

Atlanta Regional Commission (ARC) TSM&O Capability Maturity Self- Assessment Workshop

Workshop Memorandum

Workshop Date: August 12, 2016

This memo provides a summary of the day-long Transportation Systems Management and Operations (TSM&O) Capability Maturity Self-Assessment Workshop conducted on August 12, 2016 at the Atlanta Regional Commission (ARC).

The purpose of the workshop was to develop a consensus evaluation of the state of practice and promising next steps in advancing the effectiveness of regional TSM&O efforts. The Workshop participants identified the current levels of capability regarding key processes, organization, staff and collaboration issues that may assist the state in defining the priorities among an array of possible actions to improve regional TSM&O efforts. This material can provide the foundation for potential regional implementation plan.

The workshop built upon a statewide self-assessment workshop held in December 2013 at the Georgia Department of Transportation. That workshop resulted in a set of implementation plan actions to improve upon capabilities determined at a statewide level. Several staff present at that workshop also participated in the ARC workshop.

This technical memo includes tables that provide a summary of the consensus issues and views of the participants in the workshop regarding current level of capability and key improvement actions to get to the next level. The articulation of these views and comments are documented as brief bulleted points as they were made by participants, without interpretation by the facilitation team. These summary tables identify the key actions needed to improve TSM&O by ARC and its partners in the Atlanta Region. They can be used as the basis for advancing an Implementation Plan process. The actions may also be useful in guiding similar regional workshops across the state.

A workshop attendance list follows the summary tables.



DIMENSION: Business Processes (Planning and Programming)

Strengths	Weaknesses
<ul style="list-style-type: none"> • TSM&O projects are included in the latest regional long-range plan (RTP), but only large projects (e.g., managed lanes, incident management, and routine operations activities). • Similarly, operations programs are included in the TIP - where there is a steady stream of funding for these programs. • Strategic Regional Thoroughfares Program - a high-level tool for prioritization of TSM&O/operations projects in the region. • TSM&O and ITS elements are often included in other projects. • RTOP has a steady stream of funding. • Current initiative to be more performance driven in prioritizing all projects - beneficial for TSM&O. • Have become more proactive in terms of maintaining and replacing technology. • TSM&O programs are funded and executed without any uncertainty (but there is no overall regional plan, some fracturing with local jurisdictions, and limited story-telling of efforts to the public). 	<ul style="list-style-type: none"> • Limited description (or only high-level description) of short-term programming in current documents (e.g., TIP) that the public would be able to view. (Instead described in programmatic lump sums.) • The same type of funding is not set aside for local systems/arterial projects, have to pursue alternative approaches to funding. (Addressing this is made more difficult by differing priorities across local jurisdictions.) • There are many advanced strategic plans and programs for TSM&O (Strategic Thoroughfares, RTOP, and some TSM&O plans specific to certain agencies), but no formal TSM&O program plan for the region. A lot of the “pieces” are already there/in operation. • Oftentimes the TSM&O projects in the TIP are geographically limited, and do not completely match up with the problem the region is trying to fix. • Don’t have a guiding vision/plan for TSM&O investments as connected/autonomous vehicles and other technologies advance.

	LEVEL 1 – PERFORMED	LEVEL 2 – MANAGED	LEVEL 3 – INTEGRATED	LEVEL 4 – OPTIMIZING
Level Criteria	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		2 (overall rating, but programs like RTOP operate at a higher level)		

Actions to Advance to the Next Level

- Need to work on programming that expands larger system projects (e.g. RTOP) to local systems.
- Make the business case for TSM&O to all local jurisdictions and the general public (i.e., their constituents), to help get more consistent TSM&O priorities and goals across the region.
- Going forward, encourage early conversations about expanding geographically-constrained TSM&O projects across jurisdictional boundaries
- Take advantage of opportunities to make the successes of existing programs more transparent (e.g., at board meetings with media present) - so that the public doesn't only see/hear about the programmatic lump sums
- Formally adopt a more proactive approach to technology maintenance/replacement in light of new technologies - take advantage of opportunities to move forward with the latest technologies during routine maintenance. Right now there is no plan for this.
- Establish a forward looking vision/plan for where the region is going with TSM&O, something to guide/prioritize investment as technology advances (e.g., what routine investments do we need to adapt as connected/autonomous vehicle advance).

