

Public Safety

- q Rising expectations of traveling public and commercial carriers
- q Constrained agency funding and staffing
- q Reliable, timely, specific reports of conditions difficult to obtain
- q Some weather conditions are difficult to forecast
- q Pavement response to weather conditions and maintenance treatments is not well established
- q Effects and effectiveness of innovative maintenance treatments not entirely understood
- q Retiring maintenance staff replaced by less experienced workers

Input-Process-Output

If you know...

- q Road characteristics
- q Current conditions
- q Weather forecast
- q Physics & chemistry of snow, ice, chemicals
- q Available resources (material, equipment, schedule)

Then you can

recommend...

- q Treatment type
- q Application rate
- q Optimal timing

...and predict

- q Future road conditions with or without treatments

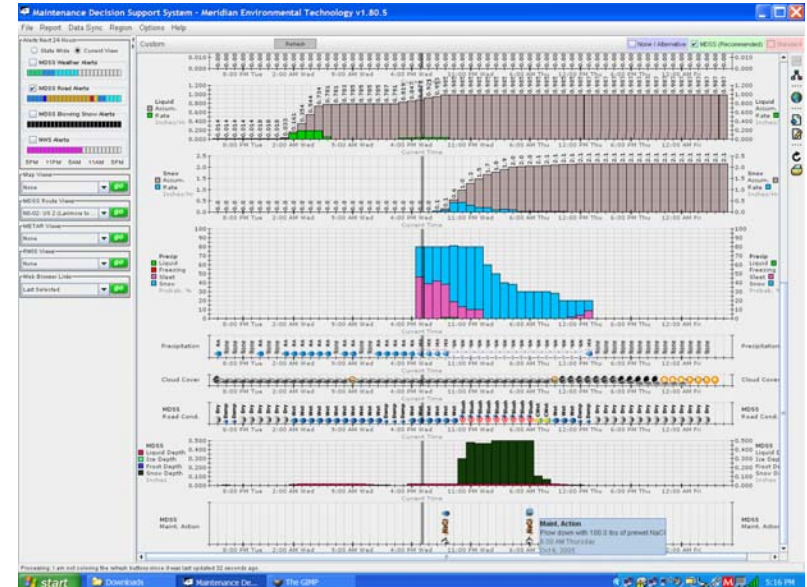
Summary

- q Assess needs, benefits, and receptivity to MDSS in participating DOTs
- q Define functional and user requirements for an operational and sustainable Maintenance Decision Support System
- q Evaluate FHWA Functional Prototype
- q Build and evaluate an operational and sustainable Maintenance Decision Support System
- q Improve the ability to forecast road conditions in response to changing weather and applied maintenance treatments

