10th National Conference on Transportation Asset Management

April 28–30, 2014
Miami, Florida

www.trb.org/conferences/AssetManagement2014.aspx
Conference at a Glance

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<th>Sunday, April 27</th>
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<th>Tuesday, April 29</th>
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<td>Joint Meeting:</td>
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<td>TRB Committee</td>
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<td>Meetings</td>
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Post-Conference Webinars to Highlight Tracks

- TAM Implementation Tips and Tricks, May 15, 12:30 p.m.–2:00 p.m.
- Highlights from the Tools and Technology Track of the 10th National TAM Conference, May 19, 2:00 p.m.–3:30 p.m.
- Peer to Peer: Detailed Looks at MAP-21 Asset Management Plan Pilot States, May 22, 2:00 p.m.–3:30 p.m.
- Adaptation to Extreme Weather Events and Climate Change, June 11, 1:00 p.m.–2:30 p.m.
- Transit State of Good Repair, TBD
- Performance Measurement for Asset Management: MAP-21 and Beyond, July 30, 12:30 p.m.–2:00 p.m.

Signing up is easy:
1. Go to the main page of the TRB Webinar Program: www.trb.org/ElectronicSessions/ConferenceRecordings.aspx. Webinars usually are posted two months before they occur.
2. Click on the webinar that you would like to attend. This will take you to the registration page.
3. Once you are at the registration page, click “Register Now.”

Asset Management Help Desk

*Not Your Average IT Help Desk!*

Do you have questions about transportation asset management? Curious about that new ISO asset management standard? Stop by the Asset Management Help Desk, sponsored by the FHWA Transportation Asset Management Expert Task Group, and get your questions answered! Asset management experts will be on hand to talk about the latest research efforts, demonstrate new products such as the Transportation Asset Management Information Portal and the Transportation Asset Management Plan Builder, and connect you with the right people. Copies of the latest asset management publications will also be available for review, as well as the discount code for the latest edition of the AASHTO Transportation Asset Management Guide: A Focus on Implementation. The help desk will be open during breaks.
A Milestone for Asset Management

The 10th National Transportation Asset Management Conference marks a substantial milestone for the asset management community. We expect record attendance, including representatives from 48 states and the District of Columbia. The conference will cover a broad range of topics on surface transportation modes of interest to diverse transportation agencies in all stages of implementation of asset management practices. The program is divided into six functional track areas, each with a distinct set of outcomes and highlights that will be summarized in the closing session.

We are pleased that you have chosen to join us for this important and timely conference. The planning committee has structured the conference to serve as a forum for advancing asset management initiatives into practice from the Moving Ahead for Progress in the 21st Century Act (MAP-21) and as the venue for federal, state, local, and transit agencies; metropolitan planning organizations; and private-sector practitioners and university researchers to share knowledge, sponsor peer-to-peer learning, and work together.

The community of transportation asset management professionals gathered here in Miami will help guide the nation’s efforts to preserve and maintain infrastructure and transit services. Information will be presented on how to properly plan for risks—including, but not limited to, extreme weather events. Whether your agency is just starting out, well under way, or at a higher maturity level than others, the knowledge presented over the next several days—and the contacts you make—will be valuable to future endeavors.

Welcome to Miami and enjoy the conference!

—Jason Bittner, Conference Planning Committee Chair
Cambridge Systematics, Inc.

Conference Planning Committee and Liaisons

Jason Bittner, Cambridge Systematics, Inc., Chair
Sandy Amores, Miami-Dade Transit
Melissa Batula, Pennsylvania Department of Transportation
Jennifer Brandenburg, North Carolina Department of Transportation
Michael Bridges, Louisiana Department of Transportation and Development
Alex Calvillo, Oklahoma Department of Transportation
Matthew Haubrich, Iowa Department of Transportation
Garth Hopkins, California Department of Transportation
Cassandra Isackson, Minnesota Department of Transportation
Tim Lattner, Florida Department of Transportation
Hyun-A Park, Spy Pond Partners, LLC
Cory Pope, Utah Department of Transportation
Scott Richrath, Colorado Department of Transportation
Omar Smadi, Iowa State University
David Springstead, Metropolitan Atlanta Rapid Transit Authority
Ron Vibbert, Michigan Department of Transportation
Kevin Walsh, Massachusetts Department of Transportation
Andrew Williams, Ohio Department of Transportation
Laura Zale, Southeastern Pennsylvania Transportation Authority
Kathryn Zimmerman, Applied Pavement Technology, Inc.

Liaisons
Brian Alberts, Federal Transit Administration
Steve Gaj, Federal Highway Administration
Matt Hardy, American Association of State Highway and Transportation Officials
Heather Holsinger, Federal Highway Administration
Robert Kafalenos, Federal Highway Administration
WORKSHOPS AND MEETINGS

Workshop numbers limited. Registration required for workshops; no fee.

Sunday, April 27

1:00 p.m.–3:00 p.m.
TRB Strategic Management Committee (ABC10), Orchid D
Robert Paddon, Translink, presiding

3:30 p.m.–5:30 p.m.
TRB Management and Productivity Committee (ABC20), Orchid C
Maureen L. Hammer, Virginia Department of Transportation (DOT); Mary Taylor Raulerson, Kittelton & Associates, Inc., presiding

TRB Transportation Issues in Major U.S. Cities Committee (ABE30), Orchid D
Rina Cutler, City of Philadelphia, presiding

Monday, April 28

7:00 a.m.–8:00 a.m.
NCHRP 08-87 Panel Meeting, Gardenia A, (by invitation)
Kathryn A. Zimmerman, Applied Pavement Technology, Inc., presiding

7:00 a.m.–8:30 a.m.
TRB Management and Leadership Section (ABC00), Azalea
Hyun-A Park, Spy Pond Partners, LLC, presiding

7:30 a.m.–8:30 a.m.
Implementation Subcommittee of Transportation Asset Management Committee [ABC40(3)], Orchid D
Joseph Guerre, Cambridge Systematics, Inc., presiding

Communications Subcommittee of Transportation Asset Management Committee [ABC40(4)], Orchid A
David L. Blake, AgileAssets, Inc., presiding

8:30 a.m.–noon
Workshop: Financial Plan Requirement for the Asset Transportation Plan, Flagler
Michael Bridges, Louisiana Department of Transportation and Development (DOTD), presiding

The long-range financial plan is not only an important component of a good transportation asset management plan (TAMP), it is a requirement under MAP-21. This workshop will provide a forum to discuss and answer questions from state DOTs by reviewing the financial plans from the Federal Highway Administration (FHWA) three-state TAMP pilot.

