7th National Conference on Transportation Asset Management

New Directions in Asset Management and Economic Analysis

November 6–8, 2007
Royal Sonesta Hotel
New Orleans, Louisiana

Organized by
TRB Transportation Asset Management Committee
TRB Transportation Economics Committee
TRB Marine Group
TRB Roadway Pavement Preservation Task Force
TRB Pavement Maintenance Committee

Support from
Federal Highway Administration Office of Asset Management

Cosponsors
American Association of State Highway and Transportation Officials
Louisiana Department of Transportation and Development
American Public Works Association
Midwest Regional University Transportation Center
National Association of County Engineers
National LTAP Association

www.TRB.org/conferences/2007/Asset
The Transportation Research Board is one of six major divisions of the National Research Council, which serves as an independent adviser to the federal government and others on scientific and technical questions of national importance, and which is jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The mission of the Transportation Research Board is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board’s varied activities annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation.

www.TRB.org
Extending Progress in Transportation Asset Management

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

The conference program includes sessions on important emerging issues in transportation asset management. Among them will be organizational leadership, management systems, optimization, and training and education. The conference features three thematic tracks and four special topic areas.

The following are the three thematic tracks:

• Integration of Maintenance and Operations into Transportation Asset Management,
• Putting Economics into Practice, and
• Transportation Asset Management in the Ports and Harbors Community.

Four special topic areas will be integrated throughout the conference:

• Asset Management to Support Public–Private Partnerships,
• Valuation of Assets,
• Asset Management Partnerships Among Multiple Agencies and Owners, and
• Risk Assessment and Analysis in Decision Making.

We encourage you to join in the discussions and enjoy the resilience and warmth of a revitalized New Orleans.

—Lacy D. Love
Conference Cochair
Asset Management Director
North Carolina Department of Transportation

—Francine Shaw-Whitson
Conference Cochair
Transportation Manager/Team Leader
Office of Asset Management
Federal Highway Administration
### About the Host City

The conference host city of New Orleans is in the midst of being reborn. The historic French Quarter and Garden districts, which were spared from the flooding, have been revitalized, and restaurants, museums, jazz clubs, and numerous shops welcome visitors back with the joie de vivre that this great American city was built on.

Please enjoy the city’s history and the thousands of colorful tales and stories of the people who have called New Orleans home, including such notables as the Pirate Jean Lafitte, the Queen of Voodoo Marie Laveau, Tennessee Williams, William Faulkner, Truman Capote, Louis Armstrong, Wynton Marsalis, Harry Connick, Jr., and Anne Rice.

### Conference at a Glance

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday, November 5</th>
<th>Tuesday, November 6</th>
<th>Wednesday, November 7</th>
<th>Thursday, November 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 a.m.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td></td>
<td></td>
<td></td>
<td>Breakouts #6</td>
</tr>
<tr>
<td>8:30 a.m.</td>
<td></td>
<td></td>
<td>Breakouts #2</td>
<td></td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td></td>
<td></td>
<td>Breakouts #3</td>
<td>Closing Session</td>
</tr>
<tr>
<td>Noon</td>
<td></td>
<td></td>
<td>Luncheon: Gary LaGrange</td>
<td></td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td></td>
<td></td>
<td>Opening Session</td>
<td>Breakouts #4</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>Workshops Part 1 (optional)</td>
<td>Opening Session</td>
<td>Breakouts #4</td>
<td></td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>Breakouts #1</td>
<td>Breakouts #5</td>
<td>Breakouts #5</td>
<td></td>
</tr>
<tr>
<td>5:30 p.m.</td>
<td></td>
<td></td>
<td>Posters &amp; Reception</td>
<td></td>
</tr>
</tbody>
</table>
The conference features three thematic tracks with integrated sets of sessions.

### Integration of Maintenance and Operations into Transportation Asset Management

One of the greatest challenges that the transportation community faces is to adequately operate and maintain the large stock of infrastructure facilities as efficiently as possible to avoid or delay costly capacity expansion. Maintenance and preservation efforts increasingly rely on formal analysis systems that utilize deterioration rates and life-cycle costs to predict maintenance needs. Limited budgets require tradeoff analysis and other decision-making strategies.

This track also introduces the integration of operations into a holistic asset management program. These sessions use case studies to connect operational, preservation, and maintenance activities with decision making and detail how agencies have used asset management principles to avoid costly expansion projects.

- Pavement Preservation and Management Strategies, Tuesday, 3:30 p.m.–5:00 p.m.
- Carrying the Load on Bridges and Structures, Wednesday, 8:30 a.m.–10:00 a.m.
- Best Practices for Comprehensive Approaches, Wednesday, 10:30 a.m.–noon.
- Understanding Performance Based Budgeting and Reporting, Wednesday, 1:30 p.m.–3:00 p.m.
- New Approaches for Inventorying and Condition Assessment, Wednesday, 3:30 p.m.–5:00 p.m.
- A New Direction? Including Operations in the Mix, Thursday, 8:30 a.m.–10:00 a.m.

### Putting Economics into Practice

Sound economic analysis is essential to the successful implementation of asset management, as well as many other operational and management strategies being adopted by leading transportation agencies around the world. The objective of this track is to explain how agencies can benefit by applying economic methods carefully, and to demystify economic analysis by illustrating clearly how it is done. Many basic concepts in economic analysis are essential for making choices in infrastructure pricing and investment, but the concepts are often poorly understood by those who carry out these analyses.

These sessions explain and demonstrate fundamental applications of inflation adjustment, discounting, valuation of travel time savings and other impacts, and show how to focus on relevant impacts while avoiding double-counting and spurious benefits. The differences between project evaluation (benefit–cost analysis) and estimation of effects on the economy (economic impact analysis) are emphasized.

