Pavement Management Systems

Presented by: Michael Marti
SRF Consulting Group, Inc.

Sponsored by: Local Road Research Board

May 24, 2011
§ Legislatively funded (1959)
§ Up to 1/2% of State Aid allocation devoted to local road research
§ Research is:
  • Managed by the LRRB
  • Conducted by DOT, U of M, MnSCU, Consultants, etc.
  • Administered by Mn/DOT Research Services
LRRB Funding Supports:

§ Research to improve local road:
  • Design
  • Construction
  • Maintenance
  • Environmental Compatibility

§ Programs for implementing and monitoring research results (RIC)
LRRB Structure

LRRB Members
Rick West, Otter Tail County (Chair)
Mitch Anderson, Stearns County
Deb Bloom, City of Roseville
Bruce Hasbargen, Lk of Woods Cty
Steve Koehler, City of New Ulm
Laurie McGinnis, U of M - CTS
Sue Miller, Freeborn County
Tom Ravn, Mn/DOT OCIC
Julie Skallman, Mn/DOT State Aid
Linda Taylor, Mn/DOT Research Services

RIC Members
Rich Sanders, Polk County (Chair)
Farideh Amiri, Mn/DOT Research Services
Tom Colbert, City of Eagan
Jim Grothaus, U of M – CTS
Jeff Hulsether, City of Brainerd
Maureen Jensen, Mn/DOT Materials and Road Research
Rick Kjonaas, Mn/DOT State Aid
Walt Leu, Mn/DOT State Aid, D1
Sue Miller, Freeborn County
Mitch Rasmussen, Scott County
Tim Stahl, Jackson County
Ben Worel, Mn/DOT Research Services
LRRB Process

Research
- Mn/DOT
- MnROAD
- U of M
- MnSCU
- Consultants
- Outstate Universities

Communication
- RIC

Training
- LTAP

Minnesota Cities & Counties
Multi-phase Project

§ Part of a larger RoadMAP
§ Goal: assist MN cities and counties in implementing Pavement Management and/or using better
§ Project produced several deliverables for
  • Report
  • Workshop
  • Brochure
  • DVD
Report

§ Focused on Minnesota Use of PM
§ Three Surveys:
  • Quick Survey: who is using what
  • Details about specific software/use
  • Case studies
**Key Outcome – Matrix**

<table>
<thead>
<tr>
<th>Software (Provider)</th>
<th>Microwave (APWA/Clear of Engineers)</th>
<th>PAVEMENT/GeoPave Plus (Cartograph)</th>
<th>ICAP (Evolutek Technology)</th>
<th>Pav/PRO Manager (MFI)</th>
<th>Roadmap (Scentec)</th>
<th>PASSERWARE (Wig Tic LTA)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.0 COST</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Initial Cost of Software</td>
<td>$995 for APWA members $1095 for non-APWA members</td>
<td>$1,000 - $5,000</td>
<td>$500 - $5,000</td>
<td>$10,000+</td>
<td>$5,000-$8,000</td>
<td>Free for WI agencies $100 for non-WI agencies</td>
</tr>
<tr>
<td>1.2 Annual Technical Support Costs</td>
<td>First year</td>
<td>Renewable annually for $500 for APWA members $800 for non-APWA members</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>1.3 Vendor Data Collection Costs</td>
<td>$25 - $250/mile</td>
<td>$25 - $250/mile</td>
<td>$100 - $250/mile</td>
<td>Included in cost for Automated</td>
<td>$50 - $200/mile</td>
<td>$100 - $200/mile</td>
</tr>
<tr>
<td>2.0 DATA INPUTS</td>
<td>Segment, Begin and End Points</td>
<td>Spatial location (GPS Location)</td>
<td>Segment Width and/or Area</td>
<td>Pavement (Layer) Data</td>
<td>Age</td>
<td>AADT</td>
</tr>
<tr>
<td>2.1</td>
<td>●</td>
<td>●</td>
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<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
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</tbody>
</table>

- **● Standard – Included in Standard Software Cost.**
- **● Optional – Available for an Additional Cost.**
- **● Not Available.**
- **$ Data collection includes surface data, deflection testing, digital images, and GIS linkage.**
Key Outcome – Case Studies (15 agencies)

§ Various levels of use
§ Background
§ Tips for implementation

<table>
<thead>
<tr>
<th>Population</th>
<th>235,000 people</th>
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</thead>
<tbody>
<tr>
<td>Number of Roadway Centerline Miles</td>
<td>285 miles</td>
</tr>
<tr>
<td>Current Pavement Management System Used</td>
<td>ICON (Goodpointe)</td>
</tr>
<tr>
<td>Year of Pavement Management System Implementation</td>
<td>1994</td>
</tr>
</tbody>
</table>
Workshop

§ Deliver at various locations throughout the state (standalone and at conferences)
§ Targeted at users and decision makers
§ Several modules
Workshop outline

1. Overview
2. Benefits
3. Elements
4. Case Studies
5. Resources
Workshop outline

1. Overview
2. Benefits
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Workshop outline

1. Overview
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5. Resources
§ Remake of an earlier video: 
*Pavement Repair: Do the Right Thing at the Right Time*

§ Message is told through a series of interviews with MN users

§ Accompanying brochure highlights DVD for leave behind targeted at elected officials
Each of the deliverables are available at:

lrrb.org, specifically:

Learn from others...
participate in user groups

Begin early, and maintain it!
Even with budget cuts

Graphical display of data will assist with public buy in

Leverage it to be the indicator on project priority!

Use it to develop performance measures...include safety!