Asset Management

Introduction
Asset Management is a process used as a what could be called a ‘Road Network Health Toolbox.’ It can be used to help agencies (including DOT’s, Municipalities, and other owners/agencies) balance and plan effectively for major road projects with scheduled repairs, ongoing maintenance/preservation techniques to ensure road networks remain in good condition.

Incorporating a wide variety of repair and preservation solutions for road projects is often referred to a ‘Mix of Fixes.’ Originally introduced by the Michigan Department of Transportation, this approach has since been refined with research models and other enhancements by MIT Research and other organizations. A Mix of Fixes enables agencies to provide viable roadbuilding, repair, and maintenance solutions that are based on performance requirements and other factors.

Getting Started
While there is no one or single approach for managing road assets, ACPA encourages all owners to develop a formal plan based on engineering principles. Without the right plan, agencies can face unanticipated repair and maintenance costs that far exceed budgets.

Asset management programs enable agencies to use the right materials for the best outcomes. Increasing the planning horizon from short term (10 years or less) to mid- to long-term (20 years or more) enables agencies to extend road life, while also increasing the return on investment. A recent study conducted by MIT, in cooperation with the North Carolina Department of Transportation, found the state’s savings could be $50 million dollars annually over 50 years by using a mix of fix approach.

Comparing Asset Management Approaches
The example below shows a common 10-year repair cycle and the impact on a road system with a short-term repair intervals. The graph suggests the community will be facing several hurdles in year 10, and even more in years 20 and 30 (if a 10-year repair cycle is required). It will be virtually impossible to repair or extend the service life of 55% of the network in 10 years. More than likely, further funding would be required and would place a financial burden on the community and its available resources.

In a typical or traditional 10-year approach, there will be a significant impact on budget and community, in 10 years.
By using an asset management program with a Mix of Fixes (shown below) and using a mid- to long-term approach, the community balances out the road network needs with funding and other factors.

In an asset management program where a “Mix of Fixes” is used to prolong Road Network Health programming, this impact is minimized.

**Asset Management as an Effective Planning Tool**

Asset management is another key element used to manage a road network. Combining asset management with Life Cycle Cost Analysis (LCCA) and a Mix of Fixes can create a successful long-term road program that addresses new construction, minor repairs, and ongoing maintenance.

An Asset Management program is NOT designed to exclude a paving technology or system, rather it encourages a variety of approaches to most effectively use a road agency’s budget to ensure a high performing return on investment.

**Summary of ACPA’s Position and Perspective**

The American Concrete Pavement Association is supportive of planning tools that help road agencies prepare, administer, and execute programs that meet help roadbuilding agencies needs for. Asset Management is a key tool in helping provide opportunities for success.

ACPA works with agencies at the state and local level to provide greater awareness and understanding of asset management through training and education that helps agencies attain the highest rate of return on their road on funding, providing taxpayers with excellent return on investment.

**References**

1. “MIT CS Hub Fact Sheet May 2020 on Asset Management”

**Other Positions and Perspective Papers that may be of interest:**

Life Cycle Cost Analysis