



Regional Transportation Systems Management and Operations (TSMO) Strategic Plan

Transportation Air Quality Committee
September 10, 2020

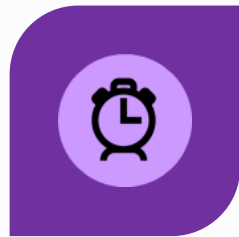


TSMO Goals

Goals / Key Outcomes



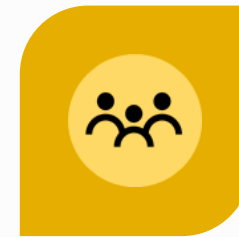
OPTIMIZING
SAFETY



RELIABLE TRAVEL
TIMES



EFFICIENT,
SEAMLESS TRAVEL



EQUITABLE
ACCESS



ENVIRONMENTAL
BENEFITS

Foundational Elements



Collaboration



Philosophy focused on
moving people and goods



Data sharing



Culture of innovation

Supporting Resources

- Regional Inventory
- Data Governance
- ITS Architecture Update
 - <http://itsarchitecture.atlantaregional.org/>
- Pilot Project Screening Assessment
- Local Agency Deployment Guide

ARC
Atlanta Regional Commission

Atlanta Regional ITS Architecture 2019

Home Stakeholders Inventory Services Interfaces Projects Resources Feedback

About this Website

Welcome to the Atlanta Regional Commission (ARC) ITS Architecture 2019 Update website.

This Intelligent Transportation Systems (ITS) Architecture update has been undertaken with the cooperation of member governments. As the federally designated metropolitan planning organization (MPO) for the 2010 Transportation Management Area, ARC is responsible for the development, update, and ongoing maintenance of the Regional ITS Architecture. The ITS Architecture creates a regional framework that ensures institutional integration for the implementation of ITS projects.

This Regional ITS Architecture has been developed to conform with FHWA Rule 940 ITS Architectures and Standards. The result is systems engineering documentation for the development of Intelligent Transportation Systems (ITS) for existing and future transportation systems.

Many of the elements of Rule 940 are easy to understand and use. The elements are:

- Description of Region
- Participating Agencies and Stakeholders
- Roles and Responsibilities (Operational Requirements)
- List of Agreements and discussion of Agreements
- System Functional Requirements (System Requirements)
- Interface Requirements (Interface Requirements)
- Identification of ITS Standards and Test Plans
- Applicable ITS Standards and Test Plans
- Projects (Projects Page, and Project Details Page)

For more information about using this website for systems engineering analyses using this website, please see the User Guide.

We have collected various ITS system engineering analyses for the Atlanta region over the next 5 to 10 years.

The Atlanta Regional ITS Architecture is a living document and has been tailored based on the needs of the agencies.

SCREENING METHODOLOGY		
\$ COST	Low: Requires significant investment of time and/or money to implement	
	Medium: Requires moderate investment of time and/or money to implement	
	High: Requires minimal investment of time and/or money to implement	
GOALS	SAFETY	Applying technology and context-sensitive approaches to achieve zero fatalities
	EFFICIENT, SEAMLESS TRAVEL	Coordinated systems across jurisdictions and modes; accessible, real-time travel information
	EQUITABLE ACCESS	People of all ages, abilities, languages, backgrounds, and incomes
COMPLEXITY	Low	
	Medium	
	High	
REGIONAL IMPACT	Low	
	Medium	
	High	

TRAFFIC SIGNAL MANAGEMENT

Effective traffic signal management is proven to be one of the most cost-effective operational improvements; signal retiming typically provides a benefit to cost ratio ranging from 17:1 to 62:1.

Traffic signals, the most common form of traffic control, are crucial to a transportation network and can enhance corridor operations. Efficiently managing traffic signals results in reduced congestion, reduced maintenance expenditures, and increased safety. FHWA defines traffic signal management as "organizing for the planning, maintenance, design, and operation of signalized intersections and traffic signal systems." Traffic signal timing programs can be basic and localized, such as to a single intersection, or more sophisticated, such as having various, advanced signal timing programs. Such systems require regular maintenance and frequent monitoring to maintain the efficiency of the signal system.



