

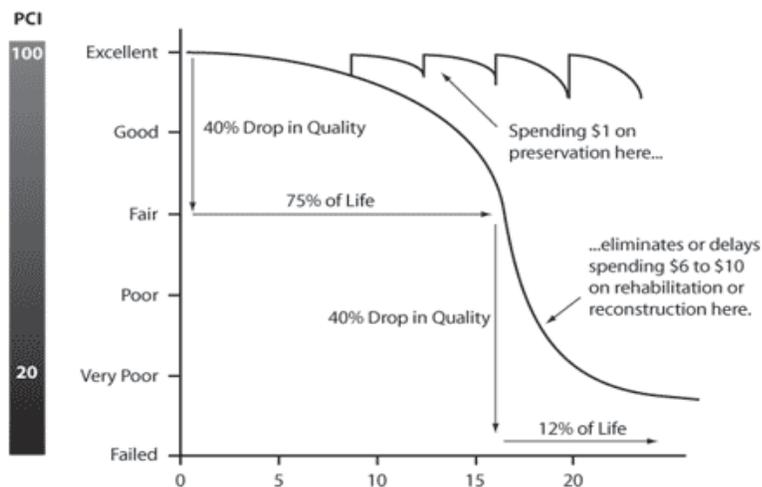


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MMA Policy Committee on Public Works, Transportation and Public Utilities Best Practice Recommendation: Pavement Management System Planning

BEST PRACTICE: Adopt a pavement management plan to guide investment on local roads with the goal of maintaining municipal streets in a state of good repair.

Pavement management systems (PMS) involve planning for pavement management and rehabilitation with the goal of maximizing the value and life of a pavement network. The benefits of implementing a pavement preservation system may not be immediate and dramatic, but accrue substantially over time. Roads that generally are in good condition do not register a major change in condition rating after a treatment is applied – the rating continues as good. What is important, however, is the condition rating several years later. Roads that receive regular preservation treatments are in better condition than those left without treatments, and are less costly to maintain over the long term. When streets are maintained regularly, cities and towns can see the return on their investment. When roadways are not adequately maintained, however, they deteriorate much more quickly and cost dramatically more because roads that fall into a state of disrepair must be completely rebuilt at a much higher cost.



SOURCE: U.S. Department of Transportation (FHWA)

One example of the benefits of having a pavement management plan is when real-time repairs are made when cracks develop on a road surface. A pavement management plan applies the effective use of infrared technology to recognize those cracks and efficiently seal them for little cost. Without a plan, the road that seems in good condition and is not

repaired will quickly deteriorate once water infiltrates those cracks. (In cold weather the water freezes, creating frost heaves, which undermine the road and cause potholes and substantial damage.) Once water has been allowed to infiltrate a roadway with a cracked surface it becomes much more costly to repair.

A comprehensive pavement management system involves rating sections of every road in a community – from poor to deficient to fair to good to excellent. The plan identifies the poor, deficient and fair roads in most need of repair, as well as those that are in good or excellent condition, and develops a schedule and construction plan to increase the overall quality of the roads to an acceptable level. Interestingly, small investments in good or excellent roads are wise decisions, as these repairs will avoid more costly repairs in the short-, medium- and long-term.

A robust pavement system will develop a schedule to repair poor roads and balance these investments with efforts to prevent other roadways from falling into more costly categories. In addition, the overall PMS plan will enable cities and towns to explain the investment and repair strategy to residents. The goal of a pavement management system is to improve the road quality up to good or excellent, based on a five- or 10-year investment strategy. Sound PMS plans recognize the usage of the road, map out the current conditions of roads in the community, and develop a timeline for repairs or maintenance to each segment in the system. PMS plans also identify funding sources, primarily Chapter 90 funds or local revenues, and a schedule for maximizing the use of these funds, based on the return on investment and overall need.

There are a number of off-the-shelf PMS software programs that can assist highway and public works departments in developing custom PMS plans for each municipality, and many consulting firms that offer similar services. Cities and towns are encouraged to research the most cost-effective way of developing and implementing a PMS plan for their community.

Resources

Federal Highway Administration Asset Management Division

www.fhwa.dot.gov/asset

FHA Pavement Management Primer

www.fhwa.dot.gov/infrastructure/asstmgt/pmprimer.pdf

Related National Organizations:

American Association of State Highway and Transportation Officials (AASHTO)

www.transportation.org

American Public Works Association (APWA)

www.apwa.net