

Improving Transportation Systems Management & Operations: A Capability Improvement Workshop

This memo provides a summary of the day-and-a-half Transportation Systems Management and Operations (TSM&O) Capability Improvement Workshop conducted on February 7–8, 2012 at the Broward County MPO. Attendees of the Workshop are listed at the end of this memo in Attachment 3.

The purpose of the Workshop is to provide a consensus evaluation of the state of play and promising next steps in advancing the effectiveness of the region's TSM&O efforts. The Workshop identified the current levels of capability regarding key processes, organization, staff and collaboration issues that may assist the region in defining the priorities among an array of possible actions to improve regional TSM&O efforts.

The tables that follow provide a summary of the consensus issues and views of the participants regarding current level of maturity and key improvement actions to get to the next level. The articulation of these views and comments are documented as brief bulleted points in order to minimize interpretation by the facilitation team.

Note that the summary tables presented herein offer the region an opportunity to identify participants and leads for each potential action plan initiative.

The memo that follows the summary tables was provided as background for the workshop attendees, describing the concept, intent and structure of the Workshop.

The workshop was facilitated by Steve Lockwood of Parsons Brinckerhoff and Phil Tarnoff, a private consultant, with assistance from Reno Giordano of Parsons Brinckerhoff and Erin Flanagan of Cambridge Systematics. It is part of a series of workshops sponsored by FHWA. Further information on the concepts and guidance used in the workshop is available at aashtosomguidance.org.

Improving Transportation Systems Management & Operations: A Capability Improvement Workshop

DIMENSION: Business Processes (Planning, Programming, Resource Allocation)

Strengths Cited	Weaknesses Cited
<ul style="list-style-type: none"> Strong District secretary support Existing D-4 TSM&O Plan designed to be a department plan (and included interjurisdictional input) TSM&O regional task force - convened by D-4 meets regularly Coordination exists between TSM&O infrastructure deployment needs and district maintenance (repaving) General recognition that users don't see regional boundaries (monthly regional planning council meeting among 3 MPOs and 2 districts have come to this conclusion) and improvements must be made within this framework TSM&O/ITS alternatives routinely included in D-6 NEPA studies - interest in expanding this approach statewide Miami-Dade Transit 10-year plan coordinated with DOT from TSM&O perspective ("smart stops", signal priorities for buses - has led to increase in ridership); DOT has contributed funding for these projects Lesson to be learned from a regional perspective from freeway and FTE program (managed lanes, ramp signaling) success using outcome-based approach - could be applied to arterial system For department, budget line item for ITS, but no line item for TSM&O 	<ul style="list-style-type: none"> Challenge of "plateauing" in freeway TSM&O: what are the next areas for improvement? No dedicated funding for TSM&O program capital and staffing - especially critical for moving program beyond freeways Absence of multijurisdictional plan and program (need better alignment among planning, capital expansion, and operations) Lacking plan with Palm Beach and Boca Raton consideration - challenge with funding to consider options (Palm Beach) Need champion to take the lead at the regional planning council/MPO level Fragmentation among local agencies in O&M of arterials (not to the level of operation of freeway system) Shortage of funds and staffing at local level not only for program improvement but also for basic maintenance and operations of TSM&O infrastructure Issue of defining (and reaching consensus) re: what "active management" of an arterial system means? (devices, strategies, how much staffing resources are needed?) Difficult to make business case to leaders because of lack of clear definition and understanding of TSM&O (or its components)

	LEVEL 1 PERFORMED	LEVEL 2 MANAGED	LEVEL 3 INTEGRATED	LEVEL 4 OPTIMIZING
Level Consensus	Each jurisdiction doing its own thing according to individual priorities and capabilities	Consensus regional approach developed regarding TSM&O goals, deficiencies, B/C, networks, strategies and common priorities	Regional program integrated into jurisdictions' overall multimodal transportation plans with related staged program	TSM&O integrated into jurisdictions' multi-sectoral plans and programs, based on a formal, continuing planning processes
Consensus	1.5			

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DIMENSION: Business Processes (Planning, Programming, Resource Allocation) - continued

	Action	Participants/Lead
<p>Actions to Advance to the Next Level</p>	<ul style="list-style-type: none"> • Develop <i>regional</i> TSM&O plan, program and budget for arterial network (convene forum of key players, MPO takes the lead) • Consider staging of plan in terms of geography and level of commitment • Indicate incremental benefits per strategy and costs • Establish process/develop analytics (e.g. net present value) for valuing investment alternatives and educating decision makers on the on their application (e.g. for MPOs): can be done in anticipation of future resources and would level playing field for competition with capital expenditures • Embody TSM&O plan components in agencies' plans and budgets including FDOT (not just ITS) • Convene such a regional working group and develop a regional vision, policies, strategies and regional unified work program item for TSM&O • Present plan to executive committee 	<p>Collective effort/MPO-led, with broad regional participation and coordination and FDOT technical support</p>

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DIMENSION: Systems and Technology
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Strengths Cited	Weaknesses Cited
<ul style="list-style-type: none"> Established systems architecture exists for TSM&O Some standardization exists across municipalities for interoperability Have standard statewide specifications for freeways but not formal ones for arterials (have had to interpret/adapt freeway specs for this purpose or try to predict the long-term needs) In process of bringing RITIS to FL (HQ initiative) 	<ul style="list-style-type: none"> Ad hoc standards for local improvements Mismatch between pace of technology and approvals Interoperability risk with aggressive deployment of infrastructure Challenge of effectively capitalizing on large volume of data Need performance indicators to drive appropriate level of investment in technology Design-build primarily used for procurement with low bid approach which may involve systems integration problems

