8th National Conference on Transportation Asset Management

*Putting the Asset Management Pieces Together*

October 19–21, 2009
The Nines Hotel
Portland, Oregon

Supported by
Federal Highway Administration
Office of Asset Management, Office of Safety, and Office of Pavement Technology
Alaska Department of Transportation and Public Facilities
California Department of Transportation
Connecticut Department of Transportation
Iowa Department of Transportation
Michigan Department of Transportation
Minnesota Department of Transportation
Wisconsin Department of Transportation
Midwest Regional University Transportation Center at University of Wisconsin–Madison

Cosponsored by
Oregon Department of Transportation
American Association of State Highway and Transportation Officials
American Public Works Association
National Association of County Engineers
National Local Technical Assistance Program Association
American Society of Civil Engineers Infrastructure Systems Committee

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<td>Education’s Breakfast</td>
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<td>Implementation of Transportation Asset Management Workshop</td>
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<td>10:30 a.m.</td>
<td>Asset Management and Safety Analysis Tools (by invitation)</td>
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<td>Optional FHWA Workshops (4) continued</td>
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**TRANSPORTATION RESEARCH BOARD**

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](http://www.TRB.org)
Invitation from Chairs

This conference provides an opportunity for practitioners, researchers, and others to share information on a wide range of issues related to transportation asset management. It builds on the seven previous national conferences, recognizing the significant progress made in transportation asset management.

The conference program includes sessions on emerging issues in transportation asset management. Among them will be trade-off analysis, optimization, system management, and safety. Practical examples of asset management implementation in a state, region, or local community are emphasized. Of special interest are risk assessment, benchmarking, and communication strategies that link technical, financial, political, and community decision making.

The conference features the following three thematic tracks:

- **The safety track** explores the use of crash-data analysis with road assets and traffic records to determine and prioritize highway safety needs, identify and implement strategies, develop performance measures, evaluate system performance, and integrate safety solutions into planning and programming projects.

- **The pavement management track** examines emerging methods and technologies in the measurement and use of network-level pavement data, including methods of analyzing pavement performance from pavement management data, the relationship between preventive maintenance and pavement management data, pavement preservation, life-cycle costing, and trade-offs with other types of infrastructure.

- **The data and information infrastructure track** investigates how transportation organizations introduce and use innovative data programs to guide funding and resource allocation for infrastructure investments, project selection, rehabilitation strategies, and safety improvements. Addressing institutional barriers to enterprise implementation is of special interest.

We invite you to join your colleagues in this opportunity to learn, network, and explore the issues of transportation asset management in beautiful Portland, Oregon, at the luxury Nines Hotel!

—Catherine M. Nelson  
Conference Cochair  
Manager of Technical Services and Chief Engineer  
Oregon Department of Transportation

—Francine Shaw-Whitson  
Conference Cochair  
Transportation Manager, Team Leader  
Office of Asset Management  
Federal Highway Administration

Nelson  
Shaw-Whitson
Conference Tracks

The conference features three thematic tracks with integrated sets of sessions.

Pavement Management
Managing pavements today is a demanding and highly sophisticated business. As a key part of the overall asset management programs, management systems are becoming the information-support providers for numerous activities throughout the departments of transportation. During recent years, significant advancements have been realized in data collection, analysis, and reporting of information critical to linking transportation investments to asset performance. These presentations describe innovative applications and case studies that focus on the key trends in pavement management, information technologies, and how they relate to effective asset management of public transportation facilities.

- Relating Pavement Performance to Asset Management, Monday, 3:30 p.m.—5:00 p.m.
- Poster Session on Innovative Practices in Pavement Management, Monday, 5:00 p.m.—7:30 p.m.
- Pavement Data Collection: Better Data and Lower Costs, Tuesday, 8:30 a.m.—10:00 a.m.
- Data Credibility: Calibrating and Validating, Tuesday, 10:30 a.m.—12:00 p.m.
- Integrating Processes, Tuesday, 2:00 p.m.—3:30 p.m.
- Supporting Decision Making with Pavement Management, Tuesday, 4:00 p.m.—5:30 p.m.
- Next Generation Network Modeling, Wednesday, 8:30 a.m.—10:00 a.m.

Safety
The safety track includes sessions focusing on the importance of crash-data analysis integrated with road assets and traffic records to determine and prioritize highway safety needs, identify and implement strategies, share best practices, evaluate system performance, and integrate safety solutions into planning and programming projects. There is an added emphasis on safety analysis tools and their benefits to the asset management community.

- Analysis Tools for Safer Highways, Monday, 3:30 p.m.—5:00 p.m.
- Poster Session, Keeping the Focus on Saving Lives: Using Asset Management to Meet Safety Targets, Monday, 5:00 p.m.—6:30 p.m.
- Data and Infrastructure Information, Tuesday, 8:30 a.m.—10:00 a.m.
- Integrating Asset Management and Safety, Tuesday, 4:00 p.m.—5:30 p.m.
- Examining Tools to Evaluate, Prioritize, and Meet Safety Needs, Wednesday, 8:30 a.m.—10:00 a.m.

Data and Information Infrastructure
These sessions investigate how transportation organizations introduce and use innovative data programs to guide funding and performance-based resource allocation for infrastructure investments, project selection, rehabilitation strategies, and safety improvements. The role of data collection in decision making and the return-on-investment for data-collection programs are of special interest.

