

RTC of Southern Nevada TSMO CMM Self-Assessment



Regional Transportation Commission of Southern Nevada
12/28/2023

Benefits Statement

The RTC's self-assessment report on Transportation Systems Management and Operations (TSMO) has the potential to save lives by improving incident response, save time through reduced traffic congestion, and save money by optimizing resource allocation and reducing delays. Enhanced TSMO capabilities can lead to quicker incident identification, safer transportation, and cost savings for both the agency and the community.

In this case study you will learn:

1. About the RTC's role in Southern Nevada's transportation management and its efforts to develop TSMO strategies.
2. About the RTC's TSMO maturity assessment, highlighting challenges and the varying awareness levels within the agency.
3. About assessment findings and offers phased actions to enhance TSMO capabilities, focusing on key areas like work zone management and incident management.

BACKGROUND

The Regional Transportation Commission of Southern Nevada (RTC) is a key transportation stakeholder in the Las Vegas Valley. RTC oversees public transportation, traffic management, roadway design and construction funding, and transportation planning for Southern Nevada. This uniquely positions RTC as a leader for Transportation Systems Management and Operations (TSMO) development to provide unified regional TSMO Strategies that build consensus from all local agencies in Southern Nevada. Through formally adopted interlocal agreements with NDOT and the local public agencies, RTC actively operates and maintains the ITS devices on the freeway and provides arterial signal coordination on the arterials. Taking advantage of this unique opportunity and recognizing the value of TSMO, RTC initiated the development of a Regional TSMO Business Case to communicate the value of TSMO, raise awareness about the program's strategies and benefits, and take the lead in developing a TSMO Plan Guide. The goal of the Guide is to outline the path forward to develop a Regional TSMO Plan to ultimately integrate TSMO into day-to-day business processes of all partnering agencies. A key accomplishment with this project was facilitating a capability maturity model (CMM) self-assessment to benchmark the existing level of TSMO maturity internally within the RTC and identify opportunities for improvement across all six key dimensions of the framework.

TSMO PLANNING, STRATEGIES AND DEPLOYMENT

Following the successful participation of RTC in the Nevada Department of Transportation's (NDOT) 2020 CMM workshop and Active Traffic Management (ATM) Capability Maturity-workshop, the agency identified an opportunity to locally take the lead with TSMO and establish a regional framework for TSMO.

The RTC established the TSMO Planning Steering Committee (PSC), conducted a CMM self-assessment, performed a TSMO state-of-the-practice review, and used the findings to develop the Regional TSMO Business Case and a TSMO Plan Guide. Although NDOT established multiple Statewide TSMO business cases, RTC recognized that there is not a one-size-fits-all version, and every business case should be tailored to the specific priorities of the targeted audience.

Conducting the CMM assessment was the first completed task. The self-assessment workshop was held on August 18, 2022. The purpose of the CMM workshop was to assess RTC's capability maturity and readiness for regional TSMO adoption by evaluating the RTC's business processes, institutional capabilities, and technology systems.

In developing the workshop materials, RTC used a combination of components including overall assessment (6 questions), department specific evaluation (77 questions), and strategy implementation status (14 questions). This was an innovative and comprehensive methodology to benchmark maturity from all aspects of internal business.

Workshop responses were then reviewed and analyzed to determine RTC's level of maturity with TSMO. These findings were later shared with the TSMO Project Stakeholder Committee (PSC) members, including internal and external stakeholders, providing an opportunity for everyone to digest and react to the results. The final results, together with the one-on-one TSMO interviews with partnering agencies, were used to develop the Regional Business Case topics and areas of focus within the TSMO Plan Guide. These not only included existing and emerging transportation challenges, but also Institutional, Organizational, and Procedural (IOP) arrangements and changes.

COMMUNICATIONS PLANNING AND EXECUTION

Figure 1 demonstrates RTC’s TSMO level of maturity across the six key dimensions of CMM.

