TSMO Regional Operations Forums in Maryland

By Maryland Department of Transportation
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Benefits Statement

The Maryland Department of Transportation's TSMO initiatives aim to save lives by improving road safety, reduce commute times through optimized traffic flow, and save money by efficiently using existing infrastructure. Through regional forums, the Maryland Department of Transportation State Highway Administration (SHA) has successfully raised awareness and coordinated efforts, enhancing understanding and collaboration among stakeholders. These efforts position the agency to effectively implement TSMO strategies, ultimately benefiting public safety, travel efficiency, and budget optimization.

In this case study you will learn:

1. How SHA seeks to promote Transportation Systems Management and Operations (TSMO) to complement traditional projects, emphasizing internal and external awareness.

2. How SHA conducted successful TSMO forums, fostering themes like coordination and data governance, with plans for annual continuation.

3. About SHA's improved understanding of TSMO among employees and stakeholders, integration of local partners, and enhanced awareness of TSMO benefits for future transportation improvements.

BACKGROUND

Like most Departments of Transportation across the nation, the Maryland Department of Transportation State Highway Administration (SHA) TSMO Program with its 2018 Strategic Plan and associated Implementation Plan and projects, has been exploring ways to leverage technology and ITS solutions to manage and operate its transportation network as a complement to adding capacity through traditional design/construction projects. A significant part of the program success is to raise the awareness of TSMO Program business processes across the organization in functional areas of planning, engineering, construction, operations, and maintenance. Equally important for the program success is to raise the awareness of TSMO Program opportunities across stakeholders such as metropolitan planning organizations (MPOs), local jurisdictions, planning, operations, emergency services, private sector/industry partners, decision-makers, and customers. As SHA proceeds with several TSMO projects and initiatives such as active traffic management, a statewide smart signal program, hard shoulder running, ramp metering etc., it is important to be able to reach and communicate with both internal and external audiences to educate them about what TSMO is, what TSMO solutions/projects are and how they work, and to embed a new way of thinking about the approach to transportation challenges. Such awareness-building will be key for developing and sustaining a TSMO culture.

In 2020, SHA was awarded State Transportation Innovation Council (STIC) grant funding to complete a series of in-person workshops for the education and outreach of TSMO strategies. However, due to the global pandemic, the project schedule had to be modified to take place during the spring and summer of 2022. This series was called the TSMO Regional Operations Forums (ROFs). It included stakeholders from across Maryland that might be involved in or affected by TSMO and initiated the development and implementation of a statewide TSMO education and outreach program for SHA. Through the outreach initiative, participants now have a better understanding of the TSMO program, systems, tools, technologies, and business processes.

TSMO PLANNING, STRATEGIES AND DEPLOYMENT

Recent initiatives through the SHA TSMO Strategic Plan and supporting efforts through the SHA TSMO Executive Committee and Task Forces have recognized the need for education and outreach of TSMO strategies amongst SHA District management, staff, partners, and stakeholders. SHA believes that the TSMO outreach through the STIC program will mainstream TSMO and help in collaboration to maximize the use of its existing infrastructure. The education and outreach efforts would focus on the four goal areas of the TSMO Strategic Plan:

1. Business Processes & Collaboration
2. Systems & Technology
3. Data, Analysis & Performance Measures
4. Customer Engagement & Experience

The TSMO ROFs were geared towards SHA District mid-level and supervisory employees in traffic, project development, and maintenance and construction areas, and included relevant partners and stakeholders. SHA collaborated with the United States Department of Transportation (USDOT) Federal Highway Administration (FHWA) –Maryland Division for funding and with the University of Maryland Center for Advanced Transportation Technology and Cambridge Systematics who helped with the preparations and facilitation of the TSMO ROFs. The TSMO ROFs took place in the spring and summer of 2022 and consisted of a total of six sessions as well as opening (pre-session) and closing (post-session) webinars, which were well-attended, and included

representatives from SHA offices and Districts and law enforcement agencies as well as key transportation partners from across the state. The discussions included TSMO concepts and issues specific to each region (Districts), applicable TSMO strategies/solutions, and ways to improve coordination/cooperation in each region.

The resultant key themes from the six sessions consisted of (1) coordination across agencies, (2) being proactive, (3) standardization, and (4) data governance.

COMMUNICATIONS PLANNING AND EXECUTION

In 2020, SHA was awarded STIC grant funding to complete a series of in-person workshops for the education and outreach of TSMO strategies. However, due to the global pandemic, the project schedule had to be modified to take place during the spring and summer of 2022. SHA collaborated with the USDOT FHWA – Maryland Division for funding and with the University of Maryland Center for Advanced Transportation Technology and Cambridge Systematics (ROF planners/facilitators) who helped with the preparations and facilitation of the TSMO ROFs.

After several preparatory meetings, the ROF planners/facilitators drafted a survey to be sent to all the SHA District Engineers to request their participation in the TSMO ROFs and to receive feedback to inform the ROF agendas and identify the stakeholders. Based on the feedback provided by the survey responses, the ROF planners/facilitators sent invitations to the stakeholders and crafted the agenda and materials for each TSMO ROF, tailoring each to the region covered by that District, and secured venues for the sessions. Following the "Working Towards TSMO" pre-webinar of April 28th, the ROFs took place as follows:

Spring Sessions

• May 9, 2022 – District 3 TSMO ROF (In-person)

• May 11, 2022 – District 7 ROF (In-person)

• May 12, 2022 – District 4 ROF (In-person)

• May 16, 2022 – District 5 ROF (In-person)

Summer Sessions

• June 2, 2022 – District 6 ROF (In-person)

• June 7, 2022 – Districts 1 & 2 Combined ROF (Virtual)

• August 18, 2022 – Final/Post-Session Webinar

The ROF planners/facilitators documented the resultant key themes from the six sessions, which consisted of (1) coordination across agencies, (2) being proactive, (3) standardization, and (4) data governance.

OUTCOME, BENEFITS AND LEARNINGS

The sessions above were well-attended and included representatives from SHA offices/ Districts and law enforcement agencies as well as key transportation partners from across the state. The discussions included TSMO concepts and issues specific to each region (Districts), applicable TSMO strategies/ solutions, and ways to improve coordination/ cooperation in each region. Participants were thrilled to be a part of this education and outreach effort and asked about SHA's decision to make these ROFs annual sessions.

Following the success of these ROFs, SHA has committed to continuing forum-like coordination in an annual or possibly bi-annual timeframe. The SHA CHART Board of Directors has also successfully integrated more local stakeholders in the coordination of operational efforts across the state and has seen an increase in discussions regarding TSMO across local jurisdictions planning letters and documents.

SHA employees in various offices and Districts now have a better understanding of TSMO programs, systems, and technologies; how to incorporate elements of the programs into various phases of project development and planning processes; how to manage and operate TSMO and Connected and Automated Vehicles (CAV) solutions and systems; and can assist with education and outreach efforts to their constituents. Other MDOT modal agencies, MPOs, local jurisdictions, planning and operations partners and stakeholders, industry partners, focus groups and customers have a better understanding of the business processes, systems, technology, and tools that SHA will be using to improve and operate its transportation network and the benefits they would provide in improving safety, capacity and flow, incident management, and real-time communications. This general awareness-building helps in effective engagement to develop and mainstream TSMO strategies and solutions and positions the agency to prepare for a future that includes CAVs and other emerging technologies.