

# TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS (TSMO)

*TSMO consists of coordinated mobility strategies supported by well-defined inter-agency arrangements and regional partnerships. These strategies consider the end-user's experience through the entire network to identify operational solutions, in addition to traditional methods resulting in simply adding lanes to improve congestion.*

*This requires a shift in the culture and function of an agency to institutionalize system-wide management and operations in their regular course of business. TSMO is most successful when all stakeholders commit to improving system reliability and efficiency through all business functions and the project development process.*



## WHY TSMO?

- Many transportation agencies explicitly recognize the idea that we can't build our way out of congestion.
- Fulfilling the mobility mission in an environment of capacity and financial constraints remains a challenge to overcome.
- On the national level, current research is focused on addressing the root causes of unreliable travel and identifies the role of performance measures, strategies, planning integration, and institutional issues related to supporting improved reliability. Nonrecurring congestion (NRC) has been found to be the principal cause of delay and unreliability for the nation's roads.
- TSMO supports the performance measurement requirements defined in federal legislation and strongly encourages the improvement of transportation system efficiency and reliability.
- National organizations such as FHWA, AASHTO, the National Operations Center of Excellence (NOCoe) and Transportation Research Board (TRB) are supporting actions to improve TSMO capabilities.
- Specific planning and programming for TSMO is increasingly recognized as key to improving network-wide management and operations.

## EXAMPLE MOBILITY STRATEGIES

A TSMO program will establish opportunities to prioritize and budget for strategies to improve network mobility.

- Example mobility strategies include, but are not limited to: integrated corridor management, traffic incident management, traveler information, managed traffic lanes, synchronized signal systems, and work zone management.
- These strategies are aimed at optimizing the existing capacity of the transportation system, reducing congestion, and improving safety.
- Mobility strategies are most effective when they are supported by a well-defined, institutional TSMO structure, operating procedures, and regional partnerships.
- These strategies are relatively low in cost compared with adding capacity, can be implemented in two to three years, and offer substantial benefits- for example, a benefit-cost ratio of 10:1.
- Some of these strategies have already been implemented, or are currently being researched for use in various parts of the state of Texas.
- The statewide TSMO program supports the effective use of ITS technology for mobility strategies as a cost effective and sustainable solution for improving mobility.



## TSMO is defined as...

"Integrated strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects to preserve capacity and improve security, safety, and reliability of a transportation system."

-Federal Highway Administration

## TSMO BENEFITS

- More efficient and effective use of the existing capacity
- A safer system for travelers and responders to traffic incidents
- Enhanced customer mobility and information via state-of-the-art technologies
- More reliable service for commuters and shippers, thereby enhancing economic competitiveness
- Alleviates bottlenecks by optimizing capacity through operations
- Data collected to support operations can also be used to inform a performance management program

## TxDOT TSMO STRATEGIC PLAN DELIVERY

A TxDOT Statewide TSMO Strategic Plan document has been developed through a work authorization with engineering consultant Atkins, managed by the TxDOT Traffic Operations Division, in collaboration with state, regional, and local partners.

The Statewide TSMO Strategic Plan document as been developed with primary input from the TxDOT districts and regional partners. It will serve as a statewide guideline for each district/region to create its own regional TSMO program plan.

A TSMO evaluation tool will be developed to help engineers consider mobility solutions and encourage them to reach out to more stakeholders during the project development process to produce projects that are designed more holistically. The TSMO evaluation tool will be developed in partnership with the Modernize Portfolio and Project Management (MPPM) initiative.