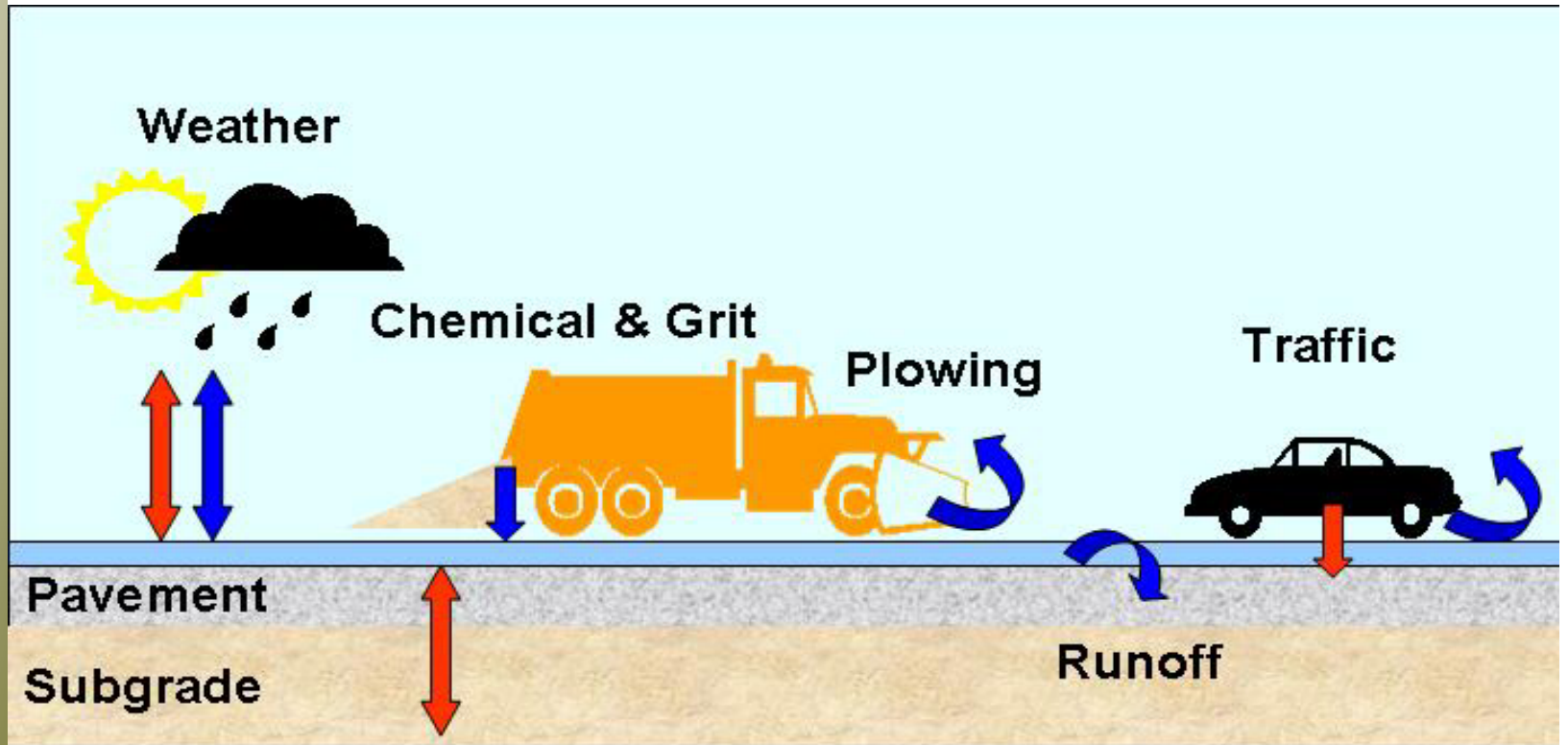
Reporting & Predicting Road Surface Conditions

