Using Pavement Management Systems to Grow Pavement Preservation

By Judith Corley-Lay
You are a pavement preservation professional.
You know that the pavement management system is a toolbox.
You don’t understand how the PMS can be used to further your PP program.
You want to understand some of the ways PMS can help your preservation program.
Understand three ways PMS can be used to develop, monitor and report your preservation program.
The PMS can be queried to **develop** preliminary candidate roadways for treatment.
Which roads in my county are in fair+ to good condition (and therefore good candidates for preservation treatment)?
Which roads in my county have moderate severity cracking that can be crack sealed?
Which roads in my district have high AADT and minor to moderate rutting that could be treated with microsurfacing?
Which jointed concrete pavement routes in my division have IRI >100 inches per mile that might be reduced by diamond grinding?
The agency sets the limits for each distress type in defining suitable projects. The normal next step is to look at the road and verify that it is a good choice.
PMS can be used to monitor the program and assure that program guidelines are followed.
Can evaluate which roadways were treated and what was their condition before treatment.
Did roads meet selection criterion?

Typical result: There are a few band-aide projects, but the majority matched guidelines.
Results are not always so rosy.

Only one project met the preservation guidelines. Division engineers were provided county by county reports.
Another Monitoring Approach

Use Pavement Condition Ratings for each road selected for treatment. Put in bins to create histogram. Then calculate cumulative distribution function.

Want graph to move downward and to the right (indicating that roads are treated at higher PCR).
Cumulative Distribution of PCR for treated roads in Div. 6

The lines are moving down and to the right, showing that the PCR of treated roads is increasing.
The PMS can be used to **report** on progress of your program.
Borrow what works from others.
Kansas DOT very successfully implemented pavement preservation more than 15 years ago using the 10% rule.
“Touch 10% of your system every year using a mix of fixes.”
Include crack sealing, chip seals, resurfacing, rehab and reconstruction.
Did we touch 10% of system?

9 Divisions reached the goal of touching 10%.
This is a favorite report of leadership in NCDOT. Coupled with PCR and budget, it speaks to effectiveness in using funds.
Work done should be entered into Maintenance Management System or Pavement Management System.
These data will answer important questions from your leadership.
After many years, we still struggle to show preservation effectiveness and you need your data to do this.
If data are recorded from this point forward, you will be able to answer the how long, how much, what condition questions in ten years.
Your Pavement Management System can be a valuable tool to develop projects, monitor the preservation program, report on results, and improve future decision making.
Thank you for your attention.
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