

# Federal Prototype MDSS



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# Background

## Maintenance Decision Support System (MDSS)

- ✧ First version was developed in 2001
- ✧ Version 6.1 recently released
- ✧ Deployed over Denver, E470 Toll road, Denver International Airport, A1 Highway – Madrid
- ✧ Plans for deployment in complex terrain



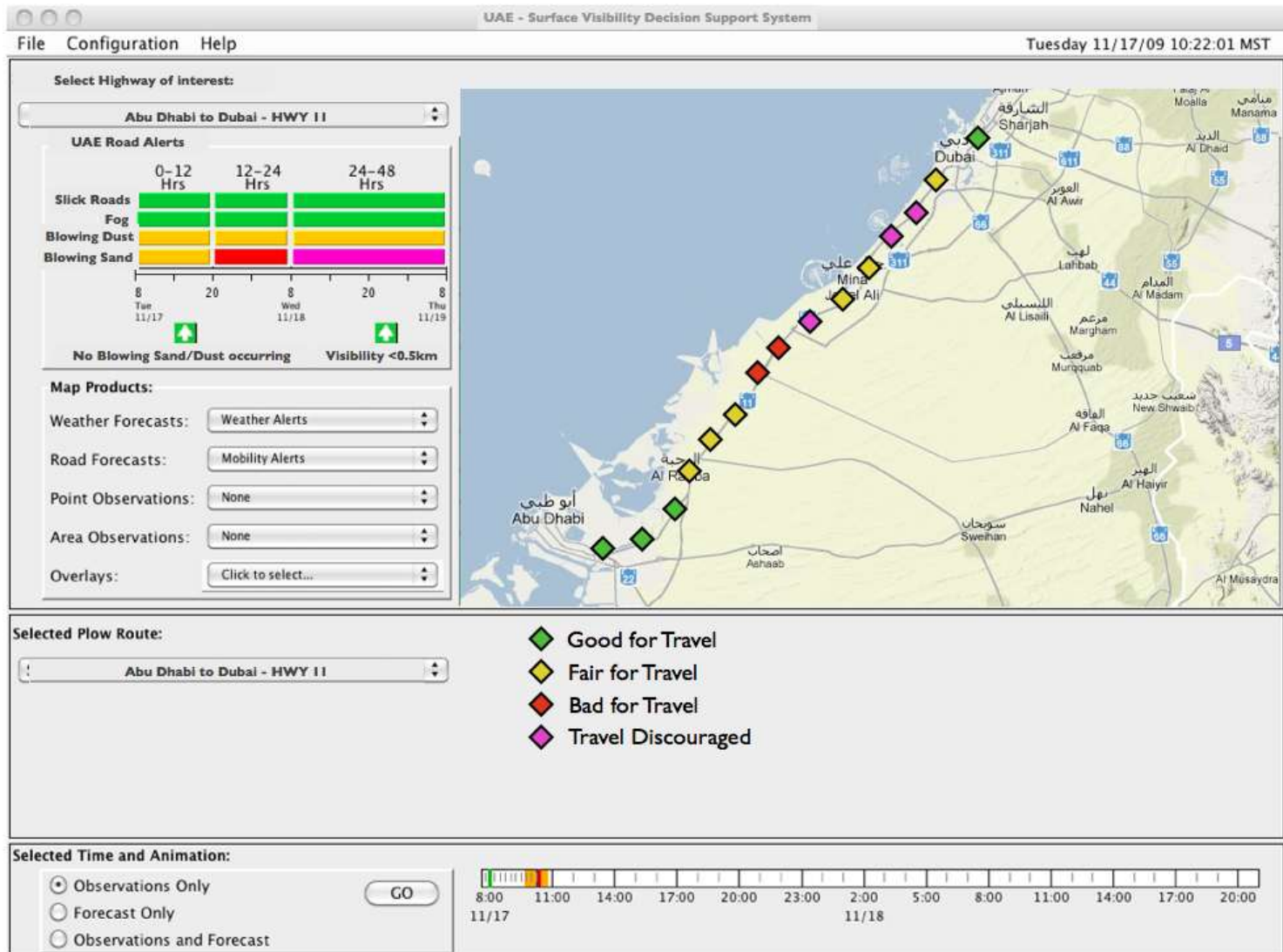
# MDSS - Issues

- **Tactical Forecasting**
- **Forecasting in Complex Terrain**
- **Pavement model issues (non-winter, high latitudes)**
- **Usefulness in Airport ground environment**
  - Complex Decisions
  - Treatment recommendations

# Future MDSS-type Systems

- Non-winter maintenance – pavement, precip, lightning, etc.
  - Fleet routing
  - Emergency Services
  - Complex Airport DSS
  - Rail
  - Visibility
- \* Some of this still needs to be researched out

# Future MDSS-type Systems



# MDSS Information

RAL | Maintenance Decision Support System (MDSS)

http://www.rap.ucar.edu/projects/rdwx\_mdss/

UCAR NCAR UOP

RAL home research technology people/org publications events pressroom for staff

NCAR Maintenance Decision Support System | RAL

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### Maintenance Decision Support System

Controlling snow and ice buildup on roadways during winter weather events presents several challenges for winter maintenance personnel. Among these challenges is the need to make effective winter maintenance decisions (treatment types, timing, rates, and locations), as these decisions have a considerable impact on roadway safety and efficiency. Additionally, poor decisions can have adverse economic and environmental consequences. In an effort to mitigate the challenges associated with winter maintenance decisions, the Federal Highway Administration (FHWA) Office of Transportation Operations (HOTO) initiated a program in 2001 aimed at developing a winter road Maintenance Decision Support System (MDSS).

The MDSS project goal is to develop a prototype capability that:

- Capitalizes on existing road and weather data sources,
- Augments data sources where they are weak or where improved accuracy could significantly improve the decision-making task,
- Fuses data to make an open, integrated and understandable presentation of current environmental and road conditions.

### Latest News & Events

15th World Congress on ITS  
November 16-20, 2008  
New York City, NY  
[see details](#)

88th Annual Transportation Research Board Annual Meeting  
January 11-15, 2009  
Washington, DC  
[see details](#)

89th Annual American Meteorological Society Annual Meeting  
January 11-15, 2009  
Phoenix, AZ  
[see details](#)

Sixth stakeholder meeting for the Clarus Initiative Coordinating Committee (ICC)  
August 4-5, 2008  
Silver Legacy Resort, Reno, Nevada  
contact: Andy Stern | [astern@noaa.org](mailto:astern@noaa.org) | 703-410-1754 or Paul Pisano | [paul.pisano@dot.gov](mailto:paul.pisano@dot.gov) | 202-366-1301

Maintenance Decision Support System (MDSS) Stakeholder Meeting  
August 5-7, 2008  
Silver Legacy Resort, Reno, Nevada  
contact: Andy Stern | [astern@noaa.org](mailto:astern@noaa.org) | 703-410-1754 or Paul Pisano | [paul.pisano@dot.gov](mailto:paul.pisano@dot.gov) | 202-366-1301

[http://www.rap.ucar.edu/projects/rdwx\\_mdss](http://www.rap.ucar.edu/projects/rdwx_mdss)

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