AASHTO Transportation Asset Management Guide
*A Focus on Implementation*

Presented at the
TRB 9th National Conference
on Transportation Asset Management
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Asset Management Guide – Volume 2
“A Focus on Implementation”

• NCHRP 08-69A Research Project started in 2008
• Three problem statements recommended by the AASHTO Sub-Committee on Asset Management were approved and combined into one project ($750K)
• Project Team included 11 state and federal transportation professionals. Consultant Team was composed of AECOM and Spypond Partners
• TAM Guide, Volume 2 was released in January 2011
Panel Members and Support Staff

- Michael Bridges – LADOTD
- Brad W. Allen – NYDOT
- Adjo A. Amekudzi – GaTech
- John H. Daly, III – Genessee County Road Commission
- Leonard R. Evans – ODOT
- Stephen J. Gaj – FHWA
- Rachel Falsetti – CALTRANS
- Tracy Larkin Thomason – Nevada DOT
- Lacy D. Love – NCDOT
- Benjamin T. Orsbon – SDDOT
- Jeffrey H. Smith – Maryland DOT
- Nanda Srinivasan – TRB
- Andrew C. Lemer – TRB
- Thomas M. Palmerlee – TRB
- Nadarajah Sivaneswaran - FHWA
Project NCHRP 08-69A objectives

• Supplement AASHTO’s TAM Guide Vol.1 with a second volume that focuses on establishing and executing TAM programs in transportation agencies, with particular attention to highway assets.

• Document the benefits of TAM.

• Provide additional guidance for implementing asset management concepts, principles, performance targets, strategies, tools, analysis methods, data collection, and application of management system information based on the framework presented in Vol. 1.

• Include examples of:
  – Use of tools for evaluating return on investment and improving economic efficiency, resource allocation, and budgeting decisions;
  – Strategies for enhancing communication and information sharing among decision-makers and elected officials; and
  – Ways that ERP systems can effectively support TAM.
Intended audience for TAM Guide

• User groups:
  – Federal Highways Administration
  – State Departments of Transportation
  – Local planning organizations, and transportation practitioners
  – Decision makers

• Other potential users:
  – Consultants
  – Software and tool developers
  – Educators
  – Researchers
The Guide is intended to stimulate strategic thinking about transportation infrastructure

- What do we want to accomplish, and why?
- Do we need to change the current business model to achieve these objectives?
- What resources are available to succeed in this mission?
- How do we measure success?
TAM Business Model – Five Core Questions

• What is the current state of my assets?
• What are my required levels of service and performance delivery?
• Which assets are critical to sustained performance delivery?
• What are my best investment strategies for operations, maintenance, replacements and improvement?
• What is my best long-term funding strategy?
How can the Guide be used?

- As a modular, resource document
- As a sequence of implementation steps
- For knowledge transfer and bridging the gaps
AASHTO TAM Guide Volumes 1 and 2 are interlinked

TAM Guide Volume I
- Self-assessment
- Strategic action plan for improvement
- Implement improvements

TAM principles and practices
- Goals and objectives
- Planning and programming
- Program delivery
- System monitoring and performance

TAM implementation

Business strategy

TAM Guide Volume II: Focus on Implementation
- Introduction Chapter 1
- Set direction for TAM Chapter 2
- Align the organization Chapter 3
- Develop a TAM plan Chapter 4
- Strengthen enabling processes Chapters 5, 6, 7
- Strengthen information systems and data Chapter 8
- Identify TAM maturity level and gaps

Appendices and case studies

Part 1

Part 2

Review

Management, leadership, and culture

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TAM Guide 2 road map – 14 steps to implementation ...
... plus case studies
The TAM Guide will assist agencies meet the challenges

- Greater accountability to the public and funding agencies.
- Maximizing use of resources within a highly constrained funding environment.
- Linking investment levels to infrastructure condition and transportation system performance.
- Preserving assets and improving safety in the face of growing impacts and costs of asset deterioration.
- Public expectations for more sustainable transportation solutions.
TAM is not a part of the business, it is the business

Strategic planning (e.g. Long Range Plan)
- Long-term goals and objectives (5-20 years)

