

IRF WORKSHOP

Innovation Driving the Future of Sustainable Mobility

30 March 2022 – RAI Amsterdam

Transportation Systems Management and Operations (TSMO) for Sustainable Mobility

Gummada Murthy

Program Director, Operations, AASHTO



International Road Federation
Fédération Routière Internationale
Federación Internacional de Carreteras



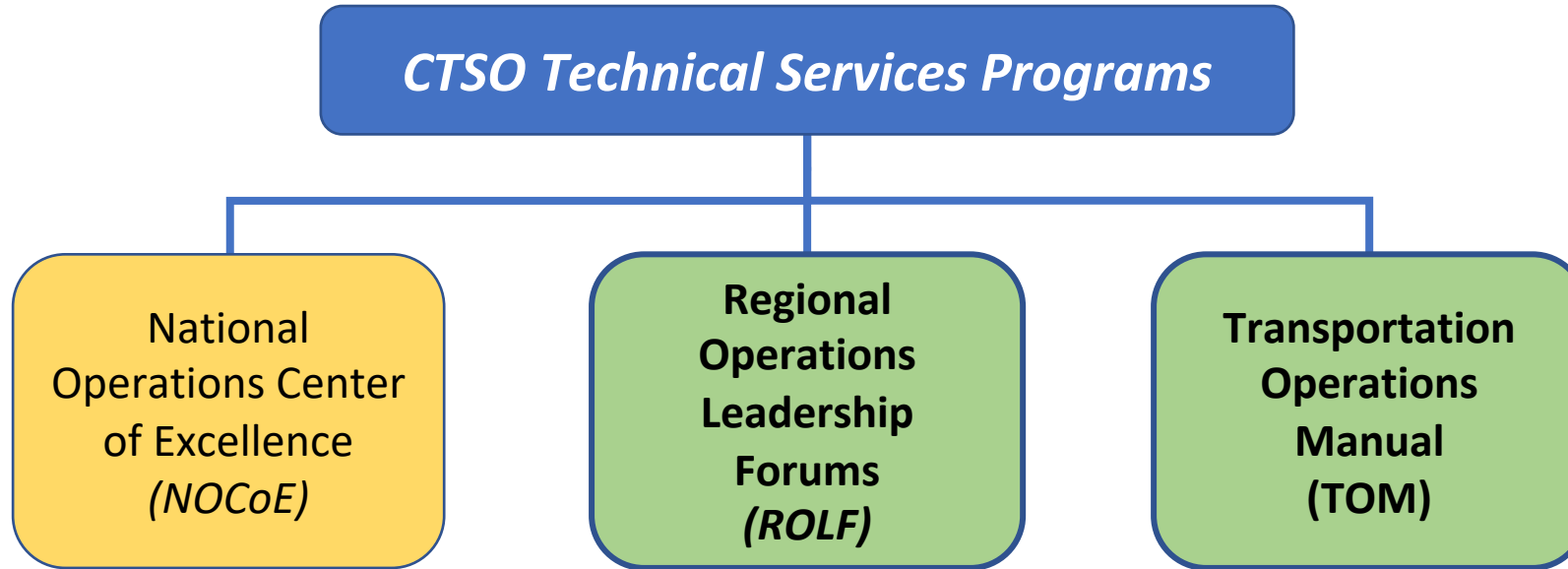
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**Transportation Systems Management and Operations
(TSMO) for Sustainable Mobility - in the context of the
three TSMO service pillars...**

Moving State DOTs Ahead for TSMO



TSMO and CAT Alignment

EMERGING TECHNOLOGIES / STRATEGIES

- Connected Intersections
- Connected Corridors
- Connected Work Zones

Applications

- Reduced Speed Zone Warning (RSZW)
- Work Zone Warning Apps
- Work Zone Data Initiative (WZDI)

- Vehicle Priority/Preemption
- First/last mile connections

- Mobility Services / MaaS/MOD
- Integrated payment
- Transit signal priority

- Automated long-haul freight
- Automated local delivery

- Automated Driving Systems (ADS)
- Truck Platooning
- On-demand services

- V2X Data Sharing
- Connected Warning Systems

- Work Zone Data Exchange (WZDx)
- Crowdsourcing
- Slippery Pavement Warning
- Low Visibility warning
- Curve Warning

TSMO STRATEGIES

- Active Transportation and Demand Management
- Integrated Corridor Management
- Incident / Event Management
- Vulnerable Road User (VRU) accommodations
- Work Zone Management
- Transit Management
- Freight Management
- Traveler Information
- Congestion Pricing
- Road Weather Management

