MDSS Pooled Fund Study
Then and Now

Road Weather Management Stakeholder Meeting
Little Rock, AR July 18th, 2013

Presented by:
Jakin Koll (MnDOT)

Your Destination...Our Priority
Motivation for an MDSS?

- Rising demands of travelers & commercial carriers
- High labor, material, equipment & fuel costs
- Constrained agency funding and staffing
- Reliable, timely condition reports hard to get
- Some weather conditions difficult to forecast
- Complex pavement response to weather and maintenance
- New deicing chemicals available
- Environmental concerns about deicer use
- Retiring staff replaced by less experienced workers
Pooled Fund Study Member States

5 states (2002)

14 states (2013)
MDSS still relatively New…but Not Unproven
Example Deployment Levels
MDSS on the Desktop in Office/Shop

New toggle buttons to switch camera views.

Click on an RWIS and select ‘Live Image Feed’ to display a camera image.

Latest Weather Observations

Use play, pause, stop, backward/forward buttons below to view past camera images, but also radar, truck positions, weather obs., RWIS conditions, road conditions, etc.

Time interval

Animation Speed
Snow Rate

Snow Accumulation

Dew Point

Road Temp

Road Condition

Depth of Liquid/Snow/Ice on Road

Maint. Action preformed & Recom.
AVL Units in Truck: End-of-Shift Report button. (details later)
MDSS in Truck: Color-coded truck centered Radar shows your trucks location (yellow) and other AVL equipped trucks (orange) near you. The Radar view follows your truck around. (Auto Refresh)
MDSS in Truck: End-of-Shift Report

Shows amount of material applied and number of miles/hours spent sanding on each route maintained during shift

Accessed from: Truck, Smartphone or Office/Shop computer

<table>
<thead>
<tr>
<th>Route(s)</th>
<th>Truck(s)</th>
<th>Miles</th>
<th>Hours</th>
<th>Materials</th>
<th>More Details…</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>208572</td>
<td>43.5</td>
<td>1.7</td>
<td>12118 lbs Salt (6.06 tons)</td>
<td></td>
</tr>
<tr>
<td>TP7R060F</td>
<td>208572</td>
<td>38.9</td>
<td>1.3</td>
<td>11442 lbs Salt (5.72 tons)</td>
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<tr>
<td>TP7T060G</td>
<td>208572</td>
<td>2.1</td>
<td>0.1</td>
<td>630 lbs Salt (0.32 tons)</td>
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<tr>
<td>TP7R060D</td>
<td>208572</td>
<td>0.8</td>
<td>0.0</td>
<td>None</td>
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</table>
Pooled Fund Ongoing Research
Investigation in road condition based mobility index
Continued Evolution of Management Tools
Continued Assessment of MDSS Recommendations
Fine-scale Weather Modeling for Roadway Impacts
Enhance Mobile MDSS options

Data Loaded at Jul 15 16:00:00 PM

24-hr High Air Temperature
89 F at Tue 3:00 PM

24-hr Low Air Temperature
71 F at Tue 6:00 AM

Peak Wind Speed
SSW @ 16G25 MPH @ Tue 11:00 AM

Peak Wind Gust Speed
SSW @ 15G25 MPH @ Tue 10:00 AM

Winds >= 15 mph
thru Mon 4:00 PM

24-hr Expected Snow
0.0 in

24-hr Expected Liquid
0.076 in

24-hr Expected Ice
0.0 in

Precip Timeframe
thru Mon 8:00 PM

Precipitation Probability
60.0% @ Mon 4:00 PM
MDSS Pooled Fund: Current Directions

- Foster initial & ongoing deployments
- Refine physical modeling
- Validate predictive capabilities
- Use mobile data more effectively
- Link to other DOT systems
  - Maintenance Management
  - Asset Management
  - Traveler Information

More powerful management tools & reports

Mobile Applications
- Android
- iPad
- iPhone
MDSS Pooled Fund: Benefits of Membership

- Jointly directed leading-edge R&D
- Convenient funding mechanism
- Learning
  - State to State
  - Vendor to State
  - State to Vendor
- Nationally prominent forum for advancing MDSS and other Road Weather related technologies

New States Are always Welcome

Next Meeting Fall 2013
Questions?
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Interested in joining the Pooled Fund?
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