- Data Governance and a Common Framework for Asset Management, Monday, 3:30 p.m.—5:00 p.m.
- Poster Session, Using Data to Enhance Decision Making, Monday, 5:00 p.m.—7:30 p.m.
- Effective Data Programs for Performance-Based Decisions, Tuesday, 8:30 a.m.—10:00 a.m.
- Regional Data Management Initiatives for Assessment Management, Tuesday, 10:30 a.m.—12:00 p.m.
- Effective Transportation Data Applications for Performance-Based Project Prioritization and Investment Trade-Off, Tuesday, 2:00 p.m.—3:30 p.m.
- Life-Cycle Risk Assessment—Setting Service Priorities, Tuesday, 4:00 p.m.—5:30 p.m.
- Data Requirements for a Knowledge-Based, Risk-Assessment Program, Wednesday, 8:30 a.m.—10:00 a.m.
About the Host City

Big-city excitement and small-town charm make Portland, Oregon, known as the City of Roses, one of the favorite destinations in the west. Portland is approximately 70 miles from the Pacific Ocean in a magnificent setting between the sparkling waters of the Columbia and Willamette Rivers. Portland’s historic old town, galleries, museums, theatre companies, and many local pubs and brew houses (where tasting local microbrews is considered a fine way to spend an evening) offer visitors a wide variety of entertainment options. Other attractions include nearby Willamette Valley wineries, skiing at Timberline Lodge, and all the excitement and beauty of Oregon’s spectacular ocean beaches. A splendid location, relaxed respectability, and an urban lifestyle that is unsurpassed for its livability make Portland a city to visit and remember.
Pre-Conference Events

SUNDAY, OCTOBER 18, and MONDAY, OCTOBER 19

Sunday, 9:30 a.m.—4:30 p.m.
Peer Exchange—Laying the Groundwork for Cutting-Edge Safety Analysis Tools (by invitation)

State asset management, safety, and data representatives will learn about the potential benefits for new safety analysis tools such as the Highway Safety Manual (HSM) and SafetyAnalyst. States will assess their capability to meet the data-system needs required for these tools and discuss strategies for making data systems more complete.

Monday, 8:30 a.m.—noon
Workshop: Transportation Asset Management (TAM) Implementation (Open to all participants)
Osama Tomeh, AECOM Consult Inc., presiding

The TAM implementation workshop presents the results from a NCHRP project (Supplement to the AASHTO TAM Guide Vol. 2: A Focus on Implementation). The workshop will present a practical roadmap for implementing TAM for both state and local agencies. The roadmap is supplemented with state of the practice information from U.S. and international case studies. This workshop is intended for upper- and mid-level management personnel at both state and local governmental agencies. All are welcome to attend; no registration required.

Post-Conference Workshops

The Federal Highway Administration will be offering four workshops. Each will begin on Wednesday afternoon and continue Thursday morning. No additional fee is charged, but registration is required. See page 19 for workshop details.

- Economic Analysis of Highway Projects Using the Web-Based, Project-Level Benefit–Cost Model and Analysis Tool, BCA.Net.
- Application of Life-Cycle Cost Analysis (LCCA) in the Selection of Preservation Strategies
- Principles and Practices of Data Integration for Transportation Asset Management
- Highway Economic Requirements System—State Version (HERS-ST)
Conference Sessions

MONDAY, OCTOBER 19

1:00 p.m.–3:00 p.m.
Opening Session

Oregon’s Short-Term and Long-Term Transportation Future
Gail Achterman, Chair, Oregon Transportation Commission
Catherine M. Nelson, Oregon Department of Transportation, presiding

Gail Achterman’s presentation will focus on asset management’s role in Oregon’s short-term and long-term transportation future with emphasis on fighting climate change, achieving energy independence and improving Oregon’s economy.

Pavement Management Track Keynote
Randell H. Iwasaki, Chief Deputy Director, California Department of Transportation

Safety Track Keynote
Anthony R. Kane, Director, Engineering and Technical Services, American Association of State Highway and Transportation Officials

Data Track Keynote
David S. Ekern, Commissioner, Virginia Department of Transportation

3:30 p.m.–5:00 p.m.
Pavement Track

Relating Pavement Performance to Asset Management
Peter Vacura, California Department of Transportation, presiding

Connecting pavement performance to asset management is an increasing challenge for public agencies. These presentations offer a look into the experiences of agencies with successful programs and how their barriers to implementation were resolved.

Applied Asset Management Principles Using Pavement Preservation
Kathryn A. Zimmerman, Applied Pavement Technology, Inc.

Statewide Pavement Management with a Decentralized Organizational Structure: Virginia’s Experience
Zheng Wu, MACTEC Engineering and Consulting, Inc.; Raja Shekharan and Tanveer Chowdhury, Virginia Department of Transportation

North Texas Tollway Authority Innovations in Managing Pavement Assets and Complying With GASB34
3:30 p.m.–5:00 p.m.

**Safety Track**

**Analysis Tools for Safer Highways**
John Dunn, Washington State Department of Transportation, *presiding*

This session will educate asset managers on how safety analysis tools and asset management data elements and systems are an essential part of a sound safety data system. This will include an overview of the new safety analysis tools and MMIRE.

**Making the Case for Integrated Infrastructure Management and Safety Systems**
Timothy K. Colling, Michigan Technological University; Terry McNinch, Michigan Local Technical Assistance Program

**New Safety Analysis Tools Such As the Highway Safety Manual (HSM), the Interactive Highway Safety Design Model (IHSDM), Resurfacing Safety Resource Allocation Program (RSRAP)**
Michael S. Griffith, Federal Highway Administration

**Data System Needs Required for These Tools and the Role of the Model Minimum Inventory of Roadway Elements (MMIRE)**
Robert Pollack, Federal Highway Administration

3:30 p.m.–5:00 p.m.

