

Photo: Minnesota Department of Transportation

11th National Conference on Transportation Asset Management

July 10-12, 2016

Minneapolis Marriott City Center 30 South 7th Street Minneapolis, Minnesota 55402

Organized by Transportation Research Board

Supported by
Federal Highway Administration
Federal Transit Administration

Hosted by
Minnesota Department of Transportation

www.trb.org/Conferences/AssetMgt2016.aspx

July 9–10: FHWA/AASHTO Peer Exchange

July 10: Advance Workshops

July 11–12: Asset Management Conference



CONFERENCE AT A GLANCE

	Saturday, July 9	Sunday, July 10	Monday, July 11	Tuesday, July 12	
8:00 a.m.					
8:30 a.m.			Opening Session	Breakouts	
9:00 a.m.		FUNA/A /A ACUITO Dout 3			
9:30 a.m		FHWA/AASHTO Part 2			
10:00 a.m.		Asset Mgt Peer Exchange		Breakouts	
10:30 a.m.			Breakouts		
11:00 a.m.					
11:30 a.m.				Luncheon	
Noon		Pooled Fund States	Luncheon	with Separate Pooled	
12:30 p.m.				Fund Lunch	
1:00 p.m.					
1:30 p.m.		Workshops	Breakouts	Breakouts	
2:00 p.m.					
2:30 p.m.	FHWA/AASHTO Part 1				
3:00 p.m.	Asset Mgt Peer Exchange		Breakouts	Closing	
3:30 p.m.					
4:00 p.m.					
4:30 p.m.				Planning Committee Debrief	
5:00 p.m.	Planning Committee Debrief				
5:30 p.m.		Joint Meeting			
6:00 p.m.		TRB Asset Mgt Cm	Posters & Reception		
6:30 p.m.		& AASHTO Subcm			
7:00 p.m.				<u> </u>	



July 9-12, 2010

SCHEDULE OF EVENTS

Event	Day	Start Time	End Time	Location
FHWA/AASHTO Part 1 Asset Management Peer Exchange (Public Sector Agencies)		2:00 PM	5:00 PM	Minnesota
FHWA/AASHTO Part 2 Asset Management Peer Exchange, Continued (Public Sector Agencies)	Sunday	8:30 AM	12:00 PM	Minnesota
Pooled Fund Lunch	Sunday	12:00 PM	1:30 PM	Ballroom 4
Return on Investment in Transportation Asset Management Systems and Practices Workshop (NCHRP 20-100)	Sunday	1:30 PM	5:00 PM	Ballroom 1
Transportation Asset Management Research Roadmap Workshop	Sunday	1:30 PM	5:00 PM	Ballroom 3
Improving the Resiliency of Transit Systems Threatened by Natural Disasters				
Workshop (TCRP A-41) Joint Meeting: TRB Asset Management Committee and AASHTO Asset	Sunday	1:30 PM	5:00 PM	Deer/Elk Lake
Management Subcommittee		5:30 PM	7:00 PM	Minnesota
Infrastructure Management Research and Education Workshop	Monday	7:30 AM	8:30 AM	Pine/Cedar/Birch/Maple
Opening Session	Monday	8:30 AM	10:00 AM	Ballroom 2&4
How to Manage Your Assets	Monday	10:30 AM	12:00 PM	Ballroom 1
Vulnerability, Future, and Risk, Oh My!	Monday	10:30 AM	12:00 PM	Ballroom 3
Asset Management and Sustainable Infrastructure	Monday	10:30 AM	12:00 PM	Deer/Elk Lake
Oh the Places We'll Go: Creating an Implementation Roadmap	Monday	10:30 AM	12:00 PM	Excelsior/Lafayette Bay
Data Collection Practices and Experiences for Improving TAM 🖷	Monday	10:30 AM	12:00 PM	Wayzata Bay
Lunch	Monday	12:00 PM	1:30 PM	Ballroom 2&4
How to Manage Your Transit Assets	Monday	1:30 PM	3:00 PM	Ballroom 1
Playing Risk: Practical Applications Integrating Risk and Asset Management	Monday	1:30 PM	3:00 PM	Ballroom 3
Climate Change Impacts on Asset Deterioration and Life Cycle Cost Analysis	Monday	1:30 PM	3:00 PM	Deer/Elk Lake
Funding Transportation Infrastructure	Monday	1:30 PM	3:00 PM	Excelsior/Lafayette Bay
Building Blocks: Implementation at the Asset Class Level	Monday	1:30 PM	3:00 PM	Wayzata Bay
Rapid Fire / Round Table of Demonstrations of Innovation	Monday	3:30 PM	5:00 PM	Ballroom 1
Theory to Practice in Connecting TAM and Risk Analysis	Monday	3:30 PM	5:00 PM	Ballroom 3
All Together Now: Giving the Infrastructure a Voice at the Local, Regional, and State Level	Monday	3:30 PM	5:00 PM	Deer/Elk Lake
Next Generation Performance Management	Monday	3:30 PM	5:00 PM	Excelsior/Lafayette Bay
How Can Existing Federal Data Resources be Used in TAM?	Monday	3:30 PM	5:00 PM	Wayzata Bay
Posters & Reception	Monday	5:00 PM	6:30 PM	Ballroom 2&4
Planning and Programming	Tuesday	8:00 AM	9:30 AM	Ballroom 1
Brisk Risk: Real-World Risk Assessment & Analysis in Asset Management, Real Quick	Tuesday	8:00 AM	9:30 AM	Ballroom 3
You Down with ETG? Yeah, You Know Me!	Tuesday	8:00 AM	9:30 AM	Deer/Elk Lake
Take an "A" Train: Transit Asset Management Implementation	Tuesday	8:00 AM	9:30 AM	Excelsior/Lafayette Bay
Quality Data Results in Better Asset Management Decisions	Tuesday	8:00 AM	9:30 AM	Wayzata Bay
Tools and Technology	Tuesday	10:00 AM	11:30 AM	Ballroom 1
Addressing Climate Change and Extreme Weather Risks in Asset Management	Tuesday	10:00 AM	11:30 AM	Ballroom 3
Linking TAM and Performance Management	Tuesday	10:00 AM	11:30 AM	Deer/Elk Lake
Turning Data into Information to Improve Decisions	Tuesday	10:00 AM	11:30 AM	Excelsior/Lafayette Bay
Moving the Dial	Tuesday	10:00 AM	11:30 AM	Wayzata Bay
Pooled Fund Lunch	Tuesday	11:30 AM	1:00 PM	St. Croix 1
Lunch	Tuesday	11:30 AM	1:00 PM	Ballroom 2&4
Spread the Word of Transportation Asset Management		1:00 PM	2:30 PM	Ballroom 1
Linking Climate Change to Asset Management Plans and Systems •		1:00 PM	2:30 PM	Ballroom 3
GIS Capabilities for Improving Asset Management Data Visualization		1:00 PM	2:30 PM	Deer/Elk Lake
Conform, Reform or Transform: Building a Forward Looking TAM Organization On the Read Again Implementing a Systematic Asset Management Program	Tuesday	1:00 PM	2:30 PM	Excelsior/Lafayette Bay
On the Road Again: Implementing a Sustainable Asset Management Program at Your Agency	Tuesday	1:00 PM	2:30 PM	Wayzata Bay
Closing Session	Tuesday	2:45 PM	4:00 PM	Ballroom 2&4



WELCOME

With everything that is happening in the world of asset management, the 11th National Conference on Transportation Asset Management is an event you do not want to miss! The program includes a variety of topics, from introductory material that will satisfy practitioners who are just getting started to complex investment strategies that will challenge those who are ready to move beyond the basics. The conference program is organized around the following tracks:



- Track 1: "How-To:" Technical Sessions to Advance the State of Practice
- Track 2: Connecting Risk and Asset Management
- Track 3: Data, Performance Measurement, and Target Setting
- Track 4: Moving Beyond MAP-21
- Track 5: Transportation Asset Management Implementation

The program also includes dedicated sessions that address transit asset management, and improving resilience to climate change and extreme weather events, as well as integrated sessions that blend these topics with other presentations in the other tracks. Be sure to note all the other events- in addition to the conference program- that take place immediately before the conference itself. You won't want to miss the workshops, technical meetings, and other events that will be held during the week.

