FDOT'S TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS (TSMO) STRATEGIC PLAN

By: Florida Department of Transportation

IN THIS CASE STUDY YOU WILL LEARN:

1. How FDOT undertook creating their TSMO Strategic Plan.
2. That the plan contains specific, measurable, achievable, relevant, and time-bound (SMART) action plans that pertain to the central and all district offices.
3. How the Strategic Plan will be assessed and updated.

BACKGROUND

The Florida Department of Transportation's (FDOT) **2017 Transportation Systems Management and Operations (TSMO) Strategic Plan** was developed by the State Traffic Engineering and Operations Office (STEOO), TSMO Division; with considerable collaboration from districts, other central office functional area managers, and the industry. The vision of the **Strategic Plan** is "To increase the delivery rate of fatality-free and congestion-free transportation systems supporting the FDOT vision and Florida Transportation Plan goals." This plan was created to identify, prioritize, develop, implement, operate, maintain, and update TSMO program strategies and measure their effectiveness for improved transportation safety and mobility. Three distinct types of goals were defined under this plan:

- Performance Goals (Goals) – goals achieved through existing management and operations.
- Performance Enhancement Goals (PEG) – goals achieved through enhanced or focused operations and maintenance.
- Project-Performance Enhancement Goals (P-PEG) – goals achieved after implementation of new TSMO strategies.

The **2017 Strategic Plan** relies on previous strategic plans and the TSMO Leadership Team for historical context and policy direction. The Strategic Plan emphasizes outcome-based performance metrics, mainstreaming, resource needs, focus areas, funding and project selection, implementation, follow- through, and innovative and emerging technologies as shown in **Figure 1**.

TSMO PLANNING, STRATEGIES, AND DEVELOPMENT

A district-wide Capability Maturity Model (CMM) self-assessment survey was conducted in 2016 and four CMM levels were categorized: level 1 - ad hoc, level 2 - managed, level 3 - defined, and level 4 - optimized.

The following **Figure 2** (next page) gives the snapshot of the CMM. The CMM ranked FDOT's capabilities for freeway management, incident management, and operations and maintenance (O&M) as the most mature. Arterial, freight, and transit management capabilities are emerging and need better definition for optimization.

The **TSMO Strategic Plan** also describes FDOT's efforts regarding connected vehicle (CV) planning and pilot projects. Based on the CMM model, FDOT is expected to need significantly higher staffing resource capabilities over the

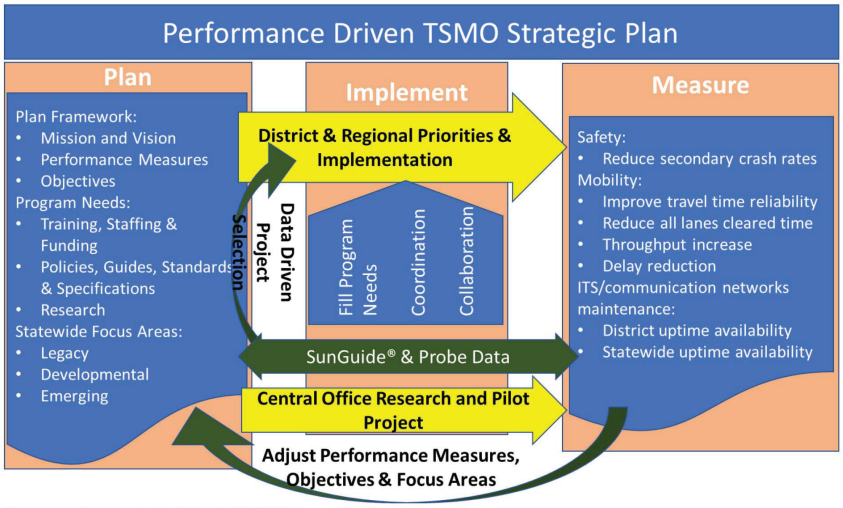

Figure 1: Performance Driven TSM&O Strategic Plan

Figure 2: 2016 Capability Maturity Model (CMM) Snapshot

next two to five years for arterial management, CV, and TSMO policy development.

To fulfill the TSMO program vision, mission, and goals and ensure departmental alignment, the **Strategic Plan** has the following objectives:

- Enhance TSMO mainstreaming across applicable functional elements of FDOT.
- Identify innovative emerging technologies, strategies, tools, and resources.
- Prioritize statewide and regional TSMO program focus areas.
  - Statewide priority focus areas (PFAs) are mainstreaming, freeway management, arterial management, express lanes, connected vehicles, and information/data sharing systems.
  - Each district is developing regional focus areas.
- Develop partnership frameworks, resource realization plans, and organizational frameworks processes.
- Develop standards, specifications, policies, guidelines, and training.
- Implement TSMO through pilot projects, research projects, test beds, strategic partnerships, stakeholder inclusion, and regional and statewide deployments.
- Quantify and allocate sustainable operations and maintenance funding resources.
- Develop policies, procedures, and scope templates for consistent statewide operations and maintenance.
- Monitor and measure effectiveness and refine performance objectives and TSMO strategy impacts.

The TSMO program mainstreaming is also an important product of the **Strategic Plan**. Mainstreaming implies the systematic incorporation of TSMO strategies throughout project development, implementation, and O&M. The **Strategic Plan** summarizes how the TSMO systems engineering process dovetails with FDOT's project development process. The **Strategic Plan** identifies specific steps for integrating TSMO program input into FDOT's Statewide Acceleration Transformation (SWAT) process as defined in the 2016 update to the **Project Development and Environment (PD&E) Manual**. The **TSMO Strategic Plan** also provides an overview of TSMO program outreach.

