Transportation Systems Management & Operations (TSMO)

Enhancing Quality of Life for All Texans

Go to www.menti.com and enter 34 69 6
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What is TSMO?

A Shift in the Management of Transportation Systems to Optimize Existing Infrastructure

- Prioritizes Road User Quality of Life
- Strategies that Focus on Safety and Maintenance of the Overall Transportation System
- Advocates for Funding for Mobility Strategies thru Cost-Saving Coordination
- Performance-based practical design
What is TSMO?

- **Vision Statement:** Improve Safety and Mobility for All Modes of Transportation by **Integrating Planning, Design, Operations, Construction, and Maintenance** Activities and Acknowledging All Opportunities for Innovation.

- **Mission Statement:** 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 TSMO?

Why Do We Need TSMO?
Why TSMO?

**Congestion**

- Travel Delay per Year is 8.8 Billion Hours
- 54 Hours Lost per Commuter per Year
- Cost of Gridlock is $166 Billion per Year

TSMO strategies could help reduce **60%** of all traffic congestion

Source: FHWA Traffic Congestion and Fatality Report
www.tinyurl.com/fhwacongestionreport
Why TSMO?

Economic & Environmental Viability

- Nationwide Truck Congestion Cost is $20.5 Billion Annually
- 3.3 Billion Gallons of Fuel is Wasted per Year in Stalled Traffic

Houston Lost $4.5 Billion in 2017 Due to Lost Productivity and Wasted Fuel with Each Commuter Spending 75 hours Sitting in Traffic

Why TSMO?

New Construction will Continue to be Important, But We Can’t Build Our Way Out of Congestion!

Source: Kevork Djansezian/Getty Images
Why TSMO?

- **3,588 Fatalities** on Texas roadways in 2019
- **10 People Killed per Day on Average**
- **November 7, 2000** - Last Deathless Day on Texas Roads
- **12,161 Serious Injury Crashes in 2018**
- **249,241 Injury Crashes in 2018**

Mission Zero

- The Texas Transportation Commission Adopted a Formal Goal to Achieve **Zero Fatalities** on Roadways by 2050 and Cut Fatalities in **Half** by 2035

Safe System Approach

TSMO Strategies are part of the Safe System Approach!!
TSMO Statewide Strategic Plan

- Work Zone Management
- Special Event Management
- Access Management
- Road Weather Management
- Freight Management
- Transit Management
- ITS Architecture
- Traffic Signal Coordination
- Integrated Corridor Management
- Active Transportation Management
- Rural Emergency Response & Service Patrols
- Asset Management
- Traffic Incident Management

Capability Maturity Model

Stakeholders / Collaboration
TSMO Strategies Applied

**TIM** has reduced annual delay by **129.5 MILLION HOURS** saving the public **$2.5 BILLION**

**TIM** reduced secondary crashes by **69%**

**Road Weather Information Systems** lower crash rates by up to **83%**

**Connected Truck Platooning** could reduce fuel costs by **20 - 25%**

**Active Work Zone Management** reduces crashes by **18 - 45%**

Keys to TSMO

- Communication
- Documentation
- Coordination
Keys to TSMO – Coordination

- Schedules & Lead Times
- Contractors
- Development & Disruptions
- Local Businesses
- Planned Upgrades
- Utility Providers
- Local Media
- Transit Agencies
- Local Government Projects
- Service Impacts
- Fitting into the News Cycle
### IDEAS TO SHIFT TO A TSMO MINDSET

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<tr>
<th>Traditional Method</th>
<th>TSMO</th>
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<tr>
<td>Operating Completed Projects</td>
<td>• Integration throughout the Project</td>
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<tr>
<td></td>
<td>• Life Cycle Planning</td>
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<tr>
<td></td>
<td>• Project Development</td>
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<tr>
<td></td>
<td>• Construction</td>
</tr>
<tr>
<td></td>
<td>• Maintenance</td>
</tr>
<tr>
<td>Static and Reactive</td>
<td>Responsive, Proactive, and Predictive</td>
</tr>
<tr>
<td>Average Travel Time, Level of Service</td>
<td>Also Travel Time Reliability</td>
</tr>
<tr>
<td>Adding Capacity</td>
<td>Preserving and Restoring Existing Capacity as an asset to manage</td>
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<tr>
<td>Focus on Individual Facilities and Jurisdictions</td>
<td>Entire Transportation System</td>
</tr>
<tr>
<td>Moving the Car/Truck from Point A to Point B</td>
<td>Moving the Person/Cargo from Point A to Point B</td>
</tr>
<tr>
<td>Individual Strategies</td>
<td>Integrated Strategies</td>
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How Would You Deal With Your Given Scenario?

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Scenario #1 – Incident on a Freeway

- Metropolitan District – Large City
- 2 of 4 Lanes Blocked
- Additional Information
  - Parallel Continuous Frontage Roads
  - Crosses 2 municipalities

Source: http://www.startgrouptraining.com/images/Traffic%20Incident%20Header.jpg
Scenario #2

- Multimodal Center Development
  - Multiple Concurrent Projects
- City Project with Federal Funding
- TxDOT to Build Elevated BRT Lanes
  - Connecting to Nearby Freeway
- Transit Transfer Center
  - Existing Bus System
  - Transit Agency has Future Light Rail Plans
- Nearby Development
  - Developers Considering Potential Transit-Oriented Development
- Metro District – Large City
Summary

- **Take Home – Action Items**
  - Coordinate With a TSMO Champion from your Organization
  - Think of Ways to Implement TSMO Strategies for Each Project That You Work On to create redundancy.
  - Remember the **Three Keys** to TSMO!!

![Key icons]
QUESTIONS??

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