Whether you are a member of the pooled fund established by the Iowa Department of Transportation, or a practitioner from a federal, state, or local transportation agency; regional planning organization; transit agency; academia; or private industry, the conference provides a great opportunity to enhance your skills, learn what is being done in other organizations, and exchange ideas with your peers.

I hope to see you in Minneapolis this summer!

—Katie Zimmerman, Planning Committee Chair Applied Pavement Technology, Inc.

Planning Committee

Katie Zimmerman, Applied Pavement Technology, Inc., Chair Brad Allen, Applied Pavement Technology, Inc. Adjo Amekudzi-Kennedy, Georgia Institute of Technology Kirby Becker, Minnesota Department of Transportation Deanna Belden, Minnesota Department of Transportation Jennifer Brandenburg, Volkert, Inc. Michael Bridges, Consultant E. Dean Carlson, Carlson Associates Matthew Haubrich, Iowa Department of Transportation Timothy Henkel, Minnesota Department of Transportation John McCormick, Bay Area Rapid Transit Scott Richrath, Spy Pond Partners, LLC David Schrank, Texas A&M Transportation Institute Gregory Slater, Maryland State Highway Administration David Springstead, Metropolitan Atlanta Rapid Transit Authority Jennifer Weeks, Formerly Washington Metropolitan Area Transit Authority Laura Zale, Southeastern Pennsylvania Transportation Authority

Liaisons

Stephen Gaj, Federal Highway Administration
Matthew Hardy, American Association of State Highway and Transportation Officials
Heather Holsinger, Federal Highway Administration
Robert Kafalenos, Federal Highway Administration
Mshadoni Smith, Federal Transit Administration

TRB Staff

Thomas Palmerlee, Assistant Division Director Michael Miller, Associate Program Officer



TRACK SUMMARIES

Katie Zimmerman, Applied Pavement Technology, Inc., Chair

The following symbols are used highlight sessions that address transit and resilience to climate change and extreme weather events:

"How To:" Technical Sessions to Advance the State of Practice

Track Sessions

- How to Manage Your Assets (Monday 10:30 a.m.–noon)
- How to Manage Your Transit Assets ☐ (Monday 1:30 p.m.–3:00 p.m.)
- Rapid Fire and Round Table Demonstrations of Innovation (Monday 3:30 p.m.–5:00 p.m.)
- Planning and Programming (Tuesday 8:00 a.m.–9:30 a.m.)
- Tools and Technology (Tuesday 10:00 a.m.–11:30 a.m.)
- Spread the Word of Transportation Asset Management (TAM) (Tuesday 1:00 p.m.–2:30 p.m.)

Connecting Risk and Asset Management

Track Sessions

- Vulnerability, Future, and Risk, Oh My! (Monday 10:30 a.m.–noon)
- Playing Risk: Practical Applications Integrating Risk and Asset Management (Monday 1:30 p.m.–3:00 p.m.)
- Theory to Practice in Connecting TAM and Risk Analysis

 [□] (Monday 3:30 p.m.–5:00 p.m.)
- Brisk Risk: Real-World Risk Assessment and Analysis in Asset Management, Real Quick (Tuesday 8:00 a.m.–9:30 a.m.)
- Addressing Climate Change and Extreme Weather Risks in Asset Management (Tuesday 10:00 a.m.–11:30 a.m.)
- Linking Climate Change to Asset Management Plans and Systems 🐬 (Tuesday 1:00 p.m.–2:30 p.m.)

Data, Performance Measurement, and Target Setting

Track Sessions

- Data Collection Practices and Experiences for Improving TAM (Monday 10:30 a.m.-noon)
- Climate Change Impacts on Asset Deterioration and Life Cycle Cost Analysis (Monday 1:30 p.m.–3:00 p.m.)
- How Can Existing Federal Data Resources be Used in TAM? (Monday 3:30 p.m.-5:00 p.m.)
- Quality Data Results in Better Asset Management Decisions (Tuesday 8:00 a.m.—9:30 a.m.)
- Linking TAM and Performance Management (Tuesday 10:00 a.m.-11:30 a.m.)
- GIS Capabilities for Improving Asset Management Data Visualization (Tuesday 1:00 p.m.–2:30 p.m.)

Moving Beyond MAP-21

Track Sessions

- Asset Management and Sustainable Infrastructure (Monday 10:30 a.m.–noon)
- Funding Transportation Infrastructure (Monday 1:30 p.m.–3:00 p.m.)
- Next Generation Performance Management (Monday 3:30 p.m.–5:00 p.m.)
- You Down with ETG? Yeah. You Know Me! (Tuesday 8:00 a.m.—9:30 a.m.)
- Turning Data into Information to Improve Decisions (Tuesday 10:00 a.m.-11:30 a.m.)
- Conform, Reform, or Transform: Building a Forward-Looking TAM Organization (Tuesday 1:00 p.m.– 2:30 p.m.)

TAM Implementation

Track Sessions

- Oh, the Places We'll Go: Creating an Implementation Roadmap (Monday 10:30 a.m.–noon)
- Building Blocks: Implementation at the Asset Class Level (Monday 1:30 p.m.–3:00 p.m.)
- All Together Now: Giving the Infrastructure a Voice at the Local, Regional, and State Level (Monday 3:30 p.m.–5:00 p.m.)
- Take an "A" Train: Transit Asset Management Implementation 🚊 (Tuesday 8:00 a.m.–9:30 a.m.)
- Moving the Dial
 ☐ (Tuesday 10:00 a.m.–11:30 a.m.)
- On the Road Again: Implementing a Sustainable Asset Management Program at Your Agency (Tuesday 1:00 p.m.–2:30 p.m.)



PEER EXCHANGE

Saturday, July 9

2:00 p.m.-5:00 p.m.

Part 1

FHWA/AASHTO Asset Management Peer Exchange (Public-Sector Agencies), Minnesota

Hyun-A Park, Spy Pond Partners, presiding

A peer exchange will share progress made with implementing transportation asset management—in particular, the changes in investments made and the results achieved. The group also will explore organizational dimensions of good asset management, organizational structures, leadership, recruiting and retention, and knowledge management and also will discuss agency preparedness for MAP-21 and current challenges facing transportation agencies. This peer exchange is for public sector agencies. Please contact Matt Hardy at AASHTO for an invitation or questions: mhardy@aashto.org or 202-624-3625.

Sunday, July 10

8:30 a.m.-noon

Part 2

FHWA/AASHTO Asset Management Peer Exchange (Public-Sector Agencies), Minnesota

Hyun-A Park, Spy Pond Partners, presiding

ADVANCE WORKSHOPS

Open to all registrants. Subject to capacity limits.

Sunday, July 10

1:30 p.m.-5:00 p.m.