	LEVEL 1 PERFORMED	LEVEL 2 MANAGED	LEVEL 3 INTEGRATED	LEVEL 4 OPTIMIZING
Level Consensus	Ad hoc approaches to system implementation without consideration of systems engineering and appropriate procurement processes	Regional conops and architectures developed and documented with costs included; appropriate procurement process employed	Systems & technology standardized and integrated on a regional basis (including arterial focus) with other related processes	Architectures and technology routinely upgraded to improve performance; systems integration/interoperability maintained on continuing basis
Consensus		2		

	Action	Participants/Lead
Actions to Advance to the Next Level	Not discussed given relatively high capability and need to address lower level dimensions	

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DIMENSION: Performance Measurement

Strengths Cited	Weaknesses Cited
<ul style="list-style-type: none"> For ITS and at state level, good performance measures in place (e.g. travel time reliability) for freeways; in development at MPO and local level Performance reporting and after action analysis in place at FDOT districts Existing performance measures have opportunity to be multimodal or provide "total trip"/O-D data 	<ul style="list-style-type: none"> Need convening body to consider arterial operations performance measures - lack of existing guidance (how to use? what is collected? what is considered good vs. bad?) Transit performance measures needed Issue of proper/efficient use of performance measures (refinement and quality vs. lack of data or operators) State driven PM collection protocols apply less to turnpike - need methodology common across facility types "Total trip" performance measures lacking Need for multijurisdictional approach

	LEVEL 1 PERFORMED	LEVEL 2 MANAGED	LEVEL 3 INTEGRATED	LEVEL 4 OPTIMIZING
Level Consensus	Some outputs measured and reported by some jurisdictions	Output data used directly for after-action debriefings and improvements; data easily available and dashboarded	Outcome measures identified (networks, modes, impacts) and routinely utilized for objective-based program improvements	Performance measures reported internally for utilization and externally for accountability and program justification
Consensus	1 (Broward County)	2.5 (DOT) 2 (Palm Beach County)		

	Action	Participants/Lead
Actions to Advance to the Next Level	Not discussed given relatively high capability and need to address lower level dimensions	

Improving Transportation Systems Management & Operations: A Capability Improvement Workshop

DIMENSION: Culture

Strengths Cited	Weaknesses Cited
<ul style="list-style-type: none"> • HQ/executive DOT understanding of TSM&O - have sponsored series of workshops • Strong District secretary support • Good understanding also among district design and maintenance staff - still working on integration within those divisions: design staff coordinate with traffic operations on new construction (e.g. inclusion of fiber) • Broward MPO-requested presentation on planning for operations well received • Palm Beach MPO has multilevel line item for ITS • County commissioners appreciate benefits costs/benefits of TSM&O, including environmental • Customer oriented outreach to leadership success from TMC tours - increases understanding of deploying ITS/TSM&O on arterials • Positive press (Sun Sentinel) • Two-way customer service opportunities through 511 (public is aware of it) • "Clean slate" position of all 3 MPOs with opportunity to integrate TSM&O into planning and programming activities/modeling/studies, etc. ("at the beginning" in terms of institutionalizing TSM&O) 	<ul style="list-style-type: none"> • Need for a regional champion and lead agency (MPO) role • Setback from mismanagement of first phase of ATMS, but has been used as a learning experience - have since rebuilt some confidence in execution (e.g. among county commissioners) • Challenge of education at the elected official / policymaker level (requires performance measurement to make the case) • Fragmentation of County Commissioners' interests in improvement - due to district elections • Confusion on terminology (ITS, TSM&O, SO&M, etc.)

	LEVEL 1 PERFORMED	LEVEL 2 MANAGED	LEVEL 3 INTEGRATED	LEVEL 4 OPTIMIZING
Level Consensus	Individual staff champions promote TSM&O - varying among jurisdictions	Jurisdictions' senior management understands TSM&O business case and educates decision makers/public	Jurisdictions' mission identifies TSM&O and benefits with formal program and achieves wide public visibility/understanding	Customer mobility service commitment accountability accepted as formal, top-level core program of all jurisdictions
Consensus	1.5 (Broward County, Miami-Dade County)	2 (D4/D6)		

DIMENSION: Culture - continued

	Action	Participants/Lead
<p>Actions to Advance to the Next Level</p>	<ul style="list-style-type: none"> • Develop shared vision and definition of TSM&O • Organize activities at the MPO level using available tools (state and federal) to educate on TSM&O - has to be consistent and recurring • Introduce TSM&O into MPO policy, planning, programming and budgeting as a key focus • Use expected success from Central Corridors project (3 arterials) to displace image setback from phase 1 ATMS • Develop a “before and after” demonstration to incorporate into TMC tours - would show hypothetical outcomes of deploying TSM&O strategies on specific corridors • Strengthen decision-maker support for TSM&O by capitalizing on FHWA and SHRP2 materials • Agree on and use consistent terminology for public discussions and presentations • Address issue of branding; consider TSM&O logo • Develop marketing plan (should be statewide) - Sunguide experience as model 	<ul style="list-style-type: none"> • MPO lead with strong support from FDOT and local entities • Broward MPO Public Info. Officer lead branding and outreach effort

