

TxDOT Dallas-Fort Worth Transportation Systems Management and Operations Program Plan

Dallas District Summary

The Dallas-Fort Worth region has been in a sustained period of population growth over the last decade, straining the region's transportation system. To continue providing a safe and reliable system, TxDOT and many of its partner agencies in the region are adopting an operations mindset built around the concept of Transportation Systems Management and Operations (TSMO).

TSMO is "an integrated set of strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of the transportation system." (USDOT)



What is a TSMO Program Plan?

In 2018 the TxDOT Traffic Safety Division (TRF) developed the Statewide TSMO Strategic Plan, which set a vision for TSMO deployment in Texas. The Statewide TSMO Strategic Plan recognized that each TxDOT District is unique in terms of their strengths and weaknesses related to operations. The plan recommended that each District develop its own TSMO Program Plan to assess their current level of maturity with respect to operations, and that each District establish a five-year plan for increasing operational capabilities. To address the need to operate the system in an integrated and coordinated fashion, the TxDOT Dallas and Fort Worth Districts worked together to develop a single plan for TSMO in their combined two Districts. The TxDOT Dallas-Fort Worth TSMO Program Plan began in the fall of 2019, following the project schedule shown at the left.



STATEWIDE AND DISTRICT TSMO VISION

Improve safety and mobility for all modes of transportation by integrating planning, design, operations, construction, and maintenance activities and acknowledging all opportunities for innovation.



STATEWIDE AND DISTRICT TSMO MISSION

Through innovation, collaboration, and performance-based decision-making, transportation facilities are developed, constructed, maintained, and operated cost-effectively, with the end user in mind.

Why Invest in TSMO Actions?

In 2019, 451 people died in traffic crashes and congestion caused 19,536,000 hours of delay within the TxDOT Dallas District. A review of congestion and safety impacts in the region revealed that traffic and crashes within the region cost society more than \$15 billion in 2019. **If the Dallas District spent \$10 million on TSMO strategies and as a result reduced crash and safety impacts by 1%, the reduction in impacts would be worth about \$154.6 million.** The resulting return on investment for the District's TSMO Program would be 15.46 to 1.

IMPACTS SNAPSHOT

TxDOT DALLAS DISTRICT



2019 Cost of Congestion Impacts:

\$2,421,157,000

2019 Cost of Safety Impacts:

\$13,042,750,000



How Should the Districts Invest in TSMO?

The Dallas-Fort Worth TSMO Program Plan identified a total of 48 action items that were recommended to advance operations in the two Districts. Action items that specifically address the TxDOT Dallas District's needs and are expected to provide a high return on investment are summarized in the table below.

Summary of Action Items with Expected Highest Benefit-Cost

Action Description	TSMO Focus Area	TSMO Capability Dimension
Early Win Recommended Action Items		
Develop TxDOT Dallas ITS Master Plan: Develop an ITS Master Plan for the TxDOT Dallas District to identify and prioritize ITS and communication infrastructure deployments throughout the District.		
Conduct Quarterly TxDOT District TIM Meetings: Conduct quarterly meeting between TxDOT Dallas and TxDOT Fort Worth Districts.		
Conduct After-Action Reviews for Major Incidents: Establish criteria for determining which incidents require after-action reviews and conduct reviews as needed.		
Include Planned Special Events in Traffic Management Team Meetings: Add discussion on planned special events and invite planned special event managers to the regional Traffic Management Team (TMT) meetings.		
Create Contact List for Special Signal Timing Notifications: Create a service/email exchange contact list for notification of implementation of incident-based traffic signal timing plans.		
Low Cost, High Impact Recommended Action Items		
Improve TIM Performance Collection and Reporting: Improve TIM related data collection and reporting, with a focus on recording incident response time, roadway clearance time, incident clearance time, secondary crash data and time to return to normal flow on all incidents tracked in Lonestar.		
Develop a Traffic Signal Training and Staff Development Program: Develop and implement a formal training program to improve capability and staff development of TxDOT traffic signal staff and local partners.		
Expand the Regional TIM Team in the Dallas District: Partner with NCTCOG to expand the attendance and participation in the Regional TIM Team in the Dallas District and formalize after-action reviews.		
Conduct Quarterly Signal Technician Forums: Conduct quarterly signal technician forums for TxDOT and partner agencies to improve collaboration, share best practices, and establish a regional competency regarding signal maintenance and operations.		
High Cost, High Impact Recommended Action Items		
Develop and Implement Plan for Regional Courtesy/Service Patrol Program Expansion: Develop regional courtesy/service patrol plan for expansion; considering network coverage, hours of operation, and baseline of services provided.		
Develop and Implement Automated Traffic Signal Performance Measures: Develop a formal program and implement necessary technology and software to support Automated Traffic Signal Performance Measures operations on key District corridors.		
Establish Dedicated TIM Coordinator Position: Establish a dedicated TIM coordinator position in the Dallas District to support TIM activities throughout this District.		
Establish Dedicated Work Zone Coordinator Position: Establish regional-level work zone coordinator position for coordination of construction closures to avoid conflicts and ensure communication to impacted stakeholders.		

FOCUS AREAS



Traffic Incident Management



Work Zone Management



Traffic Signal Management



Traffic Management



Business Processes



Systems & Technology



Performance Measurement



Organization & Workforce



Collaboration

DIMENSIONS OF CAPABILITY