How to Convince Stakeholders to Implement New Winter Maintenance Practices or Technology

R. Mark DeVries and Wilf Nixon

TODAY'S PRESENTERS

- **R. Mark DeVries** – Lead Consultant, VAISALA Inc.
- **Dr. Wilfrid Nixon** - Vice President for Science and the Environment, Salt Institute

- One of the great challenges in winter maintenance is implementation of new ideas or new programs. Success depends on getting buy in from both leadership and operations. Having data to back up what you bring forward is vital. Come see how others agencies have succeeded in bringing new ideas forward and implementing new programs

- Learning Objectives:
  - 1. Examine ways to implement new products and programs into your agencies winter maintenance program.
  - 2. Determine ways and methods to gather data and best practices for the purpose of convincing leadership and staff of the benefits new methods and materials
  - 3. Assess how other agencies success and failures in implementing new ideas and programs may impact your decisions when brining new ideas forward.

TODAY'S AGENDA

- What are the challenges in implementing new programs or technologies
- Cost benefit vs performance
- How do you evaluate success or failure
- Case study – Alaska DOT
- Case Study City of West Des Moines
- Wrap up and discussion

Why new programs or technology?

- Because we want to or because we have to?
- Be more efficient? Do we need to prove that first?
- Because everyone else did?
- Because it is the right thing to do!

Why new programs or technology?

- "Past performance is not a predictor of future events"
- Expectations are increasing – can we meet them?
- We cannot know what will happen, but we can certainly imagine what might happen…

Technology is always offering new solutions, but remember, technology is only a force multiplier to achieve efficiencies in activities

The Force Multiplier

Suppose a data-transmission solution costs you $1,000 per block of data moved today

- In 18 months, it will cost $300
- In 36 months it will cost $100
- In 54 months it will cost $30
- In 72 months (6 years) it will cost $10
- Is it affordable then?

Is it only about what it costs?

- Cost benefit is always helpful but not the whole story
- Better performance may take time to prove and may not be evident every time.
- Regardless of the program or technologies keeping data is vital

How do you evaluate success or failure

Performance Measures can help make the case for changes. You can't manage it if you can't measure it.

What Ifs and Implementation

- We have to use imagination to deal with possible new scenarios
  - Trains us away from “the way we have always done things”
- All capital purchases are long term in their implications
  - That new truck will be with you for 15 years or more
- How can we extend the use of our resources?

Alaska Case Study

“ That won’t work in Alaska!”

R. Mark DeVries and Wilf Nixon

The Driving Force

Weather is Changing in Alaska

From NOAA *"For the third year in a row, Alaska's winter has been anything but normal. A mostly dry and warmer-than-average winter has led to record-low snowfall amounts and record-high overnight low temperatures."*

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We Don't Like to Change!

The most dangerous phrase in the language is "we've always done it this way."

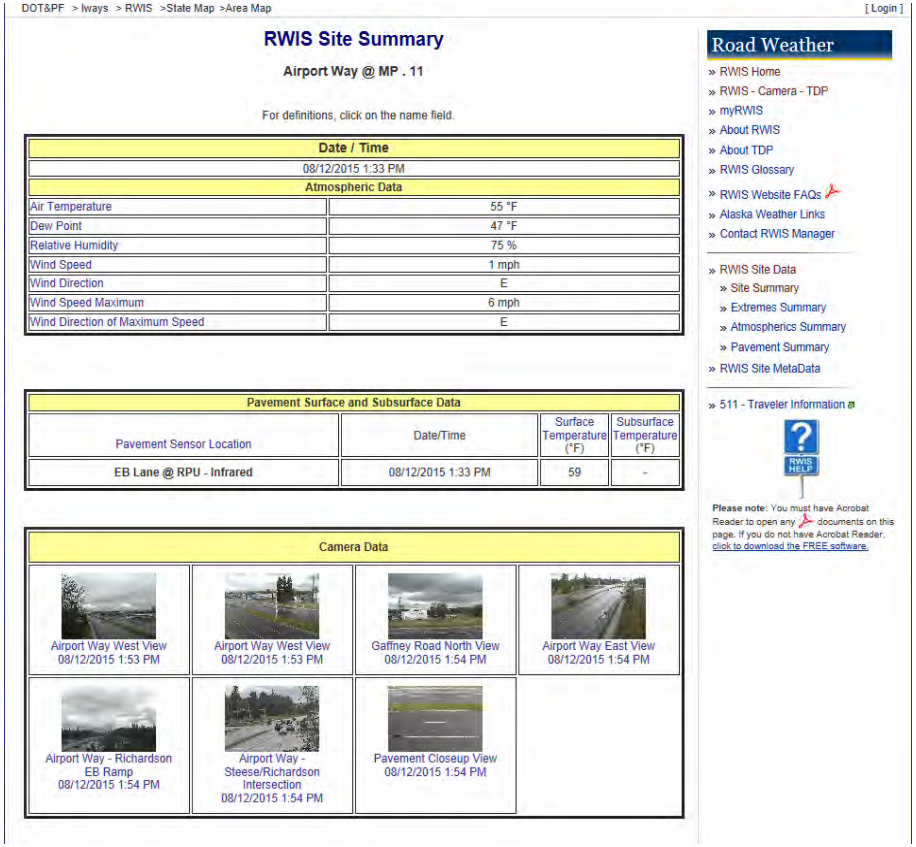
Rear Admiral Grace Hopper (1906-1992)