Asset Valuation Approach to TAMP Financial Plans
Gordon D. Proctor, Gordon Proctor and Associates
MAP-21 TAMP Financial Plans Rulemaking Status
Stephen J. Gaj, FHWA
Three-State Pilot TAMP Financial Plan
Michael Bridges, Louisiana DOTD; Mark Nelson, Minnesota DOT; Joseph Guerre, Cambridge Systematics, Inc.

Workshop: Cross-Asset Allocation (NCHRP 08-91), Orchid C
Michelle L. Maggiore, CH2M Hill; Kevin M. Ford, CH2M Hill; Craig Paul Secrest, High Street Consulting Group, LLC; Julie Lorenz, Burns & McDonnell, presiding

In this workshop, the CH2M Hill team will present and gather feedback for the cross-asset resource allocation framework and prototype tool being developed for the National Cooperative Highway Research Program (NCHRP) Project 08-91 that will be field-tested in summer 2014. The session will include tool testing by project panel members and opportunities for discussion and feedback.
Workshop: Geographic Information System (GIS) for Asset Management (NCHRP 08-87), Tuttle
Frances D. Harrison, Spy Pond Partners, LLC, presiding

With its powerful capabilities for information integration, analysis, and communication, GIS is an essential tool in the transportation asset management (TAM) toolbox. This workshop presents preliminary results from NCHRP Project 8-87, Successful Practices in GIS-Based Transportation Asset Management, and will address opportunities for enhancing TAMP processes with GIS, key ingredients for successful implementation, and example applications from state DOT pilot demonstrations.

Workshop: Introduction to Transportation Asset Management, Brickell
Sue McNeil, University of Delaware, presiding

This workshop will provide a foundation for practitioners to understand TAM and what it means for their organizations. State DOT, transit agency, and multimodal organization perspectives will be presented. Topics include resources and tools available to support asset management and practical steps to implementation.

State DOT Perspective
Shante Hastings, Delaware DOT

Transit Agency Perspective
Laura J. Zale, Southeastern Pennsylvania Transportation Authority (SEPTA)

10:00 a.m.–10:30 a.m.
Break, Regency Ballroom Prefunction

10:30 a.m.–noon
Workshop: Gap Analysis (NCHRP 08-90), Monroe
Kathryn A. Zimmerman, Applied Pavement Technology, Inc., presiding

Interested in benchmarking your asset management program to best practices? This workshop introduces a new gap analysis tool developed under NCHRP Project 08-90A that provides an objective, structured process for evaluating asset management practices and for identifying priorities for improvement. The tool evaluates policies and processes to support asset management, workforce involvement and training, organizational culture, asset data and knowledge, results orientation, and information systems.

11:30 a.m.–1:00 p.m.
Pooled Fund: Meeting #1 (by invitation), Orchid A
Matthew Haubrich, Iowa DOT, presiding

Tuesday, April 29

7:30 a.m.–8:30 a.m.
Analysis Subcommittee of Transportation Asset Management Committee [ABC40(2)], Orchid D
William Robert, Spy Pond Partners, LLC, presiding

5:00 p.m.–7:00 p.m.
Pooled Fund: Meeting #2 (by invitation), Orchid A
Matthew Haubrich, Iowa DOT, presiding

Wednesday, April 30

7:00 a.m.–8:30 a.m.
Data Subcommittee of Transportation Asset Management Committee [ABC40(1)] and Statewide Transportation Data and Information Systems Committee (ABJ20), Orchid A
Coco A. Briseno, California Department of Transportation (Caltrans), presiding

This joint meeting will examine the key data governance functions for asset management and will develop a research framework for asset management data governance and data business planning. Specific data planning and management practices—data business planning, data governance, and data standards—are particularly relevant to TAM. Data governance establishes the decision-making structures and processes for the management of data assets and performance of data functions.
Wednesday, April 30, and Thursday, May 1, 2014

7:30 a.m.–8:30 a.m.
**Joint Subcommittee of Transit State of Good Repair, Hibiscus B**
William Robert, Spy Pond Partners, LLC, *presiding*

12:30 p.m.–2:00 p.m.
**Pooled Fund: Meeting #3 (members only), Hibiscus A**
Matthew Haubrich, Iowa DOT, *presiding*

2:30 p.m.–6:30 p.m.
**TRB Committee: Joint Meeting with TRB Transportation Asset Management Committee (ABC40) and AASHTO Asset Management Subcommittee, Hibiscus B**
Kathryn A. Zimmerman, Applied Pavement Technology, Inc.; Ananth K. Prasad, Florida DOT, *presiding*

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**Thursday, May 1**

9:00 a.m.–4:00 p.m.
**Peer Exchange: AASHTO Asset Management Subcommittee (by invitation), Brickell**
Timothy A. Henkel, Minnesota DOT, *presiding*

Interested staff contact Matt Hardy, AASHTO, mhardy@aashto.org.

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**CONFERENCE TRACK SUMMARIES**

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**Establishing, Using, and Monitoring Asset Management Plans**

Michael Bridges, Louisiana DOTD, *track leader*

This track assists attendees in developing a required plan to meet the MAP-21 mandate and in identifying ways to use the plans to improve existing practices.

