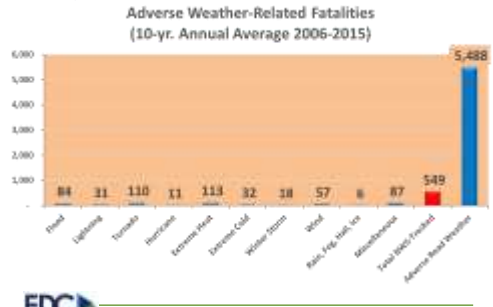


Road Weather Management Weather-Savvy Roads

American Meteorological Society Washington Forum
May 2, 2017
Paul Pisano

every day counts
An American Road & Builders Builders

Average Annual Fatalities Under Adverse Weather



Other Impacts on Transportation

- Mobility
 - About 25% of non-recurring delays are due to weather
 - Congestion costs about \$9.5B/yr. for 85 urban areas*
- Productivity
 - Weather-related delays add about \$3.4B/yr. to freight costs
- Environment
 - Chemicals used for snow and ice control affect watersheds, air quality and infrastructure



Source: 2012 Urban Mobility Scorecard <http://mobility.irs.usdcmr/>



3

What is "Every Day Counts" (EDC)?

State-based model to identify and rapidly deploy proven but underutilized innovations to:

- ✓ shorten the project delivery process
 - ✓ enhance roadway safety
 - ✓ reduce congestion
 - ✓ improve environmental sustainability
- EDC Rounds: two year cycles
 - Initiating 4th Round (2017-2018) - 11 innovations
 - EDC to date: 3 Rounds, 35 innovations



4

Two Solutions for Weather-Savvy Roads

- Pathfinder
- Integrating Mobile Observations (IMO)



Source FHWA

5

every day counts

Weather-Savvy Roads

Pathfinder

6

Pathfinder Goal



Strengthen the working relationships across State DOTs and the Weather and Climate Enterprise for the dissemination of road weather information to travelers that is

- clear,
- concise,
- impact-based, and
- consistent

so that drivers are well informed and able to make safe and efficient travel decisions



Pathfinder Core Partners

- **National Weather Service:** Experts at weather forecasts
- **Private Sector Weather Providers:** Experts at road weather forecasts
- **State DOTs:** Experts at operating and maintaining the roadways – knowledgeable about the state of the roadways and the impact to the traveling public
- **State Emergency Managers:** Included in core partners to coordinate activities during high impact events
- **Public Information Officers:** Send the messages to the media & public



Pathfinder Document



The document . . .

- Describes 8 basic steps and associated requirements
- Provides examples from State DOT implementations
- Characterizes agency organizational structure
- Companion workbook walks team through the implementation process



every day counts

Weather-Savvy Roads

Integrating Mobile Observations

10

Integrating Mobile Observations (IMO) Goal



Deploy advanced, vehicle-based technologies to

- collect,
- transmit, and
- use

weather, road condition, and related vehicle data for improved transportation system management.



11

IMO Project

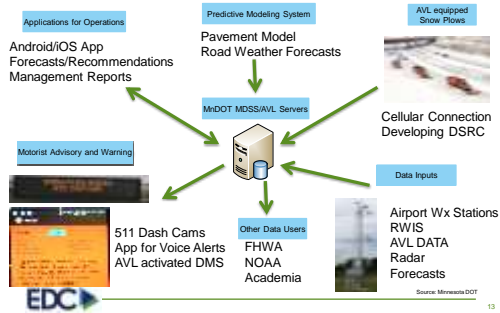
Goal: Exploring the feasibility of using vehicle-based data to improve transportation safety & mobility

Minnesota DOT ~590 Vehicles Data <ul style="list-style-type: none"> • Air Temperature • Relative Humidity • Surface Temperature • Wiper Status • Brake Status • Accelerometer Camera Images AVL, Cellular, & DSRC	Michigan DOT ~15 IMO Vehicles + 310 Snow Plows Data <ul style="list-style-type: none"> • Air Temperature • Relative Humidity • Surface Temperature • Brake Status • Accelerometer Camera Images Cellular, DSRC, & WiFi	Nevada DOT ~60 Vehicles Data <ul style="list-style-type: none"> • Air Temperature • Relative Humidity • Surface Temperature • Wiper Status • Diagnostics Status Radio, Cellular, & DSRC
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12

Minnesota IMO System Framework



every day counts

Weather-Savvy Roads

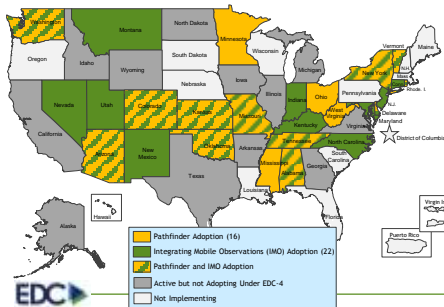
Current Status

The slide features a blue background with white text. At the top, there is a row of five small images showing various road scenes. The EDC logo is at the bottom left.

Innovation Deployment Team Members

Team Role	Team Member
Initiative Lead	<ul style="list-style-type: none"> Paul Pisano (FHWA HQ - RWM Management Team)
FHWA Team	<ul style="list-style-type: none"> Roemer Alfelor (FHWA HQ - RWM Management Team) Gabriel Guevara (FHWA HQ - RWM Management Team) Ray Murphy (FHWA Resource Center)
NWS Team	<ul style="list-style-type: none"> Andrew Stern (NWS HQ) Roham Abtahi (NWS HQ)
State DOT Subject Matter Experts	<ul style="list-style-type: none"> Jeff Williams (Utah DOT) Joe Huneke (Minnesota DOT) Sue Lodahl (Minnesota DOT) Rodney Shilling (Nevada DOT) Steve Cook (Michigan DOT)

Weather-Savvy Roads State Map



Implementing Weather-Savvy Roads

Pathfinder

- Implementation Guide
- Implementation Workbook

Integrating Mobile Observations

- Materials to assist in deployment, such as sample specifications, case studies, etc.
- IMO Final Reports (Benefits, Costs, Lessons Learned)

We'll conduct a variety of Technology Transfer efforts, such as:

- Webinars
- Stakeholder Meetings – next one is June 20-22 in Minneapolis
- Peer Exchange Workshops
- Site Visits
- Training

Contacts

EDC-4 Coordinators & STIC Network

<http://www.fhwa.dot.gov/innovation/stic/stic-contacts.cfm>

- | | |
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