The purpose of FTA's Transit Asset Management (TAM) newsletter is twofold: to keep you up to date on our office's asset-management initiatives (as a complement to our web site and e-mail alerts), and to create a forum for communication for all of us in the industry to share information, so that we can learn from each other.

Please share any useful processes that your agency has adopted or let us know if there is any related topic that you would like to know more about. Email us: TAM@dot.gov.

Resources

- FTA TAM Homepage
- TAM Frequently Asked Questions
- TAM Resources: Targets & Performance
- TAM Guide *(updated to reflect Final Rule)*
- Default ULB Cheat Sheet
- TAM-NTD Crosswalk
- FHWA Transportation Performance Mgmt.
- FHWA Asset Management

Has your agency recently met an asset management milestone?

Feature your completed or draft documents on the TAM Peer Library! The Peer Library is an online portal where practitioners can access and share examples of ongoing or completed asset management work. Recognizing that those of you in the field have the most experience with actually doing asset management, FTA has developed this site to encourage agencies to share their TAM knowledge with other agencies. **To add your resources** to the library e-mail: TAM@dot.gov or visit the Peer Library site for more details.

Developing Performance Measures and Setting Targets

This issue of TAMNews discusses the performance measure and target setting activities of the Southern California Regional Rail Authority, and its efforts to develop a transit asset management (TAM) plan that complies with the TAM final rule.

The TAM performance measures and targets are designed to minimize the reporting burden for agencies while providing a framework to define future state of good repair goals and track progress toward reaching them. This edition of TAMNews profiles the activities of the Southern California Regional Rail Authority, which operates the Metrolink commuter rail system in Southern California. As it is beginning a long-term effort to address system-wide asset needs, Metrolink's approach to performance measures and targets highlights the importance of leveraging preexisting data sources and conducting a thorough and transparent stakeholder engagement process.

Figure 1: Required performance measures

Assets: *Only those for which agency has direct capital responsibility*	Performance Measure
Equipment Non-revenue support-service and maintenance vehicles	Percentage of service vehicles met or exceeded Useful Life Benchmark
Rolling Stock Revenue vehicles by mode	Percentage of vehicles met or exceeded Useful Life Benchmark
Infrastructure Only rail fixed-guideway, track, signals and systems	Percentage of track segments with performance restrictions
Facilities Maintenance and administrative facilities; and passenger stations (buildings) and parking facilities	Percentage of assets with condition rating below 3.0 on FTA TERM Scale

In December 2016, the Metrolink Board adopted a TAM Plan and set performance targets based on the TAM final rule measures. In the process of developing a TAM plan, the agency completed the following:

- Established a series of performance measures going beyond those required by FTA to guide asset management program
- Used existing agency-wide data and performance indicators to build and track performance measures
- Identified a state of good repair baseline to determine appropriate targets
- Coordinated internal processes, surveyed existing data, and built support for TAM goals

Leveraging Existing Data Sources

In order to develop the Metrolink TAM Plan, staff surveyed all operational units and asset owners. The process revealed the challenge of analyzing data that is collected and stored in multiple sources. For instance, Metrolink had relatively complete condition data for equipment and rolling stock. In comparison, the amount of information for track assets is mixed, with a need for additional data collection and reporting to determine system-wide condition.

Surveying existing data sources offered Metrolink a baseline understanding of owned assets. This understanding was important in setting performance measures: it prevented duplicate work by leveraging existing metrics and coordinating data collection activities to minimize the burden on employees.

Current Condition Assessment Approach

Metrolink utilizes up to three condition assessment methods for measuring the performance quality of an asset: (1) Railroad Condition Index (RCI), (2) Rail Asset Management System (RAMS), and (3) FTA's Transit Economic Requirements Model (TERM) Lite. Each assessment method is discrete and varies depending on the asset category and purpose of the analysis.

The RCI assigns a condition score to track, bridges, tunnels, signals and communication assets every three years. In some asset classes, the qualitative criteria are weighted based on the criticality and replacement costs associated with individual asset components. Metrolink has upheld a target 75 point condition rating minimum (out of the 100 point maximum) for the entire rail network and all subsystems since 2002-03.

Line or Branch	Average Condition Score (target score: 75)
Orange	89
Olive	89
River	85
Valley	87
Ventura	83
Pasadena	65
San Gabriel	84
Rialto	64

Figure 2: RCI Condition Assessment Reporting

Save the Date: FTA's 2017 Transit Asset Management Roundtable

Save the date! FTA will be hosting a two- to three-day Transit Asset Management (TAM) roundtable starting **August 28, 2017** at the Hyatt Regency in Cambridge, MA. The TAM roundtable will bring together practitioners from transit agencies across the country who are directly involved in asset management. This meeting is an excellent opportunity for your agency to share lessons learned and gain valuable insights from your peers.

Bookmark and continue to check the website - it will be kept up to date with the latest conference information including how to register, room block information, and details about the agenda as it is developed. FTA will send official invitations to transit agency leadership in the spring.

Interested in discussing a particular asset management issue?

FTA welcomes input in developing the roundtable program. Share topics of interest you'd like to see covered at the TAM roundtable by emailing TAMRoundtable@dot.gov.