The track also addresses the real issues at stake in the currently controversial subject of toll road leasing. Finally, brief case studies will be presented showing how effective economic analysis takes place within organizations that support its application and make suitable use of the results.

- Economics Made Simple: Avoiding Common Pitfalls, Tuesday, 3:30 p.m.–5:00 p.m.
- Economics Breakfast, Tuesday, 7:30 a.m.–8:15 a.m.
- Defensible Methods for Basic Analysis, Wednesday, 8:30 a.m.–10:00 a.m.
- Weighing Tradeoffs and Impacts, Wednesday, 10:30 a.m.–noon
- Toll Road Leasing: Real Issues and Red Herrings, Wednesday, 1:30 p.m.–3:00 p.m.
- Long-Term Public–Private Partnerships: Protecting Public Interest, Wednesday, 3:30 p.m.–5:00 p.m.
- Poster Session: Tools and Models, Wednesday, 5:30 p.m.–7:00 p.m.
- Poster Session: Examples of Putting Economics into Practice, Wednesday, 5:30 p.m.–7:00 p.m.
- Economics-Friendly Agencies, Thursday, 8:30 a.m.–10:00 a.m.
Transportation Asset Management in the Ports and Harbors Community

Ports are a vital part of the maritime transportation system. Growing international trade volumes and demands for greater capacity are forcing ports to undertake extensive capital investment programs in new infrastructure and cargo handling facilities. In addition, many U.S. ports are over 50 years old and like other infrastructure systems are showing need for redevelopment and restorative maintenance. These challenges have led many in the port community to explore asset management strategies and practices to face and manage these challenges during a period of constrained resources. Presentations in this track address specific elements of port maintenance management systems; inspection, rehabilitation, or replacement techniques specific to port infrastructure to help guide decision-maker investments; and emerging asset management tools and technologies to help ports better manage their infrastructure, environment, and business portfolio.

- Port Industry Trends: Why Asset Management?, Tuesday, 3:30 p.m.–5:00 p.m.
- Port of New Orleans Capital Programs Luncheon, Wednesday, noon–1:30 p.m.
- Development of Conceptual Frameworks: Port Asset Management, Wednesday, 1:30 p.m.–3:00 p.m.
- Case Studies of Port and Waterway Asset Management, Wednesday, 3:30 p.m.–5:00 p.m.
MONDAY, NOVEMBER 5, 2007

1:00 p.m.-5:00 p.m., Bienville

Web-Based Benefit–Cost Analysis Tool
Eric C. Gabler, Federal Highway Administration, presiding

The workshop will cover the economic analysis of highway projects using the web-based, project-level benefit–cost analysis tool called BCA.Net. The Office of Asset Management of the Federal Highway Administration developed BCA.Net, which has been available to the public since December 2006. The tool facilitates the application of benefit–cost analysis to a wide variety of roadway projects, allowing the user to load information and get usable results quickly.

On the afternoon of November 6, the workshop will cover a broad range of economic subjects relevant to project analysis in BCA.Net, including inflation and discount rates, life-cycle cost analysis, benefit–cost analysis, and risk analysis. On the morning of November 7, the workshop will feature hands-on use of the BCA.Net model using sample evaluations of highway projects.

The workshop is appropriate for anyone interested in the application of economic analysis to the planning, design, and implementation of highway projects. Potential applicants include managers and staff of state and local highway agencies, FHWA division offices, private industry, and academia. Participants should bring their own laptops with the capability to link to the Internet through an Ethernet adaptor.

Agenda
Afternoon of November 5:
Introduction
Economic Fundamentals
Economic Analysis Methods
Risk Analysis

Morning of November 6:
Development of BCA.Net
Structure of BCA.Net
Basic Application of BCA.Net
Advanced Applications
Workshop Exercises/Questions and Answers

1:00 p.m.–5:00 p.m., Evangeline

Using Life-Cycle Costs Analysis for Pavement Preservation Optimization
Nathanial Coley, Federal Highway Administration; Nadarajah Sivaneswaran, Federal Highway Administration; Michael R. Smith, Federal Highway Administration, presiding

This workshop will provide the fundamentals of the life-cycle costs analysis (LCCA) model and software supported by FHWA. It will also provide examples of good practice in applying LCCA in pavement management.

- Part 1 will be an overview of the LCCA process including terminology, inputs, and using both deterministic and probabilistic methods of calculation. Examples of good practice in applying LCCA in pavement type selection will also be provided.
- Part 2 is an overview of the process and benefits of accounting for risk in the LCCA.
• Part 3 will provide an overview of the RealCost LCCA Software and recent enhancements. There will be a hands-on opportunity to conduct an analysis using the software. The RealCost software uses MS Excel as a platform and copies of RealCost will be provided on a CD along with a user manual and other documents.
• Part 4 will consist of questions and answers and open discussion.

The participants will learn the basics of good practice in applying LCCA to pavement type selection. Each participant will be provided a copy of the software that can be used to perform probabilistic evaluations. Participants who wish to learn how to use the software in a hands-on environment must bring their own laptops.

Agenda
LCCA Overview: Fundamental Concepts
Probabilistic Analysis: Accounting for Risk and Interpreting Results
Break
RealCost software introduction and hands-on demonstration with workshop exercises
Application issues of LCCA (RealCost feedback) and open discussion
Questions and Answers

1:00 p.m.–5:00 p.m., Teche
Principles and Practices of Data Integration for Transportation Asset Management
Vicki Miller, Federal Highway Administration; Omar Smadi, Iowa State University; Michael I. Darter, ARA, Inc.; Maks Alam, Battelle Memorial Institute, presiding

The data integration workshop focuses on the basic concepts and steps involved in the process of data integration. The workshop consists of lecture sessions as well as hands-on exercises. Examples of new techniques, data collection methods, and reference systems involved are provided in the workshop. The lecture session introduces the importance, role, and the need for data integration for better asset management. The group exercises allow the participants to discuss a wide range of issues pertaining to data integration and to work together to plan a data integration strategy and implementation plan. Application areas may include highway pavement condition forecasting management, highway safety and incident management, and highway investment needs. Potential applicants include managers and staff of state and local highway agencies, FHWA division offices, private industry, and academia.

