

Case Studies

Are you curious to know how other agencies have benefited from the use of Pavement management systems? Results from a survey of 64 cities and counties were used to develop case studies for 15 agencies, demonstrating the use of their pavement management system and highlighting the history of their use, tips for implementing pavement management and realized benefits. The following are some quotes from these case studies:

“We used the principles behind pavement management along with the data collected to gain council/board support for pavement management.” - Washington County

“The use of a pavement management system allowed us to rate our agency’s pavement condition, which we use as one of many tools to identify future projects needs.” - City of Woodbury

“We use our pavement management system to analyze various pavement treatments, such as cold-in-place recycling and seal coating, to determine the benefits and cost savings over time.” - Ramsey County

“Before selecting a pavement management system for our agency, we were able to gain insight into what may or may not work for our agency, through investigating the successes and failures of other agencies” - Clay County

“We use our pavement management system to routinely update our board on the status of our pavement network, which helps with requesting and obtaining funding when needed.” - Olmsted County

Resources

This brochure is a supplement to LRRB report #2009RIC11 entitled “Implementation of Pavement Management in Minnesota” which is available at:

<http://www.lrrb.org/PDF/2009RIC11.pdf>

AASHTO Pavement Management Guide:

https://bookstore.transportation.org/item_details.aspx?ID=352

National Highway Institute Course No. 131116:

<http://nhi.fhwa.dot.gov/training/train.aspx>

International Conference on Managing Pavement Assets (ICMPA):

Calgary, Canada 2008: <http://www.icmpa2008.com/>

MnROAD:

<http://www.dot.state.mn.us/mnroad/>

Federal Highway Administration (FHWA)
Pavement Management:

<http://www.fhwa.dot.gov/pavement/mana.cfm>

MN Department of Transportation (Mn/DOT)
Pavement Management:

<http://www.dot.state.mn.us/materials/pvmtgmt.html>



May 2009



Pavement Management Systems

How do you manage your pavement?

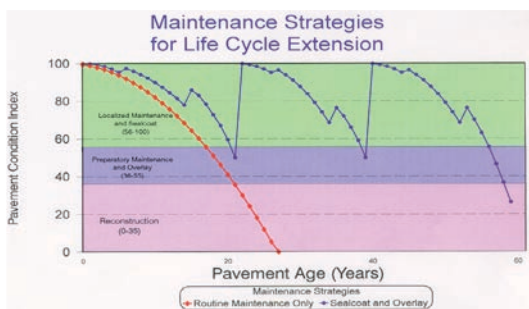


What is a Pavement Management System?

A pavement management system is a set of tools used to assist with maintaining a network of roadways. Pavement management systems are a critical component of managing and maintaining transportation infrastructure. Agencies must address transportation needs with limited resources, while legislative bodies are requiring more efficiency in highway agencies and more accountability for the expenditure of taxpayers' money. As a result, the importance of a management system to help with the allocation of these resources, to manage the infrastructure, becomes more critical than ever.

Why use a Pavement Management System?

- In a time of decreasing budgets and increasing demands, a pavement management system can be a strategic tool to make cost effective decisions on your pavement.
- Pavement management systems can help identify and prioritize maintenance and rehabilitation needs.
- Pavement management systems can be used to analyze different pavement treatments to determine their cost savings over time.
- Agencies can use pavement management systems to provide information to the public and agency council/board to gain support and secure project funding.



Summary of Research Implementation Project

Workshop

Curriculum and material was developed for a 2-4 hour workshop for staff of agencies considering the acquisition of a pavement management system. Several training workshops will be conducted around the state in 2009.



Matrix

A matrix was developed to provide an objective review of the pavement management system software programs currently used by agencies in Minnesota. This matrix does not favor or recommend one pavement management system product over another, but rather serves as a neutral source of information and comparison of software programs.



Report

<http://www.lrrb.org/PDF/2009RIC11.pdf>

A resource guide was developed that describes, in detail, the various pavement management system software programs available and innovative and high-impact examples of the use of pavement management systems in Minnesota. This guide is targeted towards engineering staff of agencies currently using pavement management systems.

| | Software (Provider) | | | | | |
|-------------------------------------|---|-----------------------------------|--|--------------------------------|-------------------------|---|
| | Micropaver (APWA / Corps of Engineers) | PAVEMENTview Plus (Cartograph) | ICON (Goodpointe Technology) | PavePRO Manager (IMS) | Roadmatrix (Stantec) | PASERWARE (M/TIC/LTAP) |
| 1.0 COST | | | | | | |
| 1.1 Initial Cost of Software | \$995 for APWA members \$1095 for non-APWA members | \$1,000 - \$5,000 | \$1,000 - \$10,000+ | \$10,000+ | \$5,000-\$8,000 | Free for WI agencies \$100 for non-WI agencies |
| 1.2 Annual Technical Support Costs | ● First year ● Renewable annually for \$500 for APWA members \$650 for non-APWA members | ● | ● for one authorized user ● \$250 for each additional user ● Value-added infrastructure management consulting services, cost varies with number of hours (\$1,000 - \$4,000) | ● | ● \$2,500-\$5,000 | ○ |
| 1.3 Vendor Data Collection Costs | | | | | | |
| 1.3.1. Automated | ○ | ○ | \$25 - \$215/mile | \$300+/mile ¹ | \$50 - \$200/mile | ○ |
| 1.3.2. Manual | ○ | ○ | \$25 - \$250/mile | Included in cost for Automated | \$100 - \$200/mile | ○ |
| 1.3.3. Hand-held/PDA/Tablet PC | ○ | \$20 - \$50/mile | \$100 - \$250/mile | Included in cost for Automated | ○ | ○ |
| 2.0 DATA INPUTS | | | | | | |
| 2.1 Segment, Begin and End Points | ● | ● | ● | ● | ● | ● |
| 2.2 Spatial location (GPS Location) | ● | ● | ● | ● | ● | ○ |
| 2.3 Segment Width and/or Area | ● | ● | ● | ● | ● | ● |
| 2.4 Pavement (Layer) Data | ● | ● | ● | ● | ● | ● |
| 2.5 Age | ● | ● | ● | ● | ● | ● |
| 2.6 AADT | ○ | ● | ● | ● | ● | ● |
| 2.7 ESAL's | ○ | ● | ● | ● | ● | ○ |

● Standard – Included in Standard Software Cost

● Optional – Available for an Additional Cost

○ Not Available

¹ Data collection includes surface data, deflection testing, digital images, and GIS linkage.