# Iowa Demonstration Results Overview


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**FHWA – Road Weather Management Program**

# Technology Transfer Process

**It is the intent of the FHWA that the prototype MDSS be used as a template by the private sector.**

**It is anticipated that the MDSS will ultimately be deployed by road operating agencies and supplied by the private sector.**

**Release-1: September 2002**
**Release-2: September 2003**
**Release-3: September 2004?**

# System Releases

**Release-1**

- Parts of system code **still crude**
- Interprocess communication **not complete**
- Significant **weaknesses** in rules of practice

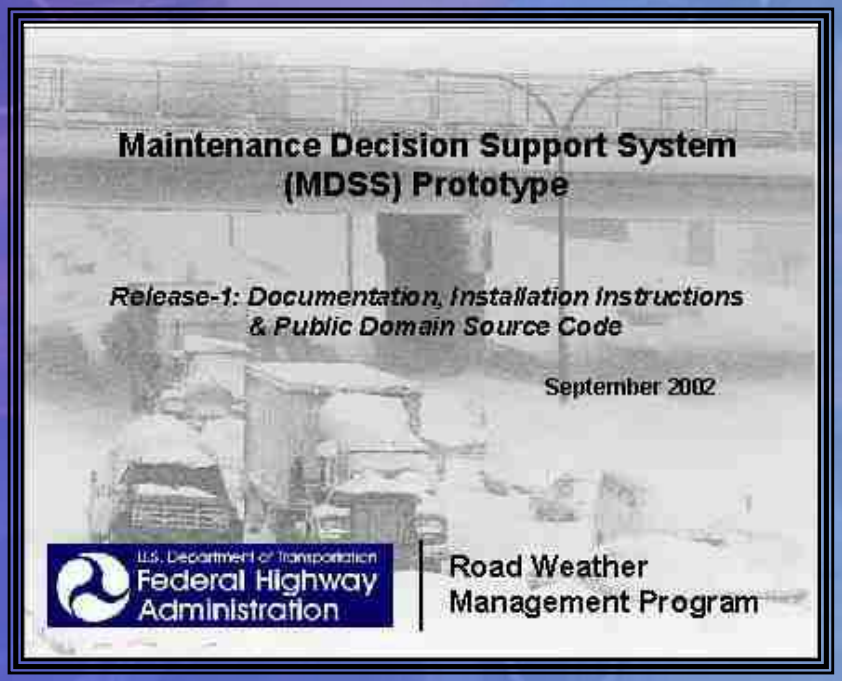
**Release-2**

- **More mature** components
- **End-to-end** (real-time) processing
- Components will be much **easier to utilize**

# MDSS Software Release-1

## Release-1 Recipients

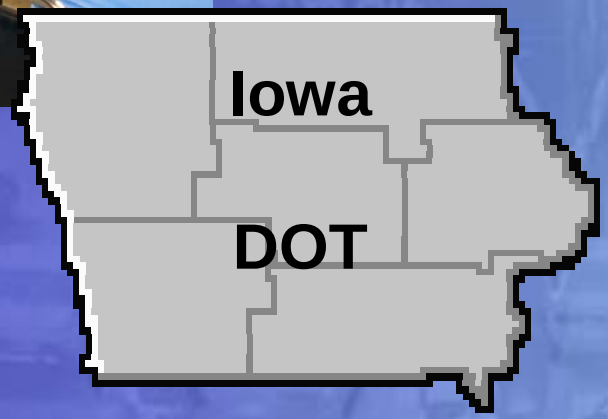
| | |
|---|---|
| Total Registrations: | 41 |
| Private Sector: | 17 |
| DOTs | 8 |
| R&D/Labs/Univ | 16 |
| International | 7 |
| License Completed | 5 |
| License Desired | 18 |




MDSS CD

# Iowa Demonstration





# MDSS Project – Food for Thought

**"We have to be careful not to end up helping the end user do the wrong thing more precisely!"**


**Dennis Burkheimer & Richard Hedlund – December 2002**

# MDSS Performance Overview

**The Iowa demonstration was very productive, not because the MDSS performance was stellar, but because it was useful in highlighting system weaknesses.**

**The good news and bad news will be presented candidly in this forum.**

# Iowa Demo - Verification & Validation

**Evaluate:**

1) Weather prediction component

2) Treatment recommendations

3) Impact of the supplemental mesoscale models

4) Potential benefit of operational system

5) Identify & evaluate current system limitations

# Problems and Issues - Overview

- MDSS weather predictions need improvement
  (tuning problems, model configuration)
- Rules of Practice module needs refinement
- Use for tactical support problematic
- Some display refinements needed to make it easier to view predicted values

# Preliminary Lessons Learned

## Major Findings

1) The MDSS requires highly specific **forecasts of precipitation**, which are pushing the current **limits of predictability**.

1) The *Road Condition & Treatment Module*, which includes the rules of practice, **needs additional development** to handle a wider variety of weather scenarios and treatment responses.

# Preliminary Lessons Learned

- Availability and quality of real-time precipitation rate data are very poor.
- Uncertain if the local rules of practice are followed consistently enough.
- A system reset is required when routes are cleared of snow, otherwise future predictions will be suspect.

# Preliminary Lessons Learned

- Light snow events (intermittent flurries) are critical and particularly hard to predict. Frost and blowing snow need attention.
- Tactical as well as strategic decision support is needed.
- Because weather will never be predicted perfectly at road scales, probabilistic products should be developed.