DIMENSION: Systems and Technology

Strengths	Weaknesses
<ul style="list-style-type: none"> Regional ITS Architecture has been updated recently (~3 years ago) to reflect new city agencies; it also includes RTOP. The goals/purpose/functionality of NaviGator have been fully realized, and sustained, and integrated with other efforts. Recent efforts to integrate/collaborate with Waze. Instrumentation of transit in the region has begun but is a work in progress, and at varying stages across agencies. There is a Qualified Product Lists that is regularly and successfully used throughout the region. No question that all roadway systems talk to each other here. Regional (ARC) and State (GDOT) ITS architectures are in-sync/consistent with one another. 	<ul style="list-style-type: none"> Comprehensive coverage of existing system technologies is not quite there yet; need to identify these gaps/inconsistencies in the region. Inconsistencies between local jurisdiction systems (GDOT—and its systems—is a good leader however). There are still silos between roadways and transit that need to be bridged with technology (e.g., could display travel time information for roads vs. transit on DMS). Freight industry can utilize ITS more to improve operations in absence of expanding capacity. The procurement aspect of the QPL does not always keep up with new technology (and the specs are largely lowest bidder/are not innovation based). Integration of traffic centers throughout the region can be improved/streamlined (some still use low-tech communications like phone calls to relay information).

	LEVEL 1 – PERFORMED	LEVEL 2 – MANAGED	LEVEL 3 – INTEGRATED	LEVEL 4 – OPTIMIZING
Level Criteria	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 - for transit)	3.5 (with the important caveat that transit is currently at a lower level)	

Actions to Advance to the Next Level

<ul style="list-style-type: none"> Efforts to integrate/collaborate with Waze can be expanded upon. Address inconsistencies among local jurisdictions; establish operational specifications and standards for application throughout the region. Pursue Opportunities to use new technology to encourage transit ridership and improve both transit and roadways operations (transit signal priority, and transit travel times/parking availability in express lots on DMS). Establish a regional ConOps for transit to help advance transit to the next level of CMM maturity (move from a 2 to 3).
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DIMENSION: Performance Measurement

Strengths	Weaknesses
<ul style="list-style-type: none"> • Current initiative to be more performance driven in prioritizing all projects. • Output measures: TIM output measures are being collected (arrival on green; etc); generally doing well here. • RTOP is measuring travel time reliability (no longer going after reductions in travel times given demand levels). • Data is being monitored and applied proactively (e.g., can see the effects of a re-striping project in real time, and communicate this to commissioner). • A lot of data coming in from Waze (but more direction is needed in terms of what to analyze - we need the questions that region wants answered). 	<ul style="list-style-type: none"> • Data is not very well consolidated, standardized, or shared in a way that is readily usable throughout the region. (GDOT is working on an online platform that will provide real time data, coming this fall.) • Some room for improvement in terms of disseminating data that is not public to other partner agencies. • After-studies of projects/interventions is an important gap in region's performance measurement and evaluation (or, packaging existing data sources to give the after-study narrative). • Timing is paramount here and in all public dissemination of data; as is consistency in the reporting of data. • Data management has been a staff challenge. • Need to develop a list of priority questions/goals/analyses/reports that the regions wants from the "firehose" of available data. • A need for more explicit direction/policy from a regional perspective that states the preferred types of improvements/interventions in the region.

