TPF 5(063) "Improving the Quality of Pavement Profilers" Update

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Overview

- History
- Who is actively involved
- Budget
- Priorities
- What is next

History of TPF 5(063)

Approved to move forward in 2002

- Kick-Off meeting May 2003
 - 15 States & FHWA
 - Established priorities
 - \$1.1 Million

What is truth?

- What is the true profile?
- What is the true IRI?
- How close should a profiler be to the truth?
- Is a dipstick, rod & level, inclinometer, etc. a good reference?
- Road Profilers vs. "black box"

We need better tools!

- California profilograph or IRI?
- How do different machines compare?
- ProVAL 1.0 (good start but we need more)
- We have to have a way to reliably find roughness hotspots and fix them.

(smoothness QA/AC)

Equipment Certification

- Shaker Tables?
- Certification centers/courses?
- We're already paying contractors on "smoothness"!
- Why should we or how can we move to IRI smoothness specifications?

Overview TPF 5(063)

- FHWA is lead agency with 21 participating State Highway Agencies
 - •\$2 Million plus SIX Year Study
 - FHWA Office of Pavement Technology (HIPT)
 - FHWA Long Term Pavement Performance (LTPP)
 - FHWA Federal Lands

Participating State Agencies (21)

- Pennsylvania
- Louisiana
- Kentucky
- California
- Colorado
- Florida
- Georgia
- Kansas
- Mississippi
- New Jersey

- New York
- North Dakota
- South Dakota
- Illinois
- North Carolina
- Maryland
- Oklahoma
- Connecticut
- Texas
- Wisconsin
- Ohio

Participating State Agencies



Budget

- Commitments from SHA's: \$1,427,000
 - Funds received as of July 31: \$1,291,800
 - FHWA funds:
 - LTPP \$100,000
 - Federal Lands \$20,000
 - Office of Pavement Technology -\$1,025,984

Priorities – updated 2007

- 1. Build Reference Profile Device
- 2. Critical Requirements complete
- 3. Bumpfinder Software complete
- 4. Certification/Validation Sites
- Evaluating Upper Limits of Single Accelerometer – Phase I complete
- 6. Emerging Technology that Enhances Profile Measurement

Priorities

- Build a Reference Profile Device: Two parts
 - i. Benchmark Testing UMTRI
 - ii. Reference Device: Four awards
 - APR, Inc.; ICC, Inc.; SSI; VA Tech
- Critical Requirements: UMTRI; final report on pooled fund study website – "Critical Profile Accuracy Requirements" (CPAR)

Priorities

- 3. Bumpfinder Software: The Transtec Group, Inc. – ProVAL & SAM
 - ProVAL 2.73 released in December 2007
 - ProVAL 3.0 to be released in Oct. 2008
 - Multiple workshops
 - Upcoming: RPUG, MO, NM, TRB, SC



Priorities

- 4. Certification/Validation Site
 - i. On hold until reference device complete?
- Evaluating Upper Limits of Single Accelerometer
 - i. Phase I: Starodub, Inc. complete
 - ii. Phase II: Working with FHWA Acquisition Management
- 6. Emerging Technology that Enhances Profile Measurement
 - i. Automated Faulting Measurement
 - ii. Ultra Light Inertial Profiler (ULIP) FHWA

What's next?

- Much is already here!
- Benchmark & Reference profilers
- ProVAL 2.73 & 3.00
- Complete what's not yet finished
- Will our work stand the test of time?
- New questions that need answers?









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What we learned on this project

- 25' Grinder the only choice, 18' would not work
- Frame of 25' grinder deflects under deep grinding while 18' grinder doesn't
- Improved knowledge of setting head depth
- Improved IRI from 167 to 114 in/mile

Questions ??????

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http://www.pooledfund.org/projectdeta ils.asp?id=280&status=4

http://www.rpug.org