Internal Buy-in

- Implement in the “right” location
- Need working level champion
- Why do we need to change? Information sharing is vital
- Provide the right tools
- Education - APWA Winter Maintenance Supervisor Certificate Workshop
- Be flexible and understand that change is difficult for many

Starting out Small

Need for Better Weather Data



DOT&PF > Iways > RWIS >State Map >Area Map [Login]

RWIS Site Summary

Airport Way @ MP . 11

For definitions, click on the name field.

Date / Time	
08/12/2015 1:33 PM	
Atmospheric Data	
Air Temperature	55 °F
Dew Point	47 °F
Relative Humidity	75 %
Wind Speed	1 mph
Wind Direction	E
Wind Speed Maximum	6 mph
Wind Direction of Maximum Speed	E

Pavement Surface and Subsurface Data			
Pavement Sensor Location	Date/Time	Surface Temperature (°F)	Subsurface Temperature (°F)
EB Lane @ RPU - Infrared	08/12/2015 1:33 PM	59	-

Camera Data

Airport Way West View 08/12/2015 1:53 PM	Airport Way West View 08/12/2015 1:53 PM	Gaffney Road North View 08/12/2015 1:54 PM	Airport Way East View 08/12/2015 1:54 PM
Airport Way - Richardson EB Ramp 08/12/2015 1:54 PM	Airport Way - Steese/Richardson Intersection 08/12/2015 1:54 PM	Pavement Closeup View 08/12/2015 1:54 PM	

