

Transit Asset Management Plan

Methodology Statement and Framework

The expert panel used the guiding principals listed below during the development of the Asset Management Plan (AMP) framework.

- Minimize degradation of wearing parts and premature failures
- Maximize the assets' life through early detection of defects
- Allow proactive intervention to minimize catastrophic failures
- Minimize operator and customer exposure to accident and injury
- Minimize agency liability when incidents occur
- Maximize service reliability

Methodology Statement

The term Lowest Life Cycle Cost (LLCC) Methodologies is not one that has been used in the transit industry. During the course of the AMP development the expert panel was provided with information on how are applied in other areas of transportation. They found that the concepts behind LLCC methodology mirrored that of a preventative maintenance program. For transit the term is defined through the following methodology statement:

*Lowest Life Cycle Cost (LLCC) Methodology is demonstrated by a **cost model** that reflects each agency's policies & standards in a planned preventative/preservation maintenance program resulting in the lowest maintenance costs over the life of an asset*

This methodology ensures that an asset is maintained at an acceptable condition maximizing safety and useful life

Framework

At a minimum, all plans must contain the following elements to be certified by the Transportation Commission.

Mission Statement

- A statement of mission or purpose for the transit agency that sets goals and objectives for asset management.

Inventory

- An inventory of all agency assets including the agency's established replacement schedule using the same form required to be completed as part of the Transit Development Plan (TDP)
 - Include all assets as defined by the Public Transportation Management System (PTMS)
 - The agency sets their own replacement schedule (FTA established a minimum for vehicles. However, each agency, based on local conditions must determine the maximum useful life of other asset types)

Strategies

- A graduated Preventative Maintenance (PM) program (ABC or 123, etc) based on manufacturer's recommendations and adapted to local conditions
 - A statement of practices and policies that form the basis of a graduated PM program.
 - Manufacturer's recommendations are used as a guideline.
 - PM schedules can be modified over time as experience and technology warrant/changes
 - General description of local conditions that effect service intervals such as: Travel speed, Ridership, Topography, Weather, Local policies
- A system to identify, track, and report maintenance, repair, and preservation activities and costs.
 - An asset specific form of record keeping to keep track of each of the above
- A process to authorize, direct, and control maintenance work activities and costs
 - An established business practice to manage maintenance activities.
- If the transit system assets are maintained under contract by other than the transit system's employees, there must be a method to ensure that it is performed and completed in accordance with the transit system's standards
 - Review documentation of work performed by subcontractors
 - Periodic physical inspection of the assets maintained by subcontractors
- A system of warranty recovery
- A [cost model](#), or equivalent life cycle cost analysis tool that reflects the transit agency's policies and standards. It will also be used as part of the decision-making process regarding changes to the preventative maintenance program.