Districts are working to establish their baseline performance for each performance measure and their initial goals and PEG for priority corridors and route segments by June 30, 2019. Beginning July 1, 2019, districts will measure achievement of their Performance Goals, PEG, and where applicable, P-PEG and report progress quarterly.

NEXT STEPS, ACTION PLANS, AND OUTCOMES

Statewide Arterial Management Program (STAMP) Action Plan

Supporting the **TSMO Strategic Plan's** vision, mission, and focus areas, FDOT has developed the **Statewide Arterial Management Program (STAMP)** Action Plan. FDOT's **STAMP Action Plan** identifies specific, measurable, accountable, relevant, and time-bound (SMART) action items for central office and individual districts (in coordination with local agencies) to benefit STAMP. The seven priority focus areas in the STAMP Action Plan are as follows: outcomes, field technologies, traffic control strategies, traffic management center (TMC) technologies, operations, maintenance, and performance assessment. The STAMP priority areas are shown in **Figure 3** (next page).

CAV Business Plan

Following the roadmap laid out in the **TSMO Strategic Plan**, FDOT is developing the Connected and **Automated Vehicle (CAV) Business Plan** for Florida. The goal of the CAV Business Plan is to identify action plans

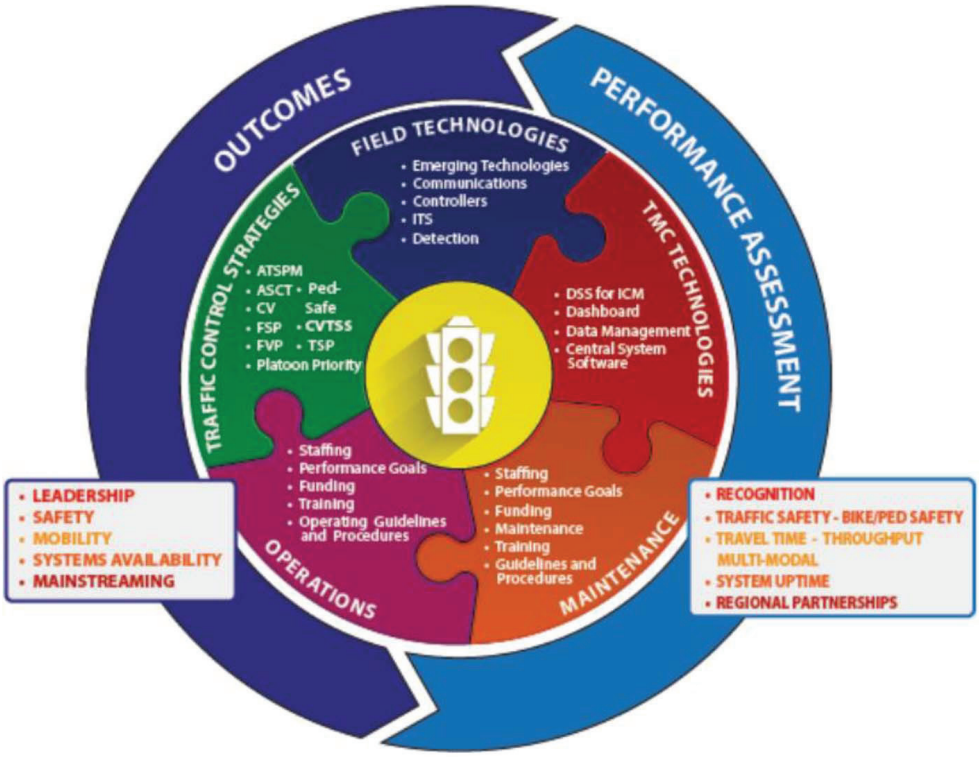

Figure 3: STAMP Priority Areas

to move the CAV program from independent research and pilot projects to coordinated and collaborative statewide implementation over the next five years.

Statewide TSMO Excellence Program (STEP)

The Statewide TSMO Excellence Program (STEP) was conceived to meet the needs of TSMO capacity and workforce development. The goal of STEP is to improve the quality and consistency of TSMO program development, delivery, operation, and maintenance. Under this program, FDOT is developing an Intelligent Transportation System (ITS) Construction Engineering and Inspection (CEI) Training series, TSMO Work Program Training, Traffic Signal Systems Training, ITS Fiber Design Training, Systems Engineering Training, and the Florida Express Lanes Manual for transportation professionals in the state of Florida.

LESSONS LEARNED

The **TSMO Strategic Plan** concludes with specific, measurable, achievable, relevant, and time-bound (SMART) action plans that pertain to the central and all district offices. The TSMO Division and districts confer at least quarterly to measure progress and resolve any roadblocks to completing the SMART action plans. To date, all action plans are on schedule. The TSMO Leadership Team and the District Traffic Operations Engineers also monitor progress through quarterly meetings. As policies, guidelines, standards, specifications, and training programs are delivered, and new technologies, such as CV, are better understood, the TSMO Division will assess the Strategic Plan annually with updates expected on two-year or three-year cycles. With the renewed horizontal communication occurring during the preparation of this plan, it is anticipated that other FDOT functional areas will also provide input for the future plan and progress updates.

FURTHER INFORMATION

NOCoE Knowledge Center: *https://transportationops.org/knowledge-center*
FHWA CMM Info: *https://ops.fhwa.dot.gov/docs/cmmexesum/sec1.htm*