



TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS TSM&O

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OVERVIEW

- What is TSM&O
- Vision for Operations in Florida
- Progress to Date
- Examples of TSM&O
- Next Steps
- Strategies – Now and Future

TSM&O

Integrated program to optimize the performance of existing multimodal infrastructure through implementation of systems, services, and projects **to preserve capacity and improve the security, safety and reliability of our transportation system**

TSM&O

- TSM&O is a program within the Department of Transportation
- Based on measuring performance
- Actively managing the multimodal transportation network
- Delivering positive safety and mobility outcomes to the traveling public in Florida
- Benefit/Cost ratio of operational projects prove they are cost-effective solutions





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Arterial Management

Emergency / Incident
Management

Freeway Management

Special Event Management

Freight Management

Transit Operations &
Management

Traveler Information

Travel Demand Management

Work Zone Management

Travel Weather Management

Planning & Development

Operations

Construction

Maintenance



CONGESTION

- Annually, in Florida's seven urbanized areas
 - 216 million gallons of excess fuel are wasted
 - 274 million person-hours are spent in congestion resulting in
 - A total annual cost of congestion of \$6.4 billion

VISION

FOR ARTERIAL AND FREEWAY OPERATIONS



- To operate our transportation system at the highest level of cost-effective performance resulting in
 - Reduced excess delay on arterials AND freeways
 - Real-time management and traveler information for all modes
 - Seamless coordination with ALL operating agencies



PROGRESS TO DATE

- TSM&O Task Team
 - Strategic Plan
 - Tier 2 Business Plan
 - Draft Outreach Plan
 - Performance Measures Dashboard
 - Policy and Procedures updates
- TSM&O Leadership Team
- District TSM&O Workshops

DESIRED WORKSHOP OUTCOMES



- Help participants better understand TSM&O
- Foster understanding that all functional areas have a role in planning for and implementing TSM&O
- Identify District focus area for implementation
- Develop action items to continue TSM&O implementation
- Introduce participants to existing TSM&O documents

TSM&O

STRATEGIC PLAN OVERVIEW

- Lays groundwork for establishing and maintaining TSM&O Program
- Recommends actions to be taken in next five years to successfully establish TSM&O Program
 - District focus areas selected
 - District champions identified
 - Pilot programs initiated
 - Dashboards created to report results

D1 – EXAMPLE OF TSM&O INTERLOCAL AGREEMENT

- Single regional traffic management system
 - Partners with Sarasota and Manatee Counties, and Cities of Sarasota and Bradenton
 - Regional signal coordination and arterial incident management



D4 – EXAMPLE OF TSM&O NETWORK MANAGEMENT

- Defined TSM&O network
- Central Broward County advanced traffic management system – 2011/2012
 - Will provide ATMS infrastructure to support real-time operations and management on initial TSM&O deployment network
- System integration
 - Arterials, freeways, transit