**Data Track**

**Data Governance and a Common Framework for Asset Management**
Jonette Kreideweis, Minnesota Department of Transportation, *presiding*

Establishing a common framework through a data governance model can help ensure success for planning, deploying, measuring performance, and assessing risk for an asset management system. This session will look at the common principals that underlie quality performance-enhancing data systems supporting asset management. Data stewardship, data governance maturity models (including polices, people and processes), and data business plans will be covered.

**State Data Business Plans—A Success Factor for Performance Measures and Asset Management**
Anita Vandervalk-Ostrander, Cambridge Systematics, Inc.

**Aligning Transportation Data Programs with Asset Management Decision-Making Processes—A Data Business Plan Approach**
Jack R. Stickel, Alaska Department of Transportation and Public Facilities

**Redesigning Processes and Systems for Asset Management: Maine’s DOT Approach**
Jerome Casey, Maine Department of Transportation

**Breaking Barriers: A Planning Toolkit**
James S. Roberts, Altus Capital Planning

3:30 p.m.–5:00 p.m.

**Overcoming Challenges to Implementing Asset Management**
Ernie Wittwer, University of Wisconsin Madison, *presiding*

This session focuses on the experiences of government agencies in introducing asset management. The presentations vary from a large state (Florida) to a smaller network in Delaware. The City of Calgary (Canada) has adopted an innovative approach to managing its urban systems. The presentations focus on use of the asset management self-assessment, initiating a new organizational mindset, and using data-driven decision making.

**Conducting an Asset Management Organizational Assessment**
Joseph A. Guerre and Anita Vandervalk-Ostrander, Cambridge Systematics, Inc.

**Introducing Asset Management: Experiences at Delaware Department of Transportation**
Sue McNeil, University of Delaware; Curt Cole, Delaware Department of Transportation

**RAMP: The City of Calgary Roads Asset Management Program**
Narinder Bubbar, City of Calgary, Canada
Poster Sessions and Reception

5:00 p.m.–7:30 p.m.
Current Applications for Advancing Transportation Asset Management Principles
Jason Bittner, University of Wisconsin, Madison, *presiding*

This series of poster presentations covers a wide range of current initiatives in transportation asset management, including better use of life-cycle cost analysis and risk assessment. The posters also include a special presentation focused on the use of new IT applications, featuring Terrago, Microsoft; and tcGlobalcad.

- **Life-Cycle Cost Analysis of Thermoplastic Striping Operations: Lessons Learned in Making a Paradigm-Level Shift in Field Operations**
  David Hutson, City of Portland
- **A Multi-Objective Framework for Performance Assessment and Management of Canada’s Transportation Infrastructure**
  Zoubir Lounis, National Research Council of Canada
- **Asset Management Tools for Right-of-Way Advanced Acquisition**
  Carlos M. Chang, UTEP; Paul E Krugler, Texas A&M University System; Ronald Hagquist, Texas Department of Transportation
- **NAMS.PLUS: The Missing Piece in the Asset Management Jigsaw**
  Chris Champion, Institute of Public Works Engineering, Australia
- **A Comparison of Maturity of Asset Management Regimes Across the Global Transportation Sectors**
  Christian Mark Roberts, GHD, United Kingdom
- **Scale-Independent Asset Management Approach**
  Patrick Lee Gurian, Franco Montalto, Franklin L. Moon, and Ahmet Emin Aktan, Drexel University
- **A Collaborative, Hierarchical Approach to Using Optimization in Transportation Asset Management**
  Ugo Feunekes, Steve Palmer, and Andrea Feunekes, Remsoft
- **The Future of Transportation Asset Management: The Role of Technology**
  Stuart W. Hudson, Charles Pilson, and Simon Lewis, AgileAssets, Inc.
- **Transportation Curriculum Coordination Council—Improving the Infrastructure Through a More Skilled Construction and Maintenance Workforce**
  Christopher Newman, Federal Highway Administration
- **An Inventory and Risk Assessment of Traffic Barriers in National Parks**
  A. J. Nedzesky, Federal Highway Administration
- **Integrating Bridge Management into Asset Management**
  Paul D. Thompson, Consultant
- **Improved Methods for Waterfront Facility Management**
  Kurt Alexander Keifer, Dynatest Consulting, Inc.
- **IT Speaks: The Real Lever for Asset Management Policy, Part 1**
  Willard Puffer, Harris County

5:00 p.m.–6:30 p.m.
Pavement Track
Innovative Practices in Pavement Management

This poster session on innovative practices provides an in-depth look at some of the most innovative practices in pavement management today and issues involved in implementing them.

- **Pavement Condition Data Quality and Its Influence on Pavement Management Decisions**
  Ghim Ping Ong, Purdue University; A. Samy Noureldin, Indiana Department of Transportation; Kumares C. Sinha, Purdue University
Quality Management Practices for Pavement Condition Data Collection
Gerardo W. Flintsch, Virginia Polytechnic Institute and State University; Kevin Kenneth McGhee, Virginia Transportation Research Council

Portland Bureau of Transportation's Journey to a New Pavement Management System
Brian Oberding, Steve Townsen, and Jamie Waltz, Portland Office of Transportation

An Algorithm for Road Segmentation Based on Pavement Condition Parameters
Ricardo Solorio, Roberto Hernandez, and Cristina Gorrostieta, Instituto Mexicano del Transporte

PAVEAIR—the Federal Aviation Administration’s New Web-Based, Airport Pavement Management System
Jeff Gagnon and Albert Larkin, Federal Aviation Administration

5:00 p.m.–6:30 p.m.
Safety Track
Keeping the Focus on Saving Lives: Using Asset Management to Meet Safety Targets

