SPR-15: Linking Asset Management and Planning

For Regions   1-15 points

Goal: Leverage transportation asset management data and methods within the transportation planning process to make informed, cost-effective program decisions and better use existing transportation assets.

Sustainability Linkage

Incorporating transportation asset management data and economic analysis methods throughout system planning supports the environmental and economic triple bottom line principles by improving the cost effectiveness of decisions, extending the life of assets, and reducing the demand for raw materials.

Affected Triple Bottom Line Principles

Background and Scoring Requirements

Background

As defined by the American Association of State Highway and Transportation Officials' Subcommittee on Asset Management, "Transportation Asset Management 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 decision-making based upon quality information and well defined objectives." That is, it is focused on prioritizing maintenance and preventative activities in the most effective manner from a life cycle perspective rather than making "worst first" type decisions.

Scoring Requirements

Requirement SPR-15.1

2 points. Develop Goals and Objectives

The agency has developed clearly defined goals and objectives for linking asset management and planning in their planning documents, including their LRTP, TIP or other planning documents. These goals may be linked to infrastructure condition and should also be focused on the need and investment in maintenance and preservation activities. Examples of metrics that would accomplish this include:

- The percent completion of annual maintenance and preservation plans
- Maintenance and/or preservation funding
- Funds for a preservation program—cash flow planned vs. actual expenditures
- The dollar value of deferred maintenance needs

Requirement SPR-15.2

4 or 8 points. Incorporate Asset Management Data and Economic Analysis to Prioritize Investments

Cooperate with partner agencies to integrate their asset management data and leverage economic analyses, including Life-Cycle Cost Analyses (LCCA) and Benefit-Cost Analysis (BCA) to apply basic cost and performance data

to screen a large number of potential project alternatives, assisting in the development of program budgets and areas of program emphasis.

Scoring is based on the following, cumulative requirements:

- **Requirement SPR-15.2a**

  4 points. Leverage LCCA to Evaluate Project Alternatives and Prioritize Investments

  Prioritize projects and funding based on a system in which agencies leverage LCCA to evaluate project alternatives and prioritize investments. LCCA is used to compare the life-cycle costs of two or more alternatives to accomplish a given project or objective, enabling the least cost alternative to be identified. LCCA is an engineering economic analysis tool that allows transportation officials to quantify the differential costs of alternative investment options for a given project. LCCA can be used to study either new construction projects or to examine preservation strategies for existing transportation assets. For more information, refer to FHWA's Asset Management Life-Cycle Cost Analysis website[1].

- **Requirement SPR-15.2b**

  4 points. Leverage BCA to Compare Projects and Prioritize Investments

  Prioritize projects and funding based on a system in which agencies leverage BCA to compare projects and prioritize investments. BCA attempts to capture all benefits and costs accruing to society from a project or course of action, regardless of which particular party realizes the benefits or costs, or the form these benefits and costs take. Used properly, BCA reveals the economically efficient investment alternative (i.e., the one that maximizes the net benefits to the public from an allocation of resources). For more information, refer to FHWA's Asset Management Life-Cycle Cost Analysis website[1].

Requirement SPR-15.3

2 points. Develop Performance Measures

Leverage performance-based planning and programming components of asset management to analyze and evaluate tradeoffs in long-range transportation planning processes. An agency has identified at least one performance measure for each asset management goal and objective in order to track progress over time. These performance measures should help evaluate and communicate the impacts and implications of different plan alternatives, and provide criteria for analyzing and evaluating tradeoffs. Examples of asset management related performance measures include, but are not limited to: dollars spent on maintenance, preservation or repair projects, or number of projects linked to asset management systems.

Requirement SPR-15.4

1-3 points. Demonstrate Sustainable Outcomes

Scoring is based on the following, cumulative requirements:

- **Requirement SPR-15.4a**

  1 point: Prioritize Maintenance and Preservation

  The agency prioritizes transportation decisions that support the maintenance and good repair of existing transportation assets. Evidence includes the extent to which maintenance, preservation, and repair projects are included in the TIPs. Funding decisions are linked to the identification, prioritization, and selection of projects in the LRTP process and/or the extent to which those projects are completed.

- **Requirement SPR-15.4b**

  2 points. Monitor Progress and Demonstrate Sustainable Outcomes

  Monitor progress towards goals for at least one year after goal establishment using the performance measures established in SPS-15.3 and show measurable advancement towards stated goals.

Resources

Above-Referenced Resources

The following resources are referenced in this criterion and consolidated here:

1. FHWA, Asset Management Life-Cycle Cost Analysis website, https://www.fhwa.dot.gov/infrastructure/asstmgmt/lcca.cfm

Additional Resources

The following resources provide information on this criterion topic in addition to the sources directly referenced:

2. FHWA, *Asset Management Position Paper*, http://www.fhwa.dot.gov/infrastructure/asstmgmt/ampplan.cfm
3. TRB, *Linking Asset Management to Strategic Planning Processes: Best Practices from State Departments of Transportation*, Publication 1924, http://pubsindex.trb.org/view.aspx?id=775715
4. FHWA, *Beyond the Short Term Transportation Asset Management for Long-Term Sustainability, Accountability and Performance*, Publication 806, http://www.fhwa.dot.gov/asset/10009/tam_topr806.pdf
5. NCHRP, *Report 551: Performance Measures and Targets for Transportation Asset Management*, http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_551.pdf
6. FHWA, Integrating Asset Management into the Metropolitan Planning Process: A Peer Exchange, https://www.fhwa.dot.gov/planning/processes/statewide/practices/asset_management/index.cfm
7. Midwest Transportation Knowledge Network, https://transportation.libguides.com/mtkn
8. FTA, Transit Asset Management Practices: A National and International Review (June 2010), https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/TAM_A_National_and_International_Review_-_6.10_FINAL_0.pdf
9. TRB, *TCRP Synthesis publication 92: Transit Asset Condition Reporting: A Synthesis of Transit Practice,* http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_syn_92.pdf

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Agency policy on incorporating asset management goals and objectives into the transportation planning process and documentation of those goals and objectives in transportation planning documents.
2. Performance measures for each goal and objective.
3. Documentation of the process used to incorporate asset management data in making strategic resource allocation decisions.
4. Documentation that demonstrates monitoring and attainment of performance measures.