Return on Investment in Transportation Asset Management Systems and Practices Workshop (NCHRP 20-100), Ballroom 1

Bill Robert, Spy Pond Partners, presiding

The objectives of Project 20-100, "Return on Investment in Transportation Asset Management Systems and Practices," are to assess the experience of selected agencies that have adopted TAM systems and develop guidance for estimating the return on investment (ROI) for adopting or expanding TAM systems in an agency. This workshop will review the research, including illustrative examples of the ROI of investments in TAM. Also, the workshop will test and review the draft guidance prepared through the project.

Improving the Resiliency of Transit Systems Threatened by Natural Disasters Workshop (TCRP A-41), *Deer*

Deborah Matherly, Louis Berger, presiding

Project 1-41, "Improving the Resiliency of Transit Systems Threatened by Natural Disasters," is a research study under the Transit Cooperative Research Program (TCRP). The outcome of the work will be a concise "how-to" guide for transit agencies working to improve resilience and get better outcomes in bouncing back from major events, and building on existing transit agency strengths in asset management and safety culture, among others. The purpose of the workshop is to review an interim draft of the proposed guidebook and provide substantive comments in a highly interactive format. The workshop will be very handson and will generate active discussion and debate on the meaning and implementation of resilience for transit systems, within the context of asset management and other transit system domains.



Transportation Asset Management Research Roadmap Workshop, Ballroom 3

Hyun-A Park, Spy Pond Partners, presiding

A transportation asset management research roadmap is being developed to better respond to the needs of transportation agencies' asset management progress and to coordinate across entities that are generating research products. This workshop will focus on identifying research needs, determining candidate research projects, and prioritizing the most important needs and projects. Participants at this workshop will be encouraged to share their experiences and needs.

Monday, July 11

7:30 a.m.-8:30 a.m.

Infrastructure Management Research and Education Workshop, Pine

Gerardo Flintsch, Virginia Tech; Susan Tighe, University of Waterloo, presiding

The Infrastructure Management Research and Education (IMRE) workshop series will hold a breakfast mini-workshop during the conference. The objectives of the IMRE workshops are to strengthen infrastructure management education and to increase the visibility and awareness of the field in both academic and professional communities. The series has recently been associated with TRB Asset Management Committee and this will be the first meeting to be held under the Education Subcommittee.

COMMITTEE MEETINGS

Sunday, July 10

5:30 p.m.-7:00 p.m

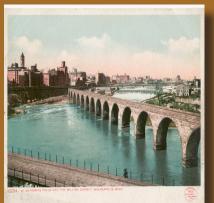
Joint Meeting: TRB Asset Management Committee and AASHTO Asset Management

Subcommittee, Minnesota

Timothy Henkel, Minnesota Department of Transportation, presiding

The City of Minneapolis

ncorporated in 1867, the City of Minneapolis derives its name from the Dakota word for water (mni) and the Greek word for city (polis). The area was first inhabited by the Dakota people, who were pressed to sell the land that now comprises Minneapolis after the construction of Fort Snelling in 1819, at the confluence of the Minnesota and Mississippi Rivers. The city developed around Saint Anthony Falls, which provided power for many thriving industries: sawmills for lumber, flour mills for grain grown on the surrounding plains, and hydroelectric power. For a time, Minneapolis was the world's leading flour miller, earning it the nickname "Mill City."



Today, Minneapolis is part of the 14th largest metropolitan area in the United States and is home to many industry-leading

businesses—particularly those in the technology and healthcare sectors. Additionally, the city is home to many cultural institutions with deep roots in the community, including strong traditions in music as well as visual and theater arts.



8:30 a.m.-10:00 a.m., Ballrooms 2 and 4

Opening Session

Katie Zimmerman, Applied Pavement Technology, Inc., Conference Chair, presiding

The interactive panel will address the following themes:

- The role of the federal government to provide stewardship to transportation agencies,
- The demand for increased government accountability,
- The evolution of agency investment priorities to better meet economic and societal demands.
- The need for stronger collaboration across modes and jurisdictions, and
- The growing importance of climate change and extreme weather events in agency decisions.

Panelists:

- 1. Frank Hornstein, Co-DFL Lead of the House Transportation Policy and Finance Committee, Minnesota House of Representatives
- 2. Paul Trombino, Director, Iowa Department of Transportation
- 3. David Springstead, Interim Assistant General Manager of Capital Programs and Development, Metropolitan Atlanta Rapid Transit Authority
- 4. Tom Everett, Acting Associate Administrator for Infrastructure, Federal Highway Administration

10:00 a.m.-10:30 a.m., *Atrium* **Break**

10:30 a.m.-noon, Ballroom 1

How to Manage Your Assets ("How To:" Technical Sessions to Advance the State of Practice),

Scott Richrath, Spy Pond Partners, presiding

Mark Nelson, Minnesota Department of Transportation, recording

This session opens the "How To..." track, providing insight to the daily activities involved in forwarding an asset management program. The session will explain how the track fits within the conference, showcasing three asset management operational experiences, and highlighting the track's upcoming sessions, including American Association of State Highway and Transportation Officials (AASHTO) and TRB research.

Convergence of Long-Range and Asset Management Plannings at the Pennsylvania Turnpike Wayne Francisco, Zach Rubin, GHD

Making Data Serve Many Masters: Experiences of Data Sharing with Wyoming DOT Martin Kidner, Wyoming Department of Transportation

A Guide to Collecting, Processing, and Managing Roadway Asset Inventory Data Katie Zimmerman and Kartik Manda, Applied Pavement Technology Inc.

10:30 a.m.-noon, Ballroom 3

Vulnerability, Future, and Risk, Oh My! (Connecting Risk and Asset Management)

Matthew Hardy, American Association of State Highway and Transportation Officials, *presiding* Lori Richter, Wisconsin Deaprtment of Transportation, *recording*

The opening session of the connecting TAM and risk track will provide context setting such as defining risk, domestic and international examples of connecting TAM and risk, and how performance and resilience relate to TAM and risk.

The Practicalities of Incorporating Risk into Optimized Maintenance and Renewal Strategies for Infrastructure Asset Portfolios

Martin Gordon, Opus International Consultants

Resilience, Performance Measurement, and Asset Management: Connecting the Concepts Sue McNeil, University of Delaware; Gordana Herning, Rutgers University



10:30 a.m.-noon, Wayzata Bay

Data Collection Practices and Experiences for Improving TAM (Data, Performance Measurement, and Target Setting)

Michael Bridges, Louisiana Department of Transportation, *presiding* Mark Suarez, Louisiana Department of Transportation, *recording*

This session will explore the ways that data have been collected, managed, and visualized by four transportation agencies: Massachusetts Department of Transportation; the City of Manchester, New Hampshire; West Virginia Department of Transportation; and the Massachusetts Bay Transportation Authority.

Data Knowledge and Knowing What to Do Next

Rob Zilay, Dye Management Group

Utilizing Geospatial Tools to Collect and Analyze Asset Data in the City of Manchester, New Hampshire

Katherine Keegan, Jonathan Gould, AECOM

A Case Study from Huntington, WV: Collecting, Extracting, and Visualizing Assets Using a Mobile Mapping Foundation

Hussein Elkhansa, West Virginia Department of Transportation; Connie Gurchiek, Transcend Spatial Solutions

Use of Sensors and Scanning Technology for Asset Inventory, Condition, and Service Reliability Satyen Patel, Massachusetts Bay Transportation Authority

10:30 a.m.-noon. Deer

Asset Management and Sustainable Infrastructure (Moving Beyond MAP-21)

Adjo Amekudzi-Kennedy, Georgia Tech, presiding

Brad Allen, Applied Pavement Technology, Inc., recording

Twenty-first century data collection and analysis is allowing connections to be made between infrastructure investments and societal benefits in ways never before possible. Incorporating these data and techniques into asset management will provide agencies with new opportunities to deliver programs that will provide the maximum benefit to society and allow agencies to better demonstrate that benefit to policy makers and the public.

