

# MAINSTREAMING TSMO

By: Florida Department of Transportation, District 4

## IN THIS CASE STUDY YOU WILL LEARN:

1. District 4 developed a TSMO Master Plan to identify appropriate TSMO strategies for their corridors.
2. How state highways and arterials were addressed in the Master Plan.
3. How coordination with other districts and MPOs was essential to mainstreaming TSMO.

## BACKGROUND

Traffic congestion is steadily increasing in Southeast Florida, particularly at hotspot locations on freeways and arterial streets. With the roadway network largely “built-out” in Broward and Palm Beach counties, the opportunities for mitigating congestion focus largely on active management of the roadway lanes that already exist.

Federal Highway Administration (FHWA) workshops were held in Broward County in 2012 and 2017 to assess the capability maturity of TSMO locally, and to identify steps for improving capabilities among partner agencies. Recommendations from the first workshop included development of a Master Plan to facilitate the deployment of TSMO projects where most needed, most appropriate, and where they would result in the greatest net benefit to the traveling public.

The Florida Department of Transportation (FDOT) District 4 (D4) developed a Districtwide Transportation System Management and Operations (TSMO) Master Plan as part of its effort to integrate the capability maturity framework approach into its organizational structure and TSMO project implementation.

## PLAN DEVELOPMENT

FDOT District 4 led the development of this Master Plan, and by 2016, the district used the plan to integrate TSMO into its business practices across different offices involved in project development. The purpose of the TSMO Master Plan was to identify corridors and appropriate TSMO strategies, and to promote inclusion of TSMO considerations in all project development phases. The district developed and documented a systematic, replicable, performance-based, and data-driven approach to answer the following questions with regard to the TSMO initiative:



1. Where are TSMO projects needed?
2. What types of TSMO projects are needed?
3. When should these TSMO projects be implemented?
4. How do these TSMO projects get implemented?
5. Who is involved in seeing projects planned, designed, implemented, operated, and maintained?

The effort started by leveraging current and newly available planning and operational data sources (road and traffic conditions, transit services, and safety conditions) such as vehicle probe-based data and GIS analysis in plan development to evaluate transportation corridor conditions and needs. The Master Plan focused initially on Broward and Palm Beach counties, and on three service areas: safety, traffic management and transit. A second phase of the Master Plan was initiated in late 2017 to expand the coverage to incorporate Martin, St. Lucie and Indian River counties, and to add additional service areas including work zone management, freight and integrated corridor management.

## CASE STUDY: MAINSTREAMING TSMO

### PRODUCTION ENHANCEMENTS

District 4 has institutionalized other organizational and project production changes required for mainstreaming TSMO into all areas of FDOT's responsibilities, and performing actions identified in the statewide FDOT TSMO 2017 Strategic Plan. One important change is the use of a TSMO Scoping Form in the project development process. Projects entering the design phase, for new construction or maintenance purposes, are required to identify whether or how ITS equipment and TSMO strategies are to be included. For capacity projects, in particular, this form and associated procedural changes increase the likelihood that TSMO is part of a corridor's long-term solution for enhancing mobility and travel reliability.

### OUTREACH

Master Plan creation also included coordination with the district's five metropolitan/transportation planning organizations (M/TPOs), and a South Florida regional TSMO subcommittee, part of the Southeast Florida Transportation Council. The ongoing collaboration is geared toward incorporating TSMO projects in long-range metropolitan transportation plans and short-term transportation improvement programs. Support to the regional subcommittee included the development of a guidance document for local agencies to implement TSMO in a more coordinated and effective manner addressing the culture dimension and it included a marketing plan for regional transportation agencies to work with elected officials to raise awareness of TSMO projects and benefits to the public and elected officials.

The TSMO Master Plan addresses both state highway and county/local roads, with the intent of providing TSMO technical support to M/TPO metropolitan or long-range plans (LRTPs) and transportation improvement programs (TIPs). As part of local M/TPO grant programs, some municipalities have requested TSMO projects be consistent with the TSMO Master Plan. In the second phase of the plan, FDOT D4 coordinated with the M/TPOs early in the plan development process, identification of study networks and results. FDOT D4 continues to collaborate with the M/TPOs to support inclusion of TSMO in LRTPs through various planning and funding approaches.

### INSTITUTIONAL CHANGES

A unique key element of the District 4 TSMO Master Plan was the level and extent of collaboration – both internally and with other agencies. Internally, Master Plan development was a combined effort of the District 4 offices of Planning and Environmental Management, Traffic Operations, and Modal Development (transit and freight), each of which has a role in ITS project development and implementation. Staff representing these three offices met regularly to ensure aspects most important to each were given due consideration in the plan. The Planning and Environmental Management Office took the lead in the effort – a unique approach to identifying operational improvements.

The internal team serves as a core group of a multi-disciplined, cross-office TSMO team members that coordinate on enhancements and updates to the Master Plan, identifies and champions new projects for inclusion in the work program, and integrates planning and operations

regarding TSMO. For example, a new initiative is to support the district's Lane Elimination team so that multimodal TSMO strategies are considered when local partners request roadway adjustments for complete streets initiatives. This level of coordination has provided District 4 management with a level of trust and confidence in the team's recommendations when making funding decisions. Similarly, having a list of identified projects allows the district to seek additional state funding and grant opportunities.

### OUTCOMES AND BENEFITS

Development of Master Plan, led to enhancements in most or all of the six capability maturity dimensions for the department as well as its partners – a fact recognized by increased scores for all dimensions in the 2017 assessment. The plan immediately resulted in the programming and funding of six new projects in the department's Work Program (through which projects are designed, developed and implemented), starting in FY 2019. These projects were estimated at a cost of \$25.5 million, but are estimated to accrue system-user net benefits of an estimated value of \$4.7M over 10 years (at a 3% discount rate).

### FURTHER INFORMATION

NOCoE Knowledge Center: <https://transportationops.org/knowledge-center>