



## **9th National Conference on Transportation Asset Management *Making Asset Management Work in Your Organization***

April 16–18, 2012  
The Westin San Diego  
San Diego, California

*Organized by*  
Transportation Research Board

*Supported by*  
Federal Highway Administration Office of Asset Management  
Federal Transit Administration

*Cosponsored by*  
American Association of State Highway and Transportation Officials  
American Public Transportation Association

[www.TRB.org/Conferences/AssetManagement2012](http://www.TRB.org/Conferences/AssetManagement2012)

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[www.TRB.org](http://www.TRB.org)



## WELCOME

This conference continues the tradition of the 2009 Portland conference and its predecessors as a forum for practitioners, researchers, and policy makers to exchange information on transportation asset management. Organized by TRB, supported by FHWA, and cosponsored by AASHTO, this is the foremost event on asset management, and representatives from nearly 30 states and 20 metropolitan planning organizations (MPOs) will be in attendance to share their knowledge.

The conference is organized into four thematic tracks: pavement and bridges, focus on implementation, transit state of good repair, and beyond pavement and bridges. These tracks are composed of five or six sessions; a unit of three to five presentations constitutes one session. Additionally, FHWA will be offering three overview sessions on life-cycle cost analysis of pavement design, economic analyses of highway projects, and the Highway Economic Requirements System—State Version.

In sum, 84 compelling presentations will be delivered by the whole gamut of transportation officials—federal, state, MPO/local, and transit agencies, as well as university researchers. And this does not even include the 20 poster presentations. These various perspectives allow participants to gain a holistic view of transportation asset management. Eleven states are contributing to a pooled fund to make this conference possible to improve our knowledge of asset management and transportation in our communities. FTA has also contributed to the fund, which offers broader dissemination of results, greater input, and the efficient use of taxpayer dollars.

The conference offers a unique opportunity to work in partnership and set the asset management agenda for the next several years. I urge you to actively brainstorm, formulate innovative policies, and prove that they work by systematically gauging their impact.



*Briseno*

—Coco A. Briseno, Conference Chair  
Division Chief, California Department of Transportation

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# CONFERENCE AT A GLANCE

	Sunday, April 15	Monday, April 16		Tuesday, April 17		Wednesday, April 18	Thursday, April 19
7:30 a.m.		TRB Management and Leadership Section* 7:30 a.m.–8:30 a.m.	TRB Communications Subcommittee 7:30 a.m.–8:30 a.m.	TRB Data Subcommittee 7:30 a.m.–8:30 a.m.		TRB Implementation and Use Subcommittee 7:30 a.m.–8:30 a.m.	
8:00 a.m.				Breakouts 8:30 a.m.–10:00 a.m.		Breakouts 8:30 a.m.–10:00 a.m.	
8:30 a.m.							
9:00 a.m.				Breakouts 10:30 a.m.–noon		Closing Session 10:30 a.m.–noon	
9:30 a.m.							
10:00 a.m.		<b>Workshop</b> Innovating to Maximize Results 9:00 a.m.–noon	TRB Transportation and Sustainability Committee 9:00 a.m.–noon	<b>Workshop</b> How to Communicate Preservation Needs 9:00 a.m.–noon			
10:30 a.m.							
11:00 a.m.				Lunch Noon–1:30 p.m.		TRB Tools Subcommittee Noon–1:30 p.m.	
11:30 a.m.							
12:00 p.m.		Pooled Fund Implementation Meeting* Noon–1:00 p.m.	NCHRP 14-24 Panel Noon–1:00 p.m.				
12:30 p.m.				Breakouts 1:30 p.m.–3:00 p.m.		Pooled Fund Future Actions* 12:30 p.m.–2:00 p.m.	
1:00 p.m.							
1:30 p.m.	TRB Strategic Management Committee 1:00 p.m.–2:45 p.m.	<b>Opening Session</b> 1:00 p.m.–3:00 p.m.		Breakouts 1:30 p.m.–3:00 p.m.		Joint Meeting TRB Transportation Asset Management Committee & AASHTO Asset Management Subcommittee 2:30 p.m.–6:30 p.m.	AASHTO Peer Exchange* 9:00 a.m.–4:00 p.m.
2:00 p.m.							
2:30 p.m.							
3:00 p.m.				Breakouts 3:30 p.m.–5:00 p.m.		Breakouts 3:30 p.m.–5 p.m.	
3:30 p.m.							
4:00 p.m.	TRB Management and Productivity Committee 3:15 p.m.–5:00 p.m.	TRB Performance Measurement Committee 3:15 p.m.–5:00 p.m.					
4:30 p.m.							
5:00 p.m.				Poster Session and Reception 5:00 p.m.–6:30 p.m.		Pooled Fund Review* 5:30 p.m.–7:00 p.m.	
5:30 p.m.							
6:00 p.m.							
6:30 p.m.							
7:00 p.m.							

\*by invitation only

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## WORKSHOPS AND MEETINGS

In addition to the core sessions, the planning committee has scheduled additional workshops and meetings around the asset management conference in order to enhance the overall learning experience and to economize on travel funds.