	LEVEL 1 – PERFORMED	LEVEL 2 – MANAGED	LEVEL 3 – INTEGRATED	LEVEL 4 – OPTIMIZING
Level Criteria	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			3 (but it varies for different systems in the region, towards a 2 in some cases)	

Actions to Advance to the Next Level

- Improving travel time reliability is an important outcome measures to focus on moving forward.
- Communication of data: Package and disseminate data to different audiences (partners, public, legislators) - framing, timing, and consistency is important here.
- Develop list of priority questions/goals/analyses/reports that the regions wants from the "firehose" of available data. Don't want to collect data for the sake of collecting data.
- Develop more explicit regional policies stating the preferred types of improvements/outcomes in the region (e.g., these are the outcomes that we most value).
- Establish standards on what to measure, and how to report it.
- Making before and after studies standard for all TSMO projects.

DIMENSION: Culture

Strengths	Weaknesses
<ul style="list-style-type: none"> • At the local level, there are some senior-level champions of ITS and TSMO (City of Johns Creek) - so there is support/understanding. But this varies throughout region. • Financial constraints have helped force region to look at TSMO solutions (over capacity expansion) by default. • TSM&O is a priority consideration (or among the top priority considerations), although understanding of O&M costs is still lacking. • Transit has been making the business case for continued operations support every year (successfully for ~4 years), but it requires yearly attention. • GDOT's shifted focus towards operations during and after the recession has led to a cultural shift in GDOT, and has started shifting attitudes throughout the state. 	<ul style="list-style-type: none"> • There is inconsistent understanding of TSMO (its importance, what it does, what its benefits are, etc.) among leaders in the region. • TSMO by nature is heavy on traffic engineering; this makes it difficult for agencies like ARC to fully manage TSMO (see staffing issue), which in turn makes it difficult to foster a culture that promotes/advances TSMO throughout the region. • Turnover in council members/leadership poses a persistent challenge to promoting a culture conducive to TSMO advancement. • Currently do not have a solid definition of what success would look like in terms of culture of the region. • Cultivating buy-in and understanding from legislators is a continuous challenge. • Need to increase understanding that TSM&O projects are very competitive in terms of O&M costs in comparison to other projects.

	LEVEL 1 – PERFORMED	LEVEL 2 – MANAGED	LEVEL 3 – INTEGRATED	LEVEL 4 – OPTIMIZING
Level Criteria	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			3+	

Actions to Advance to the Next Level

<ul style="list-style-type: none"> • More outreach to public and local jurisdictions - celebrate and market successful TSM&O initiatives. Make the TSM&O business case to local jurisdictions so that they prioritize it (and so that TSM&O goal/priorities are more consistent throughout the region); make the TSM&O business case to legislators to cultivate buy-in. • Increasing TSM&O and ITS in the public consciousness. • Opportunities to tell stories developed from past, successful TSMO interventions to spur interest in TSMO/culture shift (e.g., ICM on I-75). • Focus on telling stories using any creative approach we can (e.g., better publicize RTOP to build public support and trust). • Conduct cost-benefit analyses for certain TSM&O investments that can be used in business cases to legislators/councils and the public/constituents. • Create more a public-facing dashboard (need to know what stories to tell with data, how to frame them, and make the dashboard easy to access).

DIMENSION: Organization and Staffing

Strengths	Weaknesses
<ul style="list-style-type: none"> [No significant constraints in terms of organization structure brought up.] RTOP is an excellent model for organization/staffing of TSM&O program (but RTOP is so successful in large part because it has funding, so that is a big contingency.) 	<ul style="list-style-type: none"> The agencies that have/do not have traffic management resources has not changed much as the Atlanta region has grown/TSMO has advanced. Given this, how to build TSMO acumen in agencies where these resources have not existed? (“We’re not doing it because we’ve never done it”) >> FHWA role in building this acumen? Staffing to manage the very large data sets that are available. <ul style="list-style-type: none"> Need to train internal staff (no university program that trains in the needed skill set). Skill set shortage - It’s difficult to find enough qualified staff - typically have to poach them. Similarly hard to find young professionals who are passionate about TSM&O. TSM&O is somewhat driven by individual champions - becomes an issues when champions retire/change jobs.