Overall, it was concluded that RTC is working towards maturing its TSMO capabilities. Results are evident that some TSMO activities and processes are in place, yet challenges mostly revolve around the cultural shift and involvement of RTC stakeholders beyond the RTC’s Freeway and Arterial System of Transportation (FAST) department. Key findings from this assessment include:

- Stakeholders, in general, are not broadly familiar with the TSMO-specific activities.
- Internal stakeholders rated themselves at a low maturity level for each dimension compared to activity-specific responses, which indicates there are more TSMO activities being performed than what the agency realizes.
- Responses generally indicated that participants are critically rating themselves because they have a willingness to strengthen and improve their maturity

under the different dimensions of the assessment.

- TSMO is currently championed by employees of the RTC FAST department, as they are more aware of content about the TSMO-specific activities and strategies compared to the other stakeholders.
- The RTC scored a maturity level below 2 in most categories based on the CMM findings. A TSMO Plan with prioritized strategies is essential for the RTC as an organization to streamline operations, serve the community efficiently, and enable collaboration with regional partners.

The FAST department was found to be the most versed with TSMO activities, as anticipated, and they have laid the foundation to implement specific strategies, performance metrics, and business processes. While other departments, such as the Planning or IT Departments, were not familiar with the strides FAST has made, it was clear during the workshop that the RTC supports the goals FAST is aiming to achieve via TSMO. Figure 2 (page 4) provides a summary of key findings and gaps from the feedback received in the workshop.



Figure 1

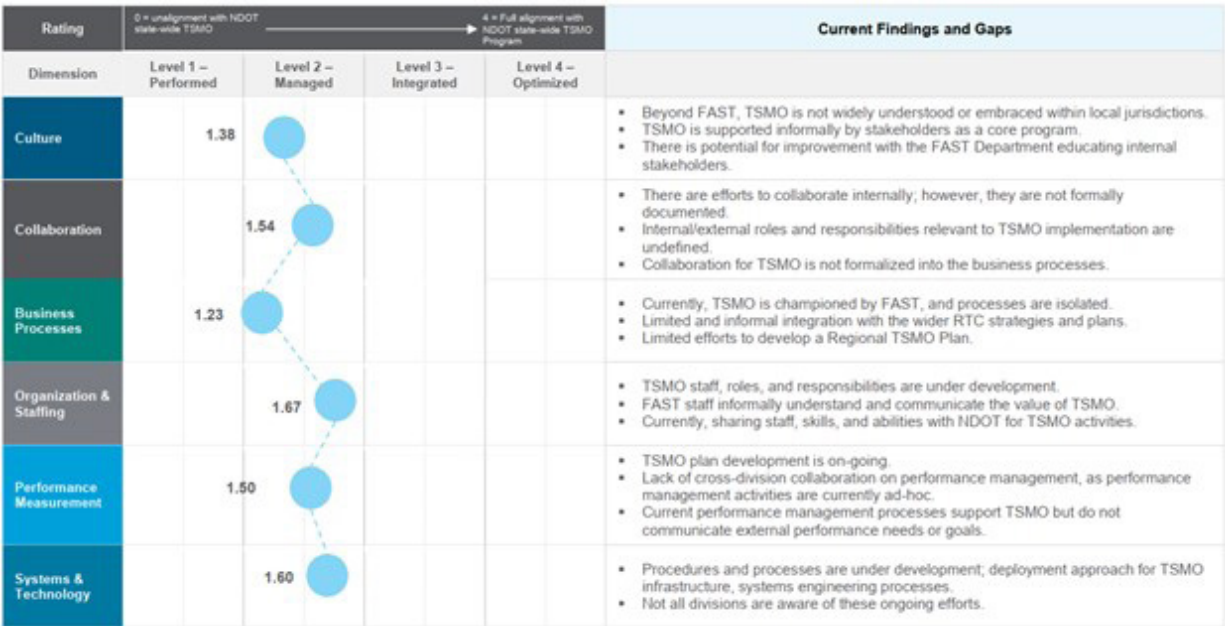


Figure 2

OUTCOME, BENEFITS AND LEARNINGS

Figure 3 (page 5) presents outcomes and learnings to reduce gaps and enhance TSMO capabilities within RTC, aligning with the NDOT statewide TSMO Program, while addressing specific needs and opportunities in the Southern Nevada region. To establish a fully mature TSMO community, it is important to recognize that achieving all the desired objectives is not practical in a single year. Instead, it will require a well-coordinated plan and a phased approach to attain ultimate TSMO goals. To that end, the identified actions provide steps that can be taken to gradually develop a more robust local TSMO community. These are the focus areas established within the Regional TSMO Business Case and the TSMO Plan Guide for the next steps.

