Regional Transportation Systems Management and Operations (TSM&O) and Intelligent Transportation Systems (ITS) Architecture Update

Transportation & Air Quality Committee

October 11, 2018

Why Now?

- Current Regional ITS Architecture was written in 2004

- Coordination between agencies is crucial in technology deployment
  - smart cities, IoT, 5G/DSRC, dockless modes
- Handle Major System Disruptions

Task List

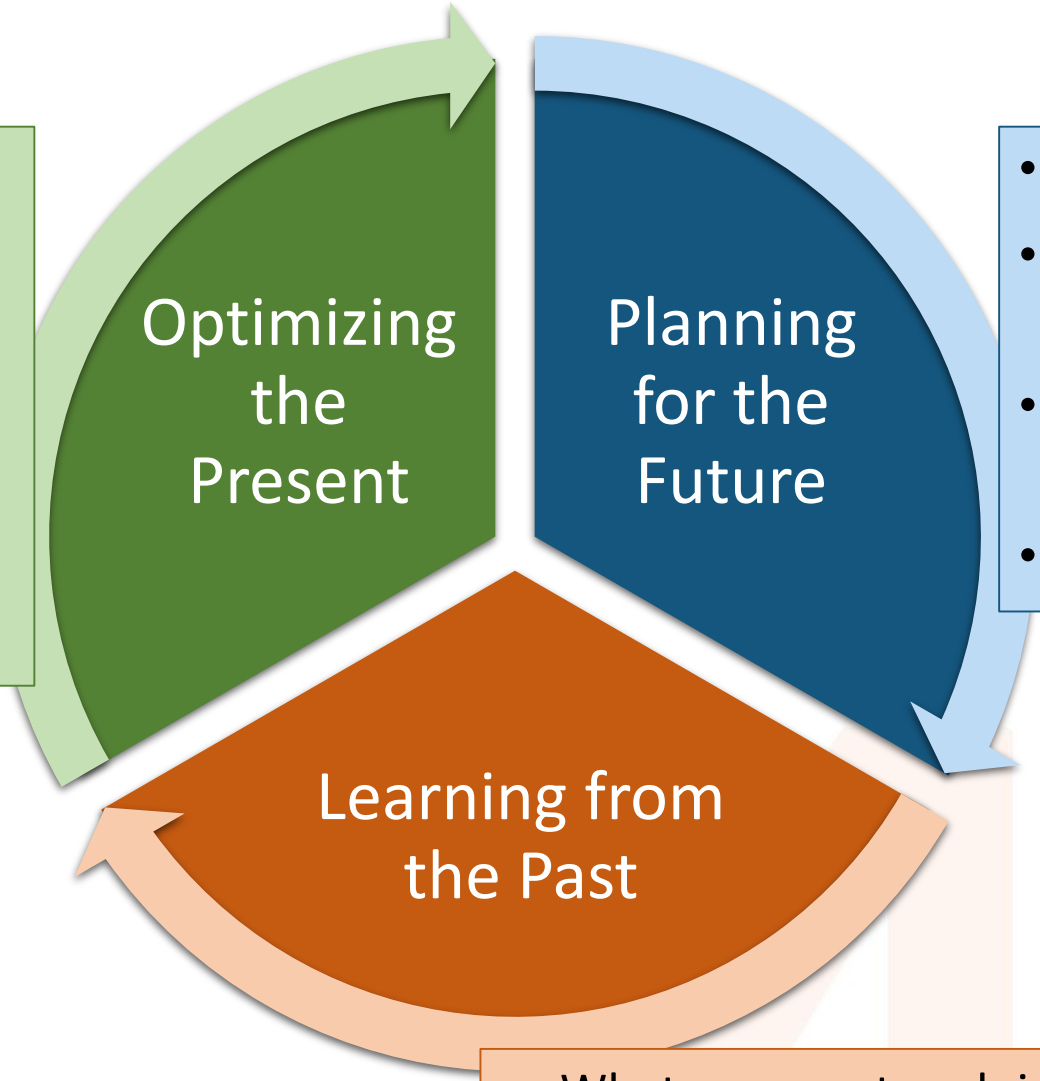
1. Develop a Regional TSM&O Vision
2. Document Current TSM&O Inventory
3. Research Data Governance Best Practices
4. Regional ITS Architecture Update
5. Identify Pilot Concepts for Advanced Technology Deployment
6. Develop Local Agency Deployment Guide
7. Develop Regional Technology Assessment and Strategic Deployment Plan

