Road Weather Management Capability Maturity Framework Webinar

Webinar #2
Winter Weather

December 7, 2017 | 12:00 - 1:00 PM EST

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Welcome and Introductions

Please type in the Chat Pod:
- Your Name
- Your Agency/Affiliation

Please mute your phone by dialing *6 or pressing the ‘Mute’ button when you’re not talking.
Purpose of Today’s Webinar

- Provide a brief overview of the RWM CMF Process and Tool
- Share experiences and outcomes of winter weather agencies that have conducted the evaluations
- Discuss common RWM themes across agencies
- Provide info on how to request a workshop
National RWM CMF Deployment

Completed Workshops

1. Colorado (Nov 2014)
2. Wyoming (Sept 2016)
3. Idaho (Oct 2016)
4. Dallas, TX (April 2017)
5. Houston, TX (April 2017)
6. Alaska (May 2017)
8. Arizona (May 2017)
9. Illinois (June 2017)
10. Nevada (July 2017)
Webinar Focus States

Webinar #1 (Dec 5th)
Non-Winter Weather
• Texas (Dallas and Houston)
• Arizona
• Nevada

Webinar #2 (Dec 7th)
Winter Weather
• Alaska
• New Hampshire
• Illinois
• New York State
RWM CMF Overview

What does RWM include?
• Maintenance and operations activities to prevent or mitigate the impacts of adverse weather

How does the RWM CMF Work?
• Assesses ability to manage operations before, during and after weather events
• Assists in making appropriate RWM improvement and investment decisions

Who uses the RWM CMF?
• Agencies or regions looking to evaluate current RWM capabilities and identify a list of actions to raise capabilities to the desired levels
Matrix that defines process improvement areas and capability levels

<table>
<thead>
<tr>
<th>Process Improvement Areas</th>
<th>Dimensions / Process Areas</th>
<th>Level 1 (Ad-Hoc.)</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4 (Optimized)</th>
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<tbody>
<tr>
<td>Plans, Programs, Budgets</td>
<td>Business Process</td>
<td>Statement of capability</td>
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<td>Approach to building systems</td>
<td>Systems &amp; Technology</td>
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<td>Use of performance measures</td>
<td>Performance Measurement</td>
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<td>Improving capability of workforce</td>
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<td>Changing culture and building champions</td>
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<td>Improving working relationships</td>
<td>Collaboration</td>
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**Step 1. Self-Assessment**
Work with your stakeholders to assess where you are in terms of the capabilities in each area.

**Step 2. Identify areas of improvement and the desired levels of capability to improve program effectiveness**

Identify actions that you need to take to move to the desired levels of capability.
CMF Assessment Process

1. Prepare for CMF
   - Assemble the right group
   - Decide on the geographic/jurisdictional scope
   - Define operational objectives

2. Conduct CMF Review
   - Answer the self-assessment
   - Review capability levels by answers
   - Identify improvement areas
   - Review suggested actions
   - Modify and select actions for further consideration

3. Develop Implementation Plan
   - Prioritize selected actions
   - Develop timeline for implementing actions
   - Identify champions for actions

4. Review Progress
   - Review status of actions
   - Adjust based on new information
   - Revisit step 1
Road Weather CMF Electronic Tool

Welcome

Welcome to the Road Weather Management Capability Maturity Self-Evaluation Tool. This tool is intended to help agencies/regions assess their current traffic management capabilities and develop an implementation plan for moving to a higher level of capability. This plan development is guided by a menu of actions to consider based on current and desired levels of capability. Users of the tool can take a full, highly detailed assessment, or a quick (1-minute) assessment to arrive at the point of selecting actions.

Modeled after the AASHTO Systems Operations and Maintenance guidance, this tool assesses road weather management capability in the same six dimensions — Business Processes, Systems and Technology, Culture, Organization, Performance, Measurement, and Collaboration. However, in this tool, road weather management is viewed as a subset of the larger Transportation Systems Management and Operations (TSM&O) program. The capability levels and the actions are more focused and defined from a traffic manager’s perspective. The actions may require other agencies to be the responsible party, which is intended to foster multi-agency collaboration and dialogue about road weather management at the regional level. Users that take this assessment are encouraged to share this tool with agencies that they collaborate and work with on road weather management of their respective transportation systems.

Before initiating the assessment, you may want to identify the individuals in your Road Weather Management Center or other traffic operations and planning personnel in the region who are best positioned and experienced to address the steps outlined above, and involve them throughout the self-evaluation and action planning process.

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Email
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Agency
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Department
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Winter Weather States

Four state agencies conducted RWM CMF assessments through this effort:

**Alaska (May 2017)**
Lisa Idell-Sassi
Alaska DOT

**New Hampshire (May 2017)**
Susan Klasen
NH DOT
Nick King
NH DOT

**Illinois (June 2017)**
Frank Sharpe
Illinois DOT

**New York State (Nov 2017)**
Mike Lashmet
NYS DOT
CMF Evaluation Results

Strengths
- Decision-support tools and technology upgrades
- RWM is part of M&O
- RWIS a key element of regional ITS architecture
- NWS a valued stakeholder
- Data sharing between troopers, DOT, and public
- Use of Public Information Officers (PIO)

Opportunities/Challenges
- Limited DMS/VMS
- Limited State-level response support
- Delay in availability of crash statistics
- External performance reporting
- Limited RWM staffing resources
- Budget reductions
- Limited time for training
Priority Actions (3-12 months)

