Mississippi DOT's MRI Pilot Specification

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Overview of Presentation

- MRI Pilot Specification Details

- Smoothness Pay Incentives

- Analysis Procedure

- Profiler Certification

- Project QC/QA

MDOT's 3 MRI Categories

- Category A
  - New construction, three or more lifts, mill and two lifts
- Category B
  - Mill and one lift, two lift overlays (no milling)
- Category C
  - Single lift overlay (no milling)

MDOT's 3 MRI Categories

Pavement Category	Long Interval Tolerance (in/mile)	Short Interval Tolerance (in/mile)
A	60	130
B	70	140
C	50% improvement or 80*	150

* The surface smoothness requirements will then be considered a 50% improvement of the existing pavement or 80 in/mi per 0.10-mile segment, whichever is higher.

Smoothness Pay Incentives

- Based upon Long Continuous Histogram

- Produced using Pay Incentive Template Spreadsheets

- Calculated by section tonnage and unit price

Smoothness Pay Incentives

- Incentive payments are based upon MRI intervals of 5 inches/mile

Category A		Category B		Category C	
MRI ("/mi)	Price Adjust. %	MRI ("/mi)	Price Adjust. %	MRI ("/mi)	Price Adjust. %
< 40.0	108	< 50.0	108	< 60.0	108
40.0 to 45.0	106	50.1 to 55.0	106	60.1 to 65.0	106
45.1 to 50.0	104	55.1 to 60.0	104	65.1 to 70.0	104
50.1 to 55.0	102	60.1 to 65.0	102	70.1 to 75.0	102
55.1 to 60.0	100	65.1 to 70.0	100	75.1 to 80.0	100
> 60.0	must correct	> 70.0	must correct	> 80.0	must correct

Steps for Analyzing (Project Engineer Field Work)

1. Record field notes regarding Contractor's daily paving activities.

2. Note additional equipment and personnel problems/issues and the location in which they occurred

3. Collect an ERD file containing daily runs from Contractor

Steps for Analyzing (Project Engineer Office Work)

1. Load each day's run into ProVAL

2. Run the Power Spectral Density analysis to look for repeated features in the profile(s).

3. Run the analysis which matches the smoothness specifications requirements for the project that the profile(s) come from SAM.

4. Create a report of your work and save, print, and/or cut and paste it as you wish.

5. Determine if and how much incentive pay is required for the job.

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Steps for Analyzing (Contractor)

- Collect day's run data with profiler.
- Create an ERD (or any other ProVAL compatible) file from profiler and send to Project Engineer
- After project engineer returns report, determine if grinding is needed.
- Process file through grinding simulation to determine optimal grinding scenario.

Profiler Certification

- Performed by MDOT for profilers and technicians
- All vehicles, technicians, and combinations thereof must be certified
- Certification is valid for one calendar year
- Any repairs or significant changes to profiler will require recertification

Profiler Certification

- Profilers will make 10 runs on a 528' section
- Sections will consist of rough HMA, smooth HMA, OGFC, SMA, and PCC pavements
- Basis profile will be established using ICC's SurPRO
- Analyzes results from both wheelpaths
- Requires 92% Repeatability and 90% Accuracy

Project QC/QA

- MDOT will collect approximately 10 percent of total number of projects

- Numbers will be compared to contractor's runs

- Projects chosen will reflect all districts and contractors within the state

Possible Spec Changes

1. Lowering both long and short continuous thresholds by 5 inches/mile

2. Only paying smoothness incentives on the Category A scale regardless of project category

3. Add minimum and maximum speed allowed while collecting data

Questions?