Metrolink also reports average condition scores for each asset type on the line- or branch-level, but is refining the data collection and reporting methodology in order to more precisely assess investment needs. With improved granularity in the condition assessment data, the agency will be better equipped to prioritize critical asset needs on a more detailed scale (such as individual tunnels or diamond crossings). An example of existing RCI condition assessment reporting is illustrated in Figure 2.

During Metrolink's development of the draft TAM Plan, the agency ran preliminary reports on asset condition using the TERM Lite system. The results of the TERM Lite analysis demonstrated that, on average, Metrolink's assets are in adequate to good condition. Although there is a growing significant share of the system that requires reinvestment and renewal. This methodology highlighted potential state of good repair issues surrounding the network's tunnels and signaling infrastructure. Comparing these results with the existing data sources offered Metrolink a more complete understanding of current rehabilitation needs.

Proposed Performance Measures

Metrolink's TAM Plan outlines extensive performance measures, including the four core metrics established in the TAM Final Rule. The proposed performance measures and implementation timelines are shown in Figure 3 (page 4). Metrolink will also undertake annual reviews of the asset management performance measures and seek to improve them as needed.

Understanding the Role of Performance Measures

Metrolink has proactively incorporated asset management policies and procedures into its planning process. Over the last two years, the agency developed an initial framework for asset management while concurrently developing its 10-year Strategic Plan. The Strategic Plan focused significantly on a "back to basics" approach and rehabilitation of the system to "fix it first" priorities. Metrolink staff coordinated a number of processes that improved workflow and bolstered the quality of both plans.

Metrolink identified ways the TAM Final Rule's performance measures can complement the ongoing data collection and monitoring activities that support established Key Performance Indicators (KPIs). Metrolink's Board established a set of KPIs to characterize system performance toward the goals of the Strategic Plan. Although the KPIs function similarly to the Final Rule's performance measures, they differ in the level of detail. Metrolink recognized that the FTA-required performance measures and targets are set at a high-level - and serve as a foundation for asset management activities. A robust TAM Plan would also invoke more sophisticated measures similar to the agency's KPIs.

Transparency & Stakeholder Engagement

Metrolink maintains that a transparent process is the cornerstone of setting effective TAM performance measures and targets. Beyond utilizing existing technical knowledge, Metrolink is building a consensus between the people responsible for data collection and management staff. Throughout the development of the draft TAM Plan, staff held asset management workshops with different departments. The workshops allowed the asset management team to introduce draft performance measures and targets and receive feedback from asset owners. The workshops also provided a venue for input on broader asset management goals and objectives, and fleshed out ways asset management activities relate to agency-wide strategic planning. Metrolink's asset management staff incorporated comments from the workshop sessions when developing performance measures and writing the TAM Plan.

Figure 3: Proposed Performance Measures   *FTA Required measures are denoted with an asterisk

Objective	Proposed Performance Measure	Implementation Timeframe	
		Near Term	Mid / Long Term
Document root cause analysis for asset failure	Frequency of asset failures / % reduction in asset failures	Implemented	
Maintain equipment infrastructure and systems in SGR	% of facilities with a condition rating of less than 3.0 on TERM scale*		•
	% of track segments under performance restriction*		•
	% of non-revenue service vehicles that have met or exceeded their ULB*		•
	% of revenue vehicles that have met or exceeded their ULB by asset class*		•
	Mean Miles Between Failure (MMBF)	•	
	Mechanical delays (and as % of total system delays)	•	
Measure and manage TAM-related risks	% of projects approved in budget that match priority for asset condition and system impact	•	
Develop object method to prioritize investments in capital rehabilitation projects and assess tradeoffs	% current SGR backlog approved in budget	•	
	% of asset projects approved in budget that match priority for asset condition and system impact	•	
	% reduction in SGR backlog	•	
Establish linkage between multi-year SGR needs, annual budget process and CIP	Investment required to achieve SGR outcomes / % annual reduction in backlog	•	
	Ratio of SGR assets approved in budget to SRTP/LRTP SGR programmed funding	•	
	Ratio of SGR needs to available funding	•	
Implement minimum lifecycle cost policy	% of TAM Action Plan actions completed; percent deferred	•	
	TAM policy adopted	•	
Develop asset management systems approach	% of assets with Performance Targets	•	
	% of TAM Action Plan actions completed; percent deferred	•	
Develop TAM Plan and policy consistent with MAP 21 requirements	% of related TAM Action Plan actions completed/deferred	•	
Establish clear capital replacement and rehabilitation plans, and monitor adherence	Backlog – Cost to bring assets into SGR	•	
	Backlog – Replacement Value	•	
	Backlog – Weighted average of (asset value * condition rating) versus (asset value * minimum condition rating)	•	
	% of assets with Performance Targets	•	
Assess and implement support tools to support data driven asset management decisions	% of assets with complete data in TAM database	•	
Improve and expand communications with member agencies re: SGR needs and priorities	% current backlog approved in budget/SGR funding programmed in SRTP/LRTP		•
	% asset projects approved in budget that match priority for risk and resiliency		•
	% reduction in backlog		•
Advance awareness for TAM across all levels at Metrolink	TAM policy adopted	•	
Develop and retain well trained TAM workforce	% of TAM related positions staffed and trained on TAM process	•	
	Ratio of TAM related staff to total TAM staff needed		•