DIMENSION: Organization/Staffing

Strengths Cited	Weaknesses Cited
<ul style="list-style-type: none"> • County acknowledgment that organizational staffing changes needed to meet TSM&O needs • Broward MPO also recognizes staffing needs for TSM&O in short and long range planning • Informal quarterly TSM&O meeting among D-4, D-6, transit, etc. has evolved from infrastructure development - can evolve to an MPO-led or more structured forum with assignment of goal-based roles to individuals (see Portland, OR example) • FTE direct management of SSP contracts differs from rest of FDOT because of expected higher level of service - have ability to adjust performance targets • D6 in process of hiring TSM&O coordinator to sit in ITS section 	<ul style="list-style-type: none"> • Local government staff shortfalls (as well as plan) to operate and maintain • Legacy of separation between TSM&O and ITS at district level • Distinction lacking between tools of ITS and TSM&O - does not align well organizationally • At HQ, TSM&O manager 5 levels down and currently parallel to ITS when it should be higher - as direct report to chief engineer - to level playing field across disciplines and ensure integration in planning, staffing and funding • D-4 TSM&O program organization not ideal - separate freeway and arterial management programs • District TSM&O program needs a formal project development interface with construction and maintenance activities organizationally • Broward County just beginning to organize around TSM&O (e.g. signal timing separated from signal design and construction one year ago) - institutional barriers exist to reorganization • Freeway service patrol reports as part of ITS rather than TSM&O • Rotation towing for routine crashes undercuts ability to improve towing and recovery performance • Staff reductions or freezes inhibit expansion to new program areas (D-6) unless moved out of old program area

	LEVEL 1 PERFORMED	LEVEL 2 MANAGED	LEVEL 3 INTEGRATED	LEVEL 4 OPTIMIZING
Level Consensus	TSM&O added on to units within existing structure and staffing, dependent on technical champions	TSM&O-specific organizational concept developed within/among jurisdictions with core capacity needs identified; collaboration takes place	TSM&O managers have direct report to top management; job specs, certification and training for core positions	TSM&O senior managers at equivalent level with other jurisdiction services and staff professionalized
Consensus	1.5			

DIMENSION: Organization/Staffing - continued

	Action	Participants/Lead
<p>Actions to Advance to the Next Level</p>	<ul style="list-style-type: none"> • Identify TSM&O coordinators by district (like D-4) • Study organizational options that elevate TSM&O to appropriate level (all agencies) • Make consistent case for appropriate staffing levels at local government level • Map out proposed changes to organizational structure and stages of improvement - develop reorganizational proposal (structure and methodology) for presentation to upper management - consider Central Office desire for district organizational consistency (which could still consider differences between urban vs. rural) • MPO to develop TSM&O program effort with staff (or consultants) 	<ul style="list-style-type: none"> • FDOT for DOT organizational development and statewide consistency • Broward MPO for staffing regional effort

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DIMENSION: Collaboration

Strengths Cited	Weaknesses Cited
<ul style="list-style-type: none"> • County TIM teams meet regularly, coordinated by FDOT including after action analysis with multijurisdictional participation (towing, law enforcement, emergency response, asset management) • In D-6, some progress in considering arterial incidents at TIM meetings - statewide, funding is available • FDOT and FHP formal policy in place - to be renewed • Central office-led incident management training for law enforcement (95 Express was a special focus) • Collocation at TMCs • TMC operations, ITS maintenance, IM successfully outsourced • FTE example of management over SSP and towing to improve incident management 	<ul style="list-style-type: none"> • DOT-led TSM&O quarterly meeting informal (champion dependent) • Arterial incidents rarely focus of TIM meetings as they don't meet established criteria for after action analysis • Difficulty in improving arterial incident management because of local towing arrangements (rotation or low bid contracts) • Complex relationship between transportation and law enforcement agencies • Budgetary issues affect collaboration at county level • Institutional guidelines cannot keep up with pace of outsourcing (contract management, procurement) - weakness is ability to adapt

	LEVEL 1 PERFORMED	LEVEL 2 MANAGED	LEVEL 3 INTEGRATED	LEVEL 4 OPTIMIZING
Level Consensus	Relationships ad hoc and on personal basis (public-public, public-private)	Objectives, strategies and performance measures aligned among organized key players (transportation and public service agencies) with after-action debriefing	Rationalization/sharing/formalization of responsibilities among key players through co-training, formal agreements and incentives	High level of TSM&O coordination among owner/operators (state, local, private)
Consensus	1.5			

DIMENSION: Collaboration - continued

	Action	Participants/Lead
<p>Actions to Advance to the Next Level</p>	<ul style="list-style-type: none"> • Formalize interjurisdictional collaboration forum (TSM&O quarterly meetings) • Develop stronger arterial IM plan (detection, dissemination, traveler information, action) • Include arterial IM on TIM team agendas • Develop local/law enforcement notification protocols for incidents, operational changes, etc. • Determine future strategy for 511 and providing traveler information • Rationalize current FDOT strategy with multiple outsourcing entities (TMCs, safety service patrol, device maintenance) in terms of consistent contract performance management approach and consideration for localized differences in performance requirements (FDOT is examining VDOT contract example) 	<p>Regional Transportation Technical Advisory Committee as potential venue for assuming responsibility of quarterly TSM&O meeting - would incorporate many regional entities</p>

Improving Transportation Systems Management & Operations

A Capability Improvement Workshop

February 7-8, 2012

**Location - Broward Metropolitan Planning Organization
Trade Centre South**

100 West Cypress Creek Road,
8th Floor, Suite 850
Fort Lauderdale, Florida 33309-2112

Purpose of the Workshop

The purpose of this Workshop is to raise awareness of the opportunities for improving the effectiveness of state and local Transportation System Management and Operations (TSM&O) activities. The Workshop is sponsored by the FDOT and Broward MPO with support from FHWA, TRB's SHRP2 Reliability Program and AASHTO.

