The Pikalert™ Road Weather Decision Support System

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Turn Around, Don’t Drown

2013 U.S. Flood Fatalities
Activity of Victims

- Driving 53%
- Sheltering 19%
- Walking 14%
- Working 4%
- Other 8%
- Fell In 2%
Not Just About Safety
The Connected Vehicle Program
Pikalert Applications
• Air Temperature
• Wipers
• Steering Wheel Position

Courtesy Tim Longhin
Hazard Algorithms

- Precipitation intensity and type
  - Snow
  - Rain
  - Road splash

- Pavement condition
  - Icy
  - Hydroplane

- Visibility
  - Clear
  - Blowing snow
  - Smoke
Enhanced Maintenance & Decision-Support System
<table>
<thead>
<tr>
<th>Time</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thurs 1/23 8:30 am</td>
<td><strong>Warning:</strong> Precip: none, Pavement: dry, Visibility: fog</td>
</tr>
<tr>
<td>Thurs 1/23 9:00 am</td>
<td><strong>Advisory:</strong> Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 10:00 am</td>
<td><strong>Advisory:</strong> Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 11:00 am</td>
<td>Clear</td>
</tr>
<tr>
<td>Thurs 1/23 12:00 pm</td>
<td>Clear</td>
</tr>
<tr>
<td>Thurs 1/23 1:00 pm</td>
<td>Clear</td>
</tr>
<tr>
<td>Thurs 1/23 2:00 pm</td>
<td>Clear</td>
</tr>
<tr>
<td>Thurs 1/23 3:00 pm</td>
<td>Clear</td>
</tr>
<tr>
<td>Thurs 1/23 4:00 pm</td>
<td><strong>Advisory:</strong> Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 5:00 pm</td>
<td><strong>Advisory:</strong> Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 6:00 pm</td>
<td><strong>Advisory:</strong> Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 7:00 pm</td>
<td><strong>Advisory:</strong> Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 8:00 pm</td>
<td><strong>Advisory:</strong> Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
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</tbody>
</table>
Enhanced Maintenance & Decision-Support System
Forecast

MN ROAD SEGMENT Interstate 90 95

Alert Summary

Snow (in)

Prob Precip

deg F

mph

Recommended Treatments

20140124 20140125 20140126

Snow Accum

Rain

Snow

Ice

Road Temp

Air Temp

Dew Point

Wind Speed

Wind Dir
Phone Application

- Provides situational awareness reports while on the road

Advisory: Slick roads ahead!
More info

- TEDxBoulder
- Google “Sheldon Drobot TEDx”