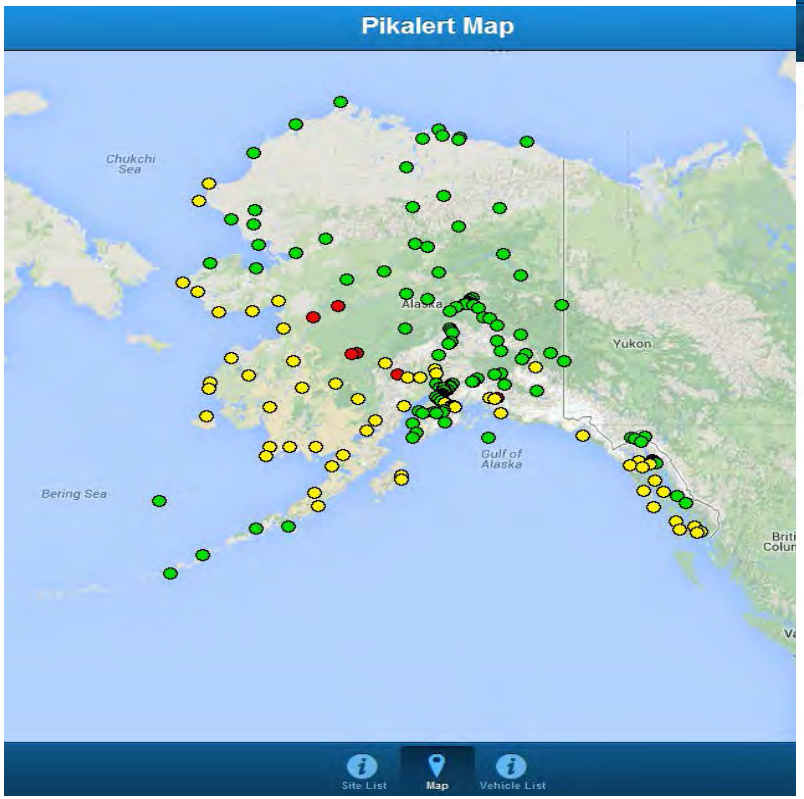
Road Weather

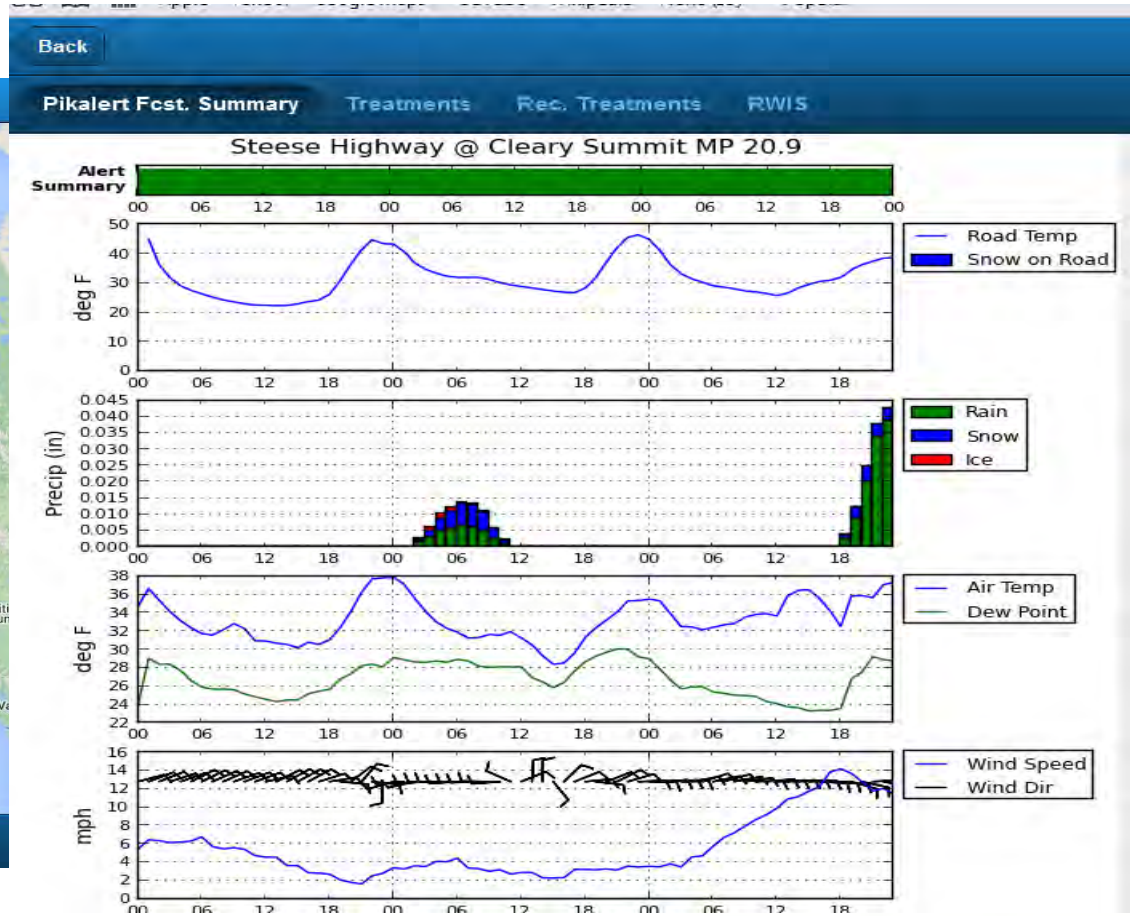
- » RWIS Home
- » RWIS - Camera - TDP
- » myRWIS
- » About RWIS
- » About TDP
- » RWIS Glossary
- » RWIS Website FAQs
- » Alaska Weather Links
- » Contact RWIS Manager
- » RWIS Site Data
  - » Site Summary
  - » Extremes Summary
  - » Atmospherics Summary
  - » Pavement Summary
- » RWIS Site MetaData
- » 511 - Traveler Information

RWIS HELP

Please note: You must have Acrobat Reader to open any documents on this page. If you do not have Acrobat Reader, click to download the FREE software.

Alaska Specific MDSS





Informing the Public

Alaska Department of Transportation & Public Facilities
November 14, 2014

We've been receiving a lot of questions recently about the department's use of salt brine in the Fairbanks area. Learn more about the brine and what it does in this blog post.