The Workshop recognizes that metropolitan regions in Florida have already made significant progress in developing and deploying key ITS assets and TSM&O activities. This workshop builds on this progress with a focus on how to mainstream the TSM&O program at the state and regional level. Its focus is on the broader program, process, and organizational capabilities that are essential to "mainstreaming" effective TSM&O strategies. It is aimed at program and activity level managers responsible for TSM&O-related activities in state, regional, and local agencies.

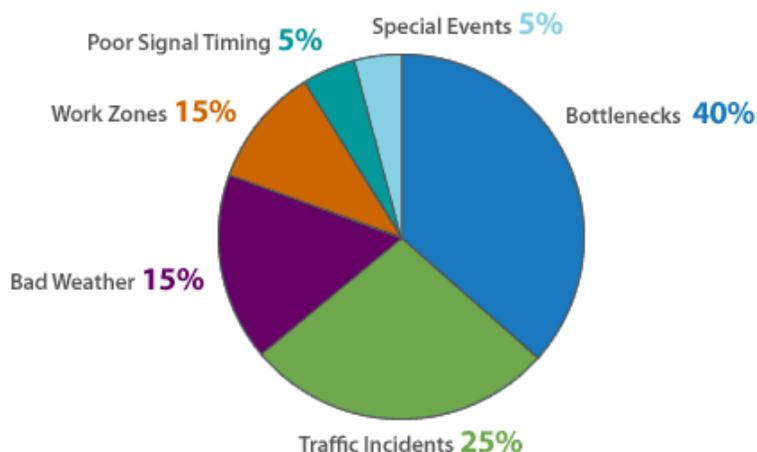
Research shows that *moving beyond a collection of strategy applications to an effective TSM&O program* requires a set of deliberate change management actions to improve agency capabilities in seven specific dimensions. A "capability maturity" approach utilized in the Workshop (discussed below) focuses on the key dimensions that impact program effectiveness: business processes, systems and technology, performance measurement, culture, organization and workforce, and collaboration. Improving these capabilities are essential to continuous improvement of TSM&O and its performance impacts

The Workshop is not a consultant presentation—it is a structured dialogue among key transportation agency staff in the region.

Background

Basic Transportation Systems Management and Operations Strategies – As congestion spreads and intensifies and the level of incidents, delays and disruptions increase, the level of service and reliability of the roadway systems in many areas continues to deteriorate. In large metropolitan areas over half of the total delay – and most of system unreliability results from disruptions and incidents – many of which are not substantially dealt with by adding new capacity. The contribution of these problems to congestion is shown in Exhibit 1.

Exhibit 1. The six causes of congestion and delay



Transportation Systems Management and Operations -- Given the constraints on the provision of significant new capacity, it is increasingly important to operate the existing network to its fullest service potential, especially “taking back” the capacity lost to congestion, incidents, construction, weather, poor signalization, etc. TSM&O is an 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 the transportation system.

TSM&O capitalizes on the full service potential and cost-effectiveness of the complete range of the well-known strategies such as:

- Traffic incident management
- Work zone management
- Traveler information services and demand management
- Road weather information
- Freeway management and managed lanes
- Traffic signal operation
- Electronic payment/toll collection
- Emergency response
- Freight management

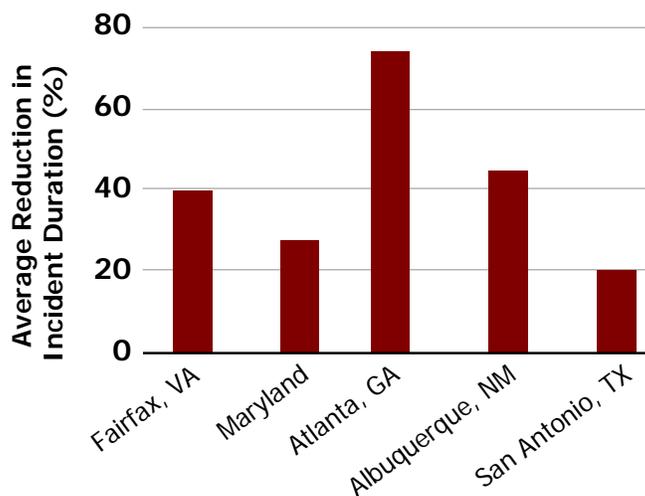
The logic for aggressive pursuit of TSM&O is compelling. TSM&O strategies are extremely cost effective (and low cost) with relatively short lead times. Exhibit 2 illustrates this range of potential.

Exhibit 2. TSM&O Strategy Impacts

TSM&O Applications	Benefits and Benefit-Cost Ratios	Safety Impact	Mobility Impact	Energy/Environment Impact
Traffic incident management <ul style="list-style-type: none"> Safety service patrols Surveillance & detection 	Incident duration reduced 30–50%	High	High	High
	2:1 to 42:1	High	High	High
	8:1	High	High	High
Road weather information systems	2:1 to 10:1; crash rates reduced from 7–80%	High	High	High
Traveler information dynamic message signs	3% decrease in crashes; 5–15% improvement in on-time performance	Low	High	Low
Work zone management	2.1 to 40.1; system delays reduced up to 50%	High	Medium	Medium
Active Traffic Management	Throughput increased by 3–7%; decrease in incidents of 3–30%	High	High	Medium

Improving TSM&O program effectiveness -- However, there is a wide gap among regions between state-of-the-practice applications and average practiced. Exhibit 3 illustrates examples of the wide variation among regions regarding the effectiveness of their TSM&O activities, reflecting differences in the degree of commitment in terms of organization, resources, program innovation.

