The Pikalert Vehicle Data Translator

Overview and Applications

Feb 11, 2014
Annual Fatalities - USA

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000

- Hurricane
- Cold
- Winter
- Lightning
- Wind
- Tornado
- Flood
- Heat
- NWS
- Road

DANGEROUS Ride

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The Connected Vehicle Program

[Logos of various transportation agencies and research institutions, including DEPARTMENT OF TRANSPORTATION, MINNESOTA DEPARTMENT OF TRANSPORTATION, MDOT, NCAR, NEVADA DOT, and UMTRI.]
Vehicle Data

- Sun/Rain Sensor
- Windshield Wiper Setting
- Head Lights Status
- Ambient Air Temperature

- Speed and Heading
- Adaptive Cruise Control (ACC)
- Location and Elevation
- Hours of Operation

- Anti-lock Braking System (ABS)
- Brake Status
- Stability Control
- Traction Control
The Pika™ Vehicle Data Translator
Data Flow
EMDSS
Forecast
Hazard Algorithms

- Precipitation intensity and type
  - Snow
  - Rain
  - Road splash
- Pavement condition
  - Icy
  - Hyrdoplane
- Visibility
  - Clear
  - Blowing snow
  - Smoke
## Hazard Algorithms

<table>
<thead>
<tr>
<th>Time</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thurs 1/23 8:30 am</td>
<td>Warning: Precip: none, Pavement: dry, Visibility: fog</td>
</tr>
<tr>
<td>Thurs 1/23 9:00 am</td>
<td>Advisory: Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 10:00 am</td>
<td>Advisory: 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>Advisory: Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 5:00 pm</td>
<td>Advisory: Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 6:00 pm</td>
<td>Advisory: Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
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<tr>
<td>Thurs 1/23 7:00 pm</td>
<td>Advisory: Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
<tr>
<td>Thurs 1/23 8:00 pm</td>
<td>Advisory: Precip: moderate snow, Pavement: slick, snowy, Visibility: normal</td>
</tr>
</tbody>
</table>
MAW Phone Application

- Provides situational awareness reports while on the road

Advisory: Slick roads ahead!
More information

TEDxBoulder

http://www.youtube.com/watch?v=IM16YUrhzRY
&list=PLyWrz5bdXbVMZewo4hcMxwO2vVmoO_nUdI&index=7

Contact

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