### Sunday, April 15

1:00 p.m.–2:45 p.m. (all conference participants welcome), *Topaz*  
**TRB Strategic Management Committee** (ABC10)

3:15 p.m.–5:00 p.m. (all conference participants welcome), *Ivory*  
**TRB Management and Productivity Committee** (ABC20)

3:15 p.m.–5:00 p.m. (all conference participants welcome), *Topaz*  
**TRB Performance Measurement Committee** (ABC30)

### Monday, April 16

7:30 a.m.–8:30 a.m. (by invitation only), *Boardroom*  
**TRB Management and Leadership Section** (ABC00)

7:30 a.m.–8:30 a.m. (all conference participants welcome), *Coral*  
**TRB Communications Subcommittee**

9:00 a.m.–noon (all conference participants welcome), *Coral*  
**TRB Transportation and Sustainability Committee** (ADD40)

9:00 a.m.–noon (advanced registration required), *Opal*  
**How to Communicate Preservation Needs**  
Joe Crossett, High Street Consulting Group, LLC; and Julie Lorenz, Burns and McDonnell, *presiding*

Build support both inside and outside your organization to bring the crucial issue of preservation to the forefront. In this session, Joe Crossett and Julie Lorenz, the team of consultants working on NCHRP Project 14-24, Guidance for Communicating the Value of System Preservation and Maintenance, explain and demonstrate effective techniques for delivering preservation messages that resonate with transportation professionals, industry stakeholders, and the general public. This is a hands-on session that allows participants to practice their newfound communication strategies and receive feedback.

#### Agenda

- Introductions
- Overview of NCHRP 14-24: Playbook for Communicating the Value of Preservation and Maintenance
- Audience Identification and Market Research Exercise
- Break
- Brand and Message Content Development Exercise
- Message Delivery Exercise
- Workshop Wrap-up

9:00 a.m.–noon (advanced registration required), *Diamond I*  
**Increasing Innovation to Maximize Results**  
Hyun-A Park, Spy Pond Partners, *presiding*

Transportation organizations are grappling with the need to deliver more with less funding. Innovation can be a critical ingredient in changing the paradigm to get more from less. Aligning missions, programs, and services with available fiscal resources and reducing costs requires a focus on effectiveness and efficiency.

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This workshop explores how to create and sustain innovation in transportation organizations to increase effectiveness and efficiency by presenting real-life examples of the benefits of greater innovation. Key takeaways will answer the following points: Why is good leadership a foundational element for increasing innovation's impact? How do you balance the tension between innovation and cost savings? How should collaboration take place? Workshop participants focus on how innovation can make a significant difference in each of their organizations. Today's goals, challenges, and problems require more than traditional problem solving to get results quickly with limited resources.

Noon–1:00 p.m. (by invitation only), *Diamond II*

**Pooled-Fund Implementation Meeting**

Eleven states have collaborated on the pooled fund to enhance practical knowledge concerning asset management implementation by identifying key shortfalls and setting the foundation for continued collaboration after the event ends. After a series of planning activities, the pooled fund will hold three on-site members-only meetings to review the state of the practice, identify challenges, and suggest considerations for the future.

**Tuesday, April 17**

7:30 a.m.–8:30 a.m. (all conference participants welcome), *Opal*

**TRB Data Subcommittee**

*Pick up continental breakfast in the Emerald Ballroom foyer.*

Noon–1:30 p.m., (all conference participants welcome), *Opal*

**TRB Tools Subcommittee**

5:30 p.m.–7:00 p.m. (by invitation only), *Opal*

**Pooled Fund Review**

**Wednesday, April 18**

7:30 a.m.–8:30 a.m. (all conference participants welcome), *Opal*

**TRB Implementation and Use Subcommittee**

*Pick up continental breakfast in the Emerald Ballroom foyer.*

12:30 p.m.–2:00 p.m. (by invitation only), *Diamond I*

**Pooled Fund Future Actions**

2:30 p.m.–6:30 p.m. (all conference participants welcome), *Opal*

**Joint Meeting with TRB Transportation Asset Management Committee (ABC40) and AASHTO Asset Management Subcommittee**



# CONFERENCE TRACK SUMMARIES

## Transit State of Good Repair

Kyle Nicholson, Federal Transit Administration, *Track Leader*

This track analyzes America's transit system for its state of good repair by examining the significance of the term "state of good repair" from an array of different perspectives, including current operations and management standards, performance measures for rail and bus transit systems, transportation asset management practices, and sources of financial support for repair initiatives.

Sessions in the Transit State of Good Repair track include

- Past, Present, and Future of Transit State of Good Repair: Review of the Federal Transit Administration's National Assessment (page 10),
- Analysis of Options and Trade-Offs: Balancing Expansion and Renewal (page 12),
- Using Performance Measures to Identify and Address Maintenance Requirements for Executive-Level Review (page 18),
- Innovative and Cost-Effective Transportation Asset Management Practices (page 15), and
- Transit Finance: How to Fund Infrastructure Renewal (page 17).

## Pavement and Bridges

Bruce V. Johnson, Oregon Department of Transportation; and Francine Shaw Whitson, Federal Highway Administration, *Track Leaders*

This track examines case studies of successful asset management initiatives to shed light on the relationship among operation, preservation, and maintenance activities and how these activities drive decision making. In addition, this track reviews current strategies for integrating pavement and bridge management activities into a more general asset management program to evaluate system performance. The presentations will target consultants and transportation agency practitioners who seek to enhance the use of asset management principles and practices related to managing pavement and bridge assets. Sessions in the Pavement and Bridges track include

- Effective Data Use for Transportation Asset Management: Part A (page 9),
- Effective Data Use for Transportation Asset Management: Part B (page 14),
- Using Performance Measures (page 16),
- Preservation and Preventative Maintenance (page 18),
- Trade-Off Analysis (page 15), and
- Environmental Considerations (page 14).

