



# Atlanta Regional Transportation Systems Management and Operations (TSMO)

## Strategic Plan

2020

Executive Summary



ARC







# Executive Summary

As one of the fastest growing regions in the country, the Atlanta region has long recognized the importance of not only developing a world-class infrastructure but also undertaking active efforts to manage and operate those transportation systems. Today, a robust Intelligent Transportation Systems (ITS) infrastructure and experience with transportation system management and operations (TSMO) exists in the region, built on a strong collaborative partnership between agencies.

While the Atlanta region has tremendous strengths in TSMO, there is an important need to look toward future opportunities. Transportation technology has undergone a significant transformation with the rapid proliferation of services, modes, and business models that would have scarcely been considered possible a decade ago. This transformation is changing the expectations and behavior of travelers, freight, businesses, and public agencies. It is also opening up vast amounts of public and private sector data that can be used to enhance traveler information, expand travel choices, and optimize transportation system performance. Today, there is a real need to imagine the collective future in light of the new opportunities and real uncertainties posed by this transformation.

This TSMO Strategic Plan lays out a **vision** for TSMO in the Atlanta region and identifies a **ten-year strategic course of action** that will help move the region toward this TSMO vision.

## Vision, Goals and Foundational Elements

Building on extensive stakeholder engagement, this plan lays out a TSMO vision for the Atlanta region to support the region’s overarching strategy to “Win the Future” through World Class Infrastructure, a Competitive Economy, and Healthy Livable Communities:

### Atlanta Regional TSMO Vision

*Transportation systems across the Atlanta region are managed and operated to optimize safe, reliable, and efficient travel for all system users—people and freight—contributing to sustainable economic growth and a high quality of life.*

This TSMO vision focuses on achieving five overarching goals:



**Optimizing Safety** – Applying technology and context-sensitive approaches to achieve zero fatalities.



**Reliable Travel Times** – Managing planned and unplanned disruptions to reduce unexpected delays.



**Efficient, Seamless Travel** – Coordinated systems across jurisdictions and modes, and accessible, real-time travel information.



**Equitable Access** – People of all ages, abilities, languages, backgrounds, and incomes have access to safe, reliable, efficient mobility options.



**Environmental Benefit** – Applying technology to reduce energy consumption, improved air quality, and reduced greenhouse gas emissions.











These goals will be achieved and delivered through a strong foundation of the following organizational elements:

 <p>A regional <b>operations philosophy</b> focused on <b>moving people and goods</b>, rather than moving traffic or vehicles, resulting in priority to higher-occupancy modes.</p>	 <p><b>Collaboration</b> across jurisdictional boundaries, public and private sectors, and service providers.</p>
 <p><b>Data sharing</b> across public and private data providers and users.</p>	 <p>Advancing application and deployment of innovative technologies and approaches, and fostering <b>a culture of innovation</b> and adaptability to change.</p>

### Strategic Framework and Regional Initiatives

Building on an assessment of the region’s current strengths and opportunities in TSMO, this plan includes a framework of eight (8) **TSMO Strategic Initiatives** to be advanced over a ten-year period by transportation agencies and partners within the region:

<p><i>Foundational Elements Focused Initiatives</i></p>	 <p>Strengthen TSMO Planning &amp; Institutions</p>	 <p>Enhance Data Sharing &amp; Management</p>	 <p>Encourage TSMO Innovation</p>
<p><i>Deployment Focused Initiatives</i></p>	 <p>Deploy Connected &amp; Automated Vehicle Technologies</p>	 <p>Advance Regional Coordination &amp; Network Communications</p>	 <p>Strengthen Work Zone &amp; Event Management</p>
	 <p>Enhance Transit Operations</p>	 <p>Advance Mobility as a Service</p>	

These initiatives are broad regional areas of focus that are *multi-organization* in scope and will play a key role in advancing the region’s TSMO implementation to achieve its goals. Three of the initiatives focus on foundational elements for the region to achieve the TSMO vision, and five are focused on deployment. It is important to note that these initiatives are not ordered in priority and that they are mutually supportive. There are also many linkages among the initiatives.

For each of the eight initiatives, this plan identifies **Priority Actions**, which include actionable steps or activities that are recommended for advancing the initiative. These actions are defined as *program-level actions or sets of actions conducted by many entities* across the region – often working collaboratively – rather than individual projects.

Highlights of each of the initiatives, and their supporting priority actions, are presented next.