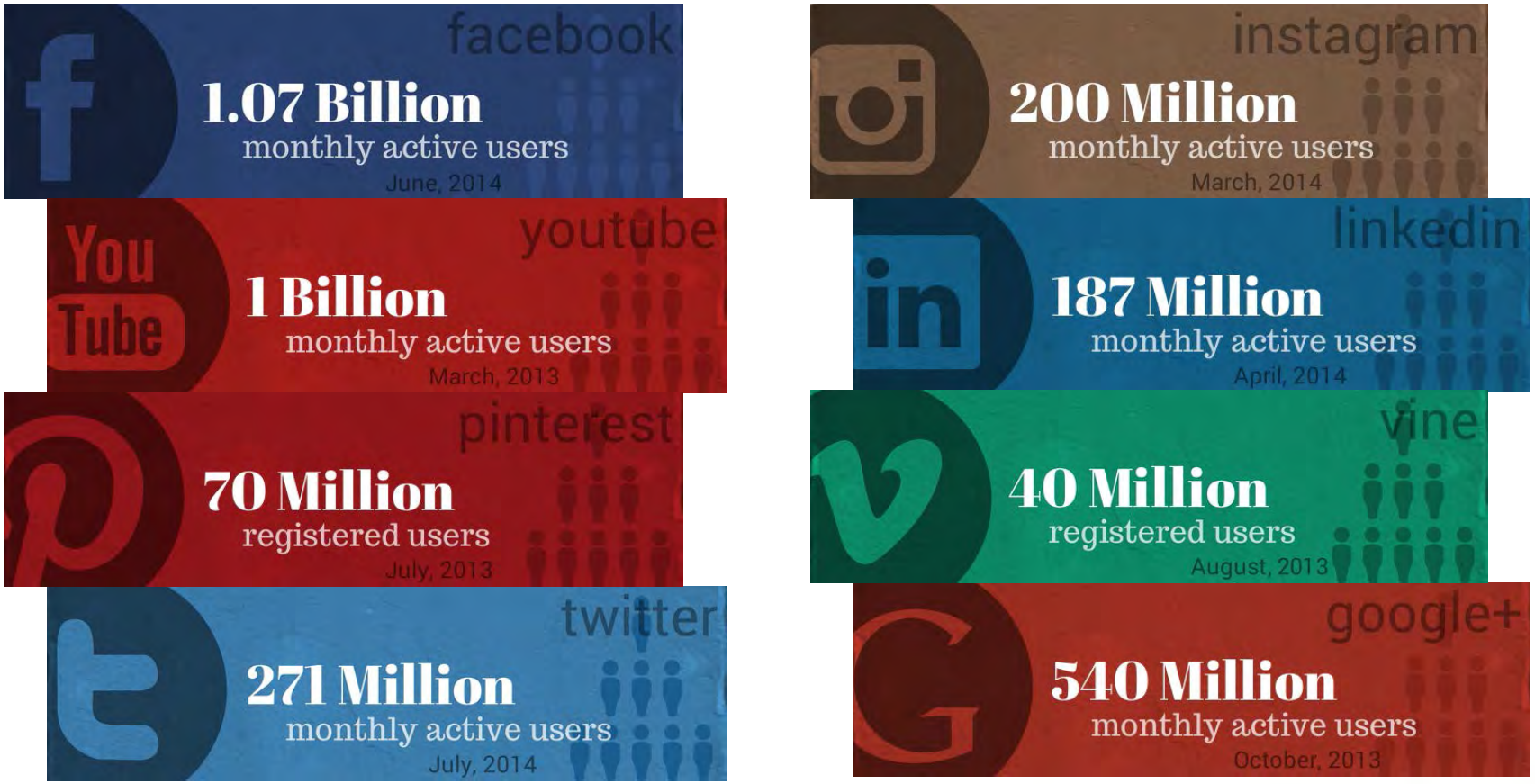
Transportation & Public Facilities

Salt Brine 101 Nov. 17, 2014 Salt brine (a freeze-point depressant) is a relative newcomer in the department's arsenal against ice and snow, which also includes an advanced equipment fleet, salt and sand. The region adopted the use of salt...

Why Social Media and Public Outreach?

- The importance of communication is increasing
- Communication isn't just one-sided
- Public expectations are increasing (real time reporting is demanded)
- We live in a 24 hour News world
- Don't let others tell or control our stor

Why Social Media?