## Beyond Pavement and Bridges

Matthew H. Hardy, AASHTO, *Track Leader*

Geotechnical and ancillary structures, signs, and sidewalks are among other assets that concern transportation agencies. This track highlights the unique aspects that distinguish these assets from pavement and bridges and illustrates how agencies can manage other assets through similar strategic principles and a performance-based strategic resource allocation process, with an emphasis on using information to support the decision-making process. This track features speakers from transportation agencies who have first-hand experience in collecting data, using analytical tools, assessing program risks, and setting targets to support the decision-making process. Sessions in the Beyond Pavement and Bridges track include

- Introduction to Other Assets (page 10),
- Safety Concerns (page 17),
- Signs and Sidewalks (page 12),
- Geotechnical Applications (page 19), and
- Applications for Marine Infrastructure (page 16).

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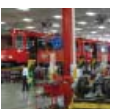


## Focus on Implementation

Martin E. Kidner, Wyoming Department of Transportation, *Track Leader*

This track focuses on setting the direction of the organization, aligning it to support performance management, accounting for risk, and developing and implementing systematic improvements and tools. The session compares recommended asset management practices to the actual state of agency practices by reviewing publications such as the *AASHTO Transportation Asset Management Guide: A Focus on Implementation* (2011). Sessions in the Focus on Implementation track include

- State-Level Success in Asset Management (page 10),
- Incorporating Risk into Asset Management (page 15),
- Setting Targets to Optimize Performance (page 13),
- Reporting and Forecasting Asset Conditions (page 17), and
- Asset Management for Long-Term Sustainability (page 13).





# CONFERENCE SESSIONS

Monday, April 16

8:00 a.m.–5:00 p.m.

## Registration

1:00 p.m.–3:00 p.m., *Emerald Ballroom*

### Opening Session

Coco A. Briseno, California Department of Transportation, *presiding*

#### Welcome from the Director of the California Department of Transportation

Malcolm Dougherty, California Department of Transportation

#### Where Asset Management Can Take Us in the 21st Century

Kirk T. Steudle, Michigan Department of Transportation

#### Advancing Transportation Performance Management Through Risk-Based Asset Management

John Baxter, Federal Highway Administration

#### Transit State of Good Repair: Track Overview

John Giorgis, Federal Transit Administration

#### Pavement and Bridges: Track Overview

Bruce V. Johnson, Oregon Department of Transportation

#### Beyond Pavement and Bridges: Track Overview

Tim Henkel, Minnesota Department of Transportation

#### Focus on Implementation: Track Overview

Michael Bridges, Louisiana Department of Transportation and Development

3:00 p.m.–3:30 p.m., *Emerald Ballroom Foyer*

## Break

3:30 p.m.–5:00 p.m.

## Breakout Sessions

### Pavement and Bridges

#### Effective Data Use for Transportation Asset Management: Part A, *Emerald Ballroom*

Jeffrey Price, Virginia Department of Transportation, *presiding*

#### Pavement Asset Management Decision Support Tools: Ohio Department of Transportation Case Study

Eddie Yein-Juin Chou, University of Toledo; and Andrew Williams, Ohio Department of Transportation

#### Association Rule-Based Life-Cycle Cost Analysis Model for Pavement Projects

David Jeong, Oklahoma State University

#### Smoothness Profiling in an Urban Setting: A Case Study

William Patrick Kennedy and Angela Hager, Denver Department of Public Works

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[\*\*A Stochastic Decision-Making Approach for the Metropolitan Transportation Commission Pavement Management System\*\*](#)

Rafael Ramirez Flores and Carlos Chang Albitres, University of Texas at El Paso

**Focus on Implementation**

**State-Level Success in Asset Management, *Diamond II***

Cory Pope, Utah Department of Transportation, *presiding*

[\*\*Introductory Comments for Track on \*Transportation Asset Management Guide, Volume 2\*\*\*](#)

Michael Bridges, Louisiana Department of Transportation and Development

[\*\*Implementing Performance-Based Asset Management: North Carolina's Journey\*\*](#)

Shobna Varma, Starlisis Corporation

[\*\*Forming and Implementing Transportation Asset Management as a Core Business Process: Indiana Department of Transportation's Experience\*\*](#)

Brad Steckler and Gerard Mroczka, Indiana Department of Transportation

[\*\*Local Agency Asset Management: It's for Streets...and So Much More!\*\*](#)

Bill Whitcomb, City of Vancouver

**Transit State of Good Repair**

**Past, Present, and Future of Transit State of Good Repair: Review of the Federal Transit Administration's National Assessment, *Topaz***

Aaron James, Federal Transit Administration, *presiding*

[\*\*Overview of the Federal Transit Administration State of Good Repair Initiative\*\*](#)

Kyle Nicholson, Federal Transit Administration

[\*\*Proposed Asset Inventory Template for the National Transit Database\*\*](#)

John Giorgis, Federal Transit Administration

[\*\*Forecasting Asset Conditions with Transit Decay Curves\*\*](#)

Keith Gates, Federal Transit Administration

[\*\*Introduction to the Federal Transit Administration's Transit Asset Management Manual\*\*](#)

Terrell Williams, Federal Transit Administration

[\*\*American Public Transportation Association Standards Program Update: Asset Management and State of Good Repair\*\*](#)

Rich Weaver, American Public Transportation Association

**Beyond Pavement and Bridges**

**Introduction to Other Assets, *Diamond I***

Tim Henkel, Minnesota Department of Transportation, *presiding*

[\*\*Cross-Asset Optimization at Colorado Department of Transportation: Developing an Integrated System for Managing Investments in Information Technology Services, Fleet, Maintenance, Bridge, and Pavement\*\*](#)

Scott Richrath, Colorado Department of Transportation

[\*\*Prioritizing Ancillary Transportation Assets for Management: A Risk-Based Study\*\*](#)

Richard Boadi and Adjo A. Amekudzi, Georgia Institute of Technology

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## Asset and Infrastructure Management for Airports

Larissa James, GHD Consulting, Inc.

