

Transportation Asset Management for Local Officials

Transportation Asset Management is...

“an ongoing process of maintaining, upgrading, and operating physical assets cost effectively, based on a continuous physical inventory and condition assessment” (PA 499, of 2002).



What Destroys A Pavement?

- Water – weakens structure
- Traffic – excessive loadings & volumes
- Environment – temperature & oxidation

Do you use Asset Management every day?

Yes. Most people use asset management every day to manage things like maintenance on a car, repair and upkeep of a home or even with things as basic as health care. Businesses use asset management principles extensively.

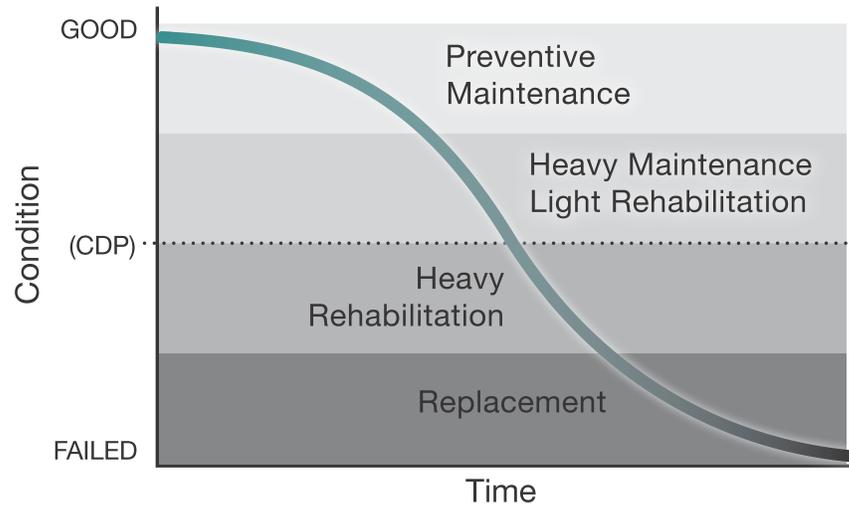
Pavement Surface Evaluation and Rating (PASER)

The Pavement Surface Evaluation and Rating (PASER) system is a visual pavement survey methodology based on the number, type, and extent of distresses present in a pavement. The PASER scale is 1 to 10, with 10 being brand new pavement and 1 being totally failed. In general, pavements with a PASER of 8 to 10 need little or no maintenance. Pavements with PASER scores of 5 to 7 need capital preventative maintenance, and pavements with PASER scores of 1 to 4 need structural improvement.



Window of Opportunity

If you apply a fix to a pavement too early or too late in the pavement's life, you are not likely to gain the optimal benefit from the fix. Each pavement fix has a window of opportunity for preventive maintenance or structural improvement.



Mix-of-Fixes Approach to Pavements

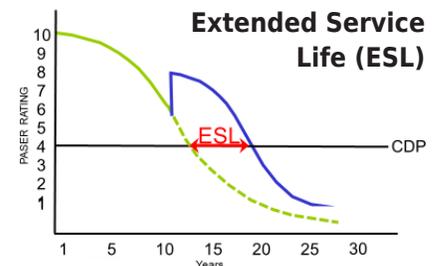
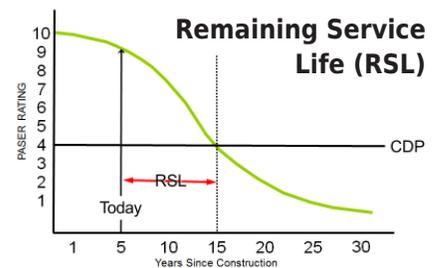
A mix of fixes is a pavement management strategy of applying the right fix at the right time in the right place. This approach makes preventive maintenance the priority, capitalizing on the “windows of opportunity” for treatment while using rehabilitation and reconstruction only when necessary. The goal is to keep good pavements in good condition longer, thus delaying the need for more costly rehabilitation and reconstruction projects.

Key Pavement Management Definitions

Critical Distress Point (CDP) – Point when pavement distress changes from needing preventive maintenance to needing structural improvement.

Remaining Service Life (RSL) – Time in years from the present to the point when pavement distresses are structural (CDP) and preventive maintenance treatments are no longer cost effective.

Extended Service Life (ESL) – Time in years added to the current RSL based on the type of fix used.