D5 – EXAMPLE OF TSM&O

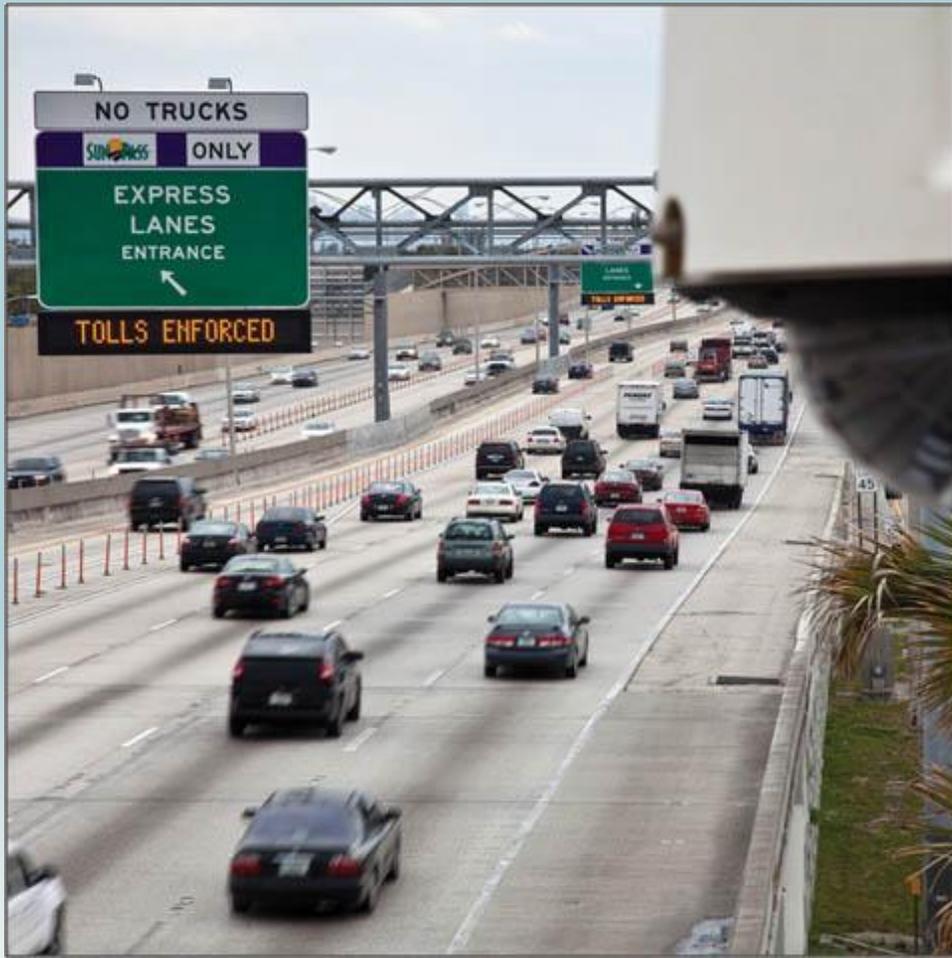
REAL TIME OPERATIONS

- CCTV footage of construction zones being monitored at Operations Centers
- Actively monitoring travel times on I-4 and SR 417
- Displaying diversion messages on I-4 as needed



D6 – EXAMPLE OF TSM&O

I-95 EXPRESS

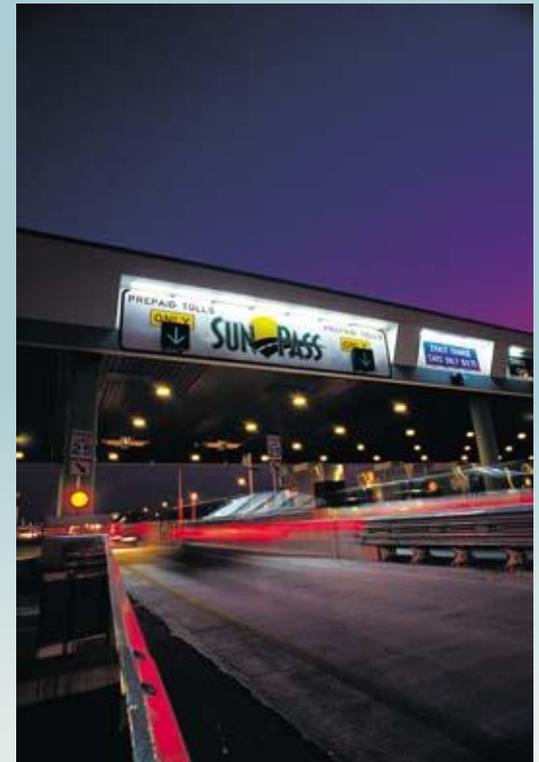


- Combination of congestion pricing, ramp management, express bus and carpools on I-95 in Miami-Dade
- Peak hour operations
- Pre-Implementation
 - General use lane – 20mph, HOV lanes – 20mph
- Post-Implementation
 - General use lanes – 41mph, Express lanes – 57mph
 - Person throughput increased by 12 percent
 - Better travel time reliability



TURNPIKE - EXAMPLE OF TSM&O IMPROVEMENT PROJECT

- Efficiency/high location projects
Anderson Mainline Toll Plaza
- Lane configuration increased
throughput, improved overall
design
- Small scope - \$53,000 project



NEAR-TERM IMPLEMENTATION ACTIONS

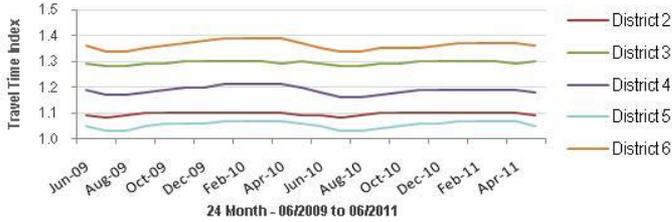
FY 2011/2012

- **Central Office**
 - Implement a formal program within FDOT
 - Provide tools, guidance, and policy
 - Finalize/publish Strategic Plan and Tier 2 Business Plan
 - Develop accountability mechanisms (dashboard)
 - Conduct TSM&O workshops statewide
- **Districts**
 - Select focus areas under program
 - Identify a champion in each District
 - Districts define networks (freeways, arterials) for performance-based management through TSM&O
 - Require District to develop/update Tier Business Plan for TSM&O