Sustainable Transportation for Economic Prosperity in the 21st Century

Connie Bernardy, Minnesota House of Representatives; John Siekmeier, Minnesota DOT

Moving to Sociotechnical Asset Management of an Interconnected Network of Bridges Martin Gordon, Opus International

Methods for Including Sustainability as Part of the Transportation Asset Management Toolbox James Bryce, Amec Foster Wheeler

It's All About the Customer: Quantifying and Communicating the User Benefits from Preserving Transportation Infrastructure

David Vautin, Metropolitan Transportation Commission

10:30 a.m.-noon, Excelsior

Oh the Places We'll Go: Creating an Implementation Roadmap (TAM Implementation)

Stephen Gaj, Federal Highway Administration, presiding

Nastaran Saadatmand, Federal Highway Administration, recording

This session features four organizations that have aligned their business processes to support asset management implementation. The presentations will highlight implementation steps and lessons learned.

TAM Implementation Journey at Yukon Highways and Public Works

Craig Milligan, Fireseeds North Infrastructure

How Internal Governance Arrangements can Influence Transportation Asset Management Implementation

Wayne Francisco and Zach Rubin, GHD

Fulfilling Mandates, Empowering Organizations: The Lessons Learned from Implementation and Operation of the Managing Assets for Transportation Systems (MATS)

James Birdsall, Parsons Corporation

Connecting Your Organization's Asset Management Governance Structure to Institutional Success Jason Bittner, Applied Research Associates, Inc.



Noon–1:30 p.m., *Ballrooms 2 and 4*

1:30 p.m.-3:00 p.m., Ballroom 1

Jennifer Weeks, Formerly Washington Metropolitan Area Transit Authority, *presiding* Prashant Ram, Applied Pavement Technology, Inc., *recording*

With the FHWA MAP-21 rule-making approaching completion, many transit agencies are quickly adapting innovative asset management practices. This session is dedicated to the unique challenges of managing rolling stock, rail, and transit facilities.

Asset Management Challenges: Moving from Construction to Revenue OperationsJerauld Oxsen, CH2M Hill

Transit Asset Management Gap Assessment for the State of Connecticut

Sharon Okoye, Connecticut Department of Transportation; William Robert, Spy Pond Partners, LLC

The MTC TERM Lite Scenario Manager: Making Multiple Scenario Runs Easy

Nicholas Richter, Formerly Metropolitan Transportation Commission

1:30 p.m.-3:00 p.m., Ballroom 3

Playing Risk: Practical Applications Integrating Risk and Asset Management (Connecting Risk and Asset Management)

Matt Haubrich, Iowa Department of Transportation, *presiding* Dave Solsrud, Minnesota Department of Transportation, *recording*

Practical examples of how transportation agencies have implemented a TAM program and integrated risk management with it.

Risk-Based Asset Investment Decisions

Gordon Proctor, Gordon Proctor & Associates

Breakthroughs in Risk Management: Supporting TAM Decisions with Innovative Tools and Processes

Larry Redd, Redd Engineering; William Johnson, Colorado Department of Transportation

Investment Level Impacts: How MnDOT is Using Risk to Inform Resource Allocation Decisions on the Operating Side of Its Budget

Deanna Belden, Minnesota Department of Transportation

Risks from the Point of View of Different Levels within North Carolina Department of Transportation

Judith Corley-Lay, North Carolina Department of Transportation

1:30 p.m.-3:00 p.m., *Deer*

Climate Change Impacts on Asset Deterioration and Life Cycle Cost Analysis 🧘 (Data, Performance Measurement, and Target Setting)

Rob Kafalenos, Federal Highway Administration, *presiding* Jason Bittner, Applied Research Associates, *recording*

Tools and methods for analyzing climate change impacts on deterioration rates and BCA analyses.

Investigation of Climate Change Effects on Transportation Asset Management

Behrouz Shafei and Dena Khatami, Iowa State University

Impact of Climate Change on the Performance, Maintenance, and Life Cycle Costs of Flexible Pavements

Gerardo Flintsch, Virginia Tech; Yaning Qiao, University of Nottingham

Opportunities for Risk-Based Asset Management in Flood Resilience: A Retrospective on the October 2015 South Carolina Flooding

Anne Choate, ICF International



1:30 p.m.-3:00 p.m., Excelsior

Funding Transportation Infrastructure (Moving Beyond MAP-21)

Brad Allen, Applied Pavement Technology, Inc., presiding

Jennifer Brandenburg, Volkert, Inc., recording

Governments at all levels are struggling to establish a stable funding model for transportation. Asset management is playing a critical role in communicating both the need for funding and the benefits to investments in infrastructure.

Evaluating Options for Funding Asset Management Programs

Joe Guerre, Cambridge Systematics

Leading Management Practices in Determining Funding Levels for Maintenance and Preservation

Mark McConnell, Mississippi Department of Transportation; Katie Zimmerman, Applied Pavement Technology, Inc.

NexTen: Making the Case for Increased Investment in Existing Assets

Mark Nelson, Minnesota Department of Transportation

1:30 p.m.-3:00 p.m., Wayzata Bay

Building Blocks: Implementation at the Asset Class Level (TAM Implementation)

Timothy Henkel, Minnesota Department of Transportation, presiding

Thomas Van, Federal Highway Administration, recording

This session will highlight best practices of asset management at the asset class level.

Traffic Signal Asset Management System

Daniel Farley, Pennsylvia Department of Transportation; Jeff Bergsten, Michael Baker International

Optimal Pavement Funding Prioritization: Benefit-to-Cost Model

Timothy Skeel, Seattle Department of Transportation

Wall Asset Management Implementation at Colorado Department of Transportation

Mark Vessely, Shannon & Wilson; Bryant Walters, Collins Engineers, Inc.

Ensuring Roadway and Utility Financial Sustainability Through Right-of-Way Capital Planning and Optimization

Gary Ruck, Deighton Associates Ltd.

3:00 p.m.–3:30 p.m., *Atrium* **Break**

3:30 p.m.-5:00 p.m., Ballroom 1

Rapid Fire and Round Table of Demonstrations of Innovation ("How To:" Technical Sessions to Advance the State of Practice)

Heather Holsinger, Federal Highway Administration, presiding

Nicole Katsikides, Maryland State Highway Administration, recording

Effective management of pavement, bridges, transit, and other assets requires much more than careful planning. Many agencies are leveraging technology to innovate more practical methods to effectively maintain the public's investment in infrastructure. Several innovators will demonstrate their technologies and ideas in a "rapid-fire" session and will offer you the opportunity to further explore their innovations at the ensuing poster session.

MAP-21 Toolbox: How to Use Enterprise Asset Management Systems to Track the State of Good Repair of your Assets

Brett Koenig, Trapeze

Minnesota Department of Transportation's Approach to Developing Maintenance Cost Models for Its Pavement Infrastructure Based on Asset Condition Data

Dave Solsrud and Shelly Pedersen, Minnesota Department of Transportation

Minnesota Department of Transportation's Approach to Developing Maintenance Cost Models for Its Bridge Infrastructure Based on Asset Condition Data

Sarah Sondag and Trisha Stefanski, Minnesota Department of Transportation

Linking Asset Inventories to Project Prioritization through Asset-to-Project Mapping Emily Grenzke, CH2M HILL

Investment Planning for ITS Assets

Prashant Ram and Katie Zimmerman, Applied Pavement Technology Inc.