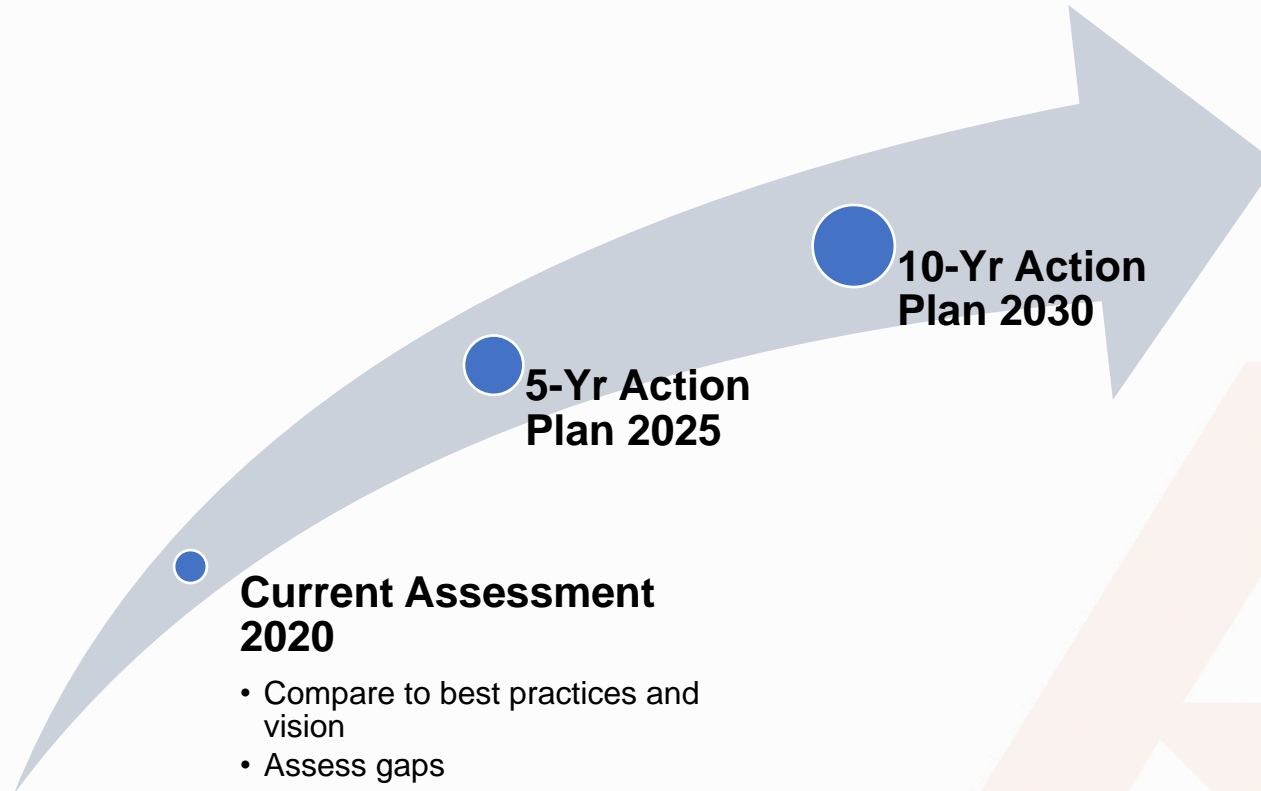
Support for Regional TSMO Goals

- Optimizing Safety**
Safety is enhanced with the use of traffic signal management by enhancing progression through intersections, which requires less stop-and-go traffic to reduce the number of crashes. In addition, emergency vehicle preemption reduces the risk for crashes by allowing the emergency vehicle to progress through the intersection with the appropriate signal indication.
- Reliable Travel Times**
More reliable travel times are realized through traffic signal management by enhancing the operational efficiency of corridors—getting more cars through a given corridor more effectively.
- Efficient, Seamless Travel**
Traffic signal management supports efficient, seamless travel by synchronizing the movement of vehicles along the corridor, ideally to prevent things such as "hitting every red light." By maintaining the signal system as well as adjusting the system as needed through frequent monitoring, traffic system management can also support efficient seamless travel by reducing the number of down devices or mistimed intersections due to out-of-date cycles.
- Environmental Benefits**
Reducing the congestion of high-volumes routes results in fewer vehicles idling and producing emissions. Reducing the amount of starts and stops that a motorist experiences will also reduce the amount of emissions produced by each vehicle.

Creating a Regional TSMO Strategic Plan



Creating a plan to proactively advance the region's vision for ITS/TSMO



Current Assessment 2020

- Compare to best practices and vision
- Assess gaps

5-Yr Action Plan 2025

10-Yr Action Plan 2030

Win the Future

Strategic Vision

- Goals and objectives
- Institutional drivers
- Guiding principles

Strategic Initiatives

Foundational Elements Focused Initiatives



Strengthen TSMO
Planning & Institutions



Enhance Data Sharing
& Management



Encourage TSMO
Innovation

Deployment Focused Initiatives



Deploy Connected &
Automated Vehicle
Technologies



Advance Regional
Coordination & Network
Communications



Strengthen Work Zone
& Event Management



Enhance Transit
Operations



Advance Mobility
as a Service

Format for Presenting Actions in the Plan

- Description and Benefits to the Atlanta Region
- Support for:
 - Goals
 - Foundational Elements
- Stakeholders
- Action Checklist



ACTION 1.1: ESTABLISH AND SUSTAIN A DIVERSE REGIONAL TSMO COMMITTEE

Description and Benefit to the Atlanta Region:

