

Using Data to Make Decisions in Southeast Michigan

The Southeast Michigan Council of Governments (SEMCOG) uses transportation management systems to manage and maintain data on the region's bridges, pavements, traffic congestion, bicyclists and pedestrians, traffic safety programs, and transit. Data collected are shared among the set of databases. Through a coordinated planning process, the data are then used to assist local decisionmakers in developing and selecting cost-effective policies, programs, and projects to preserve and improve the transportation infrastructure. "We provide data to all of the area's communities, helping them to prioritize maintenance projects," says Carmine Palombo, Transportation Director for SEMCOG. "It helps in decisionmaking and prioritizing how to spend available funding. We can tell decisionmakers, for example, that this much needs to be spent to maintain a certain level of road surface conditions." The data are also used for long-term transportation planning.



Maximize Performance, Minimize Costs, and Improve Customer Satisfaction

Resources

For additional information on transportation planning and asset management, visit FHWA's Office of Planning at www.fhwa.dot.gov/planning or the FHWA Office of Asset Management at www.fhwa.dot.gov/infrastructure/asstmgmt.

TRANSPORTATION PLANNING and ASSET MANAGEMENT



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What is your community's vision for its transportation future?

How can available dollars best be spent?

Do you have the information, tools, and data needed to achieve your vision, improve transportation system performance, and meet the public's needs?

As transportation planners and metropolitan planning organizations (MPOs) evaluate current system conditions and alternate future scenarios to make informed decisions on allocating resources, they must balance funding realities with mobility needs; public expectations; and community, legislative, and environmental considerations. Transportation asset management (TAM) provides a valuable tool to maximize system performance, improve customer satisfaction, and minimize life-cycle costs.

What Is Transportation Asset Management?

From increased vehicle miles traveled, growing population, and greater congestion to aging infrastructure and escalating operating costs, today's challenging circumstances put demands greater than ever on transportation networks. The goal of a TAM program is to minimize the life-cycle costs for managing and maintaining transportation assets, including roads, bridges, tunnels, rails, and roadside features. As defined by the American Association of State Highway and Transportation Officials' Subcommittee on Asset Management, "TAM is a strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively through their life cycle. It focuses on business and engineering

practices for resource allocation and utilization, with the objective of better decisionmaking based upon quality information and well defined objectives." Through the use of management systems, engineering and economic analysis, and other tools, MPOs and transportation agencies can more comprehensively view the big picture and evaluate collected data before making decisions as to how specific resources should be deployed. TAM principles and techniques should be applied throughout the planning process, from initial goal setting and long-range planning to development of a Transportation Improvement Program and Statewide Transportation Improvement Program and then through to operations, preservation, and maintenance.

What Is the Role of an MPO in Asset Management?

MPOs should ensure that the transportation network is managed to meet both current and future demands and that expenditures are optimal. TAM principles and techniques are valuable tools that can be applied by an MPO and result in more effective decisionmaking. The MPO role in a successful TAM program includes defining performance measures for assets through public involvement, serving as a repository for asset data, and promoting standard data collection and technology applications. MPOs can also educate the public and decisionmakers and work cooperatively with stakeholders across transportation modes.



Getting Started

Implementing an asset management program starts with establishing your organization's strategic objectives for managing and improving its assets and identifying the specific measurable performance and service levels needed to meet those objectives. An asset management plan can then be developed that covers all transportation-related assets, identifying what is working well, where improvements are needed, and the necessary data that should be collected. It is important to know what assets are in place and their condition and expected performance. It is also impor-

Better Pavement Management in the Bay Area

The Metropolitan Transportation Commission (MTC) for California's San Francisco Bay Area uses the pavement management program, StreetSaver, to help local cities and counties better allocate resources, predict the future condition of their pavements at different levels of funding, and demonstrate the effects of underfunded road programs. The Bay Area is one of the first regions in the country to implement a pavement management system that is used by nearly all of its localities. Using StreetSaver, cities and counties can plan and manage road improvement projects, document budget needs and shortfalls, and use the collected data to build support for additional transportation funding.

tant to collect data that are linked to performance measures and that can be used for engineering and economic analysis. Often the necessary data are already available in existing management systems, such as those for pavements, bridges, tunnels, signals, rails, and safety hardware. Data should be shared throughout MPOs and transportation agencies to avoid duplicating data collection efforts.

How Can Transportation Asset Management Be Applied?

An asset management program can:

- Track system condition, needs, and performance.
- Clearly identify costs for maintaining and preserving existing assets.
- Clearly identify public expectations and desires.
- Directly compare needs to available funding, including operating and maintenance costs.
- Define asset conditions so that decisions can be made on how best to manage and maintain assets.
- Determine when to undertake action on an asset such as preservation, rehabilitation, reconstruction, capacity enhancement, or replacement.

What Are the Benefits of Applying Transportation Asset Management During the Planning Process?

- Maximize transportation system performance.
- Improve customer satisfaction.
- Minimize life-cycle costs.
- Match service provided to public expectations.
- Make more informed, cost-effective program decisions and better use of existing transportation assets.