- Peer to Peer: Detailed Looks at MAP-21 Pilot States (page 8)
- Go Time: Building Your TAMP (page 13)
- Experiential Learning: TAMP Examples (page 16)
- Help-Desk Heroes: Resources to Develop Your TAMP (page 18)

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**Implementation Within and Across Organizations**

Katie Zimmerman, Applied Pavement Technology, Inc., *track leader*

The objective for this track is to understand and overcome barriers to implementation within a single organization as well as across organizations.

- A Solid Foundation: Building the Agency Framework to Support TAM (page 11)
- Bringing Everyone to the Table: Improving Agency Decision Making (page 13)
- Talking a Good Game: Communication Within and Across Organizations (page 14)
- Dollars and Cents: Return on Investment (ROI), Investment Planning, and Financing (page 16)

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**Tools and Technology to Assist Decision Making**

Matthew H. Hardy, American Association of State Highway and Transportation Officials (AASHTO), *track leader*

Highlights of this track are implemented and emerging practices, methods, and tools.

- Go Find Your Slide Rule: The Bleeding Edge of Asset Management (page 8)
- Don’t Reinvent the Wheel: Case Studies in TAM Technology and Data (page 16)
- TAM*IT! Data and Information Management (page 18)
Performance Measures for Asset Management
Matthew Haubrich, Iowa DOT; Tim Lattner, Florida DOT, track leaders

This track identifies emerging practices in the implementation of asset management performance measures.

- A Federalist Mindset: Where the States Are Looking to Take TAM (page 9)
- Getting It Together: Managing All Assets (page 12)
- Keeping It Local: Municipal and County TAM Approaches (page 14)
- What Comes Next? MAP-21 and Beyond (page 18)

Transit State of Good Repair
Laura J. Zale, SEPTA, track leader

This track focuses on issues related to transit asset management and efforts to achieve a state of good repair.

- How Did We Get Here? Establishing the Context for Transit Asset Management (page 9)
- Getting Started: Tools and Technology for Transit Asset Management (page 12)
- Establishing Progress: Performance Measures for Transit Asset Management (page 15)
- Creating Your Road Map: Implementation Strategies for Transit Agencies (page 17)
- Oh, the Places You'll Go: Incorporating TAM Into Your Agency’s Process (page 19)

Adaptation to Extreme Weather Events and Climate Change
Robert Kafalenos, FHWA, track leader

Addressed in this track are the ways in which climate change and extreme weather events could affect transportation systems in the future and how to prepare.

- The Big Picture: Why Climate Change and Extreme Weather Events Matter (page 9)
- Protecting System Assets: What to Do for Climate Change and Extreme Weather Events (page 12)
- Transit Asset Management and Climate Adaptation (with State of Good Repair) (page 14)
- Been There, Done That: Experiences with Vulnerability Assessments, Part I (page 15)
- Less Duct Tape: Experiences with Vulnerability Assessments, Part II (page 17)
- Informed Decision Making: Cost Analysis and Risk Assessment for Adaptation to Climate Change and Extreme Weather Events (page 19)

CONFERENCE SESSIONS

Monday, April 28
1:00 p.m.–3:00 p.m.
And We’re Off: Why We’re Here Again, Monroe
Jason J. Bittner, Cambridge Systematics, Inc., presiding

Welcome
Ananth K. Prasad, Secretary, Florida DOT
Importance of Transportation Asset Management to States
Michael W. Hancock, Secretary, Kentucky Transportation Cabinet
Importance of Transportation Asset Management to FHWA
Greg Nadeau, Deputy Administrator, FHWA
Importance of the State of Good Repair to the Transit Community
Dorval Carter, Chief Counsel, Federal Transit Administration (FTA)
Integrating Extreme Weather and Climate Change into Transportation Asset Management
Kevin Walsh, Director of Environmental Services, Massachusetts DOT
3:00 p.m.–3:30 p.m.  
**Break, Regency Ballroom Prefunction**

3:30 p.m.–5:00 p.m.

**Plans**

**Peer to Peer: Detailed Looks at MAP-21 Pilot States, Brickell**  
Jonathan Groeger, AMEC Environment and Infrastructure, Inc., *presiding*  
Carolyn Morehouse, Alaska Department of Transportation and Public Facilities (DOT&PF), *recording*

The Louisiana, Minnesota, and New York State DOTs participated in an FHWA-sponsored pilot to develop TAMPs. When the pilot is finished, the other 47 state DOTs will have three good examples of TAMPs that meet the requirements of MAP-21. Participants will hear from the states and will have the opportunity to ask questions about their experiences.

**MAP-21 Requirements for Development of Risk-Based Transportation Asset Management Plans**  
Stephen J. Gaj and Nastaran Saadatmand, FHWA  
**Louisiana TAMP**  
Michael Bridges, Louisiana DOTD  
**New York State DOT TAMP**  
Joseph Guerre, Cambridge Systematics, Inc.  
**Minnesota DOT TAMP**  
Mark Nelson, Minnesota DOT

**Tools and Technology**

**Go Find Your Slide Rule: The Bleeding Edge of Asset Management, Flagler**  
Matthew Hardy, AASHTO, *presiding*  
Melany Reynolds, Georgia DOT, *recording*

This session introduces nine subjects at the forefront of TAM technologies and practices. Brief presentations will be followed by an evening poster session.

