Joint Project with the Weather Enterprise and FHWA-RWM

Guidance for Improving Collaboration Between State DOT’s and the Weather Enterprise
Who are the players?

- State DOTs
- Operational Weather Enterprise
  - Public Sector
  - Private Sector
- Partners
  - Emergency Managers
  - Academics
Project Description and Goals

- Evaluate Current Practices of State DOTs’ Interactions and Relationships with the Weather Enterprise
  - E.g. sharing data; developing forecasts; issuing messages and graphics; education
- Document These Interactions
- Provide State DOTs With a Guidance Document Including:
  - Differing Methods of Operations
  - Criteria and Summary of Good Practices
The Goal(s)

• Societal Benefit
  - Public, local governments, commercial sector make good decisions about transportation based on accurate, timely, and understandable weather information and its impact on transportation
  - DOTs accomplish their mission in the most cost effective way possible by incorporating weather information into their decision making process
How?

- **Collaboration on the Weather**
  - Has to happen as a prerequisite to getting the messaging done right
- **Collaboration on the message**
  - People need to hear and see a **consistent** message from all players or they don’t modify their behavior
- **Collaboration toward the action**
  - The message is not just weather, it’s about impacts to transportation and risk-informed decisions
- **Successful collaboration means:**
  - Optimization of the relationship to be more efficient, eliminate duplication, accelerate understanding, enhance consistency, all to better support shared goals such as life, safety and economic outcomes as illustrated in the next slide...
Impact of a Shared Message?

- Major commuter route near University of Utah shows impact of messaging
  - Afternoon peak commute (southbound) time was shifted based on forecast
    - Typical peak is 400-600 PM
    - On January 10th peak was 300-400 PM

- Reduced afternoon and evening (Noon-8:00 PM) travel based on forecast
  - 17 Jan - Total Volume 17,871
  - 10 Jan - Total Volume 13,540
Identified 5 Case Studies With Disparate Operations

- Case 1: Private Sector in the TMC
- Case 2: Private Sector outside the TMC
- Case 3: No Private Sector
- Case 4(a): Private Sector Met and DOT Met
- Case 4(b): Private Sector Met and DOT Met embedded in the TMC
Case 1
Private Sector in the TMC
Case 2
Private Sector outside the TMC
Case 3
No Private Sector

No Private Sector

Field Operations

TMC

Media

NWS WFO

Wx Forecasts

Impacts

Observations

Wx Forecasts

Wx Forecasts
Case 4(a)
Private Sector Met and DOT Met (neither embedded)
Case 4(b)
Private Sector Met and DOT Met
Embedded in the TMC
Develop Documentation Framework For DOT Weather Enterprise Interactions

**Phase I**
- Organization/Structure
- Methods of Interactions
- Weather Data Sources
- Relationships

**Phase II**
- Specific Weather Event(s)
- Impact mitigation strategies
- Decision Support Systems (DSS)
- Public messaging
- Performance Evaluation
What Does Success Look Like

- Clearly Defined Alignment Among the Weather Enterprise
- Coordination of Decision Support Services
- Consistent Traveler Information Messaging
- An Engaged and Communicative Weather Enterprise
States Interested Phase I

Emerging Services
State’s Experience

- Weather Operations organization and structure
- Methods of interactions and shared information with the Weather Enterprise
- Highlights of what works and lessons learned
State’s Experience

<table>
<thead>
<tr>
<th>State's Experience</th>
<th>Representative</th>
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<tbody>
<tr>
<td>Alaska DOT&amp;PF</td>
<td>Jack Stickel</td>
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<tr>
<td>Iowa DOT</td>
<td>Tina Greenfield</td>
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<tr>
<td>Wyoming DOT</td>
<td>Kevin Cox</td>
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<td>NWS WFO Little Rock</td>
<td>John Robinson</td>
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<td>Wisconsin DOT</td>
<td>Mike Adams</td>
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<td>Utah DOT</td>
<td>Jeff Williams</td>
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<tr>
<td>Minnesota DOT</td>
<td>Curt Pape</td>
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Questions/Open Discussion
Further Discussion Topics

1. Expectations
2. Justifications
3. Program’s Strengths and Weaknesses
4. Barriers to Success in Achieving a Mature Weather Ops Program
5. Future Needs For Road Weather Support