5:00 p.m.–6:30 p.m., *Crystal Ballroom*

### **Poster Session and Reception**

#### **1. Introducing the Transportation Asset Management Expert Task Group**

Kathryn A. Zimmerman, Applied Pavement Technology, Inc.; Omar G. Smadi, Iowa State University; and Nastaran Saadatmand and Stephen Gaj, Federal Highway Administration

#### **2. Standardized Metric to Measure State of Good Repair Investment Performance**

Carlos M. Alvarado, CH2M Hill

#### **3. Integral Infrastructure Management: Measuring Economic and Performance Benefits of Trade-Off Analysis**

Luis Amador, Concordia University, Canada

#### **4. Using Mobile LiDAR and Right-of-Way Imagery to Collect Assets While Increasing Safety and Saving Money**

Jason Alan Amadori, Earth Eye, LLC; and William Cook, Data Transfer Solutions, LLC

#### **5. Assessing the Network-Level Trade-Offs Within and Across Different Asset Types**

Qiang Bai, Purdue University

#### **6. Value Trade-Off Analysis Applications in Transportation Asset Management**

Richard Boadi, Margaret-Avis Akof o-Sowah, and Adjo A. Amekudzi, Georgia Institute of Technology

#### **7. Evaluation of Field Data Collection and Management for Highway Assets**

Matthew Haubrich, Iowa Department of Transportation

#### **8. Local Agency Case Study: Expansion of Pavement Management Systems to Other Assets**

Greg Jakubiak, Kercher Engineering, Inc.

#### **9. Local Agencies and Transportation Asset Management**

Simon Lewis, Kercher Engineering, Inc.

#### **10. Kiwi Innovation with Tactical Asset Management**

Vaughan McEwen, Wellington City Council, New Zealand

#### **11. Bridge Maintenance and Structural Strategies for Aging Infrastructure**

Fazil Najaf, University of Florida; and Adnan Javed, Sarasota County Government

#### **12. New Strategy for Pavement Management Using Ground-Penetrating Radar and Automated Pavement Condition Surveys**

Thomas A. Pyle, California Department of Transportation

#### **13. Managing Risks in the Project Pipeline: Tool Development, Implementation, and Results**

Larry Redd, IPM Analytics

#### **14. Minnesota Department of Transportation's New System for Better Structure Asset Management**

Jeremy Shaffer, Michael Craig Schellhase, and Benjamin D. Witter, InspectTech

#### **15. Washington Metropolitan Area Transit Authority's Integrated System for Tunnel Asset Management**

Jeremy Shaffer, Michael Craig Schellhase, and Benjamin D. Witter, InspectTech

#### **16. Managing Bridge Assets Through Their Life Cycles**

Arun Shirolé, S & A Shirole, Inc.

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## 17. Asset Management Tools to Improve Roadside Safety Design

Jack R. Stickel, Alaska Department of Transportation and Public Facilities

## 18. Estimating Life Expectancy of Highway Assets

Paul D. Thompson, Consultant; Kevin M. Ford, CH2M Hill; Mohammad Haf zur Rahman Arman, Samuel Labi, and Kumares C. Sinha, Purdue University; and Arun Shirolé, S & A Shirole, Inc.

## 19. From Posts to End Treatments: How the City of Portland Developed a Guardrail Condition Monitoring Program

Jamie Waltz, Portland Bureau of Transportation

**Tuesday, April 17**

7:30 a.m.–8:30 a.m., *Emerald Ballroom Foyer*

### **Continental Breakfast**

8:00 a.m.–4:00 p.m.

### **Registration**

8:30 a.m.–10:00 a.m.

### **Breakout Sessions**

## **Transit State of Good Repair**

### **Analysis of Options and Trade-Offs: Balancing Expansion and Renewal**, *Topaz*

Robert L. Padgett, High Street Consulting Group, LLC, *presiding*

#### [New Transit Asset Management System for the Utah Transit Authority](#)

Benjamin D. Witter, Jeremy Shaffer, and Michael Craig Schellhase, InspectTech

#### [Santa Clara Valley Transportation Authority's Comprehensive Asset Inventory and Prioritization](#)

Michael Hursh, Santa Clara Valley Transportation Authority

#### [Balancing Priorities](#)

Sharon Cooney, San Diego Metropolitan Transit System

#### [Moving from "Build It and They Will Come" to "Maintain It so It Will Last"](#)

Patricia G. Hendren, Washington Metropolitan Area Transit Authority

## **Beyond Pavement and Bridges**

### **Signs and Sidewalks**, *Diamond I*

Scott Richrath, Colorado Department of Transportation, *presiding*

Transportation agencies manage two major transportation assets: signs and sidewalks. This session will provide a number of case studies of transportation agencies that incorporate signs and sidewalks into transportation asset management plans.

#### [Sign Asset Management to Achieve Minimum Retroref activity Compliance in the Las Vegas Region](#)

Mark Chang, CH2M Hill

#### [Incorporating Sidewalks into Transportation Asset Management](#)

Alan S. Kercher, Kercher Engineering, Inc.