**Smartphone-Based Roughness Measurement—An Alternative to the International Roughness Index (IRI)**  
Steve Cook and William H. Tansil, Michigan DOT  
**Connected Vehicle Data Applications for Transportation Asset Management: Lessons Learned and Future Directions**  
William H. Tansil, Michigan DOT; Eric Paul Dennis, Center for Automotive Research  
**Systematic Pavement Type Selection Approach that Includes Environmental (Life-Cycle Analysis) and Economic (Life-Cycle Cost Analysis) Comparisons**  
Brian Killingsworth, National Ready Mixed Concrete Association (NRMCA)  
**Including Contractors in Our Work Order Process Through GIS Technology**  
John P. Thomas, District of Columbia DOT  
**Integrating Traffic Operations Spatial Asset Management**  
Peter C. Rafferty, University of Wisconsin–Madison  
**3-D Visualization for Inspection and Management of Complex Structures**  
Jeremy Shaffer and Taylor Gilmore, Bentley Systems, Inc.  
**Snowplow Tracking**  
Eric Abrams, Iowa DOT  
**Automatic Asphalt Crack Evaluation Using Crack Fundamental Element**  
Chenglong Jiang and Yichang (James) Tsai, Georgia Institute of Technology  
**Integrating Probabilistic Life-Cycle Cost Analysis into the Pavement Design Process**  
Jeremy Gregory and Omar Swei, Massachusetts Institute of Technology
Performance Measures

A Federalist Mindset: Where the States Are Looking to Take TAM, Monroe
Matthew Haubrich, Iowa DOT, presiding
Steve Guenther, Caltrans, recording

Each state takes a unique approach to integrating TAM practices. This session provides a state-focused view of emerging practices and developments.

Customer Service Level Approach for Maine DOT’s Asset Management System
Jeffrey L. Zavitski, Deighton Associates Limited; Chip Getchell, Maine DOT

Making the Case for Asset Investment: Michigan’s Use of Historic Analysis to Set the Context for Future Funding Decisions
Kirk T. Steudle, Michigan DOT; William Robert, Spy Pond Partners, LLC

Setting the Course for Minnesota: Integration of Performance and Targets into Transportation Asset Management Planning
Kirby Becker and Mark Nelson, Minnesota DOT

Setting Performance Measures and Setting Good Targets
David Nicol, Delaware DOT

Adaptation

The Big Picture: Why Climate Change and Extreme Weather Events Matter, Orchid C
Heather Holsinger, FHWA, presiding
Jennifer L. Weeks, TRB, recording

This session kicks off the climate change track with an overview of the science behind climate change and projections of future impacts on the transportation sector. Speakers will discuss several recent transportation studies that focus on innovative approaches to climate change adaptation.

Climate Change Science and Transportation Impacts
Joseph Casola, Center for Climate and Energy Solutions

The Gulf Coast 2 Study and FHWA Climate Resilience Framework
Robert Kafalenos, FHWA

NCHRP 20-83 (05) Study: Climate Change and the Highway System
Michael Flood, Parsons Brinckerhoff

State of Good Repair

How Did We Get Here? Establishing the Context for Transit Asset Management, Tuttle
David Rose, Parsons Brinckerhoff, presiding
David M. Springstead, Metropolitan Atlanta Rapid Transit Authority (MARTA), recording

This informal session establishes the context of transit asset management from a regulatory perspective. FTA representatives will present updates on national initiatives, including an overview of comments received for the Advanced Notice of Proposed Rulemaking for MAP-21. American Public Transit Association (APTA) representatives also will provide updates on their development of transit asset management standards.

Federal Policy and Rulemaking on Transit State of Good Repair
Mshadoni Smith and Rotimi Ogunsuyi, FTA

Update to APTA Standards on Transit State of Good Repair
Richard Weaver, APTA

Asset Management for Statewide Transit Resources: AASHTO Perspective
Sharon Edgar, Michigan DOT

Transportation Asset Management for Rural and Community Public Transportation Agencies
Charles H. Dickson, Community Transportation Association of America, Inc.

GAO’s Analysis on Transit Asset Management Leading Practices and Capital Investment Effects
Tina Paek, U.S. Government Accountability Office
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<th>Time</th>
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<td>5:00 p.m.—7:00 p.m.</td>
<td>Posters and Reception, Jasmine</td>
<td>Michigan’s Performance Measure Dashboard</td>
<td>Brian Sanada, Michigan Transportation Asset Management Council; Krisanne McConnell, Michigan Center for Shared Solutions</td>
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<td>Web-Based Performance Management Suite at Colorado DOT</td>
<td>Allen Ibaugh, Data Transfer Solutions; Kim Hubble, Colorado DOT</td>
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<td>Evaluation of National Bridge Inspection Standards Metrics Using Data Extracted from National Bridge Inventory Source Files</td>
<td>Scott McClure, Michelle Langehenning, and David Hadwiger, New Mexico DOT</td>
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<td>Data Analysis in Monitoring Performance Measures</td>
<td>Simon Topp and Manish Jethwa, Yotta DCL</td>
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<td>Social Return on Investment as an Asset Management Metric</td>
<td>Catalina Miller and Douglas D. Gransberg, Iowa State University</td>
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<td>An Implementable Framework for Standardizing National Crack Performance Measure</td>
<td>Yichang (James) Tsai and Chelong Jiang, Georgia Institute of Technology</td>
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<td>Aligning System Performance with Investment Levels: Applying Response Surface Methodology to Manage Program-Level Vulnerabilities</td>
<td>Richard Sarpong Boadi and Chieh Ross Wang, Georgia Institute of Technology</td>
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<td>TAM Synthesis and Work Plan for Alaska DOT&amp;PF</td>
<td>Paul D. Thompson, Consultant; Carolyn Morehouse, Alaska DOT&amp;PF</td>
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<td>Using a Pavement Management System for Funding Acquisition</td>
<td>William Patrick Kennedy, Denver Department of Public Works</td>
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<td>Are You Maintaining Your Maintenance Quality Assurance Program?</td>
<td>Scott Bush, Wisconsin DOT</td>
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<td>Self-Assessment and Comprehensive Gap Analysis: One Small Step for Pennsylvania DOT, One Giant Leap Towards Determining a Road Map for Programmatic Approach to Transportation Asset Management</td>
<td>Wayne Francisco, GHD Consulting Inc.; Richard Heineman, Pennsylvania DOT</td>
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<td>State Agency Asset Management Taxonomy</td>
<td>Darla James and Matthew Haubrich, Iowa DOT</td>
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<td>Climate Change and Risk-Based Asset Management</td>
<td>John Vetterling, Colorado DOT</td>
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<td>Infrastructure Impacts, Vulnerabilities, and Design Considerations for Future Climate Change on Roads and Associated Infrastructure</td>
<td>Susan Louise Tighe, University of Waterloo, Canada; Theuns F. P. Henning, University of Auckland, New Zealand</td>
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<td>Including Contractors in Our Work Order Process Through GIS Technology</td>
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Snow Plow Tracking
Eric Abrams, Iowa DOT