Stakeholder Engagement Opportunities

- Web-Based Survey
- Interviews/web meetings for architecture
- Stakeholder workshops
- Regular, on-going technical/operations coordination beyond 2019

Stakeholder Engagement

- Greater engagement and efficiency in developing and programming TSMO projects
- Develop regional processes and systems to solve common problems and ensure adoption of interoperable, scalable technologies



- Creating a common vision
- Getting ready for future technology development
- Advancing data management practices
- “Future proofing” investments

- What can we stop doing?
- Where is private sector stepping up?

Stakeholder Engagement

Workshop Topics

1. Establishing the Regional TSM&O/ITS Vision
2. Building a Technical Foundation: Data and ITS Architecture
3. Accelerating Deployment: Identifying Pilot Concepts
4. TSM&O Plan Draft Presentation and Discussion

Regional TSM&O Vision

- Need an understanding of goals
  - System management
  - Technology
- Will draw from and support
  - The Atlanta Region's Plan
  - Policy Framework
  - ARC's 2017 Transportation Technology Policy Document
- Will demonstrate the role of TSM&O in achieving regional outcomes
- Your role
  - Survey: Local needs and priorities
  - Workshop 1: Consensus on regional priorities

Regional TSM&O Vision

TSMO today

New modal options and business models

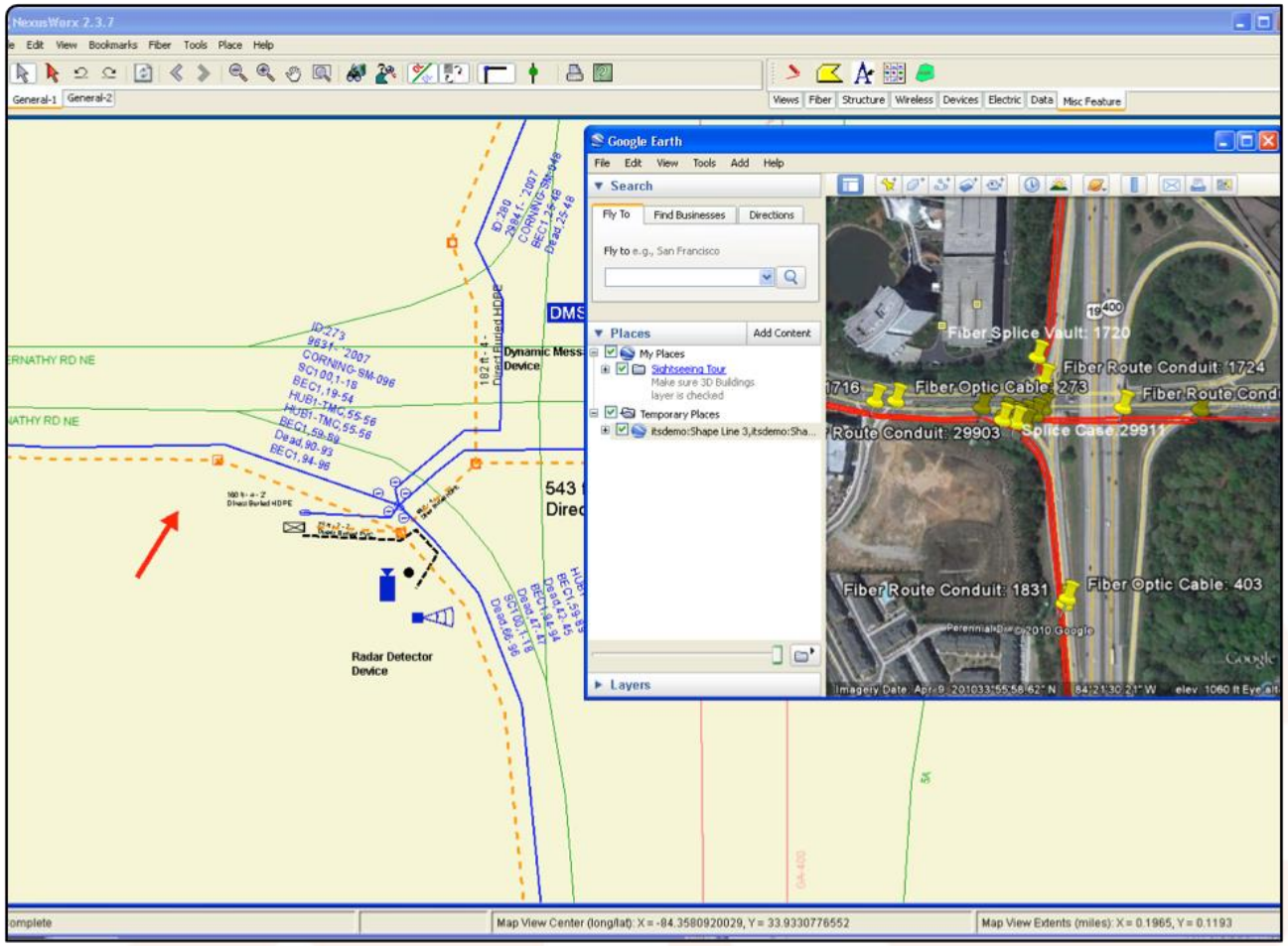
New data sources

Connected and automated vehicles

2040 Vision

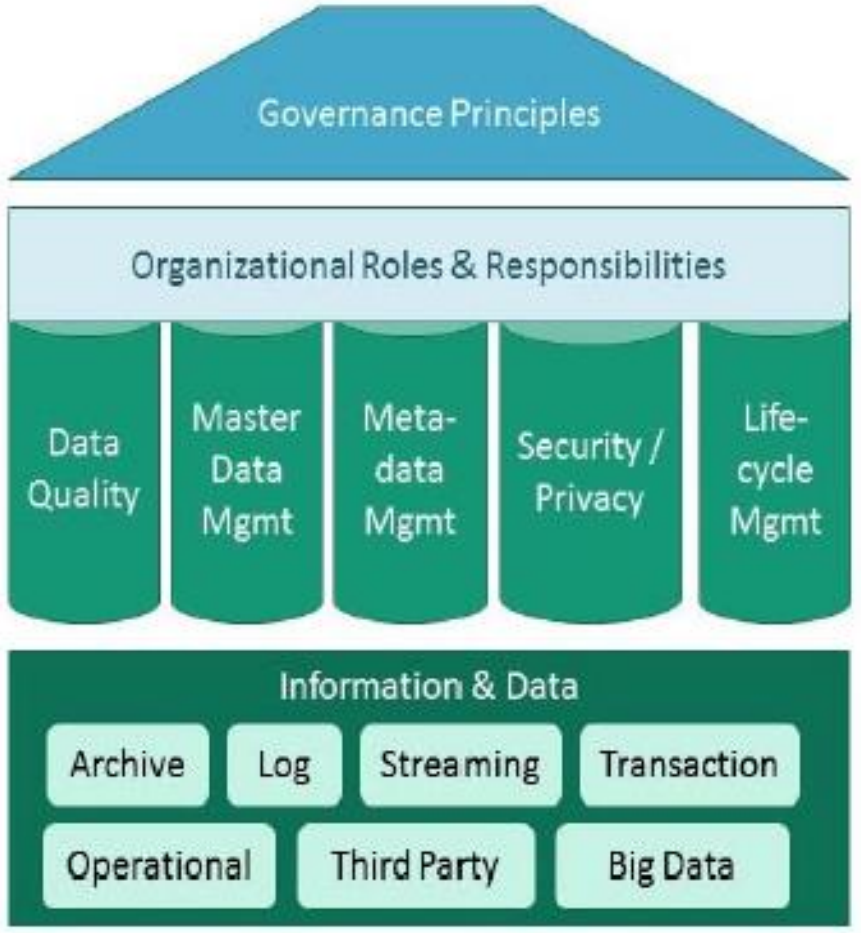
Current TSM&O Inventory

- Must understand where we are to know where we're going
- Inventory
  - ITS infrastructure
  - ITS and TSM&O projects
- GDOT's Nexus*Worx*
  - Fiber and ITS management
- Your role