Tactical planning (e.g. Asset Management Plan)
- Near-term action plan (1-5 years)

Operational planning (e.g. Resource deployment plans)
- Annual work plan (this year)

Leadership
Customer and market focus
Process management
Workforce focus
Results

Organizational profile:
Environment, relationships, and challenges

Measurement, analysis, and knowledge management

Mission accomplishment

Strategic outcomes
- Social
- Environmental
- Economic

Strategic performance rating
- Trends
- Gaps
- Significance

Tactical outcomes
- Information technology
- Human resources
- Asset inventory
- Financial results

Tactical performance rating
- Trends
- Discussion
- Initiatives

Operational outcomes
- Customer service
- Economic
- Environmental
- Social

Operational performance rating
- Trends
- Discussion
- Initiatives

Quality inputs
- Purpose and overall strategy
- Plan specification
- Review process plan
- Monitoring
- Reporting
- Review
- Decision making process
- Resource allocation

Customer interaction, community consultation
Stakeholder consultation and review

Corporate monitoring and review

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Surface Transportation Authorization Act is coming

• Achieve national objectives
• Establish local transportation plans
• Improve project delivery
• Greater transparency, accountability, oversight, and performance measures
TAM Guide shows how to link outcomes to levels of service

- A “bumpy road”?
- What mix do our customers want?
- What are they willing to pay for?
- What do we need to deliver to achieve them?
- How long will it take?
TAM Guide shows how to tie funding to performance based outcomes

• TAM helps move away from formula based funding allocation to performance based
• TAM ties performance based levels of service to agency objectives
  – Define performance outcomes
  – Set LOS
  – Make program decisions
  – Optimize use of funds to achieve performance objectives
• Measurable outcomes that can be tied to the delivery of annual plans and programs
TAM Guide describes economic principles

- TAM recognizes the economic value of assets, economic consumption over time and intergenerational equity considerations.
- TAM targets economic efficiency using economic analysis techniques to optimize asset expenditure over the asset’s lifecycle.
- The agency plays a long-term role as “steward” of the assets.
TAM Guide shows how to realize the benefits

- TAM enables better use of existing funds – by better quantifying current and future performance and optimizing the agency’s decisions.
- TAM improves agency competitiveness for limited funds – by improving the agency’s credibility, and its knowledge of the long term needs of assets.
- TAM helps build constructive political relationships – by providing hard information that can be readily understood.
Why should a DOT use the TAM Guide?

• Interested in how TAM can be of benefit – but not sure whether it’s worthwhile or what to do first.
• Preservation / maintenance financial needs and new investment are poorly linked, organizational issues to address.
• Want to be able to better allocate resources and funds over the long term
• Have a small number of areas to focus on, for example, risk, performance measurement, predictive modelling, but not sure how to best tackle them
• Have effective asset management systems in some areas (e.g. pavement management) – but aware of the need to have systems and data for other assets as well
• Aspire to be best in the class
Further Developments Since the Release of the TAM Guide, Volume 2

• AASHTO Asset Management Sub-Committee assumed the “care and feeding” of the TAM Guide
• FHWA and NHI are working to modify the existing NHI course on TAM and to develop additional course(s) to assist DOTs in incorporating TAM principles into their organizations
• FHWA has been conducting workshops, peer exchanges and webinars
• NCHRP Synthesis 43-01: Use of TAM Principles in State Highway Agencies is currently underway
• FHWA TAM Expert Task Group has been formed
Resources Are Available

- AASHTO Asset Management Subcommittee
  http://www.transportation.org/?siteid=95
- Asset Management Today website / community of practice:
  http://assetmanagement.transportation.org
- AASHTO Asset Management Guide Volume 1
  http://downloads.transportation.org/amguide.pdf
- AASHTO Asset Management Guide Volume 2 (draft):
  http://planning.transportation.org/Pages/Publications.aspx
- FHWA Office of Asset Management:
  http://www.fhwa.dot.gov/infrastructure/asstmgmt/index.cfm
- TRB Asset Management Committee
  https://sites.google.com/site/trbcommitteeabc40/