Improving Safety by Implementing Transportation Asset Management across Multi-Modal Facilities
Mirza Rizwan Baig and Michael Diculescu, Port Authority of New York and New Jersey; Wajahat Husain, RBA Group

Evaluation of the Impact of Pavement Roughness on Skid Resistance and Safety
Luis Guillermo Fuentes, Manjiri Gunaratne, and Daniel Hess, University of South Florida

J-Turn Intersection Applications on Iowa Expressways
Joshua Lee Hochstein and Thomas Maze, Iowa State University; Tom Michael Welch, Iowa Department of Transportation

Asset Management and Safety: A Pavement Marking Application
Omar Smadi and Neal R. Hawkins, Iowa State University; Inya Nlenanya, Center for Transportation Research and Education

Managing Community Transportation Assets to Improve Safety
Margaret Gibbs, Opus International Consultants; Sany Ramsey Zein, Opus International Consultants Ltd., Canada

Pedestrian Road Safety Audit Guidelines and Prompt List
Richard G. Schaffer, Federal Highway Administration

5:00 p.m.–6:30 p.m.
Data Track
Using Data to Enhance Decision Making

Development of a Traffic Sign Inventory System (Sign Click)
Eric R Green, Kentucky Transportation Center

Analysis of the California Highway Construction Cost Index
Zairen Luo, California Department of Transportation

Portland Bureau of Transportation: Using Street Lighting and Traffic Signal Data Management Systems
Tod Rosinbum and Jamie Waltz, Portland Office of Transportation

A Review of Australian Transportation Infrastructure Management Practice, Implementation, Data Programs, Funding, and Resource Allocation with an Emphasis on the Issues Faced by Smaller Communities
Ross Waugh, Waugh Infrastructure Management Ltd; Jeff Roorda, Jeff Roorda and Associates

Degradation Rate Modeling of Bridges in Ohio
Sathyanarayana Ramani, Arthur J Helmicki, Victor J Hunt and James A. Swanson, University of Cincinnati

Evolutionary State—Virginia DOT's Transition from Manual-Based Sampling Random Condition Assessment to 100% Coverage Automated Data Collection
Cory Hackbart, Fugro Roadware Inc.; Tanveer Chowdhury, Virginia DOT
ADA Asset Inventory and Spatial Modeling
Nathan Harp and Angel A Canales, New York State Department of Transportation

Migrating Toward Statewide Consistency and Understanding of Sign Data
Greg Stellmach, Oregon Department of Transportation

Asset Management Trade-Off Analysis—The Experience of the Indiana Department of Transportation in Developing a Framework and Computer Analysis Tool
Qiang Bai and Samuel Labi, Purdue University; Samy Noureldin and Brad Steckler, Indiana Department of Transportation; David Unkefer and Daniel Keefer, FHWA–Indiana Division

Network-Level Trade-Off Analysis Using Network-Level Aggregate Data
Samuel Labi, Purdue University; Samy Noureldin, Indiana Department of Transportation

TUESDAY, OCTOBER 20

7:30 a.m.–8:15 a.m.
Meeting—Educators Breakfast
Gerardo W. Flintsch, Virginia Polytechnic Institute and State University, presiding

This informal meeting provides an opportunity for educators to discuss materials available to support an asset management curriculum.

8:30 a.m.–10:00 a.m.
Benchmarking Asset Management Across International and U.S. Peer Agencies
Daniela Bremmer, Washington State Department of Transportation, presiding

Comparing asset management practices across peer agencies helps frame the good, the bad, and the just-started. By working with peers, each agency can learn what has worked and how to improve or change current practice so that greater efficiency and effectiveness are adopted as corporate strategies. Hear how international water benchmarking, an assessment of U.S. transportation agencies, and current U.S. cities’ asset management practices compare.

2008 Comparison of U.S. Cities’ Asset Management Practices
Bob Glascock, Portland City Asset Managers Group

Benchmarking Portland Water
Jeff Leighton, Portland Water Bureau

Asset Management’s Best: Results of the 2007 Domestic Scan
Paul R Wirfs, Oregon Department of Transportation

8:30 a.m.–10:00 a.m.
Pavement Track
Pavement Data Collection: Better Data and Lower Costs
Scott J. Bush, Wisconsin Department of Transportation, presiding

Capabilities in data collection and processing have advanced extensively in recent years. Improved sensors, high resolution imaging, and sophisticated data analysis are some of the key components in a state of the practice data collection system. These systems promise higher quality and lower costs but require more sophistication to make them work. This session explores some of the techniques, issues, and solutions of effective systems in use today.

Moving from Manual to Semi-Automated Network-Level Pavement Data Collection—Oregon’s Experience
John Coplantz, Oregon Department of Transportation

Use of Ground-Penetrating Radar for Network-Level Measurement of Pavement Structural As-Built Information
Peter Vacura, California Department of Transportation; John Harvey, University of California, Davis
Case Studies: Pavement Condition Index (PCI) Surveys Using Automated Data Collection Techniques
Jose M Arze, All About Pavements; Kurt Alexander Keifer, Dynatest Consulting, Inc.

Practical Pavement Imaging and Data Interpretation Techniques
Kurt Alexander Keifer, Dynatest Consulting, Inc.

8:30 a.m.–10:00 a.m.

Data and Safety Tracks
Pat Morin, Washington State Department of Transportation, presiding

The Development of the Model Minimum Inventory of Roadway Elements (MMIRE)
Carol H. Tan and Robert Pollack, Federal Highway Administration

Feeding a Growing Appetite for Roadway Data
Lincoln Cobb, Federal Highway Administration

Conducting an Asset Management Data Management System Gap Analysis
Jamie Waltz, Portland Office of Transportation

Return on Investment and Benefit–Cost for Collecting Safety Data
Anita Vandervalk-Ostrander, Cambridge Systematics, Inc.