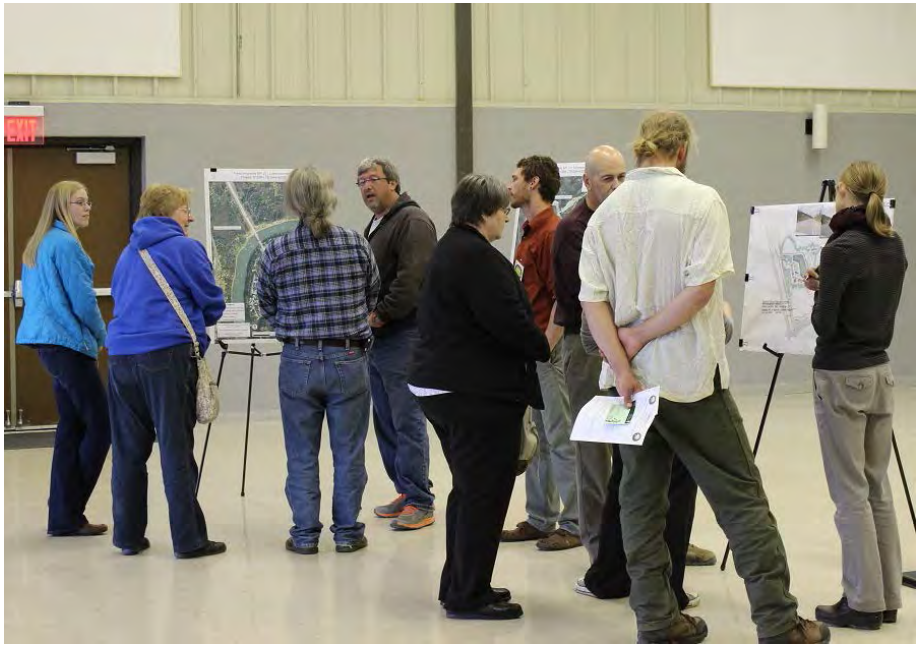


Source: TheSocialMediaHat.com

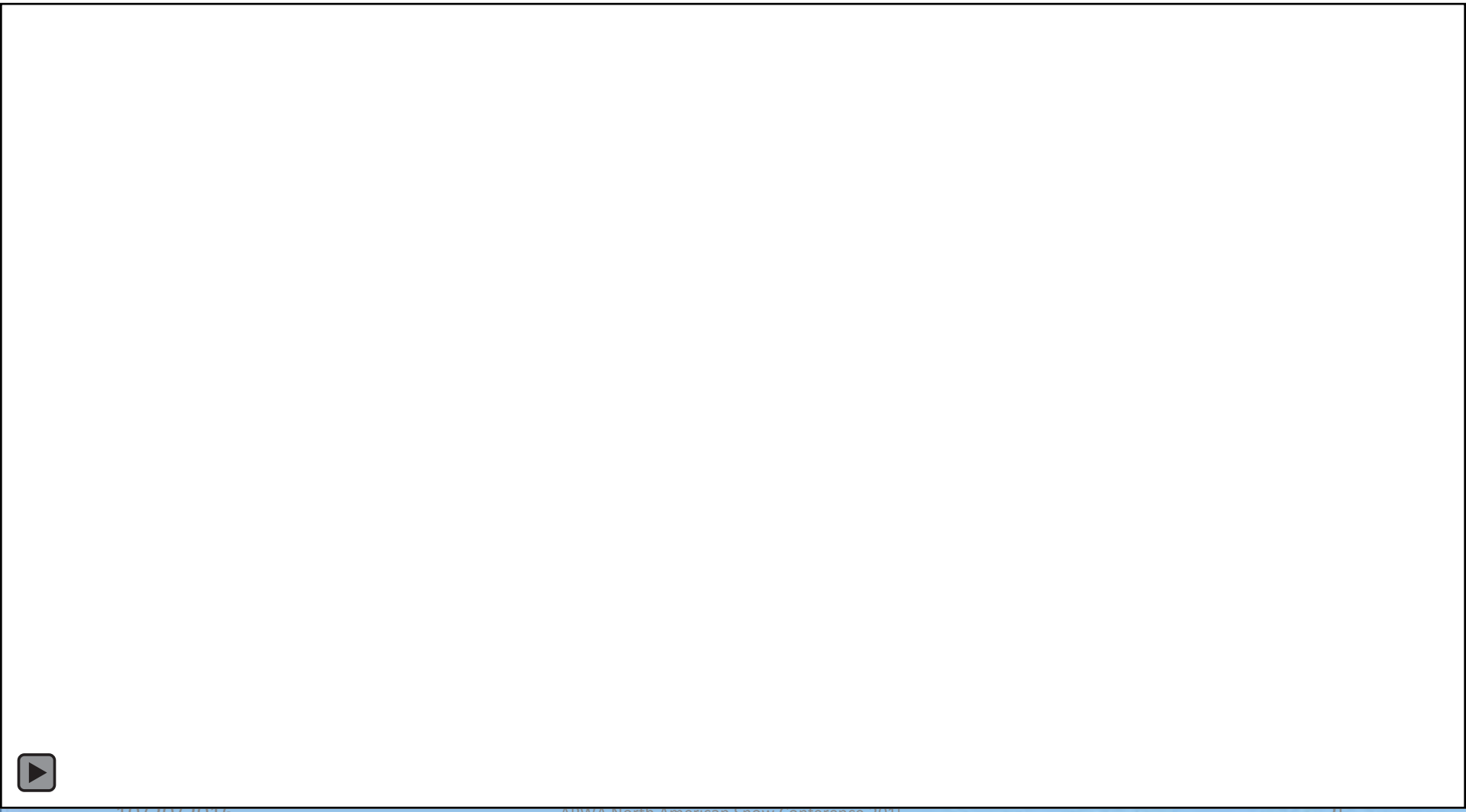
Traditional News Media

- Don’t underestimate the value and importance of traditional media outlets – TV, magazine, Newspaper,etc