Agenda
Introduction
Asset Management Basics
Data Integration
Case Studies
Group Workshop
Workshop Summary

1:00 p.m.–5:00 p.m., Oak Alley
Highway Economic Requirements System: State Version (HERS-ST)
Robert Mooney, Federal Highway Administration, presiding

The HERS-ST software is an asset management decision tool used to analyze highway “needs” for programming and planning at the state and metropolitan planning organization level. HERS-ST answers questions such as:
• What level of capital expenditure is justified on benefit–cost grounds?
• What user cost level will result from a given stream of investment?
• What investment level is required to achieve a certain level of performance?
• What is the cost, over 20 years, of correcting all existing and accruing highway deficiencies?

The HERS-ST workshop will provide a hands-on demonstration to the software and how to utilize the decision tool to analyze highway infrastructures. Participants should bring their own laptops if they desire to actively participate. Please install the HERS-ST software onto your laptop prior to the workshop. You will need administrative rights to the laptop to install. The software can be downloaded from the following link: http://www.fhwa.dot.gov/infrastructure/asstmgmt/hersprep.htm or you can request a CD-ROM version by e-mailing Robert.Mooney@fhwa.dot.gov.

**Agenda**
- Overview of HERS-ST
- Exercise 1 – Getting Started
- Exercise 2 – Adjusting Initial Settings
- Exercise 3 – Working with the Highway Data and an Overview of State Improvements Feature
- Break
- Overview of Tabular Output and Section Output
- Exercise 4 – Creating and Modifying Charts and an Overview of Ad Hoc Tables and Reports
- Exercise 5 – GIS Features
- Wrap-up (final question-and-answer session, general discussion)

**TUESDAY, NOVEMBER 6, 2007**

**Preconference Workshops (continued)**

8:00 a.m.–noon, Bienville
**Web-Based Benefit–Cost Analysis Tool (continued)**

8:00 a.m.–noon, Evangeline
**Using Life-Cycle Costs Analysis for Pavement Preservation Optimization (continued)**

8:00 a.m.–noon, Teche
**Principles and Practices of Data Integration for Transportation Asset Management (continued)**

8:00 a.m.–noon, Oak Alley
**Highway Economic Requirements System: State Version (HERS-ST) (continued)**
The impact of Hurricanes Katrina and Rita on the southeast and southwest coast of Louisiana in August and October of 2005 was unprecedented in the state’s history. The Louisiana Department of Transportation and Development (LA DOTD) played a major role in the state’s response and recovery effort and continues to do so. Even before Katrina’s landfall, LA DOTD’s newly developed contraflow plan enabled more than 1.2 million citizens to evacuate the southeast part of the state with minimal congestion. After landfall, district crews immediately assisted the U.S. Army Corps of Engineers in repairing the 17th Street Canal levee breach, clearing roads of debris, assessing damage and initiating repairs to key roads and bridges to facilitate rescue and recovery efforts.

A little more than a month after Katrina, Hurricane Rita struck the southwestern part of the state with similar results. Managing the recovery efforts for two of the largest natural disasters in the state’s history has proved a tremendous challenge for LA DOTD. This presentation will present details on the status of the recovery effort and the impact on LA DOTD assets, as well as insights into the experiences and the lessons learned.

Many basic concepts in economics can be applied directly to transportation planning and policy decisions, but it is easy to get distracted into tangential issues. Some of the most fundamental economic concepts are often confused, such as inflation and discounting. Similarly, there are frequently misunderstandings about how a project should be defined, what it should be compared to, time frames for the analysis, which costs to include in the analysis, and many other factors.
Pitfalls to Avoid in Doing Benefit–Cost Analysis
David J. Forkenbrock, University of Iowa

Inflation and Discounting: Real Cost Increases, Differential Inflation, and Discounting to Present Value
Eric C. Gabler, Federal Highway Administration

A User Benefit–Cost Approach to Prioritizing Safety Improvements in Southeast Michigan
Christopher R. Mann, Southeast Michigan Council of Governments

3:30 p.m.–5:00 p.m., Grand Ballroom

Breakout Session

Integrating Maintenance and Operations: Pavement Preservation and Management Strategies
Lacy David Love, North Carolina Department of Transportation, presiding

Pavement management and preservation are critical elements of a transportation asset management program. Moving from a “worst first” to a preservation approach requires accurate data, timely information, estimating tools, and a strategy to maintain and operate the system for the long term. This session provides some current implementable strategies and success stories for integrating pavement related activities into a larger asset management program.

- Pavement Preservation Technical Assistance Appraisals
  Christopher Newman, Federal Highway Administration

- Applying Asset Management Principles to Pavement Preservation
  Larry Galehouse, National Center for Pavement Preservation

- Evaluation of Pavement Management Systems for Small Jurisdictions
  Carl Thodesen, Clemson University

- Opening the Portal to Effective Pavement Management
  Said Ismail, Louisiana Department of Transportation and Development

3:30 p.m.–5:00 p.m., Evangeline

Breakout Session

Leadership: Establishing Lasting Strategies to Maintain the Asset Management Focus
Kenneth N. Petty, U.S. Department of Transportation, presiding

This session features case studies featuring leadership issues. The City of Portland and the Michigan Asset Management Council provide rich examples of the challenges and qualities needed to implement and fully utilize transportation asset management programs. The Wyoming Department of Transportation has developed a capability that comprehensively considers all program priorities, in order to provide decision makers with an understandable means to weigh the inevitable tradeoffs. Presenters will focus on the strategies needed to maintain asset management within their organizations.