Automatic Asphalt Crack Evaluation Using Crack Fundamental Element
Chenglong Jiang and Yichang (James) Tsai, Georgia Institute of Technology

Integrating Probabilistic Life-Cycle Cost Analysis into the Pavement Design Process
Jeremy Gregory and Omar Swei, Massachusetts Institute of Technology

Digital Landslide Inventory to Support Highway Corridor Management
Cliff Roblee, Caltrans; Chris Wills, California Geological Survey

Tuesday, April 29

7:30 a.m.–8:30 a.m.
Continental Breakfast, Regency Ballroom Prefunction

8:30 a.m.–10:00 a.m.
Tools and Technology

Informed Choices: Tools for Managing Risk and Analyzing Trade-Offs, Flagler
Scott Richrath, Colorado DOT, presiding
Mark Nelson, Minnesota DOT, recording

Sponsored by the Asset Management Planning Committee Steering Committee, this session is the second of two roundtable discussions in the peer exchange express format.

Comprehensive Bridge Risk Analysis at Florida DOT
Paul D. Thompson, Consultant; Richard Kerr, Florida DOT

Georgia DOT's Trade-Off Analysis Tool
Hugh Louch, Cambridge Systematics, Inc.; Angela Alexander, Georgia DOT

Program for the Analysis of Risk and Resilience Evaluation
Aimee Flannery, AEM Corporation

North Dakota Transportation Asset Management Trade-Off Tool
Jack Smith and Stephanie Weigel, North Dakota DOT

Implementation

A Solid Foundation: Building the Agency Framework to Support TAM, Brickell
Melany Reynolds, Georgia DOT, presiding
Jennifer Trio, Connecticut DOT, recording

Agencies that use transportation asset management principles effectively have aligned their investment decisions with their strategic goals. This demands that the entire organization is on board and moving toward performance goals; however, aligning the organization can be a challenge. At this session, practitioners share the secrets to their success building organizational support for asset management.

Change Management: The Overlooked Necessity for Transportation Asset Management Implementation
Gary Vansuch and Michelle Malloy, Colorado DOT

Implementing Transportation Asset Management and Performance Measures Within and Across Organizations at the Connecticut DOT
Colleen Kissane, Connecticut DOT

Lessons Learned in Aligning an Organization to Support TAM
Martin Kidner, Wyoming DOT

Agency Culture Impacts on the Asset Management Plan
Peggi Knight and Matthew Haubrich, Iowa DOT
Performance Measures

Getting It Together: Managing All Assets, Monroe
Andrew Williams, Ohio DOT, presiding
Jean Nehme, Arizona DOT, recording

Transportation agencies are responsible for more than pavements and bridges. This session highlights best practices for enterprise-level TAM practices and will include assets beyond pavements and bridges.

Development of Optimized Work Plans for Non-Pavement and Non-Bridge Assets to Maximize Performance and Achieve Agency Targets
Charles Pilson, AgileAssets, Inc.; Lonnie Watkins, North Carolina DOT

Integrating a Safety Management System into Transportation Asset Management
Joe G. McCarthy, JDI Consulting, LLC; Martin Kidner, Wyoming DOT

Rakesh Pune and Brook Hailemariam, District of Columbia DOT

Adaptation

Protecting System Assets: What to Do for Climate Change and Extreme Weather Events, Orchid C
Emmanuel B. (Cris) Liban, Los Angeles County Metropolitan Transportation Authority, presiding
Brian Beucler, FHWA, recording

This session provides tools and techniques for assessing potential impacts of climate change and extreme weather at the systems level. Presenters will discuss vulnerabilities; potential impacts; and methods for applying adaptation strategies in asset management, planning, design, maintenance, and more.

Planning for Climate Change: Data Collection Tools, Techniques, and Results
Gregory Ian Slater, Maryland State Highway Administration

Tennessee Extreme Weather Vulnerability Assessment
Leah Dundon, Vanderbilt University; Alan Jones, Tennessee DOT

Integrating Climate Change Risk Information into Transportation Planning and Decision Making
Joshua DeFlorio, Cambridge Systematics, Inc.; Richard Ciarendon, AICP

State of Good Repair

Getting Started: Tools and Technology for Transit Asset Management, Tuttle
Kyle Nicholson, Parsons, presiding
Laura Zale, SEPTA, recording

Selection and implementation of appropriate tools are integral to a successful asset management program, but the number and variety of available tools can make selection difficult. It is necessary to understand agency processes and objectives when defining a scope for tool procurement or development. This session surveys available tools and evaluation criteria for selecting and procuring tools that best fit an agency’s needs.

Development of Transit Asset Management Plan Guidance and Tools for Supporting MAP-21 Requirements
William Robert, Spy Pond Partners, LLC

Transit Economic Requirements Model (TERM): The TRB Review of TERM and What It Means for Transit Agencies
Richard S. Laver, CH2M Hill; John D. Giorgis, FTA
Description of the Prioritization Methodologies Used by the Massachusetts Bay Transportation Authority (MBTA) State of Good Repair Database and the Decision Support Tool for the MBTA Capital Investment Program
Robert Guptill and Victor Rivas, MBTA

10:00 a.m.–10:30 a.m.
**Break, Regency Ballroom Prefunction**

10:30 a.m.–noon

**Plans**

**Go Time: Building Your TAMP, Monroe**
Alfredo Calvillo, Oklahoma DOT, **presiding**
Richard Heineman, Pennsylvania DOT, **recording**

The big question asked by most state DOTs is, “What should be in the TAMP?” This session reviews TAMP components in depth. Participants will hear from leaders in TAM on how best to meet MAP-21 requirements.

