workshops will focus on the spotlight theme for the 2016 meeting, “Research Convergence for a Multimodal Future.” The full program will be available online in November 2015.

Plan now to attend. For more information, visit www.trb.org/AnnualMeeting.

The Transportation Research Board is one of six major divisions of the National Research Council, which serves as an independent adviser to the federal government and others on scientific and technical questions of national importance. The National Research Council is jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The mission of the Transportation Research Board is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board’s varied activities annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation. www.TRB.org
FLOOR PLAN
Grand Hyatt Denver Floors

Lobby Level

2nd Floor

3rd Floor