- The Life Cycle of Asset Management Leadership
  Patricia Bugas-Schramm, Portland Transportation Maintenance

- Michigan’s Asset Management Council: Successes and Lessons Learned
  Steven Warren, Kent County;
  Rick Lilly, Michigan Department of Transportation

- Beyond Pavement Management: Wyoming DOT's Approach to Cross-Program Investment
  Larry Redd and Martin Kidner, Wyoming Department of Transportation
3:30 p.m.–5:00 p.m., Teche

*Breakout Session*

**Port Industry Trends: Why Asset Management?**
Erik Stromberg, Hatch Mott MacDonald, presiding

This session focuses on how to better understand the role asset management (AM) could and does play as a systematic approach to managing the entire portfolio of port assets. It examines a broad cross-section of port assets including capital programs, infrastructure maintenance, and environmental assets and seeks to explore the value of AM in the port and logistics context. The panel will include an overview of industry responses to questions concerning various ports’ use of asset management tools, their application of asset management in budgeting, strategic planning and/or environmental issues.

- **Port Asset Management: The Role of Port Authorities and Marine Terminal Operators—A Systemic Approach**  
  Sotiris Theofanis, Rutgers University
- **The Environment as an Asset in Port Strategic Investment Decisionmaking:**  
  Literature Review and Case Studies in California  
  Ellen Joslin Johnck, Bay Planning Coalition
- **Port Fourchon, One of America’s Critical Energy Assets, at Risk!**  
  Ted M. Falgout, Greater Lafourche Port Commission

---

**WEDNESDAY, NOVEMBER 7, 2007**

7:15 a.m.–8:15 a.m., Foyer

*Continental Breakfast*

7:30 a.m.–8:15 a.m., Gris Gris

**Economics Breakfast (Pick up breakfast in foyer after 7:15 a.m.)**
Douglas B. Lee, Volpe National Transportation Systems Center, presiding

An informal gathering for economists and others interested in economic concepts and methods to discuss ways to improve the application of basic economic analysis in asset management. Pick up continental breakfast in Century C and join us. No sign-up required.

7:30 a.m.–8:15 a.m., Regal Suite

**Educators Breakfast (Pick up breakfast in foyer after 7:15 a.m.)**
Gerardo W. Flintsch, Virginia Polytechnic Institute and State University, presiding

This informal meeting provides an opportunity for educators to discuss materials available to support an asset management curriculum. Pick up continental breakfast and join us. No sign-up required.

8:30 a.m.–10:00 a.m.

**Breakout Sessions—choose one (listings follow).**
8:30 a.m.–10:00 a.m., Bienville

**Breakout Session**

**Asset Management to Support Public–Private Partnerships**
Francine Shaw-Whitson, Federal Highway Administration, presiding

The private side of the transportation partnership continues to extend the boundaries of asset management. Why is asset management seen as so vital in the PPP performance equation?

- **Asset Management and Public–Private Partnerships**
  Charles Nicholas, Halcrow Group Ltd., United Kingdom;
  Ivan D. Damnjanovic, Texas A&M University;
  Nicholas Harding, Halcrow Group Ltd., United Kingdom;
  Willard G. Puffer, Harris County Public Infrastructure Department

- **The Private-Sector Role in Implementing Asset Management in the United States**
  Daniel L. Dornan, AECOM Consult Inc.

- **Using Asset Management to Better Manage Performance Based Contracts**
  Susan L. Tighe, University of Waterloo, Canada

8:30 a.m.–10:00 a.m., Evangeline

**Breakout Session**

**Defensible Methods for Basic Analysis**
Cameron Elliott Gordon, University of Canberra, Australia, presiding

Economic analysis can provide strong support for recommendations made on objective grounds, but the analyst has to know what is important versus what can be modified without giving away the store.

- **Valuing User Benefits: Travel Time, Safety, and Vehicle Operating Cost Savings**
  Darren Timothy, Federal Highway Administration

- **Advance Acquisition of Right-of-Way: When to Buy and What to Buy**
  Carlos Chang Albitres, Texas Transportation Institute

- **The Use of Economic Analysis in Oregon’s Project Development Process**
  John Merriss, Oregon Department of Transportation

8:30 a.m.–10:00 a.m., Oak Alley

**Breakout Session**

**Integrating Maintenance and Operations: Carrying the Load on Bridges and Structures**
Paul Jensen, Montana Department of Transportation, presiding

Management and preservation of bridges and other structures are critical components of an overall asset management plan that requires challenging techniques and strategies. This session looks at innovative approaches to capturing bridge, culvert and nontraditional structures condition and information data for better management and decision making.

- **Managing Louisiana’s Bridge Assets**
  Jason Chapman, Louisiana Department of Transportation and Development

- **Culvert Program for the Oregon Department of Transportation**
  Paul Wirfs, Oregon Department of Transportation

- **Managing Ancillary Structures: The Forgotten Roadway Safety Items**
  Jose L. Aldayuz, American Association of State Highway and Transportation Officials;
  Paul Jensen, Montana Department of Transportation
8:30 a.m.–10:00 a.m., Teche

Breakout Session

State of the Practice: Updates on Current Transportation Asset Management Activities
Jeffrey H. Smith, Maryland Department of Transportation, presiding

This session will highlight current and emerging practices in asset management for roadways. Topics include asset management practices for roadway assets other than pavements and bridges, a summary of findings from the recent U.S. domestic scan on transportation asset management, and a presentation on integrating roadway safety hardware into a larger asset management framework.

- **Asset Management of Selected Nonpavement, Nonbridge Assets**
  Michael J. Markow, Consultant

- **Findings from the U.S. Domestic Scan on Best Practices in Transportation Asset Management**
  Joseph A. Guerre, Cambridge Systematics, Inc.