Fourteen of 97 questions on the questionnaire were focused on the implementation status of specific Federal Highway Administration (FHWA) ATM strategies. The questions were provided to assess RTC’s maturity in work zone management, integrated corridor management, incident management, and understand the participants’ level of awareness of the specific

strategies implementation as unknown, yes, or no. These findings are shown in Figure 4 (page 6). In general, not all participants are fully aware of strategy-specific ATM activities that RTC is performing, which was anticipated since workshop attendees included such RTC team internal partners as Human Resources and Marketing.

The assessment confirmed that TMC activities and coverage are broadly aligned to FHWA standards, while there is a potential to improve the current operations for work zone management, incident management, and integrated corridor management. As RTC pursues other strategies outside of the FHWA focus, a similar approach is recommended through an ATM assessment. Strategy specific CMMs can help RTC build a better understanding of the current state of TSMO and attend to specific details prior strategy implementation.

Dimension	Action Items
Culture	<ul style="list-style-type: none"> TSMO leaders/champions should participate in national discussions. Develop a TSMO Program and Plan to structure and sustain TSMO as one of RTCs core missions. Communicate TSMO successes to the regional culture, and external agencies to see the value of TSMO. Engage internal partners so they are more involved with TSMO activities. Engage internal partners (as relevant) to enhance their technical understanding of the TSMO benefits and values. Update the policy documents to refer to TSMO as a key strategy, at equal level to construction and preservation.
Collaboration	<ul style="list-style-type: none"> Communicate the value of TSMO with regional partners. Work with Southern Nevada Regional Partners to develop the TSMO Plan. Coordinate with Regional Partners to advance the shared regional goals with TSMO Strategies.
Business Processes	<ul style="list-style-type: none"> Develop a regional framework for TSMO planning and policy. Identify funding strategies/mechanisms to deploy equipment for TSMO strategies. Document how TSMO strategies will be accounted for during programming, budgeting, and project development. Define roles and responsibilities for TSMO business processes. Document relationship among stakeholders with regard to TSMO implementation. Document processes and procedures for the procurement of TSMO infrastructure.
Dimension	Action Items
Organization & Staffing	<ul style="list-style-type: none"> Document staff acquisition and retention processes and training needs to support TSMO implementation. Update internal position descriptions to include TSMO knowledge, skills, and abilities and assess performance in these criteria on a re-occurring basis. Develop clear career track/opportunities for advancement in operations for TSMO staff. Develop TSMO positions or identify who will be responsible. The TSMO "manager" should be at equal organizational level with the senior maintenance manager and be no more than two organizational levels below Director/CEO. Develop TSMO certification programs. Document the skills required to operate, maintain, or deploy TSMO strategies. Develop TSMO training plans for new hires and existing staff. Develop training for TMC Staff in TSMO digital and physical infrastructure.
Performance Measurement	<ul style="list-style-type: none"> Identify regional performance measures and measures' definitions for TSMO implementation. Document plan for TSMO data collection analysis and utilization. Perform before/after studies to document performance of deployed TSMO strategies. Report and store performance of TSMO strategies. Document process to streamline information sharing on performance measures.
Systems & Technology	<ul style="list-style-type: none"> Develop Concept of Operations for prioritized regional TSMO strategies. Develop a list of approved product vendors and material suppliers for TSMO strategies. Document maintenance processes and responsibilities for TSMO systems. Document process for equipment upgrades in anticipation of TSMO strategy implementation. Define and document the role of data, tools, and technologies for the processing, storage, and use of TSMO data. Identify ways to optimize digital integration and connectivity within existing systems and platforms.