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[Kentucky Sign Management System: Basic Steps of Building a Solid Asset Management Foundation](#)  
Tracy Nowaczyk, Kentucky Transportation Cabinet; and Mary G. Murray, Federal Highway Administration

[Better Sidewalks: Systematic Inspection and Maintenance](#)

Dave Bergner, International Municipal Signal Association; and Janet L. Luessenheide and Michael Hale, City of Overland Park, Kansas

**Focus on Implementation**

**Setting Targets to Optimize Performance**, *Diamond II*

Martin E. Kidner, Wyoming Department of Transportation, *presiding*

[Effective Communication of Asset Conditions and Needs: Making a Case for Funding](#)

Daniela Bremmer, Washington State Department of Transportation

[Moving the FHWA Toward a More Performance-Based Federal Highway Program](#)

Christopher Chang and Francine Shaw Whitson, Federal Highway Administration

[Incorporating Asset Values in Investment Evaluation and Decision Making](#)

Michelle Dojutrek and Samuel Labi, Purdue University

[Performance Management at the Minnesota Department of Transportation](#)

Deanna Belden, Minnesota Department of Transportation

**Tutorial**

**Application of Life-Cycle Cost Analysis in Pavement Design: An Overview**, *Crystal Ballroom II*

Tashia Clemons and Nadarajah Sivanan, Federal Highway Administration, *presiding*

Participants will receive an overview of the basics of good practice in applying life-cycle cost analysis (LCCA) to evaluate project alternatives using pavement examples. Topics include an overview of the LCCA process including terminology, inputs, and both deterministic and probabilistic methods of calculation, as well as how to account for risk. Also included is an overview of the FHWA RealCost LCCA software.

10:00 a.m.–10:30 a.m., *Emerald Ballroom Foyer*

**Break**

10:30 a.m.–noon

**Breakout Sessions**

**Focus on Implementation**

**Asset Management for Long-Term Sustainability**, *Diamond II*

Tim Henkel, Minnesota Department of Transportation, *presiding*

**Metrics for Asset Sustainability**

Gordon D. Proctor, Gordon Proctor & Associates

[Executive Summary of Beyond the Short Term: Transportation Asset Management for Long-Term Sustainability, Accountability, and Performance](#)

Shobna Varma, Starlsis Corporation

[Building a Sustainable Asset Management Program](#)

Kathryn A. Zimmerman, Applied Pavement Technology, Inc.

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## Pavement and Bridges

### **Effective Data Use for Transportation Asset Management: Part B**, *Diamond I*

Omar G. Smadi, Iowa State University, *presiding*

#### [A Risk-Based Asset Management Decision-Support System for the Princess Margaret Bridge Rehabilitation](#)

Yasser Abdelghany, British Columbia Ministry of Transportation; and Adel Zaki, SNC-Lavalin, Inc.

#### [Incorporating and Managing Risk in Asset Management Principles for P3 Projects in British Columbia, Canada](#)

Martin Gordon and Brendan Sterling, Opus International Consultants, Ltd., Canada

#### [Pontis 5.X: New Tools for Better Bridge Asset Management](#)

Jeremy Shaffer, Michael Craig Schellhase, and Benjamin D. Witter, InspectTech

#### [Minnesota Department of Transportation's New System for Better Structure Asset Management](#)

Michael Craig Schellhase, Jeremy Shaffer, and Benjamin D. Witter, InspectTech

## Pavement and Bridges

### **Environmental Considerations**, *Crystal Ballroom II*

Francine Shaw Whitson, Federal Highway Administration, *presiding*

#### [Incorporating Risk into Asset Management Decisions: Case Study of the Impact of Uncertain Climatic Effects on Long-Term Asset Needs](#)

Kevin M. Ford, CH2M Hill; Samuel Labi, Mohammad Haf zur Rahman Arman, and Kumares C. Sinha, Purdue University; and Arun Shirolé and Paul D. Thompson, consultants

#### [Transportation Asset Management and Climate Change: Opportunities and Challenges](#)

John Patrick O'Har and Michael D. Meyer, Georgia Institute of Technology

#### [Multi-Approach Life-Cycle Assessment Optimization to Incorporate Environmental Impacts into Pavement Management Systems](#)

Gerardo W. Flintsch and Filippo Giustozzi, Virginia Polytechnic Institute and State University; and Maurizio Crispino, Politecnico di Milano, Italy

## Tutorial

### **Economic Analysis of Highway Projects: An Overview**, *Topaz*

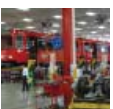
Nathaniel D. Coley, Federal Highway Administration, *presiding*

Topics include economic subjects relevant to project analysis, including inflation and discounting, life-cycle cost, benefit-cost, and risk analysis as well as instruction on the BCA.net model using sample projects. Intended audiences are those involved in the application of economic analysis for planning, design, and implementation of highway projects, which includes employees of federal, state, and local highway agencies, private industry, and academia.

Noon–1:30 p.m., *Emerald Ballroom*

**Lunch**

Tuesday, April 17, 2012



1:30 p.m.–3:00 p.m.

## Breakout Sessions

### Pavement and Bridges

#### **Trade-Off Analysis**, *Crystal Ballroom II*

Matthew Haubrich, Iowa Department of Transportation, *presiding*

#### [Fair Division Methods for Funding Allocation](#)

Carlos Chang Albitres, University of Texas at El Paso

#### [Corridor-Level Performance Measures to Support Resource Allocation Strategies in Highways](#)

Mohammadsaied Dehghanisani and Gerardo W. Flintsch, Virginia Polytechnic Institute and State University

#### [Using an Integrated Asset Management System to Perform Corridor-Level Analysis for Planning and Scheduling Bridge and Pavement Projects](#)

Abhishek Bhargava and Pascal Laumet, AgileAssets, Inc.

