The Latest MDSS Technologies from QTT-SSI

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Who is QTT?

Weather Solutions - Provide our customers with the very best road weather technology including weather sensing equipment, advanced highway notification solutions, and road weather software.
Introducing the “Q” line of sensors

thermo-Q

• Non-intrusive pavement temperature sensor
• No need for lane closures for installation
• Easier to maintain
• Cost effective solution
Optional Innovative Design

*thermo*-Q 360

- Same sensor as the *thermo*-Q, but with **pan** and **tilt** feature to give you multiple surface readings.
Surface Patrol

Acquired from Control Products November 2006

- Non-contact mobile infrared pavement sensor
- QTT-SSI enhancements (under development)
  - Integration with RWIS data
  - Additional features
Winter Maintenance Support Tool

Winter Maintenance Index

• To be tested during the winter of 2007-2008.
• Developed in partnership with a third party European Company.
What is the Winter Maintenance Index?

• An historical measure of the severity of winter weather vs. maintenance activities performed.

• “This winter was worse than last!” Why? “We used more salt and overtime.”

• Is that a true way to measure?

• What if your supervisors made poor decisions?
What about measuring weather?

- “What about the amount of snow or ice?”
- Is a winter where you have 5 storms, 6 inches each for a total of 30 inches, the same as 15 storms, 2” each?
What makes up the index?

- Weather data for a particular time at a particular location
  - New Snow
  - Frost Conditions
  - Freezing Rain/Sleet
  - Freezing Conditions at the Surface
  - Blowing Snow
- Maintenance operations data for the same time period and location.
Example of some of the maintenance parameters recorded

- For each location:
  - Amount of miles treated with chemical
  - Amount of miles treated and plowed
  - Amount of miles plowed only
  - Amount of granular chemical used
  - Amount of liquid chemical used

- Can be done using historical maintenance data or entered “as we go” via a web site

- System can be customized for what an agency records

- For each location we also need to know altitude, terrain type, and road characteristics.
What do we get?

Ideal relation between maintenance and WMI

Monitored parameter on surface unit of maintained road network

Winter Maintenance Index
Example of Output

Plowing by Maintenance Locations

Winter Index

Plowing of 1km of roadway

Winter Index
A Way to Evaluate Performance

Salting

Date, WMI, divergence from average in km

Total divergence: 4575 km
Can show you one-time problems
Winter Index

• Gives you a measure of each storm
• Allows you to compare to other locations
• Independent of any technology
• Ability to define standards and look for ways to optimize
• Short-term or seasonal way to evaluate performance independently of climate, terrain, altitude or road length.
Weather Maintenance Index

- WMI
- MDSS
- RWIS – Weather Forecasts
Questions?

If interested in participating, come see me this week!