  - Survey: New initiatives
  - Workshop 1&2: Identify gaps



Data Governance Best Practices

- Data sharing between public and private is increasing
- Data Governance Framework
  - Systematic approach for collecting, managing, and using data
  - Supports adoption of new technologies
- Will engage with public and private
  - Understand data needs
  - Current roles, responsibilities, and accountability
  - Current standard methods of sharing data



Data Governance Best Practices

- Your role: Workshop 2
  - Current data exchange interfaces and future needs
  - Current and emerging data needs
  - Current and future infrastructure needs for security assessment

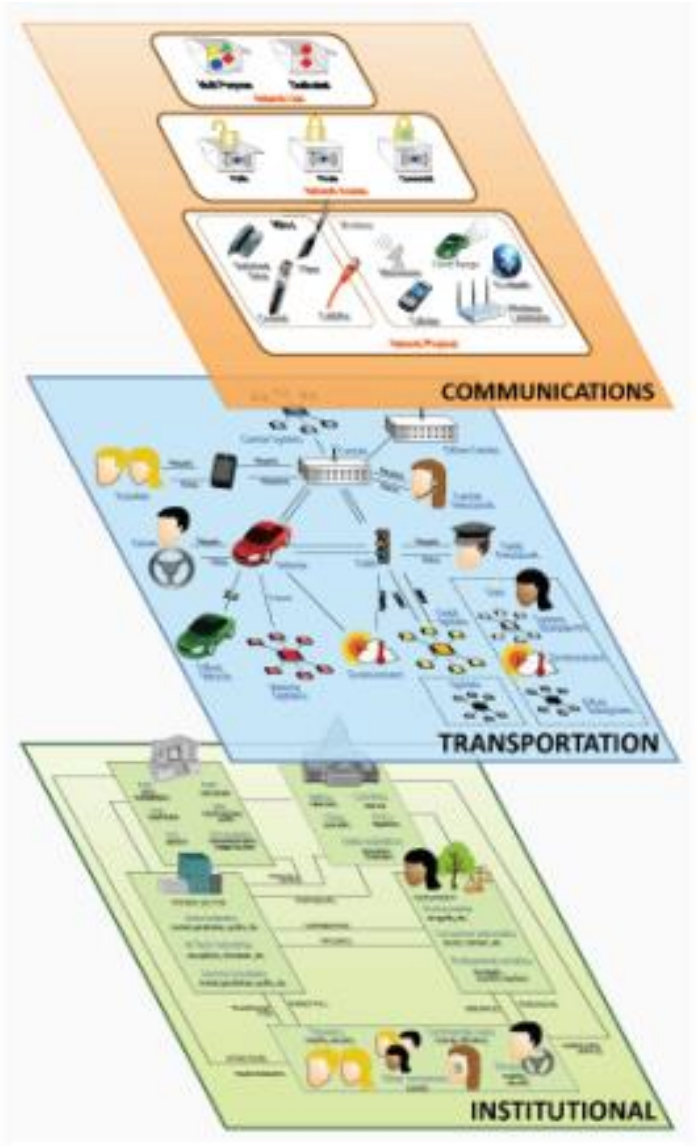
- Questions to consider
  - What is the value of sharing data between public and private entities?
  - And, what are security or legal risks?

