West Des Moines AVL Program

Kevin Hensley
City of West Des Moines, Iowa
65,500 Nighttime Population
120,000+ daytime Population
Approximately 800 lane miles
16 plow trucks
50 location only
40 Square Miles
50 miles per plow!!!!
RWIS Implementation
What is AVL for WDM?

- Inventory control
- Complaint resolution tool
- Real-time data
- Customer support
- Contractor oversight
WDM uses a Cellular Connected System
What we wanted in a System

- User Friendly
- All Controllers Integrated
- Useable Reports
- Downloadable Data
- Employee Buy in
  - Oversee Installs
  - Trouble Shoot
Working with Different Equipment

- 3 types of controllers
- 2 types of AVL hardware
- Temperature sensors
- Pressure switches
Controllers
AVL Hardware
Sensors
Getting all the components to come together

- Primarily in the hands of your AVL company
  - Three Different Controllers
- AVL company must have experience
  - All Companies say they can do
- Truck Builders need to understand the Goals
  - Hydraulic Controller Interface
Reports

- Material usage
- Stops Report
- Vehicle Status
- Customer Service
- Winter Operations
- GIS Data Points
Material Usage

Day Based Winter Operations
WestDes Moines
From 11/20/2015 12:00 AM to 11/21/2015 12:00 AM, US/Central

<table>
<thead>
<tr>
<th>Vehicle/Site</th>
<th>Salt (lbs)</th>
<th>Sand (lbs)</th>
<th>Mix (lbs)</th>
<th>Power (Gal)</th>
<th>Ant Ice (Gal)</th>
<th>Total (Mile)</th>
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<tbody>
<tr>
<td>319A</td>
<td>670</td>
<td>0</td>
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<td>0</td>
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<td>335A</td>
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<tr>
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<td>0</td>
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<tr>
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</table>

Total: 41,808 lbs of salt, 0 lbs of sand, 0 lbs of mix, 391 gallons of power, 0 gallons of ant ice, total of 18.8 miles.
**Stop History Summary**

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Number of Stops</th>
<th>Stop Duration</th>
<th>Idle Duration</th>
<th>Travel Duration</th>
<th>Travel Distance, Miles</th>
<th>Trip Duration</th>
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<tbody>
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<td>302</td>
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<td>11:47:54</td>
<td>11:13:12</td>
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<tr>
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<td>27.33</td>
<td>1 Day(s)</td>
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</table>
Live Data

West Des Moines 316 ATS
03/22/2013 11:03:05 AM
Speed: 23
Heading: West / 263
Material Type: 1
Granular Rate: 0
Granular Lane Setting: 0
Granular Storm Total: 41104
Granular Storm Distance: 642023
Pre-wet Rate: 9
Pre-wet Storm Total: 7438
Pre-wet Storm Distance: 778240
Anti-ice Rate: 60
Anti-ice Storm Total: 1418
Anti-ice Storm Distance: 53688
All Lane Setting: 2
Spreader Blast Time: 50
Road Temp: 46
Air Temp: 36
Plow: Up
Mode: Auto
Granular: Off
Spreader: Off
Pre-wet: Off
Blast: Off
Historical Data
Playback
Contactor Location Unit
Salt Usage

Salt Usage vs. Accumulation

- **Tons of Salt**
  - 2005-2006: 25.5
  - 2006-2007: 35.9
  - 2007-2008: 50.25
  - 2008-2009: 40.35
  - 2009-2010: 66.25
  - 2010-2011: 36.96
  - 2011-2012: 21.5
  - 2012-2013: 43
  - 2013-2014: 45
  - 2014-2015: 26.7
  - 2015-2016: 23.5

- **Accumulation in Inches**
  - 2005-2006: 60
  - 2006-2007: 55
  - 2007-2008: 61
  - 2008-2009: 45
  - 2009-2010: 60
  - 2010-2011: 35
  - 2011-2012: 20
  - 2012-2013: 40
  - 2013-2014: 45
  - 2014-2015: 25
  - 2015-2016: 20
Where Are We Heading

► Continue Current Uses
► Contractor Monitoring
► Public Facing Site
► Contractor Billing Options
So…. What Is AVL to WDM?

► Inventory control
► Complaint resolution tool
► Real-time data
► Contractor oversight
► Customer support
Thank You

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