CAT and TSMO Alignment

- Preparing for AVs with work zones
- TSMO Use cases:
 - Smart Weather Information Systems
 - Connected and AV Workzones
 - Red light warning
 - Reduce speed zone warning
 - Traffic Optimization for Signalized Corridors (TOSCo)
 - Lane Departure
- Multimodal intelligent signal systems

The Effects of AI Solutions for TSMO

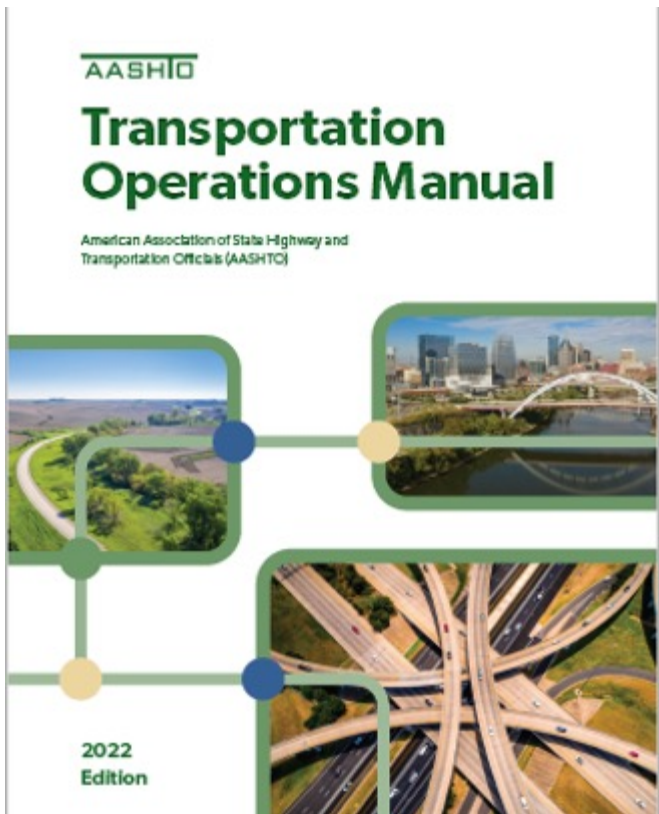
- Evolution from corridor management into network management
- Decision support systems (DSS) evolution for Integrated Corridor management (ICM) systems
- What does AI mean for the TSMO workforce?
- Traffic Optimization for Signalized Corridors.

Prioritizing Investments

- Performance based approach to prioritizing investments
 - Real-time performance measurement of transportation systems – *Outcomes vs outputs*
 - Data to understand the benefits in terms of *outcomes* of specific deployments

Transportation Operations Manual

DRAFT
Final Publication in April 2023



Examine existing guidance/documentation



Identify gaps & logical sources of knowledge to fill them



Determine balance between explanatory material & effective practices



Conduct research & outreach as basis to draft the topic content



Perform an internal quality/completeness check



Develop/consider graphical elements to enhance communication of the concepts

Transportation Operations Manual (TOM)

Chapters/Topics	
Chapter 1 - Introduction	Chapter 18 - Project Funding
Chapter 2 - TSMO Concepts	Chapter 19 – Overview of Tactical Elements
Chapter 3 - TSMO in the Transportation Agency Context	Chapter 20 – Basic Elements of Situational Awareness, Communication, Decision Support and Control
Chapter 4 – Agency Readiness to Implement TSMO	Chapter 21 - Event Management Tactics
Chapter 5 - TSMO Program Planning	Chapter 22 – Arterial Management Tactics
Chapter 6 - Agency Planning, Programming and Funding	Chapter 23 - Freeway Management Tactics
Chapter 7 – Performance Management	Chapter 24 - Freight Operations
Chapter 8 – Systems Engineering, Interoperability & Technology Mgmt	Chapter 25 - Advanced Integrated Tactics
Chapter 9 – Organization and Workforce	Chapter 26 - Active Demand Management Tactics
Chapter 10 – Collaboration and Outreach	Chapter 27 - Multi-Modal Tactics
Chapter 11 – Leadership and Culture	Chapter 28 - Transit Tactics
Chapter 12 – TSMO Capability Improvement, Guidance & Tools	Chapter 29 - Road Pricing
Chapter 13 - Performance-Based Design	Chapter 30 - Leading Edge Tactics
Chapter 14 - Capacity / Geometry Reorientation	Chapter 32 - Industry Trends
Chapter 15 - Linking TSMO to Capital Project Development	Chapter 33 - Technology Trends
Chapter 17 – Procurement	

Thank you!

Gummada Murthy

Program Director, Operations, AASHTO

gmurthy@ashto.org