System Performance

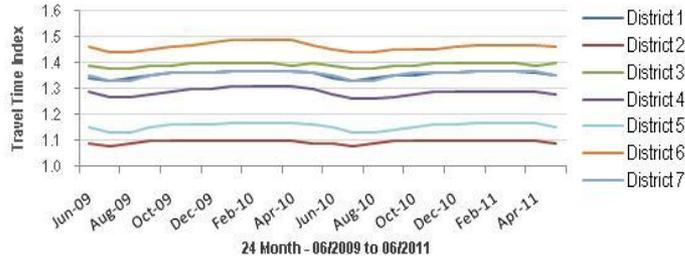
-----Peak Hour Travel Time Index-----

Limited Access Facilities



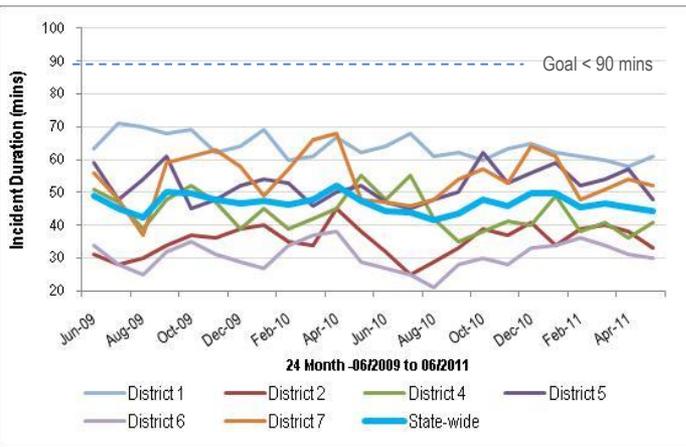
I-95

Arterial



-----Incident Duration-----

Limited Access Facilities



Note: Incident duration data for District 3 is not available

TSM&O

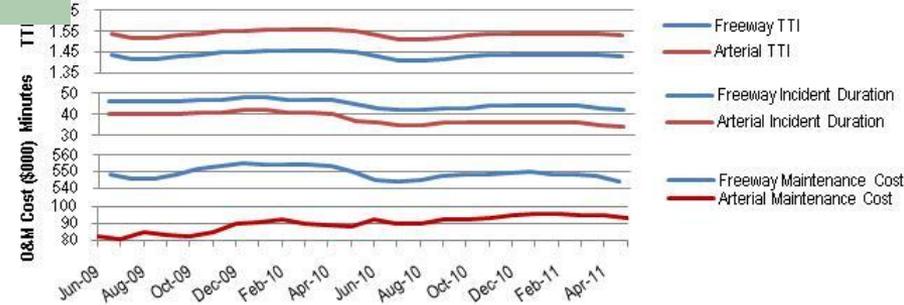
District-wide Travel Time Index

Districts	Two Year Average TTI
District 1	1.26
District 2	1.20
District 3	1.29
District 4	1.44
District 5	1.41
District 6	1.46
District 7	1.41

Limited Access Facilities

Organizational Performance

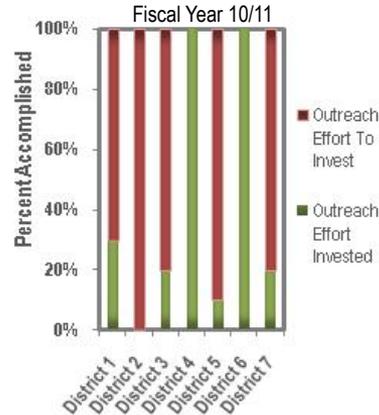
-----Operating and Maintenance Benefit/Cost Ratio-----



District 4

-----District Involvement-----

Outreach Effort



Business Plan Development Progress



-----Work Zone-----

Percent of Work Zones Managed



District 4

LONGER-TERM IMPLEMENTATION ACTIONS

FY 2011/2013

- TSM&O formally considered in FDOT/MPO, planning, PD&E processes, and manuals
- TSM&O reflected in key FDOT policies/procedures
- Construction
 - Maintenance of traffic plans incorporate TSM&O strategies
- Maintenance/materials
 - Real-time infrastructure monitoring through remote sensors



TOOL BOX STRATEGIES

NOW

Focus Areas

Ramp Signals

ATMS

Severe Incident
Response
Vehicles

Benefit

Regulates flow of
traffic entering
freeway

Enhanced signal
coordination

Central point of
contact at major
incidents

Location

District 6

Statewide

District 4

TOOL BOX STRATEGIES

NOW

Focus Areas

Managed Lanes

Arterial
Management

Benefit

Road managed
in response to
changing
conditions,
creating a more
effective and
efficient freeway

More effectively
managing traffic
on arterial
roadways

Location

District 6

Districts 1 and 4

TOOL BOX STRATEGIES

NOW

Focus Areas

Incident Management

Work Zone Traffic Management

Benefit

Improve safety for motorists and responders, reduce congestion, improve safety

Improve safety and enhanced traffic management in work zones

Location

Statewide

District 1

TOOL BOX STRATEGIES

2015-2017

Focus Areas

Active Traffic Management

Virtual Freight Network

Benefit

Maximizes efficiency by increasing throughput, capacity and trip reliability

Improves freight movement

Location

Statewide

Statewide

TOOL BOX STRATEGIES

2015-2017

Focus Areas

Connected
Vehicle

Benefit

Reduce number
of incidents,
improve safety of
travelling public

Location

Statewide

BENEFITS OF TSM&O

- Making the most of the existing infrastructure
- Improving coordination between transportation operators
- Better incident management
- Improving travel time reliability
- Better flow through work zones
- Cost savings \$





QUESTIONS ?

