Pavement Management System and Pavement Preservation

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Topics

- PMS Status
- Programming Elements
- HM Programming
- Triggers
- Decision Trees
- Strategy Selection App
- Next Step
- Summary
PMS Status

- Currently working on Configuration
- Identifying Data Sources
- Test in March/April 2012
- Go live in May 2012
Programming Elements

- Rehabilitation/Reconstruction – SHOPP
- CAPM – SHOPP
- Corrective Major Maintenance – HM–1
- Preservation/Preventive – HM–1
- State Forces – Maintenance Funding
HM-1 Programming

- 3 Categories
  - Corrective
  - Preventive
  - Base
- Developed Annually
- Part of 5 Year Maintenance Plan
Triggers

- Preservation Projects are programmed under 2 scenarios
  - Placed 3–5 years after most recent Rehabilitation or CAPM
  - Placed based on first signs of distress or wear.
- Triggers could be light cracking, raveling, aging, ride, flushing.
Pavement Performance Curves

Pavement Condition Index, PCI

Years

0.5 X / mile

1 X / mile

2 X / mile

13 X / mile

55 X / mile
Decision Trees

- Categorize strategies by type
  - Seals
  - Thin lifts
  - Friction courses
- Determine distresses connected with the strategy type
- Quantify distresses and catch pavement prior to exceeding the levels established
- Assign strategy to those distress types and levels that it’s meant to address
Full Depth Reclamation [1]

Lane Replace or Thick OL [2]

Med OL [4]

Thin OL [5]

Thin OL [5]

Very Thin OL [3]

Seal Coat [6]

Seal Coat [6]

Seal Cracks [8]

Do Nothing

Treatments:
1. Full Depth Reclamation
2. Thick Overlay or Reconstruct
3. Very Thin Overlay
4. Medium Overlay
5. Thin Overlay
6. Seal Coat
7. Cold In-Place Recycling
8. Seal Cracks

Rule to be implemented manually:
1. If one lane triggered for OL then all adjacent lanes triggered for OL.
2. If either Transverse, Longitudinal or XF classified as Wide or Wheelpath cracking as Unsealed then Yes, otherwise No.
Next Steps

- PMS will allow for us to input preservation strategies
- Requires the following:
  - Strategy service life
  - Distress thresholds
- Accuracy and Reliability will depend on performance data
  - Automated Pavement Condition Survey annual data collection
  - Development of and improvement to Performance Curves
Next Step

- Strategy Selection system is the initial framework for choosing preservation treatments
- Further enhancements required through models and data collection
- Provide for multiple preservation treatments
Summary

- Preservation is an integral part of PMS
- Strategies selected based on condition
- Thresholds established for optimal placement
- Improved performance curves will help to place right strategy at the right time