AASHTO
Committee on Transportation System Operations (CTSO) Update

July 23, 2018
CTSO - Strategic Planning Workshop

• Initial Strategic Planning conducted through a Task Force of CTSO members, November 2017, Beckman Center, CA
• Committee working groups developed purpose statements, goals, and actions items
• Recruiting for volunteers – from CTSO membership and others in your organization – to actively participate in subcommittees/working groups
CSTO Strategic Purpose
Focus on transportation operations and emerging technology with a goal of improving safety, system reliability, and highway system performance.

7 - Goals:
• Advance the state of practice and deployment of operation systems.
• Advance the state of practice and performance of traffic incident mgt nationally.
• Facilitate the safe, efficient movement of freight and federal movement mandates.
• Implement best practices for system integration, operability, standards, and cybersecurity.
• Integrate new and emerging CAV technology to improve safety, increase reliability, preserve infrastructure, and reduce congestion.
• Ensure that existing communication technologies remain available for transportation and capture the benefits of new and emerging communication technologies.
• Increase standardization and consistency of ITS deployment and the modernization of technologies and their integration into agency operations.
Committee on Transportation Systems Operations

Subcommittee on Operations
- Working Group on Operations Strategies
- Working Group on Traffic Incident Management
- Working Group on Freight Operations

Subcommittee on Technology
- Working Group on Systems Integration
- Working Group on Communications Technology
- Working Group on Connected and Automated Vehicles
- Working Group on Intelligent Transportation Systems

Subcommittee on Performance Management and Data

Research Development and Implementation Coordinators

Community of Practice on Road Weather Management

Chair: Bill Panos, WY  Vice-Chair: Russ Buchholz, ND
External Partners

CTSO

USDOT (FHWA, ITS JPO, NHTSA, Volpe)

State DOTs, L.A., MPOs

National Operations Center of Excellence (NOCoE)

ITS America

TRB

ITE
TSO Subcommittee on Operations
Co-Chairs: Brad Freeze, TN and John Nisbet, WA

Subcommittee Purpose:

Advance the state of practice relative to System Operations programs and strategies, Freight Operations, and Traffic Incident Management across State DOT’s

<table>
<thead>
<tr>
<th>Operations Working Groups</th>
<th>Co-Chairs</th>
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<tbody>
<tr>
<td>Operations Strategies</td>
<td>• Brent Cain, AZ</td>
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<td>• Sue Porter, MN</td>
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<td>Freight Operations</td>
<td>• Matt Hedge, PA</td>
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<td>• Dave Huft, SD</td>
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<td>Traffic Incident Management</td>
<td>• Tim Lane, AZ</td>
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<td>• Joey Sagal, MD</td>
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Subcommittee Purpose:

Focus on the technology that supports Transportation System Operations through policy, standards, sharing best practices and deployment guidance.

<table>
<thead>
<tr>
<th>Technology Working Groups</th>
<th>Co-Chairs</th>
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<tr>
<td>Systems Integration</td>
<td>• Collin Castle, MI</td>
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<td></td>
<td>• Robert Cunningham, DE</td>
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<td>Communications Technology</td>
<td>• Paul Gilbert, TX</td>
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<td></td>
<td>• Ferdinand Milanes, CA</td>
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<td>Connected and Automated Vehicles</td>
<td>• Blaine Leonard, UT</td>
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<td>• Greg Larson, CA</td>
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<td>Intelligent Transportation Systems (ITS)</td>
<td>• Raj Ponnauluri, FL</td>
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<td>• Brian Simi, CA</td>
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Subcommittee Purpose:

Assist AASHTO members in compliance with MAP-21 performance measurement rules and regulations regarding systems operations and freight performance, and advocate for the collective concerns within the AASHTO community.
Community of Practice on Road Weather Management
Lead: Steve Cook, MI

Purpose:

Promote the implementation of Road Weather Management (RWM) solutions and strategies that minimize the impacts of weather events on transportation system operations to increase safety and reliability.
Subcommittee Purpose:

Coordinate, support, and promote TSMO-related research through the development of research problem statements, prioritization of research needs, implementation of research products, and dissemination of research results.
Transportation Systems Management & Operations (TSMO) Strategies and Solutions

- ITS Strategies
- CAV (infrastructure investment)
- Work Zone Management
- Traffic Incident Management
- Special Event Management
- Road Weather Management
- RWIS
- Transit Management
- Freight Management
- Traffic Signal Coordination & Performance
- Traveler Information
- Ramp Management
- Managed Lanes
- Active Traffic Management
- Integrated Corridor Management
- Variable Speeds Limits
- Truck Parking
- Harmonization Traffic Flow
- Improved Bicycle and Pedestrian Crossings
Hot Topics Nationally with TSMO

• NOCoE – looking at new state DOT maintenance initiatives
• State DOT organizing for TSMO and developing strategic plans:
  • Leverage FHWA TSMO Workshops (SHRP 2 L06 CMM)
  • Staffing changes
  • Funding usage issues
  • O&M concerns as TSMO deployment increases
  • Jurisdictional issues
  • Balance between Capital Expansion/Rehabilitation and the need to integrate TSMO initiatives/technology - Safety and Travel Relativity needs – Managing Congestion and Mobility concerns

• DSRC vs. Cellular - V2X: DSRC is available now, Cell-V2X is emerging however; no standards exist, technology is untested, technology can’t operate legally in the 5.9 GHz spectrum.

• Data Sharing: DOT driven traveler info vs. sharing data with 3rd party traveler info providers (WAZE, Google, etc.).

• Signal Phase and Timing (SPaT) Challenge: AASHTO initiative challenging states to broadcast SPaT at 20 intersections by 2020 using DSRC.

• CAV Data Use: States trying to figure out applications from CAV data for DOT business purposes.

• Signal Performance Monitoring: Being deployed all over the country.

• Active Traffic Mgt Strategies: Has the potential to have great benefits for safety and reliability. But the cost of Capital and O&M is quite high.
TSMO Strategic Business Plan Workshop Template

<table>
<thead>
<tr>
<th>Strategic Dimension</th>
<th>Business Processes</th>
<th>Systems &amp; Technology</th>
<th>Performance Management</th>
<th>Culture</th>
<th>Organization/Workforce</th>
<th>Collaboration</th>
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<tr>
<td>Business Subject Area</td>
<td>Planning, Programming, Budgeting, Implementation</td>
<td>Systems Engineering, Standards &amp; Interoperability</td>
<td>Measures, Data, Analytics &amp; Utilization</td>
<td>Technical Understanding, Leadership, Outreach, and Program Authority</td>
<td>Structure and Capability Development</td>
<td>Partnership with Other Public &amp; Private Entities</td>
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TSMO Business Plan Strategic Actions

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2-3 SMART Action Items Each
Brief TSMO explanation and summary of benefits

Includes 5 - Business Cases explaining TSMO to various audiences

TSMO Implementation and Strategic Plan

Relevant operational internal and external links