The Atlanta region has a wide array of organizations that are responsible for TSMO, yet the region does not currently have an established on-going working group or committee focused on TSMO coordination and collaboration. Several other metropolitan planning organizations (MPOs) around the country have TSMO-focused committees that bring together diverse regional stakeholders to ensure coordination of activities, to advance information sharing, and advance deployment of ITS solutions.⁹ A regional TSMO steering/implementation committee with representatives from public agencies, as well as the private and academia sectors, will serve as forum for advancing the region's TSMO vision by guiding the implementation of stated initiatives, supporting funding decisions, enhancing collaboration and information sharing, and tracking progress. This committee can coordinate with existing organizations such as ITS Georgia and events such as ConnectATL to support information sharing on TSMO and technology innovations.

Goals:



Foundational Elements:



Stakeholders: ARC (Lead), GDOT, transit agencies, local agency stakeholders, academic institutions, and private service providers

ACTION 1.1 CHECKLIST		
TERM	ID	ACTION
NEAR	N1	Reach out to potential members of the Steering Committee and seek their participation
	N2	Establish rules of practice and operating procedures for the committee; this may become a collaboration effort with existing Committees rather than a traditional standing committee
	N3	Identify champions for each Initiative that will guide the implementation of the recommended actions
MID	M1	Hold meeting to assess impact of the committee and replace/add members if needed
LONG	L1	Continue to evolve the committee to meet current TSMO needs



Strengthen TSMO Planning and Institutions

1. Establish and sustain a diverse regional TSMO committee.
2. Demonstrate the value and need for TSMO by making TSMO initiatives and projects more visible to the public and decision makers.
3. Develop tools and guidance for local agencies and partners to advance TSMO strategies.
4. Integrate TSMO into local and regional planning and development processes.
5. Incorporate freight into TSMO planning activities.
6. Supplement traditional transportation demand modeling with TSMO performance measures.
7. Incorporate more TSMO performance measures into ARC's project selection processes.

Contact Information

Maria Roell
Mroell@atlantaregional.org

All documentation available at:
<https://atlantaregional.org/TSMO/>