#### [Use of Management Science Analytics for Asset Management at Texas Department of Transportation](#)

Ronald Hagquist, Texas Department of Transportation

### Transit State of Good Repair

#### **Innovative and Cost-Effective Transportation Asset Management Practices**, *Topaz*

Richard Laver, CH2M Hill, *presiding*

#### [Obsolescence Management and System Safety Steer Intelligent Asset Management for Rail Transit Systems](#)

Kourosh Noori and Susan Cox, Delcan Corporation

#### [Lessons from the Northeastern Illinois Regional Transportation Authority: Case Study for Regional Applications of Asset Management](#)

Grace Gallucci, Chicago Regional Transportation Authority

#### [Streamlining Assessment and Capital Planning with Standardization, Coordination, and New Technologies: Metropolitan Atlanta Rapid Transit Authority's Approach](#)

David Springstead, Metropolitan Atlanta Rapid Transit Authority

#### [Maryland Transit Administration's Strategy: Applying Multimodal Methods to Transportation Infrastructure Maintenance](#)

Nathaniel D. Coley, Federal Highway Administration

#### [Trans-AM: Customizable, Open-Source Software for Transit Asset Management](#)

Hugh Louch, Eric A. Ziering, and Joseph A. Guerre, Cambridge Systematics, Inc.

### Focus on Implementation

#### **Incorporating Risk into Asset Management**, *Diamond II*

John C. Milton, Washington State Department of Transportation, *presiding*

#### [Identifying a Sustainable Road Drainage Asset Management Strategy in a Rural Oregon County](#)

Liane Welch, Tillamook County Public Works; Patricia Bugas-Schramm, PBS Consulting, Inc.; and Jeff Roorda, Jeff Roorda and Associates, Australia

Tuesday, April 17, 2012



[Implementation of a Risk-Based Asset Management Program](#)

Stephen Gaj, Federal Highway Administration

[Transportation Asset Management and Emergency Services](#)

Silvana V. Croope, Delaware Department of Transportation; and Simon Lewis, Kercher Engineering, Inc.

[U.S. Fish and Wildlife Service Usage of Risk-Based Inspection and Management Approach](#)

Michael Craig Schellhase, Jeremy Shaffer, and Benjamin D. Witter, InspectTech

[Risk Assessment and Risk Management in Transportation Asset Management at Australian Agencies](#)

Jeff Roorda, Jeff Roorda and Associates, Australia

**Beyond Pavement and Bridges**

**Applications for Marine Infrastructure**, *Diamond I*

Joel Valenzuela, Unified Port of San Diego, *presiding*

This session will cover the use of transportation asset management principles for marine assets: ferries, ports, and ships.

[Pioneering Asset Management for Marine Infrastructure: Implementation of Asset Management at Washington State Ferries](#)

Stephanie MacLachlan, KPFF Consulting Engineers

[Implementation of Strategic Asset Management at Port of Melbourne, Australia](#)

Brenton Marshall, GHD Consulting, Inc.; and Domenic Lo Bianco and Barry Giddings, Port of Melbourne Corporation

[Development of an Asset Management Plan for an Inland Ferry Fleet](#)

Martin Gordon, Opus International Consultants, Ltd., Canada

3:00 p.m.–3:30 p.m., *Emerald Ballroom Foyer*

**Break**

3:30 p.m.–5:00 p.m.

**Breakout Sessions**

**Pavement and Bridges**

**Using Performance Measures**, *Crystal Ballroom II*

Bruce V. Johnson, Oregon Department of Transportation, *presiding*

[FHWA Study to Assess Highway Infrastructure Health](#)

Stephen Gaj, Federal Highway Administration

[Effective Use of Data for Assessment and Management of Complex Structures](#)

Jeremy Shaffer, InspectTech

[Performance-Based Approach to Funding Policy for Local Streets and Roads](#)

Sui Tan and Theresa Romell, Metropolitan Transportation Commission

[Condition of Roadways and the Dynamics of Highway System Performance: An Assessment Framework](#)

Mohammadsaied Dehghanisanij and Gerardo W. Flintsch, Virginia Polytechnic Institute and State University; and Sue McNeil, University of Delaware





## Transit State of Good Repair

**Transit Finance: How to Fund Infrastructure Renewal**, *Topaz*  
Robert L. Peskin, AECOM, *presiding*

[State of California 2020 Transit Capital Needs](#)

Yonel Grant, CH2M Hill

[Prioritizing and Evaluating Implications of Investments in Transit Capital Asset Rehabilitation and Replacement](#)

William E. Robert, Spy Pond Partners

[Planning and Programming for State of Good Repair at the Regional Level](#)

Glen Tepke, Metropolitan Transportation Commission

## Beyond Pavement and Bridges

**Safety Concerns**, *Diamond I*

Hyun-A Park, Spy Pond Partners, *presiding*

Safety is an important aspect of our transportation system. This technical session will review current practices and future aspects of integrating safety assets into a transportation asset management system.

[Safety Performance Versus Asset Performance: An Iowa Department of Transportation Case Study](#)

Omar G. Smadi, Jian Gao, Konstantina Gkritza, and Neal R. Hawkins, Iowa State University

[Using Roadway Geometry and Asset Information for Safety Analysis and Enhancement: SHRP 2 Safety Program](#)

David Lowe, Fugro Roadware, Inc.

[Safety and Asset Management: Natural Symbiosis](#)

Heather A. Rothenberg, Federal Highway Administration

[Safety and Asset Management Case Study: Washington State](#)

John C. Milton, Washington State Department of Transportation

## Focus on Implementation

**Reporting and Forecasting Asset Conditions**, *Diamond II*

Scott Zainhofsky, North Dakota Department of Transportation, *presiding*

[Asset Management Implementations Within the Ohio Department of Transportation](#)

Fred Judson and John Puente, Ohio Department of Transportation

[Active Asset Management in State Departments of Transportation](#)

Stuart W. Hudson, AgileAssets, Inc.