8:30 a.m.–10:00 a.m.

Data Track
Coco A. Briseno, California Department of Transportation, presiding

Effective Data Programs for Performance-Based Decisions
A strong performance-based asset management program requires well-developed policy objectives and performance targets, modern infrastructure management systems, and effective data programs. This session will examine performance measures from an international, national, and metropolitan planning organization perspective. Topics will include performance based approaches to funding allocations, linking performance and accountability to budgets, and using customer data to drive agency decisions.

Linking Performance and Accountability to Budgets
Connie Yew, Federal Highway Administration

Using Customer Data to Drive Decisions: Results from NCHRP 20-07–Task 260
Mia Zmud, NuStats, LLC

The Performance-Based Approach to Local Street and Road Funding Allocation
Sui Tan and Theresa Romell, Metropolitan Transportation Commission

10:30 a.m.–noon

Asset Management Around the World: Current Initiatives in Australia, Canada, New Zealand, and the United Kingdom
Sue McNeil, University of Delaware, presiding

Current initiatives in Canada are focused on describing a performance management framework for allocating national resources to Canadian provinces based on technical and nontechnical performance metrics. England is simplifying implementation guidance and using a workshop framework to help local road agencies develop a transportation asset management plan. New Zealand and Australia focus on implementing asset management at the local level and have written what is considered the most comprehensive asset management at the local level.

Building the Environment for Sustainable Management of Community Infrastructure
Chris Champion, Institute of Public Works Engineering, Australia

Framework for the Assessment of the State, Performance, and Management of Canada’s Core Public Infrastructure
Guy Felio, Infrastructure Strategies and Research, Inc

Recent Asset Management Initiatives in the United Kingdom—Simplified Guidance, Funding Initiatives, and Local Agency TAM Implementation
Les Hawker, Transport for London, United Kingdom
Ten Years’ Experience Implementing Asset Management in New Zealand Local Governments
Ross Waugh, Waugh Infrastructure Management, Ltd.

Building Infrastructure Investment Accountability for British Columbia’s Local Governments
Wally Wells, Wells Infrastructure

10:30 a.m.–noon
Asset Management Implementation Strategies: What Has Worked in the Pacific Northwest
Lacy Love, North Carolina Department of Transportation, presiding

Portland Water Bureau and Seattle Public Utilities lead the United States in best international asset management practice. Oregon Department of Transportation is a recognized leader in U.S. asset management implementation. Successful implementation strategies are unique to each agency but provide insights for any agency seeking to begin, refresh, or continue their asset management journey. These city and state agencies will describe how they moved asset management theory into day-to-day decision making.

Seattle Public Utilities: Turning to a Customer Focus and Corporate View Using Asset Management
Liz Kelly, City of Seattle

Portland Water Bureau’s Five-Year Asset Management Journey—What Has Worked, Where We Are, and What Not to Do
Jeff Leighton, Portland Water Bureau

Communication and Commitment: Oregon DOT’s Asset Management Implementation Plan and Progress on the Asset Management Journey
Laura Wipper, Oregon Department of Transportation

10:30 a.m.–noon
Pavement Track
Data Credibility: Calibrating and Validating
Gerardo W. Flintsch, Virginia Polytechnic Institute and State University, presiding

This session addresses methods and practices of turning quality data into useful information for decision making about pavements. The session explores applying newer technologies and validating prediction models within the Pavement Management framework.

Using a Structural Integrity Index for Selecting Pavement Structural Rehabilitation Treatments
William Fredrick Flora, Indiana Department of Transportation

Validation of the Use of PASER Condition Data and the Application of Growth Models for Predicting Local Agency Pavement Deterioration
Jianping Dong and Timothy K. Colling, Michigan Technological University; Terry McNinch, Michigan Local Technical Assistance Program

Efficacy of Alternative Problem Formulations, Solution Methods, and Algorithms for Network-Level Pavement Preservation Decision Making
Menna Noureldin and Samuel Labi, Purdue University; Samy Noureldin, Indiana Department of Transportation

10:30 a.m.–noon
Data Track
Regional Data Management Initiatives for Assessment Management
Johanna P. Zmud, NuStats, LLC, presiding

Understanding the value of data as an asset, return on investment of data collection, and the role of data collection on decision making are critical to a successful asset management program. This session will focus on examples of regional data management initiatives for asset management systems. Topics will include planning the system components that can help in the resource allocation process and the tools to justify the necessary resources for data collection.
Data Quality for Effective Infrastructure Asset Management  
Dennis A Morian, Quality Engineering Solutions, Inc.; Shelley M. Stoffels, Pennsylvania State University; Douglas Frith, Quality Engineering Solutions, Inc.

Culvert Asset Management Program Development  
Paul R Wirfs, Oregon Department of Transportation

Wetland Mitigation Site Management  
Patti Caswell, Oregon Dept of Transportation

12:15 p.m.–1:45 p.m.  
Luncheon  
Luncheon Address—The Columbia: America’s Great Highway  
Robert W. Hadlow, Oregon Department of Transportation

Hadlow is the senior historian with the Oregon Department of Transportation. He has written and spoken about Oregon’s Columbia River Highway for the past 15 years. Hadlow has also published a book-length biography of Conde B. McCullough, Oregon’s state bridge engineer in the 1920s and 1930s. His luncheon presentation will focus on the design, construction, and restoration of the Columbia River Highway.