Life Cycle Strategy Analysis for Concrete Bridge Decks in Pennsylvania

Shervin Jahangirnejad, Dennis Morian, Quality Engineering Solutions, Inc.

TAM Knowledge Sharing: AASHTO's Portals

Hyun-A Park and Perry Lubin, Spy Pond Partners, LLC

3:30 p.m.-5:00 p.m., Ballroom 3

Theory to Practice in Connecting TAM and Risk Analysis 🗎 (Connecting Risk and Asset Management)

Judith Corley-Lay, North Carolina Department of Transportation, presiding

Kartik Manda, Applied Pavement Technology, Inc., recording

A broad discussion on various aspects of TAM and risk, ranging from risk and transit to making the business case for risk analysis to flexibility in asset risk management.

An Outcome-Based Scenario Approach for Analyzing Risk in Infrastructure Asset Management

Amir Hessami, Roger Smith, Texas A&M University

Risk-Informed Transit Asset Management: Best Practices and Approach

John Holak, Urban Engineers, Inc.

Making the Business Case for Risk-Based Asset Management

Brenda Dix, ICF International

Flexibility as a Decision Support Strategy for Asset Risk Management

Vivek Sakhrani, CPCS Transcom Inc.

3:30 p.m.-5:00 p.m., Wayzata Bay

How Can Existing Federal Data Resources be Used in TAM? (Data, Performance Measurement, and Target Setting)

Nastaran Saadatmand, Federal Highway Administration, presiding

Kirby Becker, Minnesota Department of Transportation, recording

This session will review the state of the art in valuing transportation assets as well as the FHWA's proposed use of the Highway Performance Monitoring System (HPMS) as the source of pavement data for monitoring performance.

Valuing Impacts of Transportation System

Patricia Hu, U.S. Department of Transportation

Improving HPMS Pavement Data to Support Performance Management

Max Grogg, Federal Highway Administration

The Yellow Brick Road: What Economics Has to Do with Pavements and How HERS-ST Paves the Way

Nathaniel Coley, Federal Highway Administration

Pavement Condition Reporting and Target Setting in the TAMP: Where Are We and Where Do We Need to Go?

Jonathan Groeger and Gonzalo Rada, Amec Foster Wheeler

3:30 p.m.-5:00 p.m., Excelsior

Next-Generation Performance Management (Moving Beyond MAP-21)

Mshadoni Smith, Federal Transit Administration, presiding

E. Dean Carlson, Carlson Associates, recording

If what gets measured gets done, how can an agency ensure they are measuring the right things? This session focuses in on tools and approaches for moving beyond dashboards and building robust performance management systems.

Going Beyond Performance Targets in Map-21 for Local Agencies

Sui Tan, Metropolitan Transportation Commission

Performance: What Should be Measured?

Omar Smadi, CTRE-lowa State University

Everything in Its Place: Tools and Rules for Setting Robust Performance Targets

Royce Greaves, Opus International

Transportation Asset Status and Condition Reporting at the Seattle Department of Transportation

Emily Burns, Seattle Department of Transportation



3:30 p.m.-5:00 p.m., *Deer*

All Together Now: Giving the Infrastructure a Voice at the Local, Regional, and State Level (TAM Implementation)

David Springstead, Metropolitan Rapid Transit Authority, *presiding* John McCormick, Bay Area Rapid Transit, *recording*

An asset management program can provide the data that are necessary to align your organization's goals to those of the department of transportation. This session highlights presenters sharing the DOT, MPO, and transit agency perspective. The agencies will describe the creation of asset management programs that support their organization as well as regional stakeholders.

Turning Data into Action: Mobilizing Transit Asset Management at a Regional Scale

Theresa Romell, Metropolitan Transportation Commission

Development of a Transit Asset Management Plan at Metra

Robert Peskin, AECOM; Michael Rowe, Metra

Collaboration to Support Regional and Statewide TAM: Lessons Learned in Greater Cleveland, Ohio

Sam Van Hecke, Cambridge Systematics; Kathy Sarli, Northeast Ohio Areawide Coordinating Agency

California's Update on Its Transportation Asset Management Pilot Program

Michael Johnson, Hamid Sadraie, California Department of Transportation

5:00 p.m.-6:30 p.m., Ballrooms 2 and 4

Poster and Reception

"How To:" Technical Sessions to Advance the State of Practice

- 1. Who's Your Audience: Structuring Your TAMP to Meet the Needs of the Reader Wayne Francisco, Zach Rubin, GHD
- 2. How to Use Asset Type Variants to Model Complex Rehabilitation Policies using TERM Lite Nicholas Richter, Formerly Metropolitan Transportation Commission

Connecting Risk and Asset Management

3. Active Asset Management Risk

Milos Posavljak and Susan Tighe, University of Waterloo

- **4. Key Issues in Life Cycle Planning of Chinese Transportation Asset Management** Ronghua Wang and Jiangbi Hu, Beijing University of Technology
- **5.** Communicating Multiobjective Risk: A New Geotechnical Need for Transportation Scott Anderson, Federal Highway Administration; Mohammad Dehghani, GHD
- **6.** Risk Management and Project Prioritization in an Integrated GIS Environment Greg Yarbrough and Allen Ibaugh, Data Transfer Solutions, LLC
- 7. Improving Bridge Risk and Deterioration Modeling: A How-To Guide for All States to Improve Their Bridge Performance Modeling

Zach Rubin and Mohammad Dehghani, GHD

- 8. The Silver Bullet: How to Use the National Bridge Investment Analysis System for Developing Bridge Targets and Bridge Asset Management Plans
 Nathaniel Coley, Federal Highway Administration
- Analysis of National Bridge Inventory (NBI) Data for California Bridges
 Rosa Vasconez, California State Polytechic University, Pomona
- **10. Development of a Risk-Based Management Approach for Ancillary Highway Structures** Elizabeth Burkhart and Michael Garlich, Collins Engineers, Inc.

Data, Performance Measurement, and Target Setting

11. Skid Assessment Using a 3-D Laser Profiler

Humaira Zahir, Kansas State University

12. Improving Automated Sign Retroreflectivity Data Collection And Database Management Using Unique Identifiers

Chris Vaughan and Sarah Searcy, Institute for Transportation Research and Education



- 13. Performance-Based Maintenance Contract: Woodrow Wilson Bridge Case Study Adrian Burde, Leidos; Ken McEntire, Asset Management Associates
- 14. Dynamic Asset Surveys: Gaining Public Opinions of Roadway Assets Using Roadway **Reviews and Focus Groups**

Chris Cunningham and Daniel Findley, Institute for Transportation Education Research

- 15. Setting Customer-Focused Performance Measures and Condition Indicators Royce Greaves, Opus International
- 16. Enhanced Framework for Dynamic Segmentation of Pavement Sections Ahmed Abdelaty and H. David Jeong, Iowa State University

Moving Beyond MAP-21

- 17. Operational Systems Informing Enterprise Asset Management Success Henry Eibel, New Jersey Turnpike; Jeff Siegel HNTB Corporation
- 18. A Smart Framework in Bridge Management System to Move Beyond MAP-21 Mohammad Sayyar and Schafiul Azam AgileAssets Inc.
- 19. Integrated Planning and Change Management at Pennsylvania Department of Transportation Seth Yoskowitz and Wayne Francisco, GHD
- 20. Moving Beyond MAP-21: A Comprehensive Asset Management Approach Stephen Schorn and Benoit Kroely, Advitam Inc.
- 21. Asset Management for Traffic and Safety Assets Nancy Lefler, VHB; William Robert, Spy Pond Partners, LLC
- 22. ADA Curb Ramp Asset Management and Improvements in Virginia Ning Li and William Duke, Virginia Department of Transportation

