

National Operations Center of Excellence

Road Weather Management Peer Exchange

PURPOSE AND OVERVIEW

NOCoe’s Road Weather Management Peer Exchange was intended to host transportation agency professionals with experience in developing and implementing road weather management strategies. The peer exchange was virtual, using NOCoE’s Zoom software, and developed as a 3-hour event that included plenary sessions followed by group discussions. Staff from specific programs with experience in the topic were invited to speak and attend.

AGENDA

Tuesday, September 13, 2022 (all times listed below are EDT)

Time	Topic	Speakers
11:00 am – 11:10 am	Welcome and Introduction <ul style="list-style-type: none"> • Facilitator Welcome • Agenda Review 	Faisal Saleem, NOCoE Luana Broshears, ITE
11:10 am – 11:30 am	Module 1 – FHWA Road Weather Management Program Initiatives	Tony Coventry, FHWA David Johnson, FHWA
11:30 pm – 11:50 pm	Module 2 – A Norwegian/European Perspective on ITS and Metrology	Trond Hovland, ITS Norway
11:50 am – 12:00 pm	BREAK	
12:00 pm – 12:30 pm	Open Discussion <ul style="list-style-type: none"> • Q&A (plenary sessions) • Review of 2019 Peer Exchange topics 	Moderator: Luana Broshears, ITE
12:30 pm – 12:55 pm	Module 3- South Dakota DOT RWM Approach	Dave Huft, South Dakota DOT
12:55 pm – 1:00 pm	BREAK	
Time	Topic	Speakers
1:00 pm – 1:45 pm	Breakout Rooms <ul style="list-style-type: none"> • Colder weather states • Warmer weather states 	Moderator: Doug Noble, ITE Moderator: Luana Broshears, ITE

1:45 pm	Summary from Breakout Rooms	
–	<ul style="list-style-type: none"> • Colder weather states 	Doug Noble, ITE
1:55 pm	<ul style="list-style-type: none"> • Warmer weather states 	Luana Broshears, ITE
1:55 pm	Day Wrap Up	
–	<ul style="list-style-type: none"> • Closing remarks 	Luana Broshears, ITE
2:00 pm		Faisal Saleem, NOCoE

PLENARY SESSIONS

The Road Weather Management peer exchange was the first with an “agile” format, a virtual, 3-hour meeting. There were three plenary sessions followed by a breakout discussion.

1. **FHWA Road Weather Management Program: Update:** the peer exchange started with an update from the FHWA Road Weather Management Program team, which provided an overview of the status of the program’s initiatives. The overview included details on current research project results, Every Day Counts (EDC) programs, and recent outreach efforts. These initiatives set the stage for future research initiatives and resource development for the road weather community. The following national programs were discussed:
 - a. Weather Data Environment (WxDE)
 - b. Pathfinder
 - c. Weather-Responsive Management Strategies (WRMS)
 - d. Adaptive Route Optimization (ARO)
 - e. Integrated Modeling for Road Condition Prediction (IMRCP)
 - f. Adverse Weather & Automated Vehicles (AVAW)
2. **ITS Norway: A Perspective on ITS and Metrology:** ITS Norway followed with a plenary session that brought an international perspective on ITS and metrology. Bad weather conditions prevent efficient transportation and mobility in Norway, as in most countries. The careful deployment of sensors-based systems in combination with data sharing between traffic management, fleet operators, and users in all modes could radically reduce the shortcoming of vulnerable weather-exposed transportation infrastructure. There is a more systematic approach to cross-mode collaboration from small pockets of cooperation between the different infrastructure owners (road, rail, air, and sea) over the last decade.

In this presentation, ITS Norway walked participants through four initiatives supporting the development of predictable journey and route options regardless of weather or other disruptive events:

- a. Risk mitigation (NIFS)
- b. Scaling autonomous logistics (AWARD)
- c. Multimodal coordination (ORCHESTRA)
- d. Predictable access to infrastructure (NPRA)

3. **South Dakota’s Road/Weather Management Approach:** the third plenary session was lead by South Dakota DOT, which provided an overview of road weather information and deployment of weather-responsive variable speed limits in South Dakota. In addition, highlights for the pooled fund study that has developed and deployed a winter Maintenance Decision Support System in several states was presented. Research topics focusing on this subject were also covered. In summary, this presentation highlighted a state perspective on:
 - a. Equipment improvements
 - b. Route optimization
 - c. Level of service
 - d. Traveler information
 - e. Maintenance decision support
 - f. Variable speed limits.

BREAKOUT DISCUSSIONS

The plenary sessions were followed by a breakout discussion, when peer exchange participants had a chance to discuss their current road weather management strategies, success stories, and areas that they would like to be further explored. As a follow-up to topics discussed in the Road Weather Management conducted in 2019, when asked which strategies have the highest pay-off for their agency, peer exchange participants responded the following:

# Agencies	Strategy
5	Variable speed limits driven by road weather
4	Active real-time motorist warning systems for road weather hazards
4	Integrating mobile observations about road weather conditions for decision-making
2	Predictive traffic condition models integrating traffic models and road weather forecasts
1	Route Optimization

Based on the input from the peer exchange participants, topics that need to be further explored include:

- Performance measures to evaluate effectiveness of road weather management strategies
- Predictive traffic condition models integrating traffic models and road weather forecasts
- Success stories and challenges for a proactive road weather management
- Winter road dictionary (standardized information for agencies)
- Guidelines for automated vehicles (AV)
- Crowdsourcing data for Maintenance Decision Support System (MDSS)

SURVEY

Following the peer exchange, a survey was sent to participants to ask their opinion about the “agile” peer exchange format.

How informative was this peer exchange?

On a scale from 1 (not informative) to 5 (very informative):

- 80% of respondents gave a “5” rating
- 20% of respondents gave a “4” rating

What did you think of the “agile” peer exchange format? (Select all that apply):

- 80% of respondents: it was easier to commit to since it did not include several days of events
- 40% of respondents: it was informative; however, they prefer attending in-person events rather than virtual events
- 20% of respondents: it was informative; however, they prefer attending a full peer exchange
- None of the respondents chose the following options:
 - It was informative; however, I would prefer fewer plenary sessions and more time for discussion
 - It was too short, and I felt like I did not benefit from it
 - It was too rushed; I would prefer longer breaks
 - Other (please specify)

How likely are you to register again for an “agile” NOCoE peer exchange?

On a scale from 1 (not at all likely) to 5 (extremely likely):

- 60% of respondents gave a “5” rating
- 40% of respondents gave a “4” rating

What Road Weather Management topics need to be further explored in future research/events? (Select all that apply):

- 80% of respondents: Performance measures to evaluate effectiveness of road weather management strategies
- 80% of respondents: Predictive Road Weather Management models
- 80% of respondents: Crowdsourcing data for Maintenance Decision Support System (MDSS)
- 40% of respondents: Guidelines for automated vehicles (AV)
- 20% of respondents: Success stories and challenges for a proactive road weather management
- 20% of respondents: Winter road dictionary (standardized information for agencies)

NEXT STEPS

FHWA technical guidance and input was of value throughout planning and organizing the RWM peer exchange. NOCoE will meet the FHWA Road Weather Management Program team to review the Road Weather Management peer exchange findings and work on next steps. Based on participants’ feedback, it is anticipated that priority topics that need to be further explored are:

- Performance measures to evaluate effectiveness of road weather management strategies
- Predictive traffic condition models
- Crowdsourcing data for Maintenance Decision Support System (MDSS)

Further, based on the survey respondents, NOCoE plans on continuing to deliver “agile” peer exchanges as applicable.