NWS Collaboration
- Conduct Regional NWS and DOT exchanges
- Share response information with NWS
- Work with NWS to review proposed RWIS locations

Process Automation
- Continue MDSS implementation
- Develop list of trigger words for ID of conditions

Data Collection
- Implement QA/QC for RWIS
- Finish exploring use of Waze data
Progress To-Date

- Increased two-way dialogue between NWS and DOT
- Sharing of data between the DOT and NWS
  - DOT sharing access with NWS to the weather observations from MDSS
  - NWS providing emails/chats/text messages for DOT regarding weather events
- NWS posting on their alerts to check 511 for driving conditions
- More awareness of new RWIS placements and working together on new site locations
- Working to strengthen relationships between NOAA and the maintenance camps
- Exploring becoming a Pathfinder state - will have more info on that next year
NEW HAMPSHIRE
CMF Evaluation Results

**Strengths**
- Processes in place
- Online performance data dashboard
- MDSS use
- District-level communication
- Use of PIO and social media

**Opportunities/Challenges**
- RWM not well understood
- TSMO is a young program
- Resource/staffing constraints
- RWIS alerts not driving messaging
- RWIS data quality
- RWM coordination
- NWS and private forecasters coordination
Priority Actions

Documentation and Reporting
- Develop protocols when RWIS triggers are met
- Identify ways to highlight performance measures

Personnel Focus and Collaboration
- Identify agency champion
- Identify info exchange opportunities for TSMO and winter dispatchers
- Invite NWS staff to participate in Ops meeting

Programmatic Actions
- Operationalize Alert Manager and Connected Citizens Program
Progress To-Date

- Established road condition procedure between District and the TMC
- Educated TMC Operators on NHDOT Snow and Ice Policy
- Presented TSMO/TMC mission to the Department of HSEM
- Coordinating internal efforts to establish a storm desk
- Held Winter Communications Conference to lay communication groundwork for winter weather
- Partial deployment of AVLs in district vehicles
  - Access provided to TMC and District staff to provide a more dynamic response to reported roadway conditions.
- Inter-agency meeting to discuss weather coordination and winter performance management
  - We identified deficiencies and are developing solutions jointly.
ILLINOIS
CMF Evaluation Results

**Strengths**
- Statewide procedures
- Relationship with private weather provider
- Interest in Winter Severity Index
- Balance of maintenance and RWIS/ITS experts

**Opportunities/Challenges**
- Ad-hoc engagement with ops and maintenance staff
- Funding constraints
- Lack of MDSS
- State of RWIS
- Performance measures
- Relationship with NWS
Priority Actions (3 - 12 months)

Technology Needs
- Upgrade RWIS Network
- Continue GPS/AVL Pilot

Personnel Focus and Collaboration
- Conduct staff training
- Meet with senior IDOT staff about staffing/hiring
- Re-establish snow and ice committee

Performance-Based
- Develop statewide concepts for RWM
- Develop basic outcome measures for LOS and recovery
Progress To-Date

- **GPS/AVL Pilot** - First winter data this season
  - 200 plow trucks
  - Goal is full implementation on 1700 plows in 3yrs
  - Utilizing narrow band radio network now, equipment capable of expanding to cellular data

- **MDSS will be possible using backbone of GPS/AVL**

- **RWIS maintenance and planning expansion**
  - Identifying funding
  - Partnership with IDOT Districts for siting
NEW YORK STATE
CMF Evaluation Results

Strengths
• Coordination with NWS and private forecast vendor
• Coordination with neighboring States and media
• Winter Management Playbook
• Office of Governor engaged in RWM decisions
• RWM is a priority for the department

Opportunities/Challenges
• Budget constraints/competing priorities
• Lack of ITS architecture outside cities
• Regions act independently
• RWIS is “broken”
• Manual road condition reporting
• Performance measures
• Training opportunities
Priority Actions

• Develop ConOps/Strategic Plan for RWM

• Enhance role of MesoNet for RWM

• Leverage traffic data analysis capabilities

• Identify agency champion

• Continue evolving asset management program
Progress To-Date

- Use of MesoNet observations to enhance awareness and verify conditions
- DTN Roadcast™ points - 20 “virtual” RWIS sites in each of ten DOT regions
- Pilot projects to improve AVL capabilities
- Snow Squall Warnings and VMS messages
- Storm response Playbook
- Winter Operations App
Common Themes Capabilities (Winter Weather Locations)

- Systems/technology consistently scored high
- Performance management consistently scored lowest
  - Also observed in Non-Winter Weather Locations
Common Themes
Actions (Winter Weather Locations)

• Collaboration
  - Increase collaboration between DOT and NWS
  - Improve information exchange within DOT
  - Conduct trainings and information exchanges with stakeholders

• Technology/Automation
  - Increase automation for data collection and decision making
  - Use decision support systems
  - Deploy technology to increase data collection (e.g., AVL)
  - Expand RWIS network and other data collection methods

• Performance
  - Develop/improve outcome-based metrics
Open Discussion

• Usefulness of process?
• Recommendations for future use?
• Other questions?
For More Information or To Request CMF Workshop

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For RWM CMF Resources and Online Tool
https://ops.fhwa.dot.gov/tsmoframeworktool/available_frameworks/road_weather.htm