Exhibit 3. Best practice incident management delay reductions

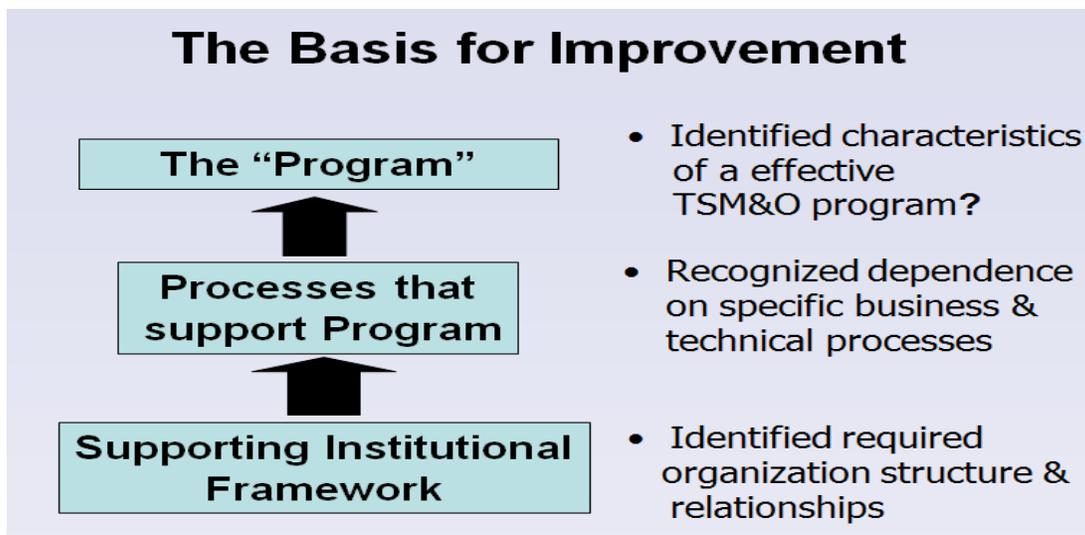


Recent research by SHRP2 and AASHTO suggests that the key challenges to improved effectiveness are no longer primarily related to technology or understanding of best practice. The effectiveness of DOTs appears to be closely related to development of equivalent specific processes and institutional arrangements for TSM&O in seven key dimensions:

- Business Processes (Planning, programming, resource allocation)
- Systems & Technology
- Performance measurement
- Culture
- Organization/Staffing
- Collaboration

Exhibit 4, illustrates these interdependencies between the “program” (specific applications) and the business and technical process dimensions and supporting institutional arrangements needed for achieving full effectiveness and continuing to improve

Exhibit 4. Relationships among program, processes and institutional framework



Especially for agencies and regions with basic TSM&O strategies already in place, reaching full potential requires that these supportive processes and institutional arrangements be put in place and managed at the program level – just as has typically already been done for the other formal core programs of DOTs, such as construction and maintenance.

The Capability Maturity Model (CMM)

The Capability Maturity workshop — The purpose of the TSM&O Capability Maturity Workshop is to provide a mechanism by which management personnel of the various transportation agencies in the Region can assess the current state of play regarding these key dimensions. It will help identify the key next steps to beginning a path of continuous improvement. This evaluation will use a methodology focused on the key issues as described below.

The Structure of the Capability Maturity Model -- Research in TSM&O effectiveness has resulted in the development of a “Capability Maturity Model” (CMM). The CMM is a concept to support self-evaluation and identification of critical priority “next steps to” placing TSM&O activities on a path to improved outcomes on a continuing basis. The CMM concept was originally developed for the information technology industry and is widely applied in the US and internationally as a means of improving products and services. Its key features are:

- It focuses just on *seven key dimensions* needed for improving efficiency and outcome effectiveness;
- It recognizes that improvements must be implemented in *incremental and “doable” levels* that can be managed -- with clearly identified criteria that build on previous activities to reduce the risk of failure; and
- It identifies *priorities for management* – in terms of the most highly leveraging actions that improve efficiency and effectiveness up to the next level.

Key Dimensions: Processes -- Predictable and repeatable processes – both business and technical - within an organization are the key to effective, “surprise free” TSM&O. Achieving predictability and repeatability requires planning for standardization and documentation of systems and technology, training and performance measurement. These features are also the tools required for continuous improvement – putting the program on a stepwise path to improved effectiveness. Many of these considerations have long been embodied in how regional transportation agencies do their other core business such as capital project development and maintenance. But the requirements of a high tech, real-time customer service activity like TSM&O are different and need to be specifically accommodated with appropriate processes. Organizations that want their systems operation and management processes to be predictable and repeatable and tailored to the incremental high-tech, low-cost nature of the improvements, must evolve through a series of *stages of maturity* from informal (at the lower end of the scale) to highly routinized and with continuous improvement embedded at the higher end. As each process develops in this way, its capability will improve.

The Process dimensions to be considered in the workshops are:

- *Planning, programming, and resource allocation* for TSM&O – Programs are planned and executed based on mobility needs. Capital, operating and maintenance costs are properly allocated to ensure that systems operations and management has its appropriate place in the agencies’ overall improvement programs.

- *Technology and Systems* - Documentation of systems and procedures, including applications selection, conops, architecture and field procedures, are standardized to ensure consistency and reliability.
- *Performance measurement* including measurement, reporting, and use in continuous improvement to achieve customer service outcomes.

Key dimensions: Institutional Arrangements -- The “architecture” of the organization must be appropriate to promoting the alignment of understanding and objectives, authority and accountability, technical capacity and resources and roles and relationships, as needed for TSM&O. The existing culture and organizational structure of most transportation agencies has been established to support the traditional core programs. It is not surprising that a new program focus - with its service and performance focus and its dependence on external partners – requires certain organizational adjustments.