TAM Implementation

23. Road Asset Management Gap Analysis in Costa Rica: Challenges and Good Opportunities for a Middle-Income Developing Country

José David Rodriguez, LanammeUCR, University of Costa Rica; Jorge Arturo Carmona, Independent Consultant

- 24. The Next Generation of Bridge Management with AASHTO Ware BrM Jeremy Shaffer, Bentley Systems, and Judy Skeen, AASHTO
- 25. Ready for Takeoff: Aviation Asset Management

Andrew Ardrey and John Fortin, CH2M

- 26. Implementing Tunnel Assets into Colorado DOT's Strategic Asset Management System Jeffrey Zavitski, Deighton Associates Limited; Tyler Weldon, Colorado Department of Transportation
- 27. Sidewalk Scout, Sidewalk Sentry, and Sidewalk Quality Index: Tools for Assessing and **Managing Community Sidewalk Assets**

Jack Cebe and Randall Guensler, Georgia Institute of Technology

28. Minnesota DOT's Experience Implementing and Enterprise Transportation Asset Management

Ray Starr and Dave Solsrud, Minnesota Department of Transportation



8:00 a.m.-9:30 a.m., Ballroom 1

Planning and Programming ("How To:" Technical Sessions to Advance the State of Practice)

Scott Zainhofsky, North Dakota Department of Transportation, presiding

Scott Richrath, Spy Pond Partners, recording

Where do asset management and asset management plans fit in a planning world that has traditionally focused on new capital expansion projects? Bringing preservation activities into the planning discipline and coordinating agencywide programming processes requires big picture thinking. This session will help close the gap between asset management planning and investment decisions.

Using MAP-21 TAMP to Strengthen New Mexico DOT's TAM Program

Tamara Haas, New Mexico Department of Transportation; Hyun-A Park, Spy Pond Partners

Data-Rich but Information-Poor: Taking Those First Steps Toward Quantitative 10-Year Target Setting

Paul Thompson, Consultant; Prashant Ram, Applied Pavement Technology Inc.

Evaluation of a Multiyear Multiconstraint Strategy to Optimization Linear Assets Based on Life Cycle Costs

Keivan Neshvadian, AgileAssets Inc.

Small Details, Big Plans: How Asset Management is Driving the Minnesota Statewide Multimodal Transportation Plan and the 20-Year State Highway Investment Plan

Josh Pearson, Minnesota Department of Transportation

8:00 a.m.-9:30 a.m., Ballroom 3

Brisk Risk: Real-World Risk Assessment and Analysis in Asset Management, Real Quick (Connecting Risk and Asset Management)

Deanna Belden, Minnesota Department of Transportation, presiding

Anita Bush, Nevada Department of Transportation, recording

This session will feature a variety of technical topics presented in a quick, rapid-fire style getting at the "how-to" of risk assessment and analysis. Presentations will include risk in transportation asset management overall as well as risk topics related to specific assets. The presentations act as a lead-in to the same topics being featured in the poster session.

Active Asset Management Risk

Milos Posavljak and Susan Tighe, University of Waterloo

Key Issues in Life Cycle Planning of Chinese Transportation Asset Management

Ronghua Wang and Jiangbi Hu, Beijing University of Technology

Communicating Multiobjective Risk: A New Geotechnical Need for Transportation

Scott Anderson, Federal Highway Administration

Risk Management and Project Prioritization in an Integrated GIS Environment

Greg Yarbrough and Allen Ibaugh, Data Transfer Solutions, LLC

Improving Bridge Risk and Deterioration Modeling: A How to Guide for All States to Improve their Bridge Performance Modeling

Zach Rubin, Mohammad Dehghani, GHD

The Silver Bullet: How to Use the National Bridge Investment Analysis System for Developing Bridge Targets and Bridge Asset Management Plans

Nathaniel Coley, Federal Highway Administration

Analysis of National Bridge Inventory (NBI) Data for California Bridges

Rosa Vasconez and Emily Yu, California State Polytechnic University, Pomona

Development of a Risk-Based Management Approach for Ancillary Highway Structures

Elizabeth Burkhart and Michael Garlich, Collins Engineers, Inc.





8:00 a.m.-9:30 a.m., Wayzata Bay

Quality Data Results in Better Asset Management Decisions (Data, Performance Measurement, and Target Setting)

Max Grogg, Federal Highway Administration, *presiding* Peggi Knight, lowa Department of Transportation, *recording*

This session will provide insight on the processes that can be used to insure that the data being used for transportation asset management are accurate, timely, and usable.

Improving Data Quality for Pavement Management System

Sui Tan, Metropolitan Transportation Commission; Dingxin Cheng, California State University at Chico

Quantitative Target Setting for Pavement Management Data Quality

Siamak Saliminejad, AgileAssets

First Steps to Integrated Asset Management Information Technology to Leverage Your Data Sets Steve Mitchel, Wayne Francisco, GHD.

Data Management for Asset Management at Connecticut DOT: An Integrated Life Cycle Approach Frances Harrison, Spy Pond Partners; William Pratt, Connecticut Department of Transportation

8:00 a.m.-9:30 a.m., Deer

You Down with ETG? Yeah, You Know Me! (Moving Beyond MAP-21)

Stephen Gaj, Federal Highway Administration, *presiding* Brad Allen, Applied Pavement Technology, Inc., *recording*

In 2011, FHWA, AASHTO, and TRB formed the TAMETG to assist the three agencies in aligning their efforts to further asset management implementation. Recently the ETG–or expert task group–has issued four white papers to bring clarity to issues foundational to TAM implementation and that, until now, have not been well defined. In this interactive session, members of the TAM ETG will present these papers and participate in a conversation on the topics.

Incorporating TAM into the Agencies' Practices

Randy Park, Utah Department of Transportation

Developing Human Capital to Support Asset Management

Timothy Henkel, Minnesota Department of Transportation

Incorporating TAM into the Planning Process

Laura Mester, Michigan Department of Transportation

Defining Cross-Asset Decision Making

Omar Smadi, Iowa State University

Transportation Asset Management Implementation from the MPO perspective

Chris Evilia, Waco MPO

8:00 a.m.-9:30 a.m., Excelsior

Take an "A" Train: Transit Asset Management Implementation 🗎 (TAM Implementation)

Mshadoni Smith, John Giorgis, Federal Transit Administration, presiding

Jennifer Weeks, Formerly Washington Metropolitan Area Transit Authority, recording

This session provides an overview of the implementation of asset management programs at transit agencies. Presenters will highlight modifications to business processes, the establishment of performance targets, and lessons learned through implementation.

CTA's Linear Asset Management Implementation

Leah Mooney and Robin Roever, Chicago Transit Authority

Target Setting in Transit: Using Data to Involve Staff Across an Agency

Yvonne Carney, Washington Metropolitan Area Transit Authority

Implementing an Asset Management Program at a Legacy Transit System

Laura Zale, Southeastern Pennsylvania Transportation Authority

TAM Implementation: Lessons Learned

Rick Laver, CH2M Hill

9:30 a.m.–10:00 a.m., *Atrium* **Break**



10:00 a.m.-11:30 a.m., Ballroom 1

Tools and Technology ("How To:" Technical Sessions to Advance the State of Practice)

Tamara Haas, New Mexico Department of Transportation, presiding

Jennifer Weeks, Formerly Washington Metropolitan Area Transit Authority, recording

Several public- and private-sector organizations are creating new systems and tools for tracking inventory, monitoring condition and performance, and streamlining business processes. Come learn how to apply creative real-world solutions to your asset management practice.