	LEVEL 1 – PERFORMED	LEVEL 2 – MANAGED	LEVEL 3 – INTEGRATED	LEVEL 4 – OPTIMIZING
Level Criteria	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		2		

Actions to Advance to the Next Level

- Create guidance for agencies in the region who are starting to build TSMO capabilities (especially for counties that have experienced/are experiencing rapid growth) >> Use successful local/peer models in creating this guidance.
- Regional TSM&O program planning should take workforce development/the skill set shortage into consideration; as well as succession planning (this could maybe be addressed through a mentoring program).
- Need to create a bridge between local jurisdictions that are not taking any action on operations - and the resources available to them at the State and Federal level. There is a lot of free training available, but these agencies don’t know what they don’t know.

DIMENSION: Collaboration

Strengths	Weaknesses
<ul style="list-style-type: none"> • RTOP has strengthened collaboration and greatly moved the region forward. Good relationships with the RTOP corridor managers (who are private consultants, ~25 managers). • History of/experience with TSMO (beginning with the Olympics). • Opportunity to collaborate using Waze data along with GEMA, GDOT. • Wide recognition of the importance of TSM&O, good level of interest. • GDOT has taken a leadership roles in coordinating work among the many regional TSM&O actors. • Need to include land use, environmental concerns in the TSM&O discourse (e.g. suburban growth); ARC's involvement in/responsibilities for these elements provides an opportunity to do this. • Express lane projects have improved collaboration, and have prompted good public participation. • Good framework to build upon from GDOT - region knows where the GDOT investment will be and can work with that framework. 	<ul style="list-style-type: none"> • Don't do enough to sell the concept of system management to the public. • There are certain regional issues that could benefit from more unified action across jurisdictions (e.g., RWIS), regular meetings could help. This group would need to (1) have some authority, (2) have a say in funding, and (3) reach out to the public. <ul style="list-style-type: none"> ◦ There are existing opportunities to collaborate like this, but difficult to sustain momentum. • Concern that some areas will be left behind as technology advances. • The sheer number of actors in the Atlanta region who are involved in TSM&O - very complex network of actors. (And the # is increasing.) Oftentimes have differing opinions on the root of operations problems. • Local TSM&O actors don't often step out to address issues outside of their jurisdiction. • Need to collaborate more on data issues; better consolidation and sharing.

	LEVEL 1 – PERFORMED	LEVEL 2 – MANAGED	LEVEL 3 – INTEGRATED	LEVEL 4 – OPTIMIZING
Level Criteria	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		2 (overall, although individual programs are at higher levels - RTOP: 3, TIME: 4)		

Actions to Advance to the Next Level

<ul style="list-style-type: none"> • More comprehensive data sharing across jurisdictions (e.g., sharing incident information between local organizations). • More outreach to the public, so that they are better aware of the systems in place/available. • Creating the right forum for sustained regional collaboration. • Establish sub-region committees tasked with specific missions or projects. • Currently well-positioned to bring freight industry (Georgia Motor Trucking) into this collaboration; would greatly improve safety and TIM efforts.
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**Atlanta Regional Commission (ARC)
Capability Maturity Self-Assessment Workshop**

Final Attendance

August 12, 2016

Participant Name	Organization
Kofi Wakhisi	ARC
Glen Cranshaw	GDOT
Greg Morris	FHWA
Andrew Heath	GDOT
Esteban Carrillo	GDOT
Alan Davis	GDOT
Joseph De St. Aubin	MARTA
Michael Smith	Dunwoody
Kaycee Mertz	GDOT
Kyung-Hwa Kim	ARC
Daniel Studdard	ARC
John Orr	ARC
Mark Demidovich	GDOT
Randy Hussey	Douglas County DOT
Troy Galloway	Georgia World Congress Center Authority
John Hibbard	GDOT
Jamie Fischer	GRTA/SRTA
Carol Bowler	GDOT
Tom Udell	City of Johns Creek
Treea Sekela	FHWA
Ralph Volpe	FHWA
Daniel Grate	FHWA
Richard Margiotta	Cambridge Systematics
Katie Blizzard	Cambridge Systematics