The *Institutional* dimensions to be considered are:

- *Culture* that reflects an understanding of TSM&O potential and its role in the transportation agencies customer service mission and investment context;
- *Organizational structure* and staff capabilities to promote technical focus, efficiency and accountability;
- *Collaboration* among partners who must be involved in TSM&O service delivery, aligned to ensure effective application of TSM&O strategies.

Capability Levels -- Discrete levels (stages) of maturity for the various dimensions have been observed and defined from research and an analysis of various existing state and regional TSM&O programs – and have been interpreted in terms of the capability maturity concept – ranging from ad hoc/start-up activities to an ideal level. The CMM levels are:

Level 1: Performed --Activities and relationships largely ad hoc, informal and champion-driven – substantially outside the mainstream of other transportation activities.

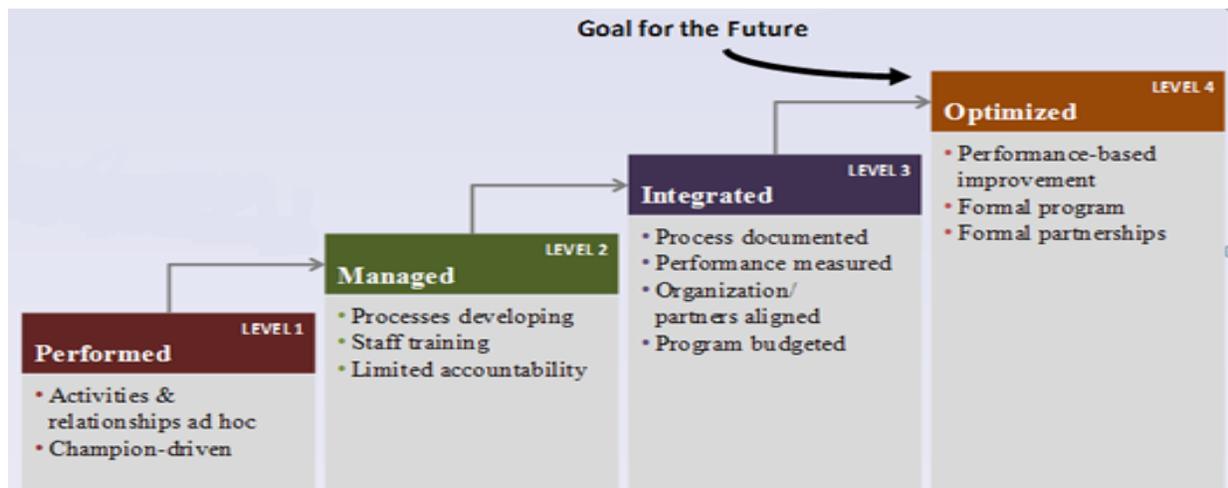
Level 2: Managed --Basic strategy applications understood – but limited accountability and external alignment; processes and support requirements identified, key technology and core capacities under development.

Level 3: Integrated -- Standardized strategy applications implemented in priority contexts and managed for performance; technical and processes developed, documented, integrated and funded into the regional transportation agencies, partnerships aligned.

Level 4: Optimizing -- SO&M as full, formal, sustainable region-wide program, established on the basis of continuous improvement with all partners.

The relationships among the levels are illustrated in the Exhibit 5 graphic.

Exhibit 5. Levels of agency capability maturity



Agency Self-evaluation: The Answers are Already in the Room

The workshop is a self-evaluation exercise based on the CMM to be conducted by the transportation agency staffs based on their knowledge of the state of play. The consultant is simply the facilitator. The focus of the Workshop is to review the strengths and weaknesses of the current level of the region’s capabilities in each of the seven dimensions of capability – using the level criteria in the CMM. Base on those levels, the workshop participants achieve consensus on the current state of play in the Region. These levels then serve as the basis for the identification of the logical (and doable) “next steps” to improve the regions TSM&O capability.

The Prioritizing “Rules” of CMM -- One of the key features of CMM is its rules of application regarding the next steps for each of the dimensions. They include the following considerations:

- Some of the dimensions are “harder” to deal with than others. However, the dimensions included are all essential and must be addressed. Omitting improvement in any one will inhibit continuous improvement of program effectiveness.
- The dimension at the lowest level is usually the principal constraint to improvement of program effectiveness and therefore the highest priority (and often most difficult!)
- For any dimension, levels cannot be skipped. Steps taken for a given dimension need to be in place for a period (one year) to become embedded as the basis of the next level of improvement.
- Each level builds on organizational readiness of previous level.

Based on the review of the current state of play in Florida, an appropriate CMM framework has been established for the Workshop. This framework is attached as Attachment #1.

The workshop agenda is attached as Attachment #2

As an internal agency activity, there are no external judgments. This is not a test!! All comments are confidential. It is essential to be candid about the current state of play.