- **A Methodology for Integrating Roadway Safety Hardware Asset Management into the Overall Highway Asset Management Program**
  Zongzhi Li, Illinois Institute of Technology

10:00 a.m.–10:30 a.m., Foyer

Break

10:30 a.m.–noon

Breakout Sessions—choose one (listings follow).

10:30 a.m.–noon, Teche

Breakout Session

Weighing Tradeoffs and Impacts
Don H. Pickrell, Volpe National Transportation Systems Center, presiding

The elements of economic analysis can be assembled into several primary evaluation frameworks and predictive methods. The two most central to transportation decision making are benefit–cost analysis and economic impact analysis. If the distinct purposes of these paradigms are not kept clear and separated, the results are hard to interpret and can be very misleading.

- **Project Evaluation Versus Economic Impacts**
  Anthony M. Rufolo, Portland State University

- **Uses and Misuses of Economic Impact Analysis: After the Benefit–Cost Analysis**
  Glen Weisbrod, Economic Development Research Group

- **Winners and Losers: Distributional Equity Impacts of Highway User Charges**
  B. Starr McMullen, Oregon State University

10:30 a.m.–noon, Bienville

Breakout Session

Asset Management to Support Public–Private Partnerships, Part 2
Willard G. Puffer, Harris County Public Infrastructure Department, presiding

The private side of the transportation partnership continues to extend the boundaries of asset management. What are the asset management plan guidelines and common language that must be addressed to continue building sustainable asset management for public–private partnerships?
Lost in Translation: Financial Managers and Maintenance Engineers—Two Experts Divided by a Common Language?
Charles Oldham, Halcrow Group Ltd., United Kingdom

Asset Management Plan Guidelines for Public–Private Partnership Highway Projects
Travis Eugene Gilbertson, Opus International Consultants Ltd., Canada

Recap and Discussion of Asset Management to Support Public–Private Partnership Themes
Willard G. Puffer, Harris County Public Infrastructure Department

10:30 a.m.–noon, Evangeline
Breakout Session

Risk Assessment and Analysis in Decision Making
Gerardo W. Flintsch, Virginia Polytechnic Institute and State University, presiding

 Appropriately understanding and allocating risk on transportation projects is essential for transportation agencies. This session will look at current risk allocation strategies presently employed by transportation owner agencies, provide a link to current asset management practices, and explore perspectives from local, state, and federal levels in risk management.

Risk Management: Federal Perspective
Connie Yew, Federal Highway Administration

Development of an Asset Management Framework for the Interstate Highway System

Risk Management: State Perspective
Pat Morin, Washington State Department of Transportation

Avoiding Valuation and Risk Arbitrage by Using Better Asset Assessment Technology
Peter Vanderzee, LifeSpan Technologies, Inc.

10:30 a.m.–noon, Oak Alley
Breakout Session

Integrating Maintenance and Operations: Best Practices for Comprehensive Approaches
Robert Kirk Fredrichs, Federal Highway Administration, presiding

Many states are making significant strides towards adopting holistic agencywide programs in asset management. This session features four state case studies detailing how maintenance and operations activities, from assessment methodology to system implementation, are integrated throughout the state programs and offers lessons learned.

Wisconsin’s Compass Program: Unique Partnerships for Asset Management
Scott J. Bush, Wisconsin Department of Transportation;
Teresa Adams, University of Wisconsin, Madison

Tying It All Together: Maine DOT’s Asset Inventory and Maintenance Tracking System
Warren W. Spaulding, Maine Department of Transportation

Maintenance Management System at Wyoming DOT: Post Go-Live Experience
Pascal Laumet, AgileAssets, Inc.;
Dan Prickett, Wyoming Department of Transportation

Demonstrating the Benefits of Asset Management Implementation in Vermont
Daisuke Mizusawa and Sue McNeil, University of Delaware;
Bart Selle, Vermont Agency of Transportation
Noon–1:30 p.m., Grand Ballroom

**Wednesday Luncheon**
Eric Kalivoda, Louisiana Department of Transportation and Development, presiding

**Port of New Orleans Capital Programs**
Gary LaGrange, Port of New Orleans

The steel, metals, rubber, and other cargo that travel up the Mississippi River from the Port of New Orleans create 380,000 jobs nationwide. This raises the challenges and opportunities in rebuilding the port after Hurricane Katrina to a level of national and international economic importance. Port operations were restored within two weeks after Hurricane Katrina, but restoring the full capacity of the assets will take longer.

How did the port build its assets to handle the trade that connects the manufacturing belt of the Midwest to world markets?

How is the port working to reposition its assets to correspond with changing trends? What lessons about asset rebuilding can be learned from the port’s attempt to capture its insurance claims? How is the port planning to balance the needs of tenants displaced by Hurricane Katrina with the need to make new investments for future growth? What do the port’s experiences indicate about the funding of large-scale transportation projects in the United States?

1:30 p.m.–3:00 p.m.

**Breakout Sessions**—choose one (listings follow).

1:30 p.m.–3:00 p.m., Bienville

**Breakout Session**

**Toll Road Leasing: Real Issues and Red Herrings**
Jonathan Skolnik, Jack Faucett Associates, Inc., presiding

The act of long-term leasing of public toll facilities—either existing or privately constructed—is very controversial right now. Some of the issues such as “profits to foreigners” are smokescreen, whereas others such as “selling too cheaply” are of critical importance. The real issues are amenable to economic analysis that everyone ought to understand.