[A Sensor-Based and Spatially Enabled Roadway Asset Management System](#)

James Tsai, Zhaohua Wang, Feng Li, and Chengbo Ai, Georgia Institute of Technology

[Pavement Condition Forecasting System: A Network-Level Funding and Strategy Analysis Tool](#)

Ronald L. Vibbert, Michigan Department of Transportation

Tuesday, April 17, 2012



**Wednesday, April 18**

7:30 a.m.–8:30 a.m., *Emerald Ballroom Foyer*

**Continental Breakfast**

8:00 a.m.–noon

**Registration**

8:30 a.m.–10:00 a.m.

**Breakout Sessions**

## **Pavement and Bridges**

**Preservation and Preventative Maintenance, *Crystal II***

Ronald L. Vibbert, Michigan Department of Transportation, *presiding*

[Analysis of Transportation Infrastructure Maintenance Strategy Using Comparative Efficiency Analysis](#)

Emil Juni and Teresa Adams, University of Wisconsin–Madison

[Best Practices in Highway Maintenance Performance Measuring](#)

Kathryn A. Zimmerman, Applied Pavement Technology, Inc.

[Forecasting the Life of Asset Preservation Treatments: A Comparative Evaluation of Alternative Tools and Techniques](#)

Eleni Bardaka and Samuel Labi, Purdue University

[Evaluating Compass Maintenance Quality Assurance and Asset Management Programs](#)

Emil Juni and Teresa Adams, University of Wisconsin–Madison

## **Tutorial**

**The Highway Economic Requirements System–State Version: An Overview, *Diamond II***

Christopher Chang, Federal Highway Administration; and Richard D. Arnold, Oregon Department of Transportation, *presiding*

The Highway Economic Requirements System–State Version (HERS-ST) overview will discuss how to use this decision tool to analyze highway infrastructures. This system will help to maximize the return on investments from pavement rehabilitation or capacity expansion highway projects or both. It estimates the cost to the users and agencies based on the condition and performance of the highway system and recommends economically worthwhile projects. HERS-ST's main objective is to maximize the mentioned benefits (or cost savings) from highway improvements.

## **Transit State of Good Repair**

**Using Performance Measures to Identify and Address Maintenance Requirements for Executive-Level Review, *Emerald Ballroom***

David Rose and Lauren Isaac, Parsons Brinckerhoff, *presiding*

[Assembling the Southeastern Pennsylvania Transportation Authority Asset Inventory](#)

Jeffrey Knueppel and Laura Zale, Southeastern Pennsylvania Transportation Authority

[Asset Management System Information to Maintain Service Delivery and to Assess State of Good Repair](#)

Willem Ebersöhn and Valerie Marcolongo, Encada LLC

Wednesday, April 18, 2012



[Performance Measures for a Comprehensive Facility Maintenance Plan and Incorporation into Business Applications Software](#)

Rolando Cruz, Long Beach Transit

[Metropolitan Transportation Authority: Successful Evolution of Long-Term Capital Needs Assessments](#)

Stephen Berrang, New York State Metropolitan Transportation Authority

**Beyond Pavement and Bridges**

**Geotechnical Applications**, *Diamond I*

David Stanley, Alaska Department of Transportation and Public Facilities, *presiding*

Geotechnical assets are sometimes a forgotten aspect of transportation assets. TRB has recently formed a subcommittee on geotechnical asset management, and this session will provide four examples of incorporating geotechnical assets in a transportation asset management program.

[The Great Impact of Geotechnical Features on System Performance and the Need for Management](#)

Scott A. Anderson, Federal Highway Administration

[Asset Management of Mechanically Stabilized Earth Walls: Critical from Design Through Design Life](#)

Robert A. Gladstone, Association for Metallically Stabilized Earth; and Richard Barrows, Federal Highway Administration

[Incorporation of Geotechnical Elements as an Asset Class Within Transportation Asset Management and Development of Risk-Based, Life-Cycle Cost Performance Strategies](#)

Mark Vessely, Shannon and Wilson, Inc.; and Matthew James DeMarco and Rich Barrows, Federal Highway Administration

[Estimating the Inestimable: Incorporating Geotechnical Assets into Transportation Asset Management](#)

David Stanley, Alaska Department of Transportation and Public Facilities; and Lawrence A. Pierson, Landslide Technology

10:30 a.m.–noon, *Emerald Ballroom*

**Closing Session: What Did We Learn?—and Next Steps**

Coco A. Briseno, California Department of Transportation, *presiding*

[Transit State of Good Repair](#)

Kyle Nicholson, Federal Transit Administration

[Pavement and Bridges](#)

Bruce V. Johnson, Oregon Department of Transportation

[Beyond Pavement and Bridges](#)

Ananth K. Prasad, Florida Department of Transportation

[Focus on Implementation](#)

Martin Kidner, Wyoming Department of Transportation

[Moving Forward](#)

Kathryn A. Zimmerman, Applied Pavement Technology, Inc.

