Partnership for Progress

2013 Louisiana Transportation Conference
Pavement Preservation Project and Treatment Selections

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TASK

- Document the process for selecting pavement preservation treatments and projects for approval by FHWA
  - data driven
  - meet the goals of preservation
  - document project level decisions
PARTNERS

• Road Design Section
• Transportation Planning Section
• Data Collection and Management Analysis Section
• Districts
• FHWA
PROGRESS

• Document available to all, explaining the treatment and project selection process
• Maximize benefits of preservation treatments and funds
• End of March 2013 is goal for completion of documented process
Committee Members

- Simone Ardoin – Road Design
- Mark Chenevert – Road Design
- Chris Fillastre – Pavement Management
- Mary Elliott – Transportation Planning
- Ronnie Robinson – District 61
- Jonathan Lachney – District 08
- Larry Sharp – District 62
- David Dupree – District 58
- Darrell Goza – District 04
- Marshall Hill - District 05
- Hector Santiago - FHWA
- Jamie Setze - FHWA
- Robin Romeo (guest – Transportation Planning)
- Janice Williams (guest – Project Development)
- Joe Bloise (guest – FHWA)
- Chad Winchester (guest – Road Design)
- Jason Chapman (guest - Data Collection and Management Analysis)
Brief History

• 1976 US Congress authorizes use of funding on projects intended to extend the service life of pavements – 3R Program
• Early 1990s – LA DOTD begins using federal funds for overlay projects
• Late 1990s – LA DOTD uses federal funds for contract maintenance projects
Purpose of Preservation Treatments

• non-structural treatments
• designed to extend the life of good pavements
• preserve the existing condition of the pavement
• retard future deterioration
• typically include sealing cracks, restoring load transfer, patching, improving skid resistance, filling minor ruts, grooving/grinding, and thin overlays.
The Pavement Preservation Concept

The graph illustrates the deterioration of pavement over time. The Y-axis represents the condition of the pavement, ranging from 'Very Good' to 'Very Poor'. The X-axis represents time in years. The green line represents the original pavement, showing a gradual decline in condition. The red line represents the rehabilitation trigger, indicating when pavement maintenance is necessary. The graph highlights the importance of timely intervention to maintain the pavement's condition.
Definition of Preservation Project

- **Preservation** – refers to Pavement Preservation, which consists of light minor rehabilitation, preventive maintenance and routine maintenance.

- **Light Minor Rehabilitation** – consists of non-structural improvements or repairs made to the existing pavement sections to address pavement distresses. Typical examples:
  - Single Lift Asphaltic Concrete Overlay (≤ 2") (no patching or cold planing required) (minor patching and/or cold planing allowed)
  - Asphalt or Concrete Patching only
  - Pavement Diamond Grooving/Grinding only
  - Load Transfer Restoration only, etc...
  - Partial depth patching (longitudinal patching in wheel paths)

- **Preventive Maintenance** – is a planned strategy of cost-effective, non-structural treatments to the existing pavements that preserves the current condition and retards future deterioration. Typical examples:
  - Chip Seals
  - Micro-Surfacing
  - Thin Asphaltic Concrete Overlay (< 1.5”)
  - Micro-Overlays
  - Joint Cleaning and Resealing
  - Crack Sealing (working cracks)
  - Crack Filling (non-working cracks), etc...

- **Routine Maintenance** – Repair work typically performed by Department forces that is planned and carried out on a scheduled basis to maintain the pavement. *Routine Maintenance is not included in the PRR Programs.* Typical examples:
  - Pothole Patching
  - Bump Grinding
  - Spot Leveling
  - Machine Leveling, etc...
Available Data Sources

- Pavement Management System (PMS)
  - Recommends treatments for all roadway segments
  - Highlights treatments recommended within 5 years
  - Shows distress values
- Agile Assets (maintenance activities)
- Project System (PS) (past or future projects on the control section)
- Road Superintendent/DOTD personnel
- Other (parish, MPO, industry, elected officials)
Water Model

- The level of water in each can represents the % of roads at that Treatment Level.
- The taps represent the process of roads deteriorating to the next Treatment level.
- The pumps represent the act of fixing a road.
- Electricity represents the cost of fixing a road; the more height to pump the water the more electricity.

Hypothesis:
If you fix the roads in the bottom portion of each of the cans (Treatment Levels), then those roads will not fall in to the next can (Treatment Level). Thus, keeping the overall cost down.
Other Considerations

- Location/Environment
- Project level vs. system level
- Future development
- Trained inspectors/contractors
Existing Resources

- Pavement Management System Manual
- Guidelines on the Application of Preventive Maintenance and Rehabilitation Practices for Pavement Preservation
- Project Selection Process Manual
- DOTD personnel
- FHWA
- Industry
Pavement Preservation Projects
Non-Interstate Highways

Transportation Planning Section

Pavement Management System
Recommended List of Projects, and Treatments Based on District Budget

DOTD Districts

Initial List of Projects in Priority (including scope and cost)

Pavement Preservation Team
- Pavement Preservation Program Manager (Chair)
- Deputy Assistant Secretary Operations
- Pavement Management Engineer
- H.Q. Maintenance Engineer (Road)
- Highway Program Engineer

Final List of Projects

Transportation Planning Section

PREPARE PROGRAM

Performance Indicators by Highway System Category
- IRI
- Pavement Condition Index
Next Steps for Committee
Final Product

- Finalize document describing the pavement preservation project and treatment selection process
  - Data Sources
  - Consideration of Other Inputs
  - Documentation required when selection varies from PMS recommendation
  - Feedback
  - Final selection
Documentation

• Spreadsheet from Districts with project and treatment selections
• Pictures
• E-mails
• Letter
• Any other justification requested by the Selection Committee
Feedback

• One on one with PMS, PRR, and FHWA personnel
• Spreadsheet for project and treatment selection with comments
• Field reviews of particular site, as needed
• Revisit triggers for treatments
Questions???