2:00 p.m.–3:30 p.m.  
Asset Management Leadership—Implementing the Long-Term View in Pacific Northwest State, City, and County Communities  
Steve Warren, Kent County, Michigan, presiding

Many government authorities have invested in new infrastructure without recognizing the long-term life-cycle costs associated with the ongoing operation, maintenance, and renewal of the infrastructure. Good stewardship of community infrastructure requires the commitment of elected leadership and senior management who act on asset planning information as a corporate team. It is critical to maintain the clarity of roles, responsibilities, and communication among all involved in asset management.

The Role of Oregon DOT Leadership in Asset Management Implementation  
Catherine M. Nelson, Oregon Department of Transportation

Using Asset Management and Executive Leadership to Implement Culture Change at Seattle Department of Transportation  
Grace Crunican, Seattle Department of Transportation

Setting Transportation Service Priorities Through Asset Planning, Risk Analysis, and Executive Leadership in Tillamook County, Oregon  
Tim Josi, Tillamook County Public Works

2:00 p.m.–3:30 p.m.  
Pavement Track  
Integrating Processes in Pavement Management  
Kevin Viani, Vermont Agency of Transportation, presiding

Asset management implies comprehensive decisions that span many disciplines within a transportation agency. Integration of processes can result in substantial synergy but is often difficult to accomplish within the agency framework. These presentations look at effective implementations, risks, and challenges in applying multisource data to typical problem areas faced by today’s transportation agencies.

Barriers to DOT Implementation of Low-Impact Development (LID) Practices  
Liv Haselbach, Washington State University

Calculation of Confidence Level in Pavement Performance Reporting  
Wenbing Song, Maryland State Highway Administration

The City and County of Denver’s Approach to Integrated Asset Management  
William Patrick Kennedy and Angela Hager, Denver Public Works; Gary Ruck and Jeffrey L Zavitski, Deighton Associates, Limited
2:00 p.m.–3:30 p.m.

**Data Track**

**Effective Transportation Data Applications for Performance-Based Project Prioritization and Investment Trade-Off**
Ronald L. Vibbert, Michigan Department of Transportation, **presiding**

Transportation data, analytic tools, and an effective communication program can demonstrate declining condition and performance of assets and play a critical role in the project-selection process. This session will examine how performance-based project prioritization and investment trade-off analysis works. Techniques from transportation agencies that have successfully influenced decisions to use more effective preservation strategies, even during times with tight budgets, will be shown.

- **Performance-Based Project Prioritization**
  Joseph A. Guerre, Cambridge Systematics, Inc.
- **Investment Trade-off Analysis at Colorado DOT—Implementation, Usage, and Results**
  Larry Redd, IPM Analytics; Jennifer Finch, Colorado Department of Transportation
- **Communicating the Effectiveness of Sound Transportation Asset Management Strategies**
  Kathryn A. Zimmerman, Applied Pavement Technology, Inc.

2:00 p.m.–3:30 p.m.

**The Role of Public–Private Partnerships in Asset Management**
Tracey Thomason, Nevada Department of Transportation, **presiding**

The emergence of public–private partnerships for managing transportation infrastructure has gained considerable footholds outside North America. This continent’s application of the practice, however, has been limited. This session will look at several specific applications of contract-maintenance in North America and explore the elements necessary for further adoption, if warranted.

- **A Comprehensive Evaluation of Virginia Department of Transportation’s Experience with Its First Interstate Asset Management Contract**
  Mehmet Egemen Ozbek, Colorado State University; Jesus M. de la Garza, Virginia Polytechnic University and State University (Virginia Tech)
- **Asset Management System Needs for Transportation Public–Private Partnerships**
  D.J. Swan and David Hein, Applied Research Associates, Inc., Canada; Steven Drummond, Capilano Highway Services Company
- **Applying Transportation Asset Management in Public–Private Partnership**
  Zongwei Tao, Weris, Inc.

4:00 p.m.–5:30 p.m.

**Pavement Track**

**Supporting Decision Making with Pavement Management**
Liz Hunt, Oregon Department of Transportation, **presiding**

Today’s management systems have substantial requirements placed upon them and support many programs within an agency. They are expected to work in a complex economic environment, coordinate extensively with other agency efforts, and provide decision support at many levels. This session is a glimpse of the future and how critical management system information will be to transportation investments.

- **Economic Pavement Performance—A Tool for Pavement Management**
  David R. Luhr, Washington State DOT
- **Highways Asset Management in England: Review and Future Vision**
  Steve Biczysko, Atkins Consulting, United Kingdom
- **Pavement Profiling in an Urban Environment for the City and County of Denver**
  Angela Hager, Denver Public Works; Brian Staley, University of Colorado, Denver
- **Information-Based Investing: Using Economic Analysis to Drive Project-Level Decisions**
  Nathaniel D. Coley, Federal Highway Administration
There is a growing interest in integrating asset management with safety management to prioritize needs and support planning decisions. This session will explore several notable examples and share best practices.

**Sharing Safety Best Practices**

Hyun-A Park, Spy Pond Partners

**Integrating Crash-Location and Severity Data into Pavement Management and Asset Management for the Utah Department of Transportation**

Gary Kuhl, Utah Department of Transportation; Jeffrey L Zavitski, Deighton Associates, Limited

**Incorporating Safety into Asset Management: Project Development, Prioritization, and Trade-Off Analysis**

Joseph G McCarthy, IPM Analytics; Martin Kidner and Matt Carlson, Wyoming Department of Transportation

**A Transportation Safety Planning Framework for the City of Ames**

Konstantina Gkritza and Reginald R. Souleyrette, Iowa State University; Damion Pregitzer, City of Ames

**Asset Management and Risk: A Practical Approach**

Omar Smadi and Konstantina Gkritza, Iowa State University

**Using Risk to Set Service Priorities in Tillamook County, Oregon**

Patricia Bugas-Schramm, PBS Consulting, Inc.; Liane Welch, Tillamook County Public Works