Michigan's
Local Technical
Assistance Program

<http://www.michiganltap.org>
906-487-2102

**Transportation Asset Management
for Local Officials**

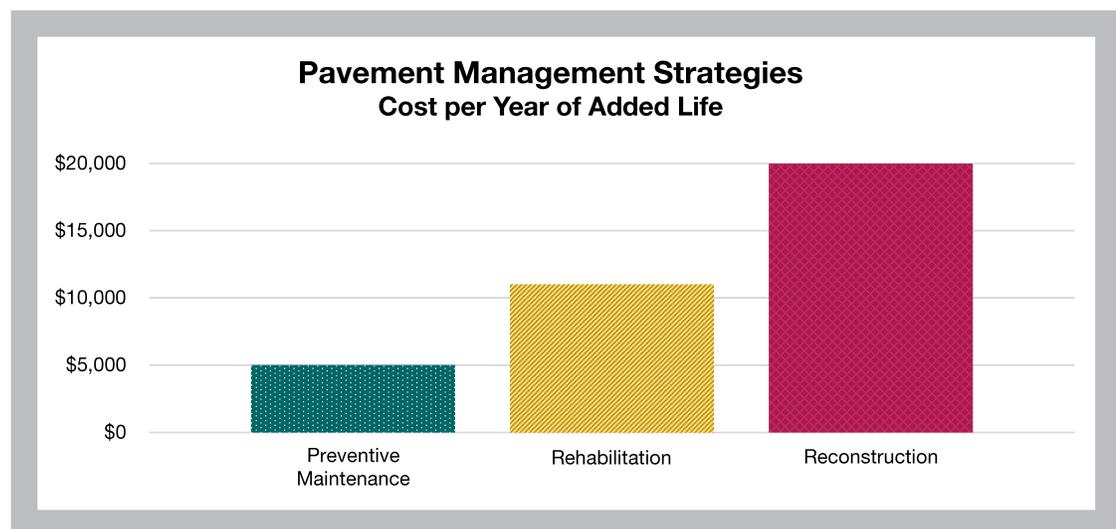
Preventive Maintenance Treatments

	What it is	How long it lasts
Crack seal	Asphalt sealant that seals out water and debris, which will further de-grade the pavement, by filling discrete cracks under 3/4" wide	1-2 years
Fog seal	Asphalt emulsion surface coating placed over newer pavements to fill hair-line cracks and prevent hardening the asphalt binder	1-2 years
Slurry seal	Asphalt emulsion, aggregate and portland cement mixture applied to the road surface to seal pavement from water and debris	3-6 years
Microsurfacing	Polymer-modified asphalt emulsion, aggregate, and portland cement applied to the road surface to seal pavement from water and debris, or used to fill ruts or correct cross slope problems	3-6 years or more, if properly applied
Seal coat (chip seal)	Liquid asphalt emulsion followed by aggregate chips applied (in single, double, or triple layer) over an asphalt pavement to create a waterproof membrane, sealing pavement from water and debris and increasing surface friction	3-6 years, possibly longer

For more information see: Minnesota Department of Transportation "Best Practices Handbook on Asphalt Pavement Maintenance" at <http://www.mnltap.umn.edu/publications/handbooks/documents/asphalt.pdf>

Structural Improvements

	What it is	How long it lasts
Structural overlay	An asphalt layer 1.5" to 3" thick on top of the existing pavement that builds structural strength into the pavement (pavement can be milled prior to placement to remove severe surface imperfections)	5-10 years, possibly longer
Crush and shape	Pulverized existing distressed asphalt surface mixed with the existing aggregate base, then new hot-mix asphalt surface is placed	
Reconstruction	New road by removing pavement and the base and/or sub base, correcting geometric problems (vertical or horizontal alignment), upgrading utilities, correcting drainage problems, and rebuilding the roadway (most expensive option)	



Michigan Transportation Asset Management Council (TAMC)

The Michigan Transportation Asset Management Council (TAMC) is composed of representation from:

- Local agencies
- County Road Association of Michigan
- Metropolitan Planning Organizations
- Michigan Municipal League
- Michigan Association of Counties
- Michigan Association of Regions
- Michigan Townships Association
- Michigan Department of Transportation
- Michigan Department of Technology
- Michigan Municipal League



The TAMC is working to:

- Implement recommendations of Act 51 Funding Committee
- Move from needs studies to managing pavements and bridges in the state
- See the road system as the customer sees it – without boundaries
- Work cooperatively rather than competitively between road owning agencies.

Michigan TAMC Quick Facts

- Established by Act 499 of Public Acts of 2002
- Resources include Act 499 of Public Acts of 2002, Act 199 of Public Acts of 2007, and the Asset Management Guide for Local Agencies
- <http://michigan.gov/tamc>