**Incorporating Life-Cycle Costs in a Transportation Asset Management Plan**
Prashant Ram and Kathryn A. Zimmerman, Applied Pavement Technology, Inc.

**What Assets Should We Include in Our Initial Plan?**
David Nicol, Delaware DOT

**Anatomy of a Transportation Asset Management Plan**
Jonathan Groeger, AMEC Environment and Infrastructure, Inc.; Nastaran Saadatmand, FHWA

**A View from the Top: CEO Roundtable, Flagler**
Matthew Hardy, AASHTO, **presiding**

Executive support for TAM principles enhances implementation considerably. This session brings together the CEOs from several state agencies to discuss their efforts to integrate TAM.

**Florida**
Ananth K. Prasad, Florida DOT

**Kentucky**
Timothy A. Henkel, Minnesota DOT

**Michigan**
Kirk T. Steudle, Michigan DOT

**Implementation**

**Bringing Everyone to the Table: Improving Agency Decision Making, Brickell**
Brad W. Allen, New York State DOT, **presiding**
Ronald L. Vibbert, Michigan DOT, **recording**

Managing to the lowest life-cycle cost requires both capital and maintenance costs over the life of an asset to be considered in investment decisions. In the past, maintenance was not an integral consideration in investment decisions. This session provides strategies for linking planning, design, maintenance, and operations.

**From Design to Operations: What, When, and How?**
William Pratt, Connecticut DOT; Travis Ritter, Bentley Systems, Inc.

**Linking Maintenance Asset Management to Work Performed**
Marie Venner, Venner Consulting; Rico Baroga, Washington State DOT

**The Role of Maintenance in Asset Management**
Jennifer Brandenburg, North Carolina DOT

**Plans to Better Incorporate Maintenance into Investment Decisions**
Scott D. Zainhofsky, North Dakota DOT
Adaptation

Transit Asset Management and Climate Adaptation (with State of Good Repair), Tuttle
Brian Alberts, FTA, presiding
Heather Holsinger, FHWA, recording

This session presents specific transit case study examples of experiences, applied strategies, and lessons learned by asset managers, planners, and maintenance and operations staff in assessing vulnerabilities and adapting to climate change and extreme weather events. Several of the presentations will draw on the experience of participants in the FTA Climate Adaptation Pilot Program.

Adapting to Climate Change Through Asset Management Planning
David M. Springstead, MARTA

Climate Vulnerability and Transit-Dependent Populations
Emmanuel B. (Cris) Liban, Los Angeles County Metropolitan Transportation Authority

Vulnerability and Risk Assessment of SEPTA’s Regional Rail: Steps to Ensure Sustainability and Resiliency
Cassandra Snow and Anne Choate, ICF International

Measuring Transportation System Resilience: Response of Rail Transit to Weather Disruptions
Raymond Chan and Joseph L. Schofer, Northwestern University

Noon–1:30 p.m.
Lunch, Jasmine and Hibiscus

Implementation

Talking a Good Game: Communication Within and Across Organizations, Brickell
Richard Heineman, Pennsylvania DOT, presiding
Scott Zainhofsky, North Dakota DOT, recording

TAM provides information for telling the story about asset needs and performance expectations under constrained conditions. The manner in which the story is told has a tremendous impact on whether the message is acted upon, however. Speakers will share their experiences in the successful use of asset management information to tell their story to internal and external stakeholders.

Aligning Data Systems for Use by Agency Executives
Kathryn A. Zimmerman, Applied Pavement Technology, Inc.; Joseph L. Schofer, Northwestern University

Combining Risk Management and Asset Management to Georgia’s Interstate Highway System
Krystal Harris and Cynthia VanDyke, Georgia DOT; Sam Van Hecke, Cambridge Systematics, Inc.

Telling an Effective Story: Improving the Understanding of Road Network Needs Through Performance Measurement and Monitoring
Theuns F. P. Henning, University of Auckland; Susan Louise Tighe, University of Waterloo

How Michigan Created a Unified Message on Pavement Preservation
Jim Ashman, Michigan DOT

Performance Measures

Keeping It Local: Municipal and County TAM Approaches, Monroe
Peggi Knight, Iowa DOT, presiding
Tim Lattner, Florida DOT, recording

At the local level, TAM looks very different. In this session, presenters will share best practices at the local and county levels to garner support for their programs and to advance the state of the practice.

Communicating Road Network Investment Priorities Using Risk-Based Asset Management
Patricia Bugas-Schramm, PBS Consulting, Inc.; Liane Welch, Tillamook County Public Works
Performance Management in MAP-21: A Regional Effort
Sui G. Tan, Metropolitan Transportation Commission
Innovative Performance-Based Asset Management Strategy for Streetlights in Washington, D.C.
Soumya Dey and Jama Abdi, District of Columbia DOT

1:30 p.m.–3:00 p.m.

Adaptation

Been There, Done That: Experiences with Vulnerability Assessments, Part I, Flagler
Garth Hopkins, Caltrans, presiding
Mike Culp, FHWA, recording

This session presents specific case studies, applied strategies, and lessons learned by asset managers, planners, and maintenance and operations staff in assessing vulnerabilities and adapting to climate change and extreme weather events. Several presentations will draw on the experience of participants in the FHWA Climate Change Resilience Pilot Program.