Old School Messaging



Anti-icing PSA



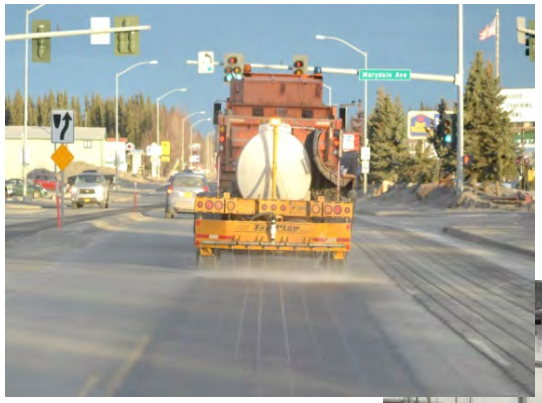
Build out:

Completed Expansion Projects 2015-16

- Fairbanks- 20,000 gallon storage
- 4,000 gallons/hour production and rising
- 12 Anti-Ice hubs supply numerous satellite facilities in the state

"It *will* work in Alaska- we proved it!"

Alaska Enhanced Brine Locations Expansion



- Juneau
- Sitka
- Klawock
- Valdez
  - Thompson Pass
- Soldotna
  - Ninilchik, N. Kenai, Quartz Creek
- Homer
- Seward

- Kodiak
- Dillingham
- Fairbanks
  - Birch Lake
  - Nenana
  - Healy
  - Cantwell
- Palmer
- Anchorage

West Des Moines

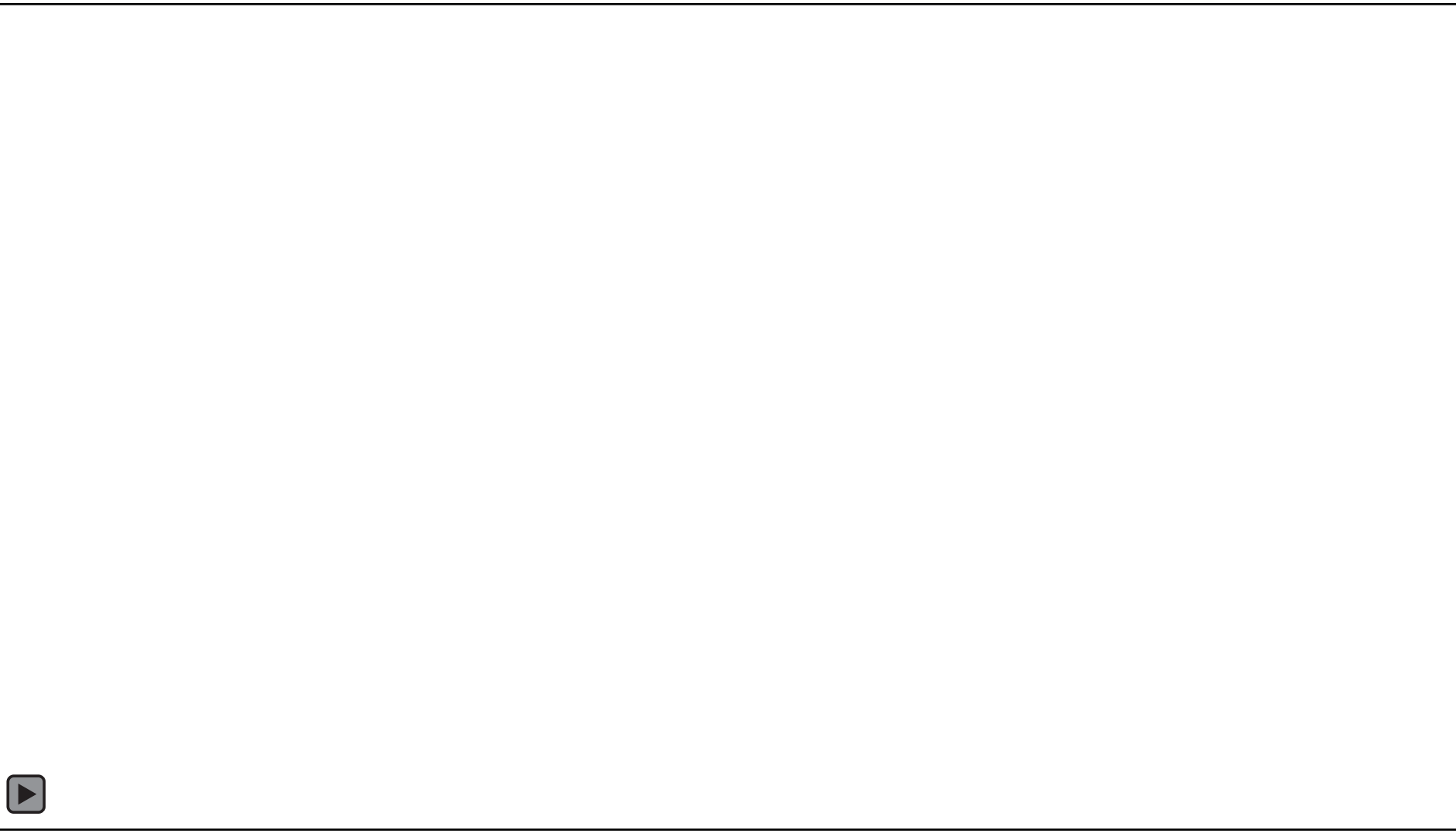
Implementing an RWIS Program on a Small scale

