Pavement Smoothness Guide Specification

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Presentation Overview

- Need for Guide Specification
- Components
- Highlights
- Status
- Next steps/Implementation
Need for Guide Specification

- Repeatability
  - can be improved
- Reproducibility
  - Not demonstrated in Profiler demo
  - Critical for implementation
Components

- Smoothness Specification
- Test Method
- Equipment Specification
- Equipment Certification/Calibration
- Operator Certification
Smoothness Specification

• Inertial profilers
  – lightweight
  – high speed
• Index IRI
• Full Pay 60-65”/mile, min30, max95
  – over 95 correct to 65
• Localized roughness
• Continuous function I/D
Test Method

• Verification (daily)
  – Height sensor
  – Bounce test
  – Establish Control Section
    • DMI check
    • IRI on control section

• Log of Verification
Test Method

- Operation speed critical
- Lead-in to test section
- Number of traces
- One sensor devices (MRI & HRI)
- Resolution of disputes
- File format
Equipment Specification

- Low speed (5-20 mph)
- High speed (15-70 mph)
- Automated triggering required
- Measuring IRI from 5-300 in /mile
- DMI accuracy of 0.1%
- Height sensor resolution 0.001 in.
- Reporting interval of 2 in.
Equipment Certification

• Tests
  – height sensor
  – DMI
  – Bounce test

• 10 runs on reference section
  – profile precision (SD < 0.035 in)
  – profile accuracy (0.020 and 0.060 in)
  – IRI precision (3.0 in/mile)
  – IRI accuracy (6.0 in/mile)
Equipment Certification

• Reference Profile
  – 4.75 in sample interval
  – established using rod and level, Dipstick, etc
  – 528 feet plus lead-in

• Certification for specific device
Operator Certification

- Training required
  - specific equipment (manufacturer)
  - profiling practices (NHI course)
- Written and practical test
  - smoothness specification
  - profiler calibration/verification
  - profile data collection
  - profile evaluation
Status

- Referred to SOM from JTF In June
- Currently under review by SOM
- Balloted in August
- Provisional Standard by October
Next Steps

• Further Work
  – Operator Certification program
  – Reference profiler
  – Cross-correlation process
  – Localized roughness

• Implementation
  – Pooled fund project
  – Technical assistance
Questions?

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