QUALITY MANAGEMENT FOR PAVEMENT CONDITION DATA COLLECTION

Linda Pierce, PhD, PE
Katie Zimmerman, PE
Presentation Topics

• Purpose and motivation
• Quality management guide
• Quality management workshops
PURPOSE
Pavement Condition Data

Pavement Management
• Condition assessment
• Performance prediction
• Treatment timing and selection
• Allocating resources

Other Applications
• Asset management
• HPMS
• MAP-21
• Calibration of MEPDG
Benefits of Quality Data

- Enhance data use and effectiveness
- Improve accuracy of condition assessment
- Improve performance prediction
- Improve timing & treatment recommendations
- Improve credibility
Motivation

- Quality data is essential
- Very few agencies have a documented quality management plan
- Guide document would be helpful
QUALITY MANAGEMENT GUIDE
Aid highway agencies in developing and implementing a quality management plan.
### Key Components

<table>
<thead>
<tr>
<th>Collection Protocols</th>
<th>Training</th>
<th>Equipment &amp; Method</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Types of distress</td>
<td>• Equipment operation</td>
<td>• Equipment calibration</td>
<td>• Ground truth testing</td>
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<tr>
<td>• How distress is quantified</td>
<td>• Automated systems</td>
<td>• Method acceptance</td>
<td>• Control, verification &amp; blind site testing</td>
</tr>
<tr>
<td>• Distress computation</td>
<td>• Data collection</td>
<td>• Rater repeatability &amp; reproducibility</td>
<td>• Accuracy &amp; precision</td>
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<tr>
<td>• Reporting interval</td>
<td>• Data compilation</td>
<td></td>
<td>• Evaluation process</td>
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</tbody>
</table>
### Key Components (continued)

<table>
<thead>
<tr>
<th>Roles &amp; Responsibilities</th>
<th>Checks</th>
<th>Corrective Action</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Who will:</td>
<td>• Distress rating</td>
<td>• Retrain</td>
<td>• Calibration results</td>
</tr>
<tr>
<td>• Schedule</td>
<td>• Database</td>
<td>• Rerate</td>
<td>• System check results</td>
</tr>
<tr>
<td>• Quality control</td>
<td>• Video</td>
<td>• Recalibrate</td>
<td>• Control, verification, &amp; blind site testing results</td>
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<tr>
<td>• Acceptance</td>
<td>• Independent assurance</td>
<td>• Replace defective equipment</td>
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<tr>
<td>• Data checks</td>
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<td>• Re-collect</td>
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<td>• Problem reporting</td>
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<td>• Tracking progress</td>
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</tbody>
</table>

### Corrective Action
- Retrain
- Rerate
- Recalibrate
- Replace defective equipment
- Re-collect

### Reporting
- Calibration results
- System check results
- Control, verification, & blind site testing results
Agency Procedures

- British Columbia MOTI
- Louisiana DOTD
- Oklahoma DOT
- Pennsylvania DOT
Additional Contents

• Agency criteria
  ▪ Quality control
  ▪ Acceptance

• Quality management plan template
Getting a Copy


or search for
“pavement QM guide”
QUALITY MANAGEMENT WORKSHOPS
Objective

• Opportunity for agencies to learn about the *QM Practical Guide*

• Focus on practical application
  - Participant interaction
  - Activities
Agency Workshops

Map showing locations of Agency Workshops across the United States:
- Raleigh (Pilot)
- Hanover
- Nashville
- Vancouver
- Kansas City
- Connecticut
Data Collection Cycle

- **NHS**
  - 78 percent annually
  - 14 percent every 2-years
  - 9 percent other or unknown

- **Non-NHS**
  - 42 percent annually
  - 39 percent every 2-years
  - 19 percent other or unknown
Contract vs In-House
Workshop Information

Contact

Luis Rodriguez
Luis.Rodriguez@dot.gov
(404) 562-3681
Thank you for your attention

Linda Pierce
Applied Pavement Technology, Inc.
lpierce@appliedpavement.com
505.603.7993