

TSMO 2.0 Plan



By Ohio Department of Transportation

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Benefits Statement

Ohio Department of Transportation's (ODOT) TSMO 2.0 serves as a roadmap to guide the Ohio Department of Transportation (ODOT) as it continues to integrate operational improvements to preserve, maintain, or restore the performance of the transportation system. The TSMO 2.0 plan strives to do more with what we have, improve efficiency & reliability, and increase safety. The plan aims to increase the safety of Ohio's transportation system and reduce congestion through initiatives like managed lanes and queue warning systems, reducing crashes, and improving emergency response. It improves travel time by optimizing traffic flow with integrated signal management and better agency coordination. Overall, it highlights comprehensive TSMO solutions and strategies can be implemented at a lower cost than traditional infrastructure solutions by leveraging technology and using system-based strategies.

In this case study you will learn:

1. How ODOT's TSMO 2.0 plan focuses on five strategic goals: Safety, Efficiency & Reliability, Mobility & Accessibility, Coordination & Collaboration, and Integration & Security.
2. How ODOT formed a multidisciplinary advisory committee and collaborated with external entities like MPOs and local municipalities to gather input and improve coordination.
3. How ODOT secured \$10 million in annual funding for TSMO-centric capital projects and ongoing efforts to enhance Ohio's transportation systems through improved data management and infrastructure integration focused on technology.

BACKGROUND

ODOT's TSMO program began in 2015 with a scanning tour of 9 different state DOT programs via a SHRP 2 grant. Using the information collected from the scanning tour, ODOT developed its inaugural TSMO program in 2017. While that original TSMO program laid the groundwork for TSMO in the state of Ohio, by 2021 it was clear an updated plan was necessary to keep moving TSMO forward in Ohio. Therefore, ODOT embarked upon an update to the original TSMO plan, calling it TSMO 2.0. ODOT put out an RFP and selected Michael Baker Int. as the consultant to help craft an updated plan.

TSMO PLANNING, STRATEGIES AND DEPLOYMENT

The TSMO 2.0 plan kicked off with a stakeholder review agency wide using the capability and maturity model (CMM). From there, a multidisciplinary advisory committee was stood up to help move the needle on the different dimensions identified in the CMM assessment. Over the next 2 plus years, ODOT employees, and Michael Baker would work together to create the framework for the updated TSMO 2.0 plan with input from all types of stakeholders. The TSMO 2.0 plan was finalized in June of 2024 and leaned on five strategic goals, which are: Safety, Efficiency & Reliability, Mobility & Accessibility, Coordination & Collaboration, and Integration & Security.

COMMUNICATIONS PLANNING AND EXECUTION

Communication planning was an important part of the TSMO 2.0 plan in Ohio. Since Coordination & Collaboration was identified as an area of opportunity for improvement with the CMM, an education plan was an integral part of ODOT's TSMO 2.0 plan, as captured under the program action of "Develop, Deliver, and support ongoing TSMO education and communications for ODOT employees".



There was also a multi-disciplinary Traffic Advisory Committee stood up to steer the TSMO 2.0 plan along that met at regular intervals, and this group included everyone from District leadership to Highway Maintenance Administrators. During the development of the plan, the Office of TSMO has met with most Offices within ODOT's Central Office and did a state-wide tour to each District to discuss the TSMO plan update as well. In terms of collaborating with external stakeholders, MPO's and local municipalities were interviewed as part of the stakeholder engagement process.

OUTCOME, BENEFITS AND LEARNINGS

The TSMO 2.0 plan lays the groundwork for moving the ball forward in Ohio on Systems Operations. Even though the framework was just launched this year, the ODOT TSMO program has already secured additional yearly funding for capital projects. ODOT is working with State Highway Patrol to explore the feasibility of making the statewide Traffic Management Center (TMC) into a multi-state agency Center to better facilitate communication between agencies, as well as exploring integrating signal and ramp meter operations into the TMC. ODOT is also working with their consultant to conduct virtual and in-person scanning tours with 3 other state DOT's to benchmark the TSMO programs. A few capital projects that have been spun up out of the second TSMO

effort are a second smart lane (hard shoulder running) opening in Cincinnati, a Queue Warning System project, and revitalization of the Ohio TIM program with District participation and executive committee engagement. The Office that houses the TSMO program has also been restructured to bring signals under the TSMO umbrella to better interface with the TMC, as well as support signal operations with more data and performance metrics. ODOT is also revamping the TSMO website to better tell the story of TSMO in Ohio.



There are numerous benefits to the TSMO approach. The overarching benefits are summarized below:

Do More with What You Have

We can't build our way out of congestion. Generally, the process takes too long, is too expensive, and can sometimes lead to induced travel demand (i.e. more congestion). TSMO strategies work within the existing physical infrastructure to help the system work better.



Improve Efficiency & Reliability

TSMO strategies work to make roadways more efficient and reliable by mitigating both recurring congestion (i.e. congestion caused by signal timing, bottlenecks, etc.) and non-recurring congestion, (i.e. congestion caused by special events, work zones, weather, incidents, etc.).



Increase Safety

TSMO strategies can help to reduce injuries on the roadway network by reducing recurring congestion and by reducing the impacts of non-recurring congestion. *For example, training first responders to clear incidents more quickly reduces the likelihood of significant congestion and secondary crashes.*