Attachment #1: Workshop CMM Template

CAPABILITY LEVEL DEFINITIONS FOR SELF-EVALUATION OF CURRENT STATE OF PLAY IN THE REGION				
DIMENSIONS	LEVEL 1 PERFORMED	LEVEL 2 MANAGED	LEVEL 3 INTEGRATED	LEVEL 4 OPTIMIZING
Planning and Programming	Each jurisdiction doing its own thing according to individual priorities and capabilities	Consensus regional approach developed regarding TSM&O goals, deficiencies, B/C, networks, strategies and common priorities	Regional program integrated into jurisdictions' overall multimodal transportation plans with related staged program	TSM&O integrated into jurisdictions' multi-sectoral plans and programs, based on formal continuing planning processes
Systems and Technology	Ad hoc approaches to system implementation without consideration of systems engineering and appropriate procurement processes	Regional conops and architectures developed and documented with costs included; appropriate procurement process employed	Systems & technology standardized and integrated on a regional basis (including arterial focus) with other related processes and training as appropriate	Architectures and technology routinely upgraded to improve performance; systems integration/interoperability maintained on continuing basis
Performance Measurement	Some outputs measured and reported by some jurisdictions	Output data used directly for after-action debriefings and improvements; data easily available and dashboarded	Outcome measures identified (networks, modes, impacts) and routinely utilized for objective-based program improvements	Performance measures reported internally for utilization and externally for accountability and program justification
Culture	Individual Staff champions promote TSM&O – varying among jurisdictions	Jurisdictions' senior management understands TSM&O business case and educates decision makers/public	Jurisdictions' mission identifies TSM&O and benefits with formal program and achieves wide public visibility/understanding	Customer mobility service commitment accountability accepted as formal, top level core program of all jurisdictions
Organization/ Staffing	TSM&O added on to units within existing structure and staffing -- dependent on technical champions	TSM&O-specific organizational concept developed within/among jurisdictions with core capacity needs identified, collaboration takes place	TSM&O Managers have direct report to top management; Job specs, certification and training for core positions	TSM&O senior managers at equivalent level with other jurisdiction services and staff professionalized
Collaboration	Relationships ad hoc, and on personal basis (public-public, public-private)	Objectives, strategies and performance measures aligned among organized key players (transportation and PSAs) with after-action debriefing	Rationalization/ sharing/ formalization of responsibilities among key players thru co-training, formal agreements and incentives	High level of TSM&O coordination among owner/operators (state, local, private)

Attachment #2: Improving Transportation Systems Management & Operations A Capability Improvement Workshop

Agenda

February 7-8, 2012

Location - Broward Metropolitan Planning Organization

Trade Centre South

100 West Cypress Creek Road,

8th Floor, Suite 850

Fort Lauderdale, Florida 33309-2112

DAY 1

Objective: To better inform the stakeholders on what TSM&O is, the benefits of TSM&O and how we can utilize the maturity model to advance our TSM&O programs.

12:30 *Registration/sign-in*

1:00-1:15 *Welcome and introductions*

- Bob Arnold, FHWA
- Jim Wolfe, FDOT District IV District Secretary
- Greg Stuart, Executive Director of the Broward MPO

1:15-2:00 *What is TSM&O and how can South Florida benefit from it?*

- Melissa Ackert, FDOT District 4
- Omar Meitin, FDOT District 6

2:00 – 2:30 *Background on CMM*

- Steve Lockwood and Phil Tarnoff

2:30-2:45 **Break**

2:45-3:30 *Peer success story: Business Processes: presentation and discussion*

- Deena Platman, Portland Oregon Metro

3:30–5:00 *“The Answers Are In This Room”All with Lockwood/Tarnoff (facilitators)*

- Discussion of processes and arrangements that are working well vs. some that need work
- Overview of Day 2 agenda objectives

DAY 2

Objective: To Measure the SFL TSM&O program's maturity and define an action plan for advancing to the next level of maturity.

8:30-8:45 – Opening Remarks

- Mark Plass, FDOT District 4

8:45 -10:15 -- Capability level determination: All CMM dimensions

- All – with facilitators
(Look at current state of play in CMM framework from Day 1; what levels are we in the Region?)

10:15-10:30 -- Break

10:30–11:30 - Peer success story: Collaboration

- Jack Whaley, Executive Director, Houston Transtar

11:30–12:30 – Lunch Break

12:30-12:45 - FHWA, AASHTO and TRB Resources for Advanced Operations

- Gummada Murthy, Senior Program Officer, SHRP 2, TRB

12:45-2:15 -- Priority Actions to improve capability: CMM dimensions 1-3

- All – with facilitators
(Strategies to get to the next level)

2:15-2:30 -- Break

2:30-4:00 – Priority Actions to improve capability: CMM dimensions 4 -6

- All – with facilitators
(Strategies to get to the next level)