Reporting & Predicting Road Surface Conditions

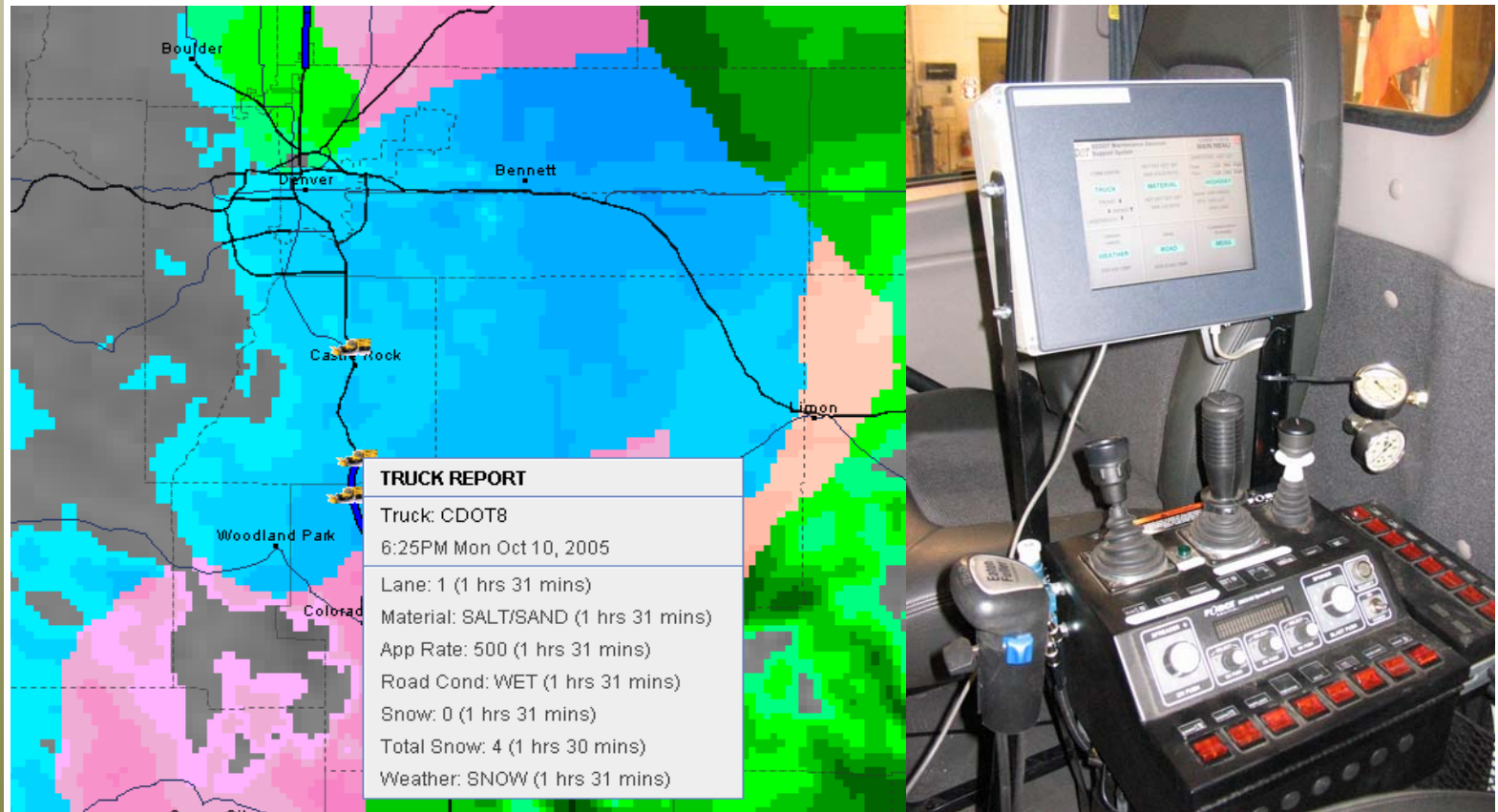
- Report actual road conditions
- Predict road surface behavior
- Report maintenance treatments
- Communicate recommendations to supervisors and workers
- Assess past & present weather conditions
- Assess present roadway state
- Predict storm-event weather
- Recognize resource constraints
- Identify feasible maintenance treatments



