L01 Workshop Summaries for Colorado, Maryland, Florida, and Georgia

Workshop Summary for Colorado

Location: Golden, CO (Colorado DOT Traffic Management Center)	**Date:** February 1, 2017
Focus Area: Road Weather Management	**Local Liaison(s):** Lisa Streisfeld, Planning, Performance, and TDM Manager at Colorado DOT

Background Materials

- Sample Incident Action Plan for Winter Storm impacting Monument Hill
- Colorado DOT internal material and presentations on their activities for integrating FHWA' s Pathfinder Innovation into their road weather management processes
- Draft Event Team matrix of responsibilities for major weather and special events

Number and Types of Attendees

Approximately 20. Most participants were directly involved in winter-based road weather management, including representatives from Colorado DOT Headquarters and the five regions.

Senior management, including Michael Lewis, Deputy Executive Director of Colorado DOT, who provided opening remarks

Key Points of Discussions

- Task Force Teams and Consequence Complexity Analysis have been used for about a year for special events and incident commanders, and they have been shared with maintenance staff for their use.
- Colorado DOT is adopting FHWA's Pathfinder Innovation, which incorporates National Weather Service information into winter maintenance activities. Maintenance, TMC, Regions, and Weather Service all share information before a storm. They will go back and assess performance at the end of this winter and identify ways to improve use in the future. Want to identify what value it brings to stakeholders.
- Roadway Weather Management Team – Patrol Plans tell where intuitional bad areas are located, and thermal mapping and crash data support that intuition. Plan to assess if products for de-icing need to be changed. Also, need to increase the number of patrol passes per hour, installation of snow fences, engineering design changes, and figure out how to reduce bad spots on the roadway.
- Navigator-Connect with road weather information system stations – Colorado DOT has 23 friction sensors currently deployed and looking to expand, but modeling can be used in the interim.
- Colorado DOT is beginning to look into machine-learning integration of Maintenance Decision Support System/National Center for Atmospheric Research, but this is 2 to 3 years away.
- Looking closely at performance measures, focusing on timely and consistent information going to the public (and how to measure that), and overall user satisfaction with road clearance.
- Potential business process issues identified include: processes and capabilities between regions vary; coordination across jurisdictional boundaries (for example, State and local), including providing traveler information regarding state and local roads, needs to be improved; and business processes need to realize there are differences between urban areas and the mountains and plains areas.

Overview of Mapping Exercise and Results

- The mapping exercise was based on the following scenario: Pre-Event Communications upon notification that a major snow event is 72 hours away, with 2-feet plus of snow starting in the mountains, moving into Denver and the front range, and then tapering off at the southeastern portion of the state. Storm is predicted to hit on a weekday just before PM commute.
- Mapping should address: involved stakeholders, decision making, communication links and information flows.
- Preliminary business process mapping developed by each region and headquarters.
- Some differences between regions and their perspectives were noted. Some were because of the difference in the anticipated impact within their region; and it was noted that there is a need for better understanding that events of different sizes affect the regions differently.
- Noticeable process differences included level of coordination with public information officers and in coordinating with Colorado DOT headquarters/Colorado Transportation Management Center.

- Through the workshop and the mapping exercise, headquarters (HQ) and regions gained understanding and insights into each other's roles and actions leading up to weather events, and why certain data is needed for sustaining a strong program.

Workshop Summary for Maryland

Location: Hanover, MD (CHART Statewide Operations Center [SOC])	**Date:** March 1, 2017
Focus Area: Traffic Incident Management (Regional)	**Local Liaison(s):** Eileen Singleton - Baltimore Metropolitan Council (the Metropolitan Planning Organization [MPO]).

Background Materials

- Recent Memorandum of Understanding (MOU), *Coordination of Incident Management on Roadways Maintained by the Maryland State Highway Administration (MD SHA)*
- MOU between MD SHA and MD State Police on the Clear the Road Policy
- Resolution on Improving the Management of Traffic Incidents adopted by the Maryland Chiefs of Police Association
- Summary Report with Recommended Actions from the 2016 Baltimore region TIM Self-Assessment (using the FHWA process)

Number and Types of Attendees

Approximately 30. This was the regularly scheduled meeting of the Traffic Incident Management for the Baltimore Region (TIMBR) Committee. As such there were representatives from the MD SHA Statewide Operations Center (CHART), the MPO, local jurisdiction public works/traffic departments, state police, local enforcement, and the private towing community.

Senior management included Joey Sagal, Director of the Office of CHART and ITS Development, Maryland DOT/SHA; and Chris Letnaunchyn, Chair, TIMBR Committee.

There were also several individuals from FHWA.

Key Points of Discussions

- The Baltimore region – including CHART – has been very active in TIM for decades. They always rate high as part of their annual TIM self-assessment.
- The focus of the workshop was to discuss the MOU, *Coordination of Incident Management on Roadways Maintained by the Maryland State Highway Administration (SHA),* and how business processes might help in promoting the activities and coordination defined therein. The MOU is intended to provide a framework and guideline to promote a collaborative effort to further refine and promote the TIM program in Maryland, including identifying goals, delineating scene roles and responsibilities, establishing consistent emergency lighting guidelines, implementing TIM training, and understanding the advantages of a central information system.
- It was agreed that the development of business processes and the associated mapping could help in implementing the MOU, with the following specific items:
  - Information sharing, including automation thereof.
  - Performance measures that all stakeholders can buy into.
  - Education and outreach to decision makers, other disciplines and the public on benefits of TIM.
  - Process for defining and reporting secondary crashes.
  - Regional standard for after action reports.