**Relevant Decision Factors in Long-Term Asset Leasing**
Douglass B. Lee, Volpe National Transportation Systems Center

**The Good, the Bad, and the Ugly of Public–Private Partnerships**
William D. Ankner, Transportation Solutions, Inc.

**Selling Depreciation for Tax Purposes: Should We Be Concerned?**
Jonathan Richard Peters, City University of New York

1:30 p.m.–3:00 p.m., Evangeline

**Breakout Session**

**Development of Conceptual Frameworks for Port Asset Management**
Thomas H. Wakeman, Stevens Institute of Technology, presiding
This session examines several ancillary port-related transportation segments and existing methodologies for developing port asset management programs. Approaches are presented from the sustainability context, roadway network, coastal waterways, and GIS perspectives. The presentations illustrate the array of potential avenues ports may apply to implementing an asset management framework for their asset investment decision-making and management.

**Sustainable Management of Transport Assets**  
Forbes Johnston, Mott MacDonald Limited, United Kingdom

**Port Asset Management Beyond the Port: A Port Access Roadway Network Management Decision Support System**  
Maria Boile and Sotiris Theofanis, Rutgers University

**A Discussion of Potential Issues and Methods for Asset Management of Coastal Waterways**  
Ian A. Mathis, U.S. Army Corps of Engineers

**GIS for Asset Management and Environmental Management**  
Neal Wright, Michael Baker Jr., Inc.

1:30 p.m.–3:00 p.m., Oak Alley

**Breakout Session**

**Integrating Maintenance and Operations:**  
**Understanding Performance Based Budgeting and Reporting**  
Jennifer Brandenburg, North Carolina Department of Transportation, presiding

A key component of asset management is turning policy objectives into outcomes through performance measures that can be used for both day-to-day and strategic management. Performance-based budgeting and reporting rely on strategic planning, operational planning, and accountability to build budgets, monitor contracts, and communicate with stakeholders. This session offers case studies and frameworks for incorporating performance-based programs and contracting for transportation organizations.

**Louisiana DOTD’s Initiative to Replace Its Legacy Financial, Procurement, Budgeting, Asset Management, and Other Systems with a New Fully Integrated Enterprise Resource Planning System**  
Michael Bridges, Louisiana Department of Transportation and Development

**Developing Performance-Based Maintenance Budgets in Arizona**  
Joseph A. Guerre, Cambridge Systematics, Inc.

**A Framework for Monitoring Performance-Based Road Maintenance**  
Jesus M. de la Garza, Virginia Tech

1:30 p.m.–3:00 p.m., Teche

**Breakout Session**

**Can Asset Management Principles Be Used for Data Assets?**  
Anthony R. Kane, American Association of State Highway and Transportation Officials, presiding

Several recent initiatives have demonstrated that transportation agencies are beginning to consider data as an asset that adds value and requires systematic investment. Transportation asset management is now widely used to help make investment alternatives for physical assets. This panel will explore how transportation asset management principles might be used for data assets, the potential benefits from such an approach and the challenges that would be presented.

(continued on next page)
Overview of Transportation Asset Management Principles and How They Might Be Applied to Information Assets  
Sue McNeil, University of Delaware  
Benefits and Challenges: A Perspective from the Trenches in a DOT  
Ronald L. Vibbert, Michigan Department of Transportation  
Benefits and Challenges: Making the Case for Investment in Information Resources  
Joseph L. Schofer, Northwestern University  
Benefits and Challenges: A Perspective from a Manager Making the Budget Case  
Patricia Bugas-Schramm, Portland Transportation Maintenance

3:00 p.m.–3:30 p.m., Foyer  
Break

3:30 p.m.–5:00 p.m.  
Breakout Sessions—choose one (listings follow).

3:30 p.m.–5:00 p.m., Bienville  
Breakout Session  
Long-Term Public–Private Partnerships: Protecting the Public Interest  
Mark W. Burris, Texas A&M University, presiding

An agency must enter into long-term public–private partnerships carefully. It must assure that it is getting the best value for the public, both in terms of the value of the asset and the future provision of efficient, high-quality transportation services. Particular concern must be paid to the concession agreements under which the facility will be operated by the private partner.

Financial Disclosure: Transparency in Long-Term Lease Agreements  
Cameron Elliott Gordon, University of Canberra, Australia  
Lease Negotiation Considerations  
Matthew Hobby, Standard & Poor’s

3:30 p.m.–5:00 p.m., Evangeline  
Breakout Session  
Case Studies of Port and Waterway Asset Management  
Neal Wright, Michael Baker Jr., Inc., presiding

Three examples of asset management programs are present for consideration. Management programs from Europe, New York and New Jersey, and Seattle are described to illustrate the progress being made in developing comprehensive asset management approaches for maritime systems including navigation and terminal infrastructure. The panel will close with a discussion to list the potential future application of asset management principles to the nation’s port and waterway portfolio.

Overview of Port and Waterway Asset Management Systems in Europe  
Terence M. Browne, Collins Engineers, Inc.  
Retooling Maintenance Management  
Nancy Johnson, Port Authority of New York and New Jersey; Thomas H. Wakeman, Stevens Institute of Technology  
Developing an Asset Management Framework for the Port of Seattle  
Wayne Grotheer, Port of Seattle
**Breakout Session**

**Integrating Maintenance and Operations: New Approaches for Inventorying and Condition Assessment**
Lacy David Love, North Carolina Department of Transportation, presiding

Condition assessment and accurate inventories are the foundation of asset management practice. This session details innovative strategies for collecting data and connecting that information to performance measures and developing a strategic plan through a robust maintenance management system.

- **“Virtual” Connected Live Field Data Maintenance**
  Jesse Day, Florida’s Turnpike Enterprise

- **Student Interns in Asset Management Inventory and Data Collection**
  Pat Kennedy and Angie Hager, City of Denver

- **Integrating Condition Data, Performance Measures, and the Maintenance Management System to Operate Efficiently in North Carolina**
  Charles Pilson, AgileAssets, Inc.