Massachusetts DOT–FHWA Climate Change Pilot: Assessing Vulnerabilities and Developing Adaptation Strategies for the Central Artery Project in Boston, Massachusetts
Kevin Walsh, Massachusetts DOT
Flash Flood Vulnerability and Adaptation Assessment in Northeast and Southeast Minnesota
Kirby Becker, Minnesota DOT
Arizona DOT: Critical Transportation Assets, Climate Change, and Extreme Weather Adaptation Experiences and Lessons Learned
Steven Olmsted, Arizona DOT

State of Good Repair

Establishing Progress: Performance Measures for Transit Asset Management, Tuttle
David M. Springstead, MARTA, presiding
Sandy Amores, Miami–Dade Transit, recording

Condition and performance monitoring are critical foundations of transit asset management. Performance measures provide a framework for discussing the impacts of investment decisions on assets. This session provides an overview of performance measures to consider when developing an asset management plan and procedures, with presentations on incorporating risk, reliability, and safety into asset management plans.

Risk-Based Transit Condition Assessment and Investment Prioritization Approach for Asset Management
Carlos Alvarado and Richard Laver, CH2M Hill
Stretching Your Budget and Your Assets with a Reliability-Centered Maintenance Program
Robert Giacobbe, Accenture
Building Sustainable Asset Management at Bay Area Rapid Transit
Patricia Bugas-Schramm, PBS Consulting, Inc.; Frank Ruffa, San Francisco Bay Area Rapid Transit District
Aligning the MAP-21 Mandate to ISO55001: A Guide for Transit Agencies in Introducing an Asset Management and Management System
Christian Roberts, Parsons Brinckerhoff

3:00–3:30 p.m.
Break, Regency Ballroom Prefunction
3:30 p.m.–5:00 p.m.

**Plans**

**Experiential Learning: TAMP Examples**, Monroe
Scott D. Zainhofsky, North Dakota DOT, *presiding*
Jennifer Brandenburg, North Carolina DOT, *recording*

Participants of this session will hear how New Zealand and three state DOTs have developed and used their TAMPs to manage their transportation infrastructure.

- **Lessons Learned During the Development of the Colorado DOT Risk-Based Asset Management Plan, Including a Discussion of Balancing Risk and Reward**
  - William Johnson and John Vetterling, Colorado DOT; Randy Jensen, FHWA
- **Florida’s Transportation Asset Management Plan**
  - David Lee and Tim Lattner, Florida DOT
- **The Evolution from a Simple Planning Document to an Integrated Asset Management Plan**
  - Theuns F. P. Henning, University of Auckland; Ross Waugh, Waugh Infrastructure Management, Ltd.
- **New Jersey DOT TAMP**
  - David Kuhn, New Jersey DOT

**Tools and Technology**

**Don’t Reinvent the Wheel: Case Studies in TAM Technology and Data**, Flagler
Coco A. Briseno, Caltrans, *presiding*
Chris DeVerniero, Montana DOT, *recording*

As the saying goes, you want to be the second mouse to get the cheese—not the first mouse! Representatives from four transportation agencies tell their stories of using technology and data to support TAM programs. Participants will learn from their experiences implementing technological aspects of TAM within their organizations.

- **Strengthening the City of Philadelphia’s Asset Management Program**
  - Rina Cutler, City of Philadelphia; Hyun-A Park, Spy Pond Partners, LLC
- **Asset Data Integration at the Rhode Island DOT**
  - Joseph Baker, Rhode Island DOT
- **Transportation Asset Management Decision Support Tools and Technology**
  - Andrew Williams, Ohio DOT
- **Traffic and ITS Assets Data Management at Virginia DOT**
  - Frances Harrison, Spy Pond Partners, LLC; Vanloan Nguyen, Virginia DOT

**Implementation**

**Dollars and Cents: Return on Investment (ROI), Investment Planning, and Financing**, Brickell
Mark Nelson, Minnesota DOT, *presiding*
Stan Burns, Minnesota DOT, *recording*

A TAMP contains both a financial plan and long-term investment strategies that detail how assets will be maintained under a constrained fiscal environment. This session features practitioners discussing the financial aspects of TAMP development and concludes with a presentation on incorporating the concept of sustainability into a TAMP’s financial plan.

- **Establishing a Single Source of Truth for Life-Cycle Management**
  - Walter Keith Dotson, Kentucky Transportation Cabinet; Travis Ritter, Bentley Systems, Inc.
Integrating the Transportation Asset Management Plan into Minnesota DOT Plans and Programs
Kirby Becker and Mark Nelson, Minnesota DOT

Colorado DOT TAM and Financial Planning
Scott Richrath, Colorado DOT

Incorporating the Concept of Financial Sustainability in the Financial TAMP
Gordon D. Proctor, Gordon Proctor and Associates

3:30 p.m.–5:00 p.m.

Adaptation

Less Duct Tape: Experiences with Vulnerability Assessments, Part II, Tuttle
Kevin Walsh, Massachusetts DOT, presiding
Brian Alberts, FTA, recording

This session presents specific case study examples of experiences, applied strategies, and lessons learned in the assessment of vulnerabilities and the development of adaptation strategies. Several presentations will draw on the experience of participants in the FHWA Climate Change Resilience Pilot Program.

Climate Change and Extreme Weather Adaptation Options for Transportation Assets in the San Francisco Bay Area
Stefanie Hom, Metropolitan Transportation Commission

Vulnerability Assessment of Critical Transportation Assets to Extreme Weather Events and Climate Change in Hillsborough County, Florida: Model Process for Including Resiliency Considerations into the Transportation Planning Process

Preparing for Climate Change at Massport’s Logan International Airport and Port Facilities
Brenda Enos, Massport; Lisa C. Dickson, Kleinfelder, Inc.

State of Good Repair

Creating Your Road Map: Implementation Strategies for Transit Agencies, Orchid C
Richard S. Laver, CH2M Hill, presiding
William Robert, Spy Pond Partners, LLC, recording

This session provides an overview on transit asset management implementation strategies, pitfalls to avoid, and emerging success factors. Agency representatives will describe the asset management implementation at the asset class and maintenance levels. The session also includes a discussion of life-cycle cost management.