Overview of Mapping Exercise and Results

The mapping exercise was a Property Damage Only crash blocking one lane. The workshop was divided into three groups based on where they were sitting for the purpose of developing a business process map. The focus of the exercise was to map the process for response and clearance under the MOU, including involved stakeholders, decision making, communication links, and information flows.

In general, there was a great deal of similarity in the mapping, with some differences resulting as some assumed a crash on the State highway system, while one group assumed a crash on the local network, resulting in slightly

different approaches and processes. Perhaps the key finding was the need to report all crashes to the SOC. CHART/CAD integration would help. Also, while the MOU is focused on State Highways, it will hopefully be adopted for local roads.

Workshop Summary for Georgia

Location: Atlanta, GA (Statewide TMC)	**Date:** April 4, 2017
Focus Area: TSMO in general	**Local Liaison(s):** Carol Bowler, P.E., TMC Manager

Background Materials:

- Georgia DOT presentation on statewide TSMO strategies and initiatives, and supporting ITS technologies
- Results from the Planned Special Event CMM Framework held in early 2017 in Atlanta

Number and Types of Attendees

Approximately 15, most of whom worked in the Statewide TMC, including consultant staff that provide support to Georgia DOT for TMC operations. There was also a representative from the Atlanta Regional Commission.

(This is a decent attendance given that the previous week, a bridge on I-85 just north of downtown had collapsed.)

Key Points of Discussions

The workshop took a major detour from the agenda in the morning, with an hour plus discussion of what was meant by TSMO. Potential TSMO strategies were discussed, coupled with the need for integration from a technical and operational perspective. The FHWA representative also noted some recent FHWA documents for developing TSMO plans.

The discussion then returned to business processes and how they could help with TMC operations. Specific examples included:

- Traffic signal coordination between State TMC and local jurisdiction systems. The Regional Traffic Operations Program corridor manager can do signal plans – corridor managers are in the field – have 2/3 operators in the TMC.
- Expanding the express toll lane/congestion pricing concept – as initially implemented on the I-75 lanes just south of Atlanta in early 2017 – to other expressways.
- Sharing closed-circuit television video images along with pan-tilt-zoom capabilities with other agencies
- Succession planning given that 80 percent of senior management at Georgia DOT will reach retirement in next few years.
- Distributing some of the functions at the TMC to the districts.

Most of the discussion focused on the latter point – how to define the respective roles and responsibilities between the Statewide TMC and district staff (and small TMCs), for what devices and strategies, and under what circumstances – in other words, “business processes”.

Georgia DOT just started this process with regards to service patrols – their Coordinated Highway Assistance and Maintenance Program (CHAMP) and the new Highway Emergency Response Operators (HERO). CHAMP is primarily in the Atlanta region and dispatched from the TMC. They are looking at having the districts dispatch the HERO vehicles and take on associated responsibilities for this program.

Overview of Mapping Exercise and Results

None because of time constraints. It was determined that the scenarios under which the districts would dispatch and oversee HERO operation, and under what conditions the statewide TMC would assume responsibility, would be an excellent example of developing business processes and the associated mapping. Initial mapping was already underway by the Georgia DOT lead for the HERO program. Once this process is established, the Georgia DOT could serve as a mechanism for exploring others areas of the TSMO program and the role of HQ and the districts.

Workshop Summary for Florida

Location: Tallahassee, FL at a DOT facility	**Date:** April 6, 2017
Focus Area: Traffic Signal Operations	Local Liaison(s): Raj Ponnaluri, PhD, P.E., PTOE, State Arterial Management Systems Engineer

Background Materials:

- Florida DOT Traffic Signal Maintenance and Compensation Agreement (with local jurisdictions)
- Report (draft) on traffic signal performance measures for Florida DOT
- Florida DOT Technical Memorandum on Adaptive Traffic Signal Control
- TSMO CMM results for Districts 1 and 3 (April 2014)
- Florida DOT presentation on the Sustainable Arterial Management Program (STAMP)

Number and Types of Attendees:

Approximately 10 in the conference room, plus 3 to 6 in each district office and the Florida Turnpike Enterprise office – all linked via video conferencing. Local agencies were also represented in some locations.

Eddie Curtis, head of the FHWA's Arterial Management & Traffic Signal Timing program, was also present in Tallahassee.

Key points of Discussions

Discussions focused on Florida DOT's STAMP program, including a presentation by Raj Ponnaluri. A STAMP Action Plan is currently being developed and will address such items as:

- Understanding district and local needs
- Facilitate district and local agency initiatives
- Build capacities through training
- Leverage existing traffic signal systems
- **Focus on process orientation (such as, business processes)**
- Learn from deployments
- Explore funding opportunities
- Evaluate national best practices

For the past 17 years, Florida DOT's TSMO focus was on the freeway network. The next logical step is to adopt an Integrated Corridor Management approach, which requires coordination (and associated business processes) with the local jurisdictions that control the arterial network. An initial list of scenarios requiring business processes in this regard include:

- Normal operations
- Minor incident (shoulder / 1 lane closed; minor or no injuries)
- Major incident (multiple lanes closed / injuries or fatality)
- Closure
- Special event
- Weather

Overview of Mapping Exercise and Results: The mapping exercise was a post AM peak crash on the freeway, with traffic diverting to a parallel signalized state route. The mapping considered the following: how a crash is identified, how diversion and extent thereof is determined, communications with local signal control, process for changing timing plans/parameters, monitoring operations, and determining the end of the scenario. Who makes decisions should also be noted.

Mapping was prepared by each district and by headquarters. Perhaps the most striking feature from the results and discussions of the mapping exercise was how similar and consistent they all were across districts in terms of processes and stakeholder notifications and coordination, indicating that business processes are in place, if not completely documented.