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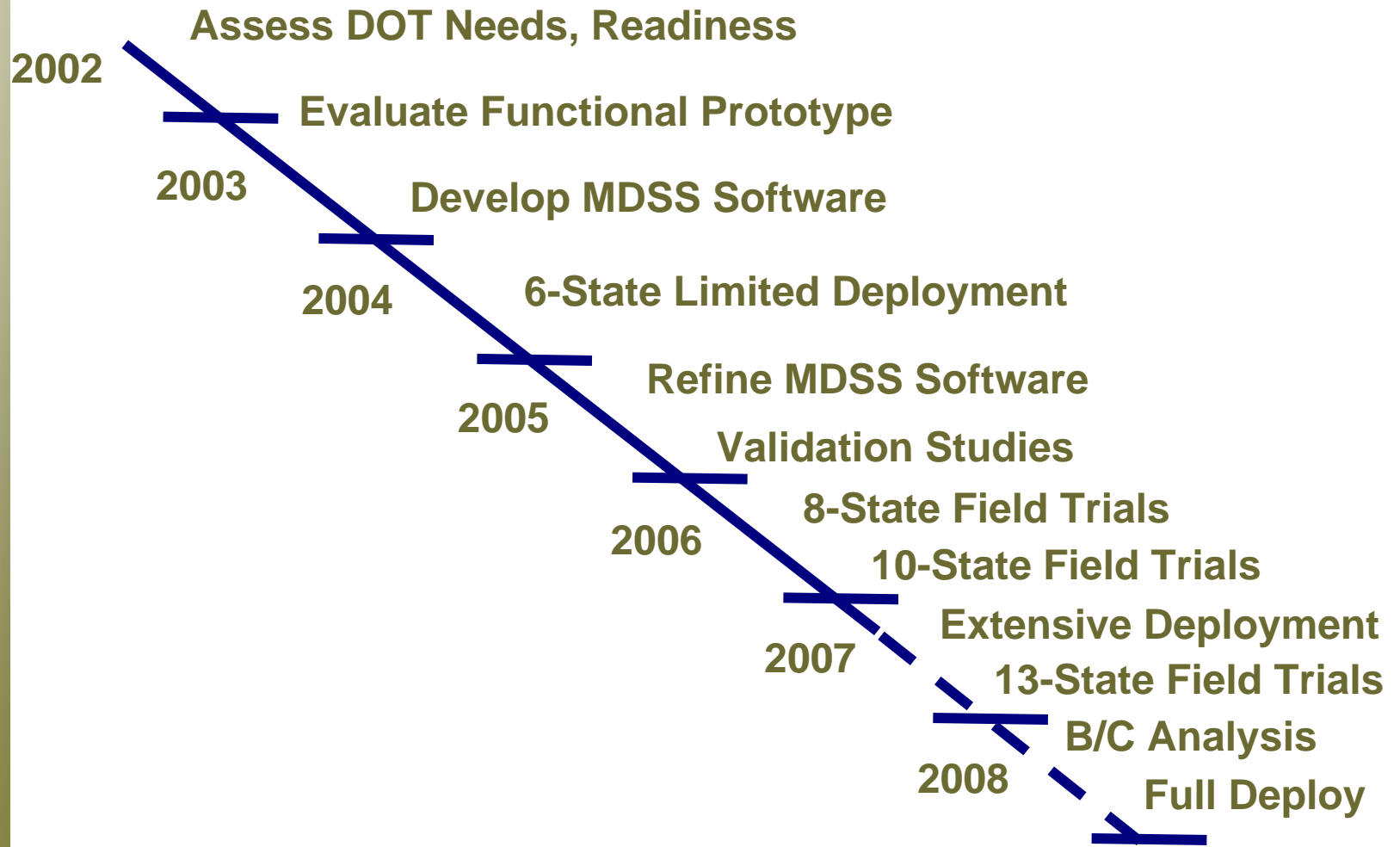


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Weather-Related Research

- q Extensive Deployment
- q Weather & Road Prediction Validation
- q In-Vehicle Instrumentation
- q In-Vehicle Information to Operators
- q Improved Physical Models
 - Difficult Weather Conditions
 - Chemical Effects
- q Integration with DOT Information Systems (Equipment, Scheduling, Traveler Information, etc.)
- q Benefit/Cost Analysis

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- q Intellectual Property
 - **NOT** Public Domain
 - Equity for partners and non-partners
- q Architecture
 - Open Architecture
 - Interface Standards
 - System Modularity
- q Institutional Issues
 - Fit to specific DOT cultures & practices
- q Advancing the State of Art & Practice

Stewardship

- q Contribute Financially
- q Contribute Intellectually
 - Project Panel Meetings
 - Conference Calls
 - Technical Product Reviews
- q Conduct Field Trials
- q Intellectual Property Stewardship

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