R. Mark DeVries and Wilf Nixon

- Issues for Small Scale
  - Access from DOT's, Counties, or Large Municipalities
  - Large Capital Investment
  - Own the Equipment
  - Cost

Started with a mobile unit

Mobile Vaisala Unit



Wanted to add fixed locations

- Wanted 24 hour coverage
- Wanted data on city roadways
- Wanted camera images
- Wanted more weather data

Wanted the latest technology that included grip

NON INTRUSIVE PAVEMENT TEMPERATURE SENSOR – FIXED MOUNT

Municipal Alternatives

- Lease vs. Purchase
- Developed Contract
- Maintenance Included
- Data Shared with Weather Service

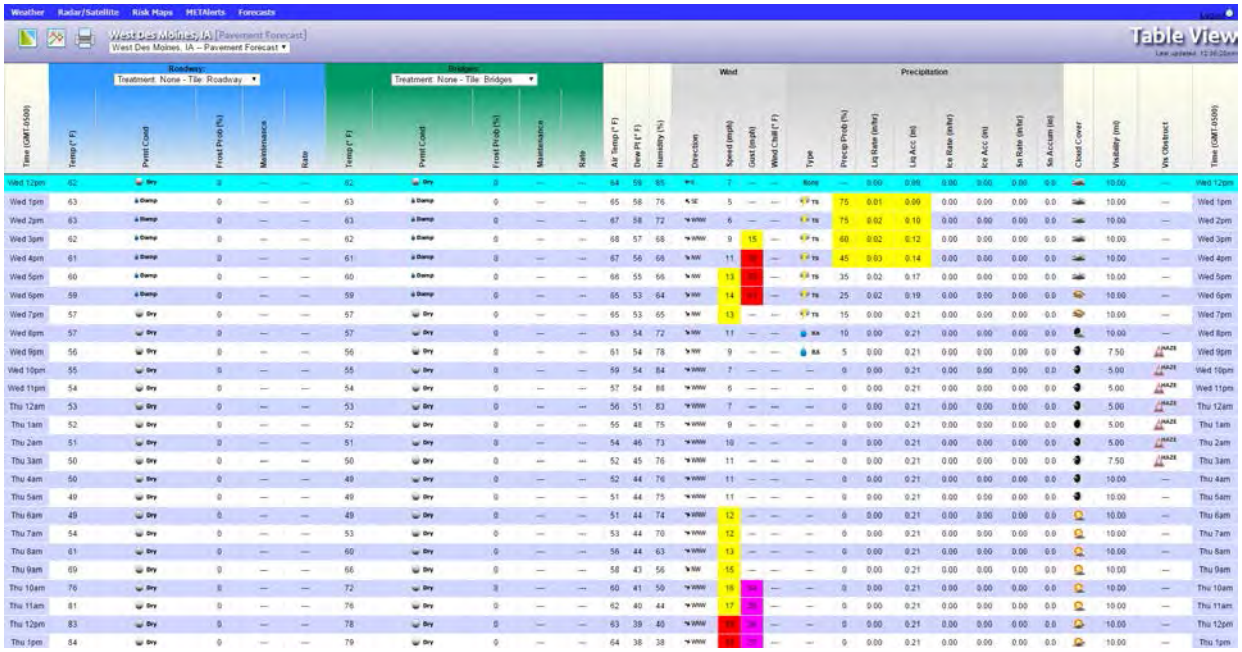

West Bank

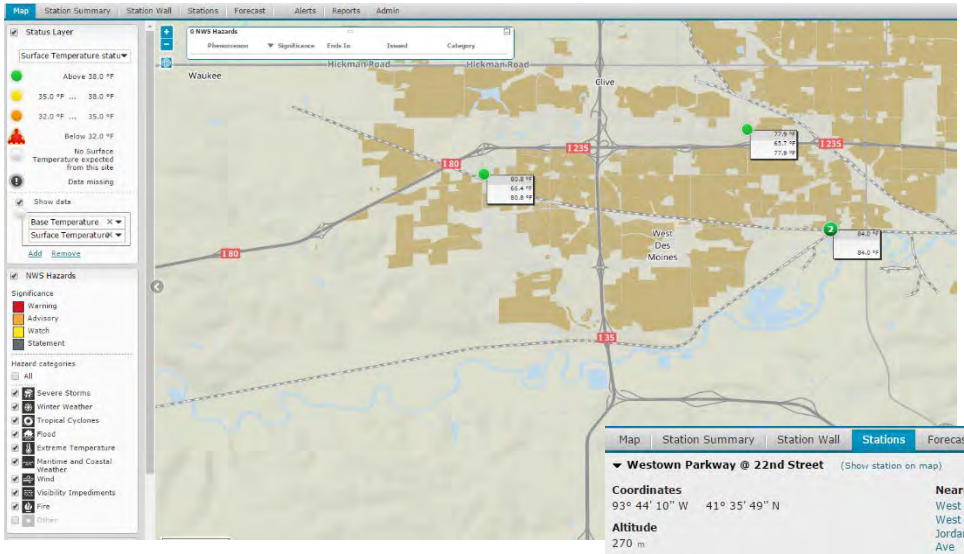
Data

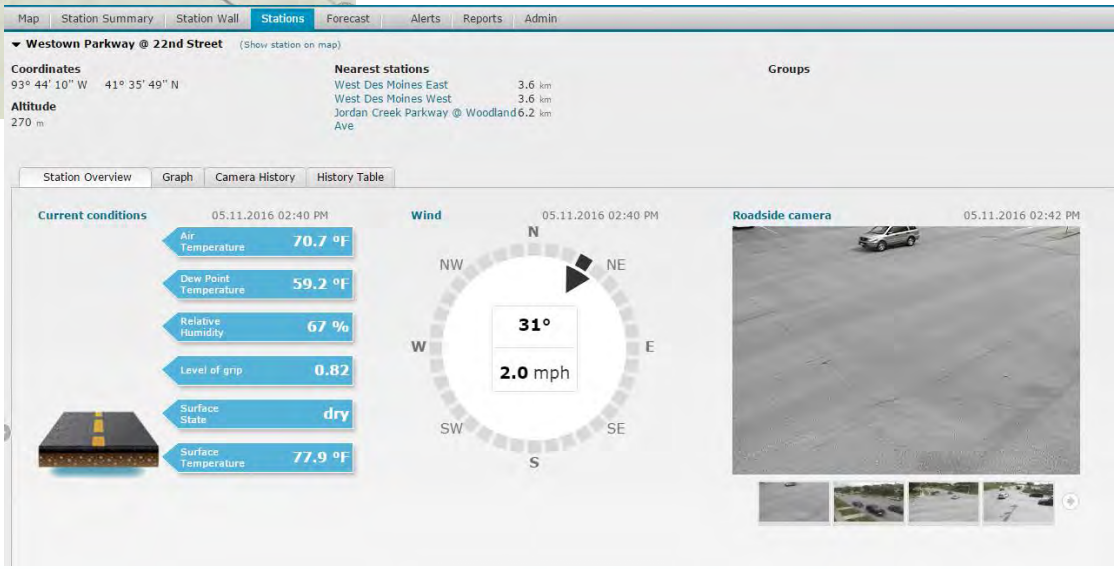
- Grip (Pavement Friction)
- Pavement Temperature
- Relative Humidity
- Dew Point
- Air Temperature
- Road Imagery (Photos)

How the data helps

- Paid Service Providers
- MDSS
- Storm History




Map
Station Summary
Station Wall
Stations
Forecast
Alerts
Reports
Admin
Status Layer
Surface Temperature status
Above 38.0 °F
35.0 °F ... 38.0 °F
32.0 °F ... 35.0 °F
Below 32.0 °F
No Surface Temperature expected from this site