### Initiative 1: Strengthen TSMO Planning and Institutions



This initiative focuses on establishing and strengthening TSMO institutional structures, including enhancing integration of TSMO into decision making within regional planning, programming, and project development.

#### Priority Actions:

- 1.1. Establish and sustain a diverse regional TSMO committee.
- 1.2. Demonstrate the value and need for TSMO by making TSMO initiatives and projects more visible to the public and decision makers.
- 1.3. Develop tools and guidance for local agencies and partners to advance TSMO strategies.
- 1.4. Integrate TSMO into local and regional planning and development processes.
- 1.5. Incorporate freight into TSMO planning activities.
- 1.6. Set regional targets and strengthen TSMO project prioritization.

### Initiative 2: Enhance Data Sharing and Management



This initiative focuses on enhancing data sharing and management to support enhanced data collection, curation, access and archiving capabilities for improved performance measure analysis and real-time systems management and operations.

#### Priority Actions:

- 2.1. Establish a long-term regional data governance framework.
- 2.2. Develop a centralized data broker and analytics hub for curated safety and operations data.
- 2.3. Improve/develop data curation and sharing strategies.
- 2.4. Develop data-driven methodologies to assess equity and environmental conditions and impacts of TSMO strategies.
- 2.5. Develop or leverage existing crowdsourced applications.

### Initiative 3: Encourage TSMO Innovation



This initiative focuses on establishing mechanisms to promote innovation and research that will spur the next generation of innovative TSMO ideas and lower the risks of testing new concepts. Innovations may include development of new tools, algorithms, methods, and technologies.

#### Priority Actions:

- 3.1. Share information and develop structures to advance innovative procurement strategies.
- 3.2. Support more efficient design, operations, and maintenance through a focus on analytics/data and automation of processes.
- 3.3. Fund innovative TSMO/technology pilot projects through ARC and/or other agency and private sector funding.
- 3.4. Develop an innovative TSMO solution focused on a particular problem or community issue of regional significance.

### Initiative 4: Deploy Connected and Automated Vehicle Technologies



This initiative focuses on the vast potential for leveraging connected and automated vehicle (CAV) technologies to implement innovative strategies.





*Priority Actions:*

- 4.1. Study and share the potential impacts of connected and automated vehicles.
- 4.2. Leverage connected vehicle technologies to improve safety and mobility for all travelers.
- 4.3. Leverage connected vehicle technologies to enhance safety through improved incident response.

**Initiative 5: Advance Regional Coordination and Network Communications**

This initiative focuses on integration among different systems, communication networks, modes, and organizations to advance regional system performance.



*Priority Actions:*

- 5.1. Advance Integrated Corridor Management (ICM) systems.
- 5.2. Develop better tools for communications among emergency responders and between event management tools and traveler information outlets.
- 5.3. Modernize the communications network architecture.

**Initiative 6: Strengthen Work Zone and Event Management**

This initiative focuses on implementing work zone strategies that help improve safety, support collaboration, and disseminate accurate, timely information to travelers.



*Priority Actions:*

- 6.1. Improve coordination of work zone and special event activities.
- 6.2. Implement smart work zone strategies.
- 6.3. Enhance communications and implement targeted demand management strategies (e.g., incentives) for special event management.

**Initiative 7: Enhance Transit Operations**

This initiative focuses on implementing TSMO strategies to support access to transit and enhance the convenience, customer experience, and performance of transit.



*Priority Actions:*

- 7.1. Advance implementation of high capacity premium transit service strategies including transit signal priority.
- 7.2. Develop regional, interoperable transit operations and fare payment systems.
- 7.3. Support local transit agencies in deploying technologies to support better planning, services and communications with customers.

**Initiative 8: Advance Mobility as a Service**

This initiative focuses on implementing Mobility as a Service (MaaS) strategies that support alternatives to driving alone, including bicycling and walking, use of transportation network companies, and mobility options for first mile/last mile connections to transit.