A Study of Varied Prioritization Approaches for Roadway Repairs

Theresa Romell and Sui Tan, Metropolitan Transportation Commission

Collecting Infrastructure Asset Data Using Advanced Mobile Technology at Minnesota Department of Transportation

Trisha Stefanski, Minnesota Department of Transportation

Challenging the Paradigm in Bridge Asset Management: More Problems Require More Funding Royce Greaves, Opus International Consultants

10:00 a.m.-11:30 a.m., Ballroom 3

Rob Kafalenos, Federal Highway Administration, *presiding* John Thomas. Utah Department of Transportation, *recording*

Examples of areas that are applying climate change and extreme weather event information into asset management and plan development.

Integrating Climate Risk into Transportation Asset Management: The Michigan DOT Climate Resilience Pilot

Niles Annelin, Michigan Department of Transportation

Accommodating Extreme Weather Adaptation to Collectively Enhance Infrastructure Planning, Regional Vitality, and Sustainability in North Central Texas

Jory Dille, North Central Texas Council of Governments

Alaska's Geotechnical Asset Managment Program

Darren Beckstrand and Aine Mines, Landslide Technology; Paul Thompson, Consultant

10:00 a.m.-11:30 a.m., Deer

Linking TAM and Performance Management (Data, Performance Measurement, and Target Setting)

Francine Shaw-Whitson, Federal Highway Administration, *presiding* Deanna Belden, Minnesota Department of Transportation, *recording*

This session will discuss how asset management decisions directly correlate to asset level of service and performance.

Development of Two Unique and Publicly Accessible Performance Dashboards at the Seattle Department of Transportation

Terry Martin, Seattle Department of Transportation

Minnesota Department of Transportation's Approach to Developing Maintenance Cost Models for Its Infrastructure Based on Asset Condition Data

Dave Solsrud, Trisha Stefanski, Minnesota Department of Transportation

The Role of MAP-21 in MPO Performance Metric Development

Alice Grossman, Georgia Institute of Technology

Performance-Based Communication Tools for Maintenance Budgets

David Hurst and Rob Zilay, Dye Management Group

10:00 a.m.-11:30 a.m., Excelsior

Turning Data into Information to Improve Decisions (Moving Beyond MAP-21)

Steve Varnedoe, Asset Management Associates, PLLC, presiding

John McCormick, Bay Area Rapid Transit District, recording

What technologies are on the horizon to help turn mountains of data into actionable information? How can the area of knowledge management help improve asset management? This forward-looking session explores



how asset managers can make sound investments in data and systems to find the sweet spot between being in the dark and paralysis by analysis.

Asset Management Data in a Knowledge Management World: Methods for Treating Data Frances Harrison, Spy Pond Partners

Multiobjective Optimization Approach for Sustainable Pavement Maintenance and Rehabilitation Programming

Gerardo Flintsch, Virginia Tech; Joao Santos, University of Coimbra

Improving the Resilience of Transit Systems Threatened by Natural Disasters

Deborah Matherly, Louis Berger; Jon Carnegie, Rutgers

10:00 a.m.-11:30 a.m., Wayzata Bay

Moving the Dial ■ (TAM Implementation)

David Rose, Gannett Fleming, presiding

Laura Zale, Southeastern Pennsylvania Transportation Authority, recording

This panel provides specific examples of asset management that is moving the dial, resulting in improved reliability, reduce life-cycle cost, reduced safety risk, and improved customer experience.

Panelists

Collete Erricson, New York Metropolitan Transportation Authority Bus Operations John McCormick, Bay Area Rapid Transit Mike Hubbell, Dallas Area Rapid Transit Lou Cripps, RTD Denver Paul Edwards, Utah Transit Authority Satyen Patel, Massachusetts Bay Transportation Authority

11:30 a.m.–1:00 p.m., *Ballrooms 2 and 4* **Lunch**

1:00 p.m.-2:00 p.m., Ballroom 1

Scott Richrath, Spy Pond Partners, presiding

Prashant Ram, Applied Pavement Technology, Inc., recording

The session will close the "How To" discussion at the 11th Transportation Asset Management Conference, sharing what we've learned about how to manage our assets with those unable to attend. Presenters in this closing session will help you communicate the methods and benefits of asset management.

Wanted: Asset Managers Who Can Tell a Good Story

Melaina Voss, Opus International Consultants

A Practical Option for Managing Transit Facility and Infrastructure Assets Jim Sutton, Chuck Austin, RTD Denver

How Transportation Asset Management Transforms the Business Process at the Ohio Department of Transportation

Eddie Chou, University of Toledo; Andrew Williams, Ohio Department of Transportation

1:00 p.m.-2:30 p.m., Ballroom 3

Linking Climate Change to Asset Management Plans and Systems (Connecting Risk and Asset Management)

Heather Holsinger, Federal Highway Administration, presiding

Mark Suarez, Louisiana Department of Transportation, recording

This session focuses on how to develop plans and implement asset management systems that account for climate change and extreme weather event risks.

Incorporating Climate and Extreme Weather Risk in Transportation Asset Management Michael Meyer and Michael Flood, WSP- Parsons Brinkerhoff

Data and Analytical Needs for Incorporating Extreme Weather Risks in Asset ManagementAnne Choate, ICF International



1:00 p.m.-2:30 p.m., Deer

GIS Capabilities for Improving Asset Management Data Visualization (Data, Performance Measurement, and Target Setting)

David Schrank, Texas A&M Transportation Institute, presiding

David Hurst, Dye Management Group, recording

This session will provide an overview of best practices of GIS applications in asset management. GIS applications have become almost a "must-have" for the management of transportation assets.

Best Practices of GIS Applications in Asset Management at North Carolina Department of Transportation

Lonnie Watkins, North Carolina Department of Transportation; Jonathan Arnold, Sepi Engineering & Construction

Best Practices of GIS Applications in Asset Management

Mike Fallon, Kelley Ernsdorff, AssetWorks

New Insights from Historical Information for Utah Department of Transportation

Shourya Shukla, Rolta Americas, Inc.; Cory Pope, Utah Department of Transportation

North Jersey Transportation Planning Authority Asset Management Model

Tom Tiner, Michael Baker International

1:00 p.m.-2:30 p.m., Excelsior

Conform, Reform, or Transform: Building a Forward-Looking TAM Organization ☐ (Moving Beyond MAP-21)

Butch Wlaschin, Formerly Federal Highway Administration, presiding

Mshadoni Smith, Federal Transit Administration, recording

There are as many different approaches to implementing asset management as there are transportation agencies. Although every agency is different and faces different challenges, there are lessons to be learned in the successes and struggles of every asset management implementation effort. This session explores some of these lessons while looking forward at common challenges all agencies will face.

The Seven Habits of Highly Effective Transit Asset Management Organizations Herbert Higginbotham, Accenture

Applying International Standards Beyond MAP-21 and Toward Global Best Practice in Asset Management

Christian Roberts, WSP-Parsons Brinkerhoff

MBTA's Advanced Asset Management Program

Satyen Patel, Massachusetts Bay Transportation Authority

Developing the Long Island Rail Road (LIRR) Roadmap to Advance Asset Management Capability John O'Har and Brenden Duffy, WSP–Parsons Brinkerhoff

1:00 p.m.–2:30 p.m., Wayzata Bay

On the Road Again: Implementing a Sustainable Asset Management Program at Your Agency (TAM Implementation)

Adjo Amekudzi-Kennedy, Georgia Institute of Technology, presiding

Shayne Gill, AASHTO, recording

This panel will provide examples of aligning the agency's business practice to better create a sustainable asset management program.

