

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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