November 3, 2015

TPF-5(299) Improving the Quality of Pavement Surface Distress and Transverse Profile Data Collection and Analysis

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Improving the Quality of Pavement Surface Distress and Transverse Profile Data Collection and Analysis - Outline

• Background
  • Abbreviated history of Network Level AASHTO Pavement Distress Measurement Standards
  • FHWA ETG
• Pooled Fund (PF) study formation
• PF Activities
• PF – Consider Joining
Abbreviated History – AASHTO Standards

- Mid-1990’s SHA and FHWA ETG
- Quantifying Roughness – Provisional 1999 (R43)
  - TPF-5(063)
- Faulting – Provisional 1999 (R36)
- Rutting – Provisional 1999 (R48))
- Cracking – Provisional 2001 (R55)
## Evolution of Pavement Rating

<table>
<thead>
<tr>
<th>Methodology</th>
<th>Fast</th>
<th>Safe</th>
<th>Repeatable and Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windshield</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-Automated</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Automated</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
ETG Formed in 2006 - Members as of April 2013

- **FHWA**
  - Thomas Van, HQ Asset Management
  - Jack Springer, TFHRC
  - Andy Mergenmeier, RC
  - Mike Moravec, HQ Pavements

- **States**
  - Rick Miller, Kansas DOT
  - John Andrews, Maryland SHA
  - Magdy Mikhail, Texas DOT
  - Bouzid Choubane, Florida DOT
  - Cole Mullis, Oregon DOT
  - Judith Corley-Lay, North Carolina DOT

- **Industry**
  - Gary Elkins, MACTEC
  - Frank Holt, Dynatest
  - Jerry Daleiden, Fugro
  - Richard Fox-Ivey, Pavemetrics
Motivation for New/Updated Standards

- Industry changes
  - Service
  - Technology
- State changes
  - Programmatic
  - MEPDG
- National changes
  - MAP-21 (Performance)
  - HPMS

- Need to get data
  - Efficiently
  - Accurately
  - Safely
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- AASHTO PP 67, Quantifying Cracks in Asphalt Pavement Surfaces from Collected Images Utilizing Automated Methods
- AASHTO PP 68, Collecting Images of Pavement Surfaces for Distress Detection
- AASHTO PP 69, Determining Pavement Deformation Parameters and Cross-Slope from Collected Transverse Profiles
- AASHTO PP 70, Collecting the Transverse Pavement Profile
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- Rutting/Cracking Expert Task Group active for several years
  - Did not have the mechanism to conduct studies ($$$$)
  - April 2013 ETG recommended pooled fund study due to the success of TPF-5(063) Pavement Profiling effort.
Improving the Quality of Pavement Surface Distress and Transverse Profile Data Collection and Analysis – Objectives

Improve the Quality of Pavement Surface Distress and Transverse Profile Data Collection and Analysis by assembling SHAs, the FHWA, and industry representatives to:

• Identify data collection integrity and quality issues
• Identify data analysis needs
• Suggest approaches to addressing identified issues and needs

Based on this information, the SHAs and the FHWA will:

• Initiate and monitor projects intended to address identified issues and needs
• Disseminate results
• Assist in solution deployment
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• First Meeting – May 2014
• Research Contract (ongoing completion August 2016): Development of Standard Data Format for 2-Dimensional and 3-Dimensional (2D/3D) Pavement Image Data that is used to determine Pavement Surface Condition and Profiles
• Developing proposed RFP “Calibration and Verification of Transverse Pavement Profile Measurements”
• Pooled Fund Study SharePoint site:
  • https://collaboration.fhwa.dot.gov/default.aspx
  • Register
Budget

• Commitments from 21 agencies through 2019 – over $1.4 million

Thursday Meeting – 8 am

• Chairman: John Andrews, MD SHA
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Questions/Comments