**Managing Public Assets During an Economic Downturn—Stark Choices in Asset Management**

Andrew Ardrey, Halcrow

**Refocusing Efforts on Asset Management**

Ernie Wittwer, University of Wisconsin Madison

**Communication Strategies in Asset Management**

Francine Shaw-Whitson, Federal Highway Administration

**Oregon DOT’s Colorful Chart Strategies for Staged Improvements**

Laura Wipper, Oregon Department of Transportation

**Customer-Focused Asset Management—Transport for London**

Les Hawker, Transport for London
7:30 a.m.–8:30 a.m.
TRB Committee on Statewide Transportation Data and Information Systems
(open to all conference participants)
Jack R. Stickel, Alaska Department of Transportation and Public Facilities, *presiding*

Committee members and interested friends will focus on leveraging the asset management conference achievements to improve our state data programs. There are significant opportunities in data governance, performance measures, and risk assessment that can substantially improve the transportation decision-making process. We will explore areas where research and annual meeting presentations can contribute. The committee shall also look at the upcoming 2010 annual meeting and other TRB business.

8:30 a.m.–10:00 a.m.
*Creating U.S. Communities of Asset Management Practice*
Katie Zimmerman, Applied Pavement Technology, Inc., *presiding*

Current U.S. efforts are focused on teaching the basic concepts of asset management. Moving beyond the basics to implementation strategies that change corporate decision making and lead to sustainable investment practices takes more in-depth training. There are successful examples of creating asset management peer communities internationally, and some examples in U.S. states and regions. Hear from an overview of international case studies the recommendations for peer-based communities in the U.S.

- **Creating Successful Communities of Asset Management Practice—International and U.S. Case Studies and Recommendations for the United States**
  Patricia Bugas-Schramm, PBS Consulting, Inc.
- **The Michigan Model of Local Agency Asset Management Implementation**
  Terry McNinch, Michigan Local Technical Assistance Program
- **The Pacific Northwest Asset Managers Users Group (AMUG)—What Has Worked and What Hasn’t**
  Barry Buchanan, City of Salem
- **What’s In It for Me? Teaching Asset Management Implementation in New Mexican Communities**
  Heather Himmelberger, New Mexico Environmental Finance Center

8:30 a.m.–10:00 a.m.
*Data Track*

**Data Requirements for a Knowledge-Based Risk-Assessment Program**
Jeff Price, Virginia Department of Transportation, *presiding*

This session will present approaches to risk-based transportation asset management and explore the data requirements for a knowledge–based asset management analysis. Vulnerability analysis, life-cycle cost analysis, and cost-effective countermeasures to reduce or prevent risks to physical assets will be explored. Data collection, consistency, and archive requirements to develop a risk–based asset management program will be examined.

- **Unstable Slope Management for Oregon Highways: Assessing Hazard and Risk to Manage “Negative Assets”**
  Curran E. Mohney, Oregon Department of Transportation
- **Risk-Based Asset Management for Transportation—Development of a Highway Bridge Risk Model, Potential Applications, and Opportunities for the Future**
  James Maconochie, Cambridge Systematics, Inc.; Gerard Gaal, Lloyd’s Register Rail Limited, United Kingdom
- **The U.K. Experience of Applying Cost–Benefit Analysis (CBA) to Infrastructure Businesses**
  Lisa Gahan and Kar Yee Li, ICS Consulting
8:30 a.m.–10:00 a.m.

**Pavement Track**

**Next Generation Network Modeling**

Osama A. Abdulshafi, California Department of Transportation

Predicting future highway conditions is one of the fundamental characteristics of every management system. The application of high-level advanced models to the analyses has produced a new generation of modeling capabilities for highway networks. These presentations will provide insight into a few of these applications and the results that benefit highway decision makers.

- **Network-Level Modeling Using Generated RSL Values and a Treatment Strategy**
  Timothy K. Colling, Michigan Technological University; Terry McNinch, Michigan Local Technical Assistance Program
- **Pavement Network Budget Analysis Using Integer Programming for Virginia Department of Transportation**
  Tanveer Chowdhury, William Duke, Lutrell Gordon, and Raja Shekharan, Virginia Department of Transportation; Tonya Scheinberg and Eric Perrone, AgileAssets, Inc.
- **A Comprehensive Pavement Management Information System for Ohio DOT: Network-Level Condition Forecasting and Rehabilitation Optimization**
  Eddie Yein-Juin Chou, University of Toledo; Andrew Williams, Ohio Department of Transportation

8:30 a.m.–10:00 a.m.

**Safety Track**

**Examining Tools to Evaluate, Prioritize, and Meet Safety Needs**

Douglas W.I. Bish, Oregon Department of Transportation, *presiding*

The analysis tools to assist managers in making the most of existing data are currently available. This session explores several tools, including mapping, evaluating, and prioritizing roads and systems to improve safety.

- **Risk Mapping for Effective Asset Allocation**
  Peter Kissinger, AAA Foundation for Traffic Safety
- **SHRP 2 S-03, Roadway Measurement System Evaluation: Overview and Findings**
- **A Suite of Tools For Prioritizing and Meeting Safety Needs**
  Doyt Younger Bolling, Utah LTAP; Gordon Stuart Thompson, New Hampshire Department of Transportation; Jeffrey Spaulding, Utah LTAP Center

10:30 a.m.–noon

**So What Did We Learn?**

Francine Shaw-Whitson, Federal Highway Administration, *presiding*

The first three speakers will summarize the key points from the three primary tracks—Pavement Management, Safety, and Data—and examine how the conference has advanced the transportation asset management state of the practice. The Federal Highway Administration Associate Administrator for Infrastructure will reflect on this conference’s role in meeting emergent challenges in asset management implementation.