Asset Management and State of Good Repair: Converting Data into Information to Help You Manage Your Assets, RTD’s Path to Installing an Asset Management Program
Jim Sutton and Lou Cripps, Denver Regional Transportation District

Lessons Learned in the Implementation of the FTA Asset Management Guide
David Rose, Parsons Brinckerhoff

Utah’s Comprehensive Transit Asset Management System
Paul Edwards, Utah Transit Authority; Jeremy Shaffer, Bentley Systems, Inc.

5:15 p.m.–6:15 p.m.

FTA National Transit Asset Management System Rulemaking Advance Notice of Proposed Rulemaking (ANPRM) Outreach, Tuttle
John D. Giorgis and Mshadoni Smith, FTA, presiding

This informal session sponsored by the Asset Management Planning Committee will provide an update on FTA's TAM rulemaking. Representatives from FTA will discuss what they have heard from ANPRM responses and will participate in a Q&A session at the end of the presentation.
Wednesday, April 30

7:30 a.m.–8:30 a.m.
Continental Breakfast, Regency Ballroom Prefunction

8:30 a.m.–10:00 a.m.

Tools and Technology

TAM*IT! Data and Information Management, Flagler
Corey Pope, Utah DOT, presiding
Anita Bush, Nevada DOT, recording

Data and information are important aspects of a TAM program. Right now, the technology is evolving and changing rapidly. This session features a peer exchange express format.

Using GIS Technology to Integrate Asset Data
Lou Henefeld, Colorado DOT

Collecting and Managing Transportation Assets in Arkansas
Sharon Hawkins and Jacqueline Hou, Arkansas State Highway and Transportation Department

One State’s Method of Cracking the Data Nut
Martin Kidner, Wyoming DOT

Development of a Transportation Asset Management Information System for Alaska DOT&PF
Anita Vandervalk-Ostrander, Cambridge Systematics, Inc.; Carolyn Morehouse, Alaska DOT&PF

Plans

Help-Desk Heroes: Resources to Develop Your TAMP, Brickell
Michael Bridges, Louisiana DOTD, presiding
Josh Brench-Bresher, South Dakota DOT, recording

More and more resources are becoming available to state DOTs to assist with developing their own TAMPs. The participants in this session will learn what is available now and what will be available in the coming months.

TAMP Templates
Hyun-A Park, Spy Pond Partners, LLC

TAM Gap Analysis Tool
Kathryn A. Zimmerman, Applied Pavement Technology, Inc.

AASHTO TAM Guide
Matthew Hardy, AASHTO

Performance Measures

What Comes Next? MAP-21 and Beyond, Monroe
Matthew Haubrich, Iowa DOT, presiding
Andrew Williams, Ohio DOT, recording

MAP-21 provides new challenges and opportunities for transportation agencies. Sponsored by the Asset Management Planning Committee Steering Committee, this session will explore the future of TAM adoption and future research areas, including new approaches to capturing value.

MAP-21 Performance Measure Rules
Francine Shaw Whitson, FHWA

Using Performance Measures in Performance Based-Planning and Program
Tasha J. Clemons and Egan R. Smith, FHWA

TAM Expert Task Group and the Future of Transportation Asset Management
Timothy A. Henkel, Minnesota DOT
Adaptation

Informed Decision Making: Cost Analysis and Risk Assessment for Adaptation to Climate Change and Extreme Weather Events, Tuttle
Robert Kafalenos, FHWA, presiding
Jennifer L. Weeks, TRB, recording

This session focuses on risk assessment, consideration of the cost of damage resulting from climate change and extreme weather, and the cost of adapting infrastructure to better withstand future impacts. Speakers will address topics from cost–benefit analysis and life-cycle cost analysis to the incorporation of risk analysis in evaluating adaptation options.

Leveraging Entry Points in the Transportation Asset Management Framework to Facilitate Integration of Extreme Weather Risk
Anne Choate and Cassandra Snow, ICF International
Including Climate Change Risks in Investment Prioritization Approach for Asset Management
Emily Grenzke, CH2M Hill
Adapt to Mitigate: Evaluating Climate Adaptation Strategies at the Chicago Transit Authority
Karl Peet, Chicago Transit Authority
Asset Management and Preservation Investment Strategies: Cost–Benefit and Cobenefits
Marie Venner, Venner Consulting

State of Good Repair

Oh, the Places You'll Go: Incorporating TAM into Your Agency's Process, Orchid C
Robert L. Peskin, AECOM, presiding
Brian Alberts, FTA, recording

A successful transit asset management program allows an agency to develop capital improvement strategies based on asset needs. The development of these programs requires the dedication of resources and support at all levels of the agency. Agency representatives will discuss organizational and resource needs, integration of asset management into the capital improvement process, and the cultural change required to support asset management.

Implementing an Asset Management Program at a Legacy Transit System During a Capital Funding Crisis
Laura J. Zale and Jeffrey Knueppel, SEPTA
Beginning an Asset Management Program: Perspectives of a Growing Agency
Paul Edwards, Utah Transit Authority; Benjamin D. Witter, Bentley Systems, Inc.
RTA Annual Reporting Process
Yonel Grant, CH2M Hill; John Goodworth, Chicago Regional Transportation Authority
Asset Management at the New York MTA
Craig Stewart, New York Metropolitan Transportation Authority

10:00 a.m.–10:30 a.m.
Break, Regency Ballroom Prefunction

10:30 a.m.–noon
Are We There Yet? Transportation Asset Management Is Here to Stay, Monroe
Jason J. Bittner, Cambridge Systematics, Inc., presiding

Asset Management Plans
Michael Bridges, Louisiana DOTD
Implementation Within and Across Organizations
Kathryn A. Zimmerman, Applied Pavement Technology, Inc.
Tools and Technology to Assist Decision Making
Matthew Hardy, AASHTO
Performance Measures for Asset Management
Laura J. Zale, SEPTA
Adaptation to Extreme Weather Events and Climate Change
Robert Kafalenos, FHWA