Creating a Sustained Implementation of MassDOT's Asset Management Strategic Plan

Patricia Leavenworth, Massachusetts Department of Transportation; Nathan Higgins, Cambridge Systematics

Framework and Case Studies for Calculating the Return on Investment for Transportation Asset Management Systems and Process Improvements

William Robert, Spy Pond Partners; Chris Williges, HDR, Inc.

Organizational Issues in Performance Management and Transportation Asset Management: Are You Prepared?

Jonathan Groeger and Deepa Thandaveswara, Amec Foster Wheeler

A Framework for Enhancing TAM Implementation for Sustained TAM Programs

Margaret-Avis Akofio-Sowah, WSP-Parsons Brinckerhoff; Adjo Amekudzi-Kennedy, Georgia Institute of Technology



2:45 p.m.–4:00 p.m., *Ballrooms 2 and 4* Closing Session

Katie Zimmerman, Applied Pavement Technology, Inc., Conference Chair, presiding

From Inception to Evolution

The conference presentations demonstrate the evolution that is taking place in asset management today. Just a few years ago, most agencies were identifying an asset management champion and focusing on building an asset management culture. Today, agencies are moving towards a more sustainable, cross-cutting, and evolved program.

In the closing session, each of the Track Chairs will share highlights from their sessions related to ways in which:

- The practice of asset management is evolving,
- Agencies are creating sustainable asset management programs that are embedded in the organization's culture,
- Technology is influencing the way decisions are made, and
- Data are being used to speak to multiple audiences.

The session will conclude with a summary of gaps that would benefit from further research or technology transfer efforts.

Panelists:

Scott Richrath, Spy Pond Partners
Matthew Hardy, American Association of State Highway and Transportation Officials
David Schrank, Texas A&M Transportation Institute
Brad Allen, Applied Pavement Technology, Inc.
Laura Zale, Southeastern Pennsylvania Transportation Authority
Rob Kafalenos, Federal Highway Administration

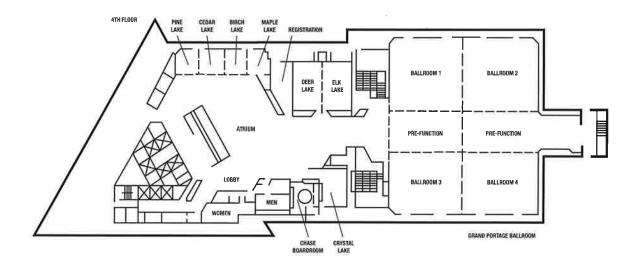
4:00 p.m.-5:30 p.m., Pine

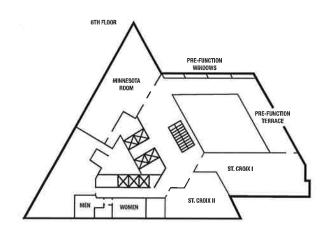
Planning Committee Debriefing (Members Only)

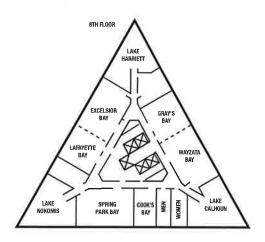
Katie Zimmerman, Applied Pavement Technology, Inc., presiding



FLOOR PLANS









SELECTED RECENT TRB REPORTS RELATING TO ASSET MANAGEMENT

Published

Transportation Asset Management for Ancillary Structures. NCHRP 08-36, Task 114 http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP08-36(114)_FR.pdf

Guidelines for Collecting, Processing, and Managing Roadway Asset Inventory Data. NCHRP 20-07/ Task 357

http://apps.trb.org/cmsfeed/trbnetprojectdisplay.asp?projectid=3737

Use of Transportation Asset Management Principles in State Highway Agencies. NCHRP Report 439 http://www.trb.org/Main/Blurbs/168489.aspx

Life Cycle Cost Analysis for Management of Highway Assets. NCHRP Report 494 http://www.trb.org/Publications/Blurbs/174369.aspx

Successful Practices in GIS-Based Asset Management. NCHRP Report 800 http://www.trb.org/Main/Blurbs/172204.aspx

Cross-Asset Resource Allocation and the Impact on System Performance. NCHRP Report 806 http://www.trb.org/Main/Blurbs/172356.aspx

Data to Support Transportation Agency Business Needs: A Self-Assessment Guide. NCHRP Report 814

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp rpt 814.pdf

Transportation Asset Management Gap Analysis Tool. NCHRP Project 08-90 (publication pending) http://apps.trb.org/cmsfeed/trbnetprojectdisplay.asp?projectid=3397

Approach to Level-of-Service Target Setting for Highway Assets. Research Results Digest 396 http://www.trb.org/main/blurbs/173327.aspx

Uses of Mobile Information Technology Devices in the Field for Design, Construction, and Asset Management. NCHRP Synthesis 419

http://www.trb.org/Publications/Blurbs/174038.aspx

Guidance for Developing a Transit Asset Management Plan. TCRP Report 172 http://www.trb.org/Publications/Blurbs/171285.aspx

Transportation Asset Management from Plans to Practice: A Workshop for State Practitioners. Transportation Research E-Circular, Issue E-C200

http://www.trb.org/Publications/Blurbs/173050.aspx

Active

Asset Management Guidance for Traffic Control Devices, Barriers, and Lighting. NCHRP 07-21 http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3394

Managing Risk Across the Enterprise: A Guidebook for State Departments of Transportation. NCHRP 08-93

http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3635

Test and Demonstrate the Implementation of NCHRP Project 08-91, Cross-Asset Allocation, NCHRP Project 08-103 (ongoing)

http://apps.trb.org/cmsfeed/trbnetprojectdisplay.asp?projectid=4031

Guide for Financial Planning and Management in Support of Transportation Asset Management. NCHRP19-12

http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4057

Estimating the Return on Investment in TAM Systems and Practices. NCHRP 20-100 http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3880



Development of an Implementation Manual for Geotechnical Asset Management for Transportation Agencies. NCHRP 24-46

http://apps.trb.org/cmsfeed/trbnetprojectdisplay.asp?projectid=4065

Transportation Asset Management Knowledge Portal . NCHRP 08-36/Task 125 http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3684

Development of Transportation Asset Management Plan Templates . NCHRP 08-36/Task 116 http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3521

Development of a Risk Register Spreadsheet Tool. NCHRP 08-36/TASK 126 http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3685

Transportation Asset Management Research Roadmap. NCHRP 08-36/Task 134 http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4077

Improving the Resiliency of Transit Systems Threatened by Natural Disasters. TCRP A-41 http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3744

Relationship Between Transit Asset Condition and Service Quality, TCRP Project E-11 (ongoing) http://apps.trb.org/cmsfeed/trbnetprojectdisplay.asp?projectid=3745

Guidance for Calculating the Return on Investment in Transit State of Good Repair. TCRP E-12 http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4118

Leading Management Practices in Determining Funding Levels for Maintenance and Preservation. Domestic Scan 14-01



Hotel Information

Minneapolis Marriott City Center 30 South 7th Street Minneapolis, Minnesota 55402

Contacts

Thomas M. Palmerlee, <u>TPalmerlee@nas.edu</u> Michael Miller, MMiller@nas.edu

Join the TAM Pooled Fund!!!

The Iowa Department of Transportation is seeking additional partners for the pooled fund to help join existing partners in supporting future Transportation Asset Management Conference activities in 2018 and 2020.

For more information, please contact Matt Haubrich, Matthew. Haubrich@dot.iowa.gov, (515)-233-7902 or Brian Worrel, <u>Brian.Worrel@dot.iowa.gov</u>, (515) 239-1471



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