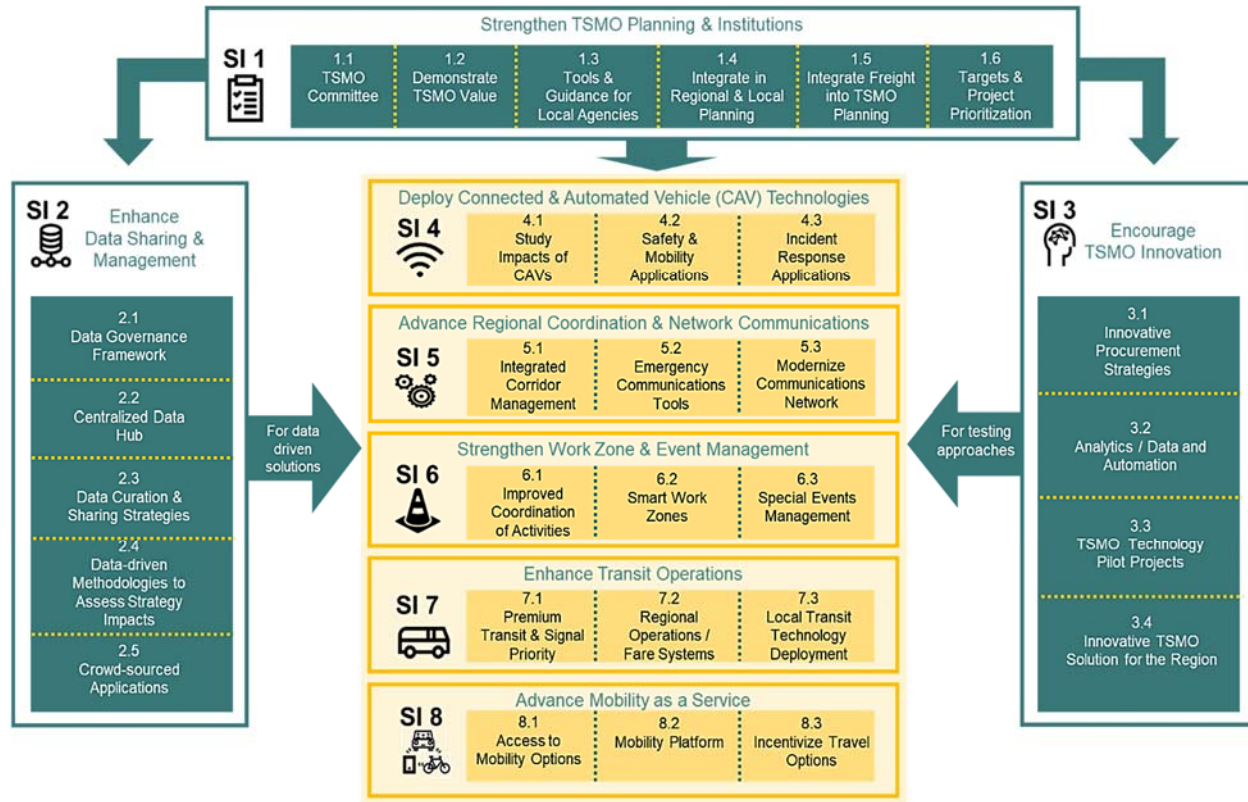


*Priority Actions:*

- 8.1. Promote and increase access to safe, affordable and environmentally friendly mobility options.
- 8.2. Develop a mobility platform that includes an integrated, multimodal trip planning and electronic payment and booking system.
- 8.3. Identify opportunities to further incentivize sustainable travel options.

**Connections Across Initiatives and Actions**

The initiatives and actions are linked together, with Strategic Initiatives (SI) 1, 2, and 3 focusing on foundational elements that support each of the deployment-focused initiatives. While each of these initiatives provides a unique area of focus, there are many connections between the priority actions. For instance, the actions related to deployment of connected and automated vehicles (under SI 4) will support advancement of integrated corridor management, premium transit and signal priority, and other priority actions (under SI 5, 6, 7, and 8).



**Implementing this Strategic Plan**

Implementing this plan will require concerted efforts and collaboration among many partners at different level of government, as well as with partners from the private sector, academia, and others. To be successful, the implementation of this plan will require champions to take the lead and undertake the important task of advancing specific actions. The Atlanta Regional Commission (ARC) is committed to playing a key role in this effort through the formation of a TSMO Committee that is intended to support the implementation of this plan. ARC in concert with partners will track progress toward the actions outlined in the plan. ARC will also continue to monitor and report on transportation system performance outcomes in order to assess progress toward the vision and goals of this plan for safer, more reliable, and efficient mobility for all system users, contributing to sustainable economic growth and a high quality of life.

## Acknowledgements

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Note: Cover image of Highway Emergency Response Operators (HERO) truck provided courtesy of Georgia Department of Transportation