- **The Current Practice of Pavement Preservation and Pavement Management**
  Larry Galehouse, National Center for Pavement Preservation
- **Safety Track Summary Remarks**
  Kirk T. Steudle, Michigan Department of Transportation
- **Data Track Summary Remarks**
  Jack R. Stickel, Alaska Department of Transportation and Public Facilities
- **Federal Highway Administration Remarks**
  King W. Gee, Federal Highway Administration
Post-Conference Workshops

1:00 p.m.–5:00 p.m.
**Workshop—Economic Analysis of Highway Projects Using the Web-Based, Project-Level Benefit–Cost Model and Analysis Tool, BCA.Net. [Personal Laptop Required] Part I**
Nathaniel D. Coley, Federal Highway Administration, *presiding*

Topics include economic subjects relevant to project analysis in BCA.Net, 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 in the planning, design, and implementation of highway projects. This includes employees of federal, state, and local highway agencies; private industry; and academia.

1:00 p.m.–5:00 p.m.
**Workshop—Application of Life-Cycle Cost Analysis (LCCA) in the Selection of Preservation Strategies [Personal Laptop Required], Part I**
Tashia Clemons and Nadarajah Sivaneswaran Federal Highway Administration; Michael R. Smith, Federal Highway Administration, *presiding*

The participants will learn the basics of good practice in applying 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 as well as a hands-on opportunity to conduct an analysis.

1:00 p.m.–5:00 p.m.
**Workshop—Principles and Practices of Data Integration for Transportation Asset Management, Part I**
Vicki Miller, Federal Highway Administration; Omar Smadi, Iowa State University, *presiding*

This data-integration workshop focuses on the basic concepts and steps involved in the process of data integration. Examples of new techniques, data collection methods, and reference systems involved are provided in the workshop. The lecture session introduces the importance, role, and need for data integration for better asset management. The group exercises allow the participants to discuss data integration and to work together to plan a data-integration strategy and implementation plan.

1:00 p.m.–5:00 p.m.
**Workshop—Highway Economic Requirements System—State Version (HERS-ST) [Personal Laptop Required], Part I**
Christopher Chang, Federal Highway Administration; Maks Alam, Battelle Memorial Institute, *presiding*

The HERS-ST workshop will provide a hands-on demonstration of the software and how to use the decision tool to analyze highway infrastructures. Participants should bring their own laptops to actively participate. Please install the HERS-ST software onto your laptop before the workshop (You will need administrative rights). Download software at http://www.fhwa.dot.gov/infrastructure/asstmgmt/hersprep.cfm or get a CD-ROM from Christopher.Chang@dot.gov.
THURSDAY, OCTOBER 22

8:00 a.m.–noon
Workshop—Economic Analysis of Highway Projects Using the Web-Based, Project-Level Benefit–Cost Model and Analysis Tool, BCA.Net. [Personal Laptop Required], Part II (continued)
Nathaniel D. Coley, Federal Highway Administration, presiding

8:00 a.m.–noon
Workshop—Application of Life-Cycle Cost Analysis (LCCA) in the Selection of Preservation Strategies [Personal Laptop Required], Part II (continued)
Tashia Clemons and Nadarajah Sivaneswaran, Federal Highway Administration; Michael R. Smith, Federal Highway Administration, presiding

8:00 a.m.–noon
Workshop—Principles and Practices of Data Integration for Transportation Asset Management, Part II (continued)
Vicki Miller, Federal Highway Administration; Omar Smadi, Iowa State University, presiding

8:00 a.m.–noon
Workshop—Highway Economic Requirements System—State Version (HERS-ST) [Personal Laptop Required], Part I (continued)
Christopher Chang, Federal Highway Administration; Maks Alam, Battelle Memorial Institute, presiding
Registration Fees

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* Includes State DOTs and U.S. DOT administrations

Register online at www.TRB.org/conferences/2009/asset

Hotel Information

The Nines, Portland
525 SW Morrison
Phone: 877-229-9995

$129 single–double plus 12.5% tax
Reservation Cutoff: September 21, 2009
Event Dates: October 19–21
Reference Group: 8th National Conference on Transportation Asset Management
www.thenines.com

Contacts

- Tom Palmerlee or Matt Miller, TRB 202-334-2966 (tpalmerlee@nas.edu, mamiller@nas.edu) with questions related to the conference;
- Jason Bittner, Program Chair, at 608-262-7246 (bittner@engr.wisc.edu) with questions on the program.
Developing a Research Agenda for Transportation Infrastructure Preservation and Renewal

November 12–13, 2009

Keck Center of the National Academies
Washington, D.C.

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Research and Innovative Technology Administration, U.S. Department of Transportation

www.TRB.org/conferences/2009/Infrastructure
Upcoming Events

June 2–3, 2009
Data and Tools for Linking Goods Movement, Air Quality, and Transportation Infrastructure Decisions
Irvine, California

July 19–22, 2009
2009 TRB Joint Summer Conference
Seattle, Washington

July 22, 2009
Northwest Traffic Data Workshop
Seattle, Washington

September 14–15, 2009
Integrated Corridor System Management Modeling Best Practices Workshop
Irvine, California

September 16–17, 2009
North American Freight Flows Conference 2009
Irvine, California

November 12–13, 2009
Developing a Research Agenda for Transportation Infrastructure Preservation and Renewal
Washington, D.C.

January 10–14, 2010
TRB 89th Annual Meeting
Washington, D.C.