Regional ITS Architecture Update

- Current Architecture is
  - Over 2,400 pages in 5 volumes
  - Does not reflect the latest industry evolution such as CAVs
  - Does not include cities or agencies created after 2004
- Architecture Updates
  - Web-based for easy access
  - Project-specific information for ITS project planning
  - Integrated with the planning process to provide real value
  - Created from Regional Vision and Goals (Workshop 1)
  - Integrated with 2009 Georgia ITS Strategic Deployment Plan

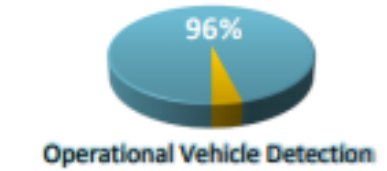
Regional ITS Architecture Update

- Your role
  - Interviews/Web meetings
    - Inventory of ITS elements
    - Functional Requirements
  - Workshop 2
    - Review data we've gathered for gaps
- Need staff with deep knowledge of data at workshops and interviews



Identify Pilot Concepts

- Leverage current efforts and advance Regional Vision
  - Regional Traffic Operations Program (RTOP)
- Identify issues conducive to technology or TSM&O solutions
- Focus on priority areas
  - Regional Thoroughfare Network
- Address recommendations from regional planning efforts
  - ARC's Regional Transportation Technology Policy Document
  - Walk Bike Thrive
  - Livable Centers Initiative
  - Atlanta Regional Freight Mobility Plan Update



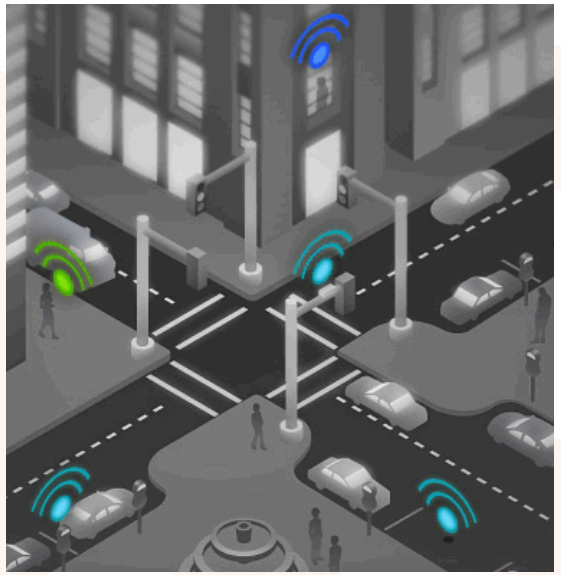
RTOP Corridor Performance Measures 2017 Report- GDOT

Identify Pilot Concept

- Your role
  - Help develop a list of initial concepts
  - Workshop 3
    - Will include diverse perspectives
    - Brainstorm challenges, opportunities, areas for more collaboration
    - Identify what future initiatives will have the most impact
- Initial concepts will be big ideas, solutions to current challenges, and/or extensions of current initiatives
  - Advances in mobility as a service and what it could mean
  - Enhanced arterial traffic incident management strategies
  - Policies that attract private-sector investment
  - Smart city concepts

Local Agency Deployment Guide

- Demonstration of TSM&O solutions
  - Congestion management
  - Safety
  - Reliability
  - Multimodal connectivity
- Factsheets on current and emerging technologies
  - Benefits
  - Examples
  - Potential drawbacks
- Guidance on matching TSM&O solutions to specific issues
  - Geographical context
  - Type of transportation issue
  - Will include case studies