4:00-4:30 -- Next steps

- All – with facilitators

Attachment #3: Workshop Participants

Day 1

Name	Agency	Telephone	Email
Dale Cody	Metric Eng.	407-644-1898	dcody@metriceng.com
Mark Askins	Metric Eng.	407-644-1898	maskins@metriceng.com
Alejandro Motta	FCOT District 6	305-470-5757	alejandro.motta@dot.state.fl.us
John Easterling	FDOT Turnpike	954-934-1620	john.easterling@dot.state.fl.us
Min-Tang Li	FDOT District 4	954-771-4652	min-tang.li@dot.state.fl.us
Enrique Zelaya	Broward County	954-357-6635	EZelaya@broward.org
Ken Jeffries	FDOT District 6	305-470-5445	ken.jeffries@dot.state.fl.us
Phil Steinmiller	FDOT District 6	305-470-5386	phil.steinmiller@dot.state.fl.us
Tony Hui	Broward County	954-357-6308	thui@broward.org
Ingrid Birenbaum	Atkins	954-261-2639	ingrid.Birenbaum@atkinsglobal.com
John Douel	FDOT District 6	305-470-5342	john.douel@dot.state.fl.us
Elizabeth Birriel	FDOT Central Office	850-410-5606	Elizabeth.Birriel@dot.state.fl.us
Monica Cejas	MDT	786-469-5290	mcejas@miamidade.gov
Gummada Murthy	TRB/SHRP2	202-591-0571	gmurthy@nas.edu
Eric Zahn	SFRTA	954-788-7888	zahne@sfrta.fl.gov
Javier Rodriguez	FDOT District 6	305-470-5757	javier.rodriguez@dot.state.fl.gov
Rory Santana	FDOT District 6	305-470-5757	rory.santana@dot.state.fl.us
Jie Bian	Cambridge Systematics	954-331-6110	jbian@camsys.com
Robert Williams	Miami Dade PWWM	305-592-8925	rbw@miamidade.gov
Anh Ton	BC-HBMD	954-357-6040	aton@broward.org
Howard Webb	FDOT	954-777-4439	howard.webb@dot.state.fl.us
Scott Brunner	BCPED	954-847-2011	SBrunner@broward.org
Shyam Sharma	AASHTO	541-301-7732	ssharma@ashto.org
Ed Davis	Broward County Traffic Eng. Div.	954-847-2600	eddavis@broward.org
Albert Hernandez	MDT	786-469-5444	aah@miamidade.gov
Anita Vandervalk	Cambridge Systematics	850-219-6380	AVandervalk@Camsys.com
Gerry O'Reilly	FDOT	954-777-4411	Gerry.Oreilly@dot.state.fl.us
Dat Huynh	FDOT District 6	305-470-5217	dat.huynh@dot.state.fl.us
Gus Cicala	FDOT	954-777-4356	gus.cicala@dot.state.fl.us
Giri Jeedigunta	Palm Beach County	561-684-4030	gjeedigu@dot.state.fl.us
Emmanuel Posadas	City of Boca Raton	561-416-3307	Eposadas@myboca.us
Dan Weisberg	PBC Traffic	561-684-4030	dweisber@pbcgov.org
Omar Meitin	FDOT District 6	305-470-5335	omar.meitin@dot.state.fl.us
Girish Kumar	HNTB	305-582-7901	gkumar@hntb.com
Marjorie Hilaire	FDOT	954-717-2253	Marjorie.Hilaire@dot.state.fl.us
Steve Braun	FDOT District 4	954-777-4143	Steve.Braun@dot.state.fl.us
Jessica Josselyn	Kittleson	954-828-1730	jjosselyn@kittleson.com
Melissa Ackert	FDOT	954-777-4156	Melissa.Ackert@dot.state.fl.us

Randy Whitfield	PB MPO	561-684-9170	RWhitfie@pbcgov.org
Robert Arnold	FHWA	202-366-1285	
Joe Gregory	FHWA	202-366-0610	Joseph.Gregory@dot.gov
Phil Tarnoff	Consultant	301.929.1358	philip.tarnoff@verizon.net
Jack Whaley	Houston Transtar	713-881-3259	JWHALEY@houstontranstar.org
Deena Platman	Metro-Oregon	503-797-1754	deena.platman@oregonmetro.gov

Day 2

Name	Agency	Telephone	Email
Dale Cody	Metric Eng.	407-644-1898	dcody@metriceng.com
Mark Askins	Metric Eng.	407-644-1898	maskins@metriceng.com
Alejandro Motta	FCOT District 6	305-470-5757	alejandro.motta@dot.state.fl.us
John Easterling	FDOT Turnpike	954-934-1620	john.easterling@dot.state.fl.us
Ken Jeffries	FDOT District 6	305-470-5445	ken.jeffries@dot.state.fl.us
Ingrid Birenbaum	Atkins	954-261-2639	ingrid.Birenbaum@atkinsglobal.com
Elizabeth Birriel	FDOT Central Office	850-410-5606	Elizabeth.Birriel@dot.state.fl.us
Monica Cejas	MDT	786-469-5290	mcejas@miamidade.gov
Gummada Murthy	TRB/SHRP2	202-591-0571	gmurthy@nas.edu
Eric Zahn	SFRTA	954-788-7888	zahne@sfrta.fl.gov
Javier Rodriguez	FDOT District 6	305-470-5757	javier.rodriguez@dot.state.fl.gov
Rory Santana	FDOT District 6	305-470-5757	rory.santana@dot.state.fl.us
Robert Williams	Miami Dade PWWM	305-592-8925	rbw@miamidade.gov
Howard Webb	FDOT	954-777-4439	howard.webb@dot.state.fl.us
Scott Brunner	BCPED	954-847-2011	SBrunner@broward.org
Shyam Sharma	AASHTO	541-301-7732	ssharma@ashto.org
Mark Plass	FDOT	954-777-4359	mark.plass@dot.state.fl.us
Paul Wai	FDOT TPC	954-934-1247	paul.wai@dot.state.fl.us
Bob Edelstein	AECOM	954-745-7260	bob.edelstein@aecom.com
Dong Chen	FDOT District 4	954-847-2796	dong.chen@dot.state.fl.us
Dat Huynh	FDOT District 6	305-470-5217	dat.huynh@dot.state.fl.us
Gus Cicala	FDOT	954-777-4356	gus.cicala@dot.state.fl.us
Giri Jeedigunta	Palm Beach County	561-684-4030	gjeedigu@dot.state.fl.us
Emmanuel Posadas	City of Boca Raton	561-416-3307	Eposadas@myboca.us
Dan Weisberg	PBC Traffic	561-684-4030	dweisber@pbcgov.org
Paul Flavien	BMPO	954-876-0045	flaviemp@browardmpo.org
Girish Kumar	HNTB	305-582-7901	gkumar@hntb.com
Buffy Sanders	BMPO	954-876-0046	
Melissa Ackert	FDOT	954-777-4156	Melissa.Ackert@dot.state.fl.us
Omar Meitin	FDOT District 6	305-470-5335	omar.meitin@dot.state.fl.us
Joe Gregory	FHWA	202-366-0610	Joseph.Gregory@dot.gov
Jack Whaley	Houston Transtar	713-881-3259	JWHALEY@houstontranstar.org
Deena Platman	Metro-Oregon	503-797-1754	deena.platman@oregonmetro.gov