Figure 3

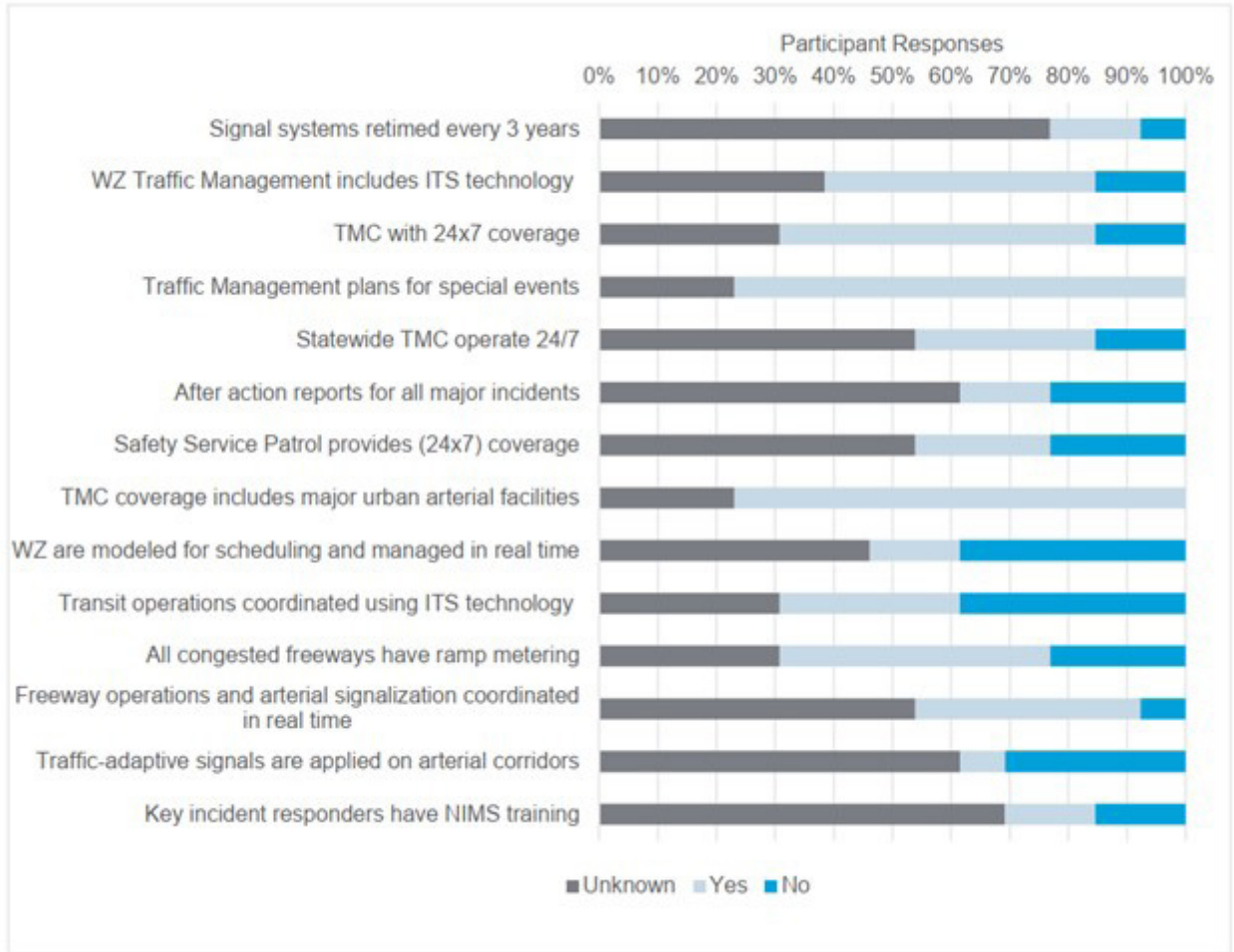


Figure 4