**Reception and Poster Session**

**Emerging Opportunities, Key Strategies, Collaborative Approaches, and Innovative Research in Transportation Asset Management**
Jason Bittner, University of Wisconsin, Madison, presiding

1) **Digital Imaging: A DOT Approach to Asset Management Inventory**
   Jack R. Stickel, Alaska Department of Transportation and Public Facilities

2) **Surface Condition Modeling of Unpaved Roads**
   George Huntington, University of Wyoming

3) **Organizational Change, Alignment and Accountability: Lessons Learned for the TRB Workshop on Organizational Change**
   Ernie Wittwer, Wittwer Consulting

4) **Sampling Procedure for Performance-Based Road Maintenance Evaluations**
   Jesus M. de la Garza and Mehmet Egemen Ozbek, Virginia Tech

5) **A Comprehensive Framework for the Efficiency Measurement of Road Maintenance Strategies**
   Mehmet Egemen Ozbek, Konstantinos Triantis and Jesus M. de la Garza, Virginia Tech

6) **Transportation System Preservation Research and Implementation Roadmap**
   Christopher Newman, Federal Highway Administration

7) **The Missing Link in Implementing Transit Asset Management in the United States**
   Osama Tomeh, AECOM Consult, Inc.

8) **Condition Decay Curves for Transit Assets**
   Richard S Laver, AECOM Consult, Inc.

9) **A Methodology for Optimal Highway Investment Decision Making Under Risk and Uncertainty**
   Zongzhi Li, Illinois Institute of Technology

10) **Maryland’s Sidewalk Asset Management and the use of GIS to Manage ADA Compliancy**
    Gregory Ian Slater, Maryland State Highway Administration

11) **A Multidimensional Sustainability Plan for Expressway Asset**
    Andrew Dalziel, Stantee Consulting Inc; Gerry Davis, City of Hamilton

(continued on next page)
12) Return on Investment and Asset Management: The Real Value of Mobile Mapping
   Tara Kingston, Geo-3D Inc.

13) Using the Analytical Hierarchy Process and Goal Programming for Multiobjective
    Pavement Maintenance and Rehabilitation
   Gerardo W. Flintsch, Virginia Polytechnic Institute and State University

14) Transportation Asset Management for U.S. Fish and Wildlife Refuges
   Doyt Younger Bolling, Utah State University

15) Development of Performance Warranties for Performance-Based Road Maintenance
    Contracts
   Mehmet Egemen Ozbek and Jesus M. de la Garza, Virginia Tech

16) Using LRS Change Transactions Generated Externally to Maintain Data Integrity in the
    Pavement Management System in North Carolina
   Charles Pilson, AgileAssets, Inc.

17) Using Mobile Technology to Capture Field Maintenance Data for Input in the
    Maintenance Management System in North Carolina
   Jim Edgerton, AgileAssets, Inc.

18) Improvements in Asset Management Practices on the U.K. Strategic Network Since the
    2005 FHWA Scanning Tour
   Les Hawker, TRL Limited, United Kingdom

19) How an Integrated Approach to Asset Prioritization Is Delivering Real
    Customer Benefits in the United Kingdom
   Richard Abell, Transport Research Laboratory, United Kingdom

20) AASHTO AssetManager
   Joseph A. Guerre, Cambridge Systematics, Inc.;
   Ronald L. Vibbert, Michigan Department of Transportation

---

Tools and Models for Putting Economics into Practice
Douglass B. Lee, Volpe National Transportation Systems Center, presiding

21) FHWA’s Online Benefit–Cost Tool for Asset Management
   Daniel Brod, DecisionTek, LLC

22) Applying Economic Analysis and Asset Management into Montana’s Transportation
    Planning and Programming Process

23) Integrating Economics into the Decision Making Process Using HERS-ST
   Robert Mooney, Federal Highway Administration

24) Modeling Closer to the Reality: Karnataka State Highway Improvement Project
   Vijay Kumar, John Standingford, and Venkat Sheela, Scott Wilson Kirkpatrick

25) National Bridge Investment Analysis System: A Tool for Implementing an Asset
    Management Approach for the Nation’s Bridge Inventory

26) HERS-ST: A Case Study for the Iowa DOT
   Omar Smadi, Iowa State University

27) Incorporating Economic Analysis at the Florida Department of Transportation
   Marwan F. Madi, Cambridge Systematics, Inc.;
   W. David Lee, Florida Department of Transportation

28) Asphalt vs. Concrete: Alternate Bidding in Louisiana Utilizing Life-Cycle Costs Analysis
   Blake Roussel, Louisiana Department of Transportation and Development
THURSDAY, NOVEMBER 8, 2007

8:00 a.m.–10:00 a.m., Foyer
Continental Breakfast

8:30 a.m.–10:00 a.m.
Breakout Sessions—choose one (listings follow).

8:30 a.m.–10:00 a.m., Grand Ballroom
Breakout Session
Economics-Friendly Agencies
Marwan F. Madi, Cambridge Systematics, Inc., presiding

Economic analysis will not be performed well (or at all) or used intelligently unless the agency provides supportive conditions for doing sound economic analysis. Here are some examples of good practice.

- **Use of Economic Analysis in Making Investment Decisions at the Minnesota Department of Transportation**
  Rabinder K. Bains, Minnesota Department of Transportation;
  Jolanda P. Prozzi, University of Texas, Austin
- **How Caltrans Uses Economic Analysis**
  Joy Dahlgren, University of California
- **Applications of Economic Analysis in Metropolitan Planning: The Experience of the Ohio-Kentucky-Indiana Regional Council of Governments**
  Mary Luebbers, Ohio-Kentucky-Indiana Regional Council of Governments;
  Eric C. Gabler, Federal Highway Administration

8:30 a.m.–10:00 a.m., Oak Alley
Breakout Session
Integrating Maintenance and Operations: A New Direction?
Including Operations in the Mix
Jennifer Brandenburg, North Carolina Department of Transportation, presiding

An emerging area of interest for the states is to better analyze how operations and operations-focused infrastructure is incorporated into the maintenance management systems. This session will explore the frameworks necessary and findings from a Summer 2007 peer exchange and survey on the subject.