Data missing
Show data
Base Temperature
Surface Temperature
Add
Remove
NWS Hazards
Significance
Warning
Advisory
Watch
Statement
Hazard categories
All
Severe Storms
Winter Weather
Tropical Cyclones
Flood
Extreme Temperature
Maritime and Coastal Weather
Wind
Visibility Impediments
Fire
Other
0 NWS Hazards
Hickman Road
Waukee
Clive
West Des Moines
I 80
I 235
I 35


Map
Station Summary
Station Wall
Stations
Forecast
Alerts
Reports
Admin
Westown Parkway @ 22nd Street
(Show station on map)
Coordinates
93° 44' 10" W 41° 35' 49" N
Altitude
270 m
Nearest stations
West Des Moines East 3.6 km
West Des Moines West 3.6 km
Jordan Creek Parkway @ Woodland Ave 6.2 km
Groups
Station Overview
Graph
Camera History
History Table
Current conditions
05.11.2016 02:40 PM
Air Temperature 70.7 °F
Dew Point Temperature 59.2 °F
Relative Humidity 67 %
Level of grip 0.82
Surface State dry
Surface Temperature 77.9 °F
Wind
05.11.2016 02:40 PM
N
NE
E
SE
S
SW
W
NW
31°
2.0 mph
Roadside camera
05.11.2016 02:42 PM

- Benefits
  - Reduced Use of Material
  - Data for Local Street Network
  - More Accurate Forecasts
  - Time Lapse Photo Evidence

Questions?