Wednesday, April 18, 2012



## WEBINAR SERIES ON TRANSPORTATION ASSET MANAGEMENT

TRB is organizing a series of post-conference webinars that focus on Transportation Asset Management. Participants must register themselves in advance. Webinars will be announced in the TRB E-Newsletter, and registration information will be posted on the TRB Calendar ([www.TRB.org/Calendar](http://www.TRB.org/Calendar)) as it becomes available. The webinar announcement will include information about registration fees for non-TRB Sponsor employees. Join us for the following sessions:

### **Transit State of Good Repair Track, Highlights**

*Cosponsored by TRB and the National Transit Institute at Rutgers, The State University of New Jersey*

Date: May 16, 2012

Track Leader: Kyle Nicholson, Federal Transit Administration

More Information: <http://nti.rutgers.edu/courses/courseinfo.php?id=219>

### **Federal Transit Administration and Transit Cooperative Research Program—Research Results and Initiatives**

*Cosponsored by TRB and the National Transit Institute at Rutgers, The State University of New Jersey*

Date: May 30, 2012

Track Leader: Kyle Nicholson, Federal Transit Administration

More Information: <http://nti.rutgers.edu/courses/courseinfo.php?id=220>

### **Focus on Implementation Track, Highlights**

Date: June 20, 2012

Track Leader: Martin Kidner, Wyoming Department of Transportation

### **Sustainable and Responsible Infrastructure Investment—A Long Term Commitment**

Date: TBD

Track Leader: Martin Kidner, Wyoming Department of Transportation

### **Beyond Pavements and Bridges Track, Highlights**

Date: July 18, 2012

Track Leader: Matthew Hardy, AASHTO

### **Pavements and Bridges, Current Trends**

Date: September 19, 2012

Track Leader: Bruce Johnson, Oregon Department of Transportation

## UPCOMING EVENTS

### **Innovations in Travel Demand Forecasting—2012**

April 30–May 2, 2012

Tampa, Florida

### **Making Progress: Transportation Planners and Programmers Turn Ideas into Reality**

May 23–25, 2012

Denver, Colorado

### **North American Travel Monitoring Exposition and Conference (NATMEC)**

June 4–7, 2012

Dallas, Texas

### **2012 TRB–AASHTO Policy Committees' Summer Meeting: Mapping the Future**

June 25–27, 2012

Irvine, California

### **2012 TRB Joint Summer Meeting**

July 8–11, 2012

Irvine, California

### **Measuring the Transportation System from a Supply Chain Perspective**

July 11, 2012

Irvine, California (by invitation only)

### **Transportation Knowledge Networks—Broadening the Base: A Workshop**

July 12–13, 2012

Irvine, California

### **12th National Light Rail and Streetcar Conference**

November 12–13, 2012

Salt Lake City, Utah

April 16–18, 2012



## NATMEC

### Improving Traffic Data Collection, Analysis, and Use

*Held in Conjunction with the International Conference on Weigh-in-Motion (ICWIM)*

<http://iswim.free.fr/icwim6>

June 4–7, 2012

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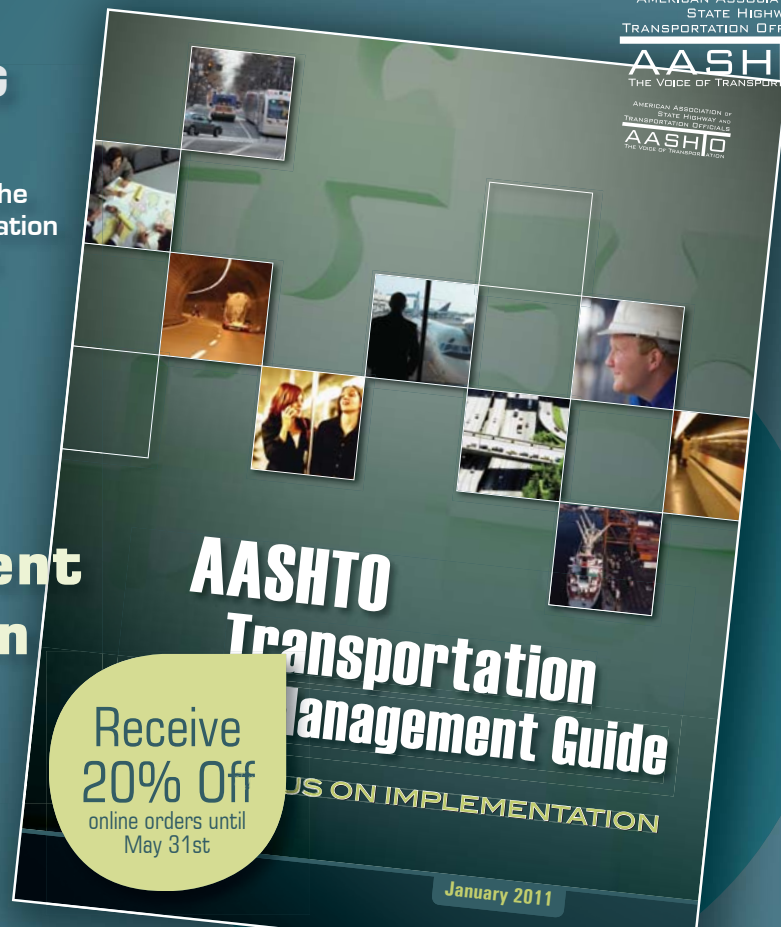
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April 16–18, 2012

## ATTENTION MEETING PARTICIPANTS!

To thank you for your participation in the 9th National Conference on Transportation Asset Management meeting, AASHTO would like to offer you a special 20% discount on the:

## AASHTO Transportation Asset Management Guide: A Focus on Implementation 1st Edition



The *AASHTO Transportation Asset Management Guide: A Focus on Implementation*, also known as the *TAM Implementation Guide*, was designed to encourage transportation agencies to address strategic questions as they confront the task of managing the surface transportation system. Developed by the AASHTO Subcommittee on Asset Management, it provides guidance to transportation decision makers to assist them in realizing the most from financial resources, preserving highway assets, and providing the service expected by customers. Its principles and implementation techniques are applicable to all agencies managing transportation assets, and to all levels in the organization, from executives and senior managers, to middle managers and practitioners.

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# The Westin San Diego

## Floorplan



### Hotel Information

The Westin San Diego  
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