- **Traffic Operations Asset Management Systems: Peer Exchange and State of the Practice**
  Jason Bittner and Teresa Adams, University of Wisconsin, Madison
- **Framework for Operations Asset Management**
  John Wiegmann, Booz Allen Hamilton

8:30 a.m.–10:00 a.m., Bienville
Breakout Session
Asset Management Partnerships Among Multiple Agencies and Owners
Terry McNinch, Michigan Technological University, presiding

Just as every aspect of the transportation system touches a wide range of shareholders and constituents, so to must the application of transportation asset management. It requires leadership, determination, forward-thinking, and a shared vision among many different people that can only be realized by working with different asset classes. This session will provide successful examples of bringing together multiple agencies and owners to overcome traditional barriers encountered in managing assets within

(continued on next page)
the transportation system. Successful partnerships are valuable because they gain credibility for all involved and achieve transportation and community related benefits for everyone.

**Louisiana’s Highway Project Selection Process**
Robin Romeo, Louisiana Department of Transportation and Development

**Permanent Repair to Federal Aid Eligible Roads Damaged Due to Hurricane Katrina in 2005**
Jeff Burst, Louisiana Department of Transportation and Development;

**Asset Management: It Tells Your Story**
James Iwanicki, Marquette County Road Commission

**National Need for Integrating Resource Decision Making Across Safety Partners and Across Other Asset Classes**
Anthony R. Kane, American Association of State Highway and Transportation Officials

8:30 a.m.–10:00 a.m., Evangeline

*Breakout Session*

**Resource Allocation: Stovepipes and Multiobjective Decisions**
Ernie Wittwer, Wittwer Consulting, presiding

Selecting projects in different categories is challenging. Ideally economic analysis accounts for the tradeoffs. However, the lack of data often force agencies to develop prioritization schemes. This session explores strategies and applications.

**Allocating Funds Between Stovepipes: Should Bridges Get More and Pavements Less?**
Don H. Pickrell, Volpe National Transportation Systems Center

**Use of Functional Silos to Optimize Agency Decision Making**
Omar Smadi and Thomas Maze, Iowa State University

**Allocating Capital Funds Among Project Categories**
Eric Kalivoda, Louisiana Department of Transportation and Development

**Implementing a Quantitative Project Prioritization Approach at VTrans**
Bart Selle, Vermont Agency of Transportation

10:00 a.m.–10:30 a.m., Foyer

*Break*

10:30 a.m.–noon, Grand Ballroom

**So What Did We Learn?**
Lacy David Love, North Carolina Department of Transportation, presiding

Three Conference Planning Committee members summarize the key points from the three primary tracks—Maintenance and Operations, Ports and Harbors, and Putting Economics into Practice—and how the conference has advanced the transportation asset management state of the practice. The FHWA Associate Administrator for Infrastructure will reflect on these challenges and how they impact implementation of the FHWA asset management program. They also will provide insight to emerging challenges in asset management implementation and discuss the 2009 Transportation Asset Management conference.

**Priorities for Port Asset Management**
Thomas H. Wakeman, Stevens Institute of Technology

**Priorities for Economic Analysis in Transportation**
Douglas B. Lee, Volpe National Transportation Systems Center

**Priorities for Transportation Asset Management**
Sue McNeil, University of Delaware

**Priorities for FHWA’s Office of Asset Management**
King W. Gee, Federal Highway Administration
CALL FOR PRESENTATIONS

Highway Economic Requirements Modeling and Data Integration

April 8–9, 2008
Arnold and Mabel Beckman Center of the National Academies
Irvine, California

CALL FOR PRESENTATIONS

Proposals due November 15, 2007

Please submit abstracts online at www.TRB.org/conferences/2008/EconomicModels

Individuals involved in the use of highway economic models are encouraged to submit an abstract for consideration as a presentation or poster at the Highway Economic Requirements Modeling and Data Integration Conference, April 8–9, 2008, at the National Academies Beckman Center in Irvine, California. The deadline for submitting an abstract is November 15, 2007.

The Transportation Research Board (TRB) is organizing the conference, which is supported by the Federal Highway Administration (FHWA). The conference will bring together practitioners from state highway agencies, metropolitan planning organizations (MPOs), FHWA, academia, and private industry to improve the analysis and use of highway economic models. Data integration efforts associated with economic modeling will be a focus of the conference. The goal of the program is to encourage a free-flowing dialogue among modelers, users of model results, and developers of the data inputs.

Topic Areas

The conference sessions will cover all aspects of highway economic modeling. Topics of specific interest include the following:

- Data Development and Integration, including the use of Highway Performance Monitoring System (HPMS) data to support highway economic modeling, plus other data inputs necessary for the models. Among the issues to be addressed are
  - Data integration,
  - Use of HPMS data to support the models,
  - Availability of data for modeling, and
  - Impacts of data quality.

- Data Analysis, including the use of highway economic analysis tools such as HERS-ST. Although the primary focus of the conference is the use of HERS-ST, presentations and posters on other highway economic analysis models are welcome. Applications of the models in state highway agencies and MPOs are key.

- Effective Uses for the Results of Economic Modeling, including strategies to make HERS-ST and other highway economic models into useful tools within highway agencies. Among the issues to be addressed are
  - Developing a champion,
  - Developing the expertise to use analysis results effectively,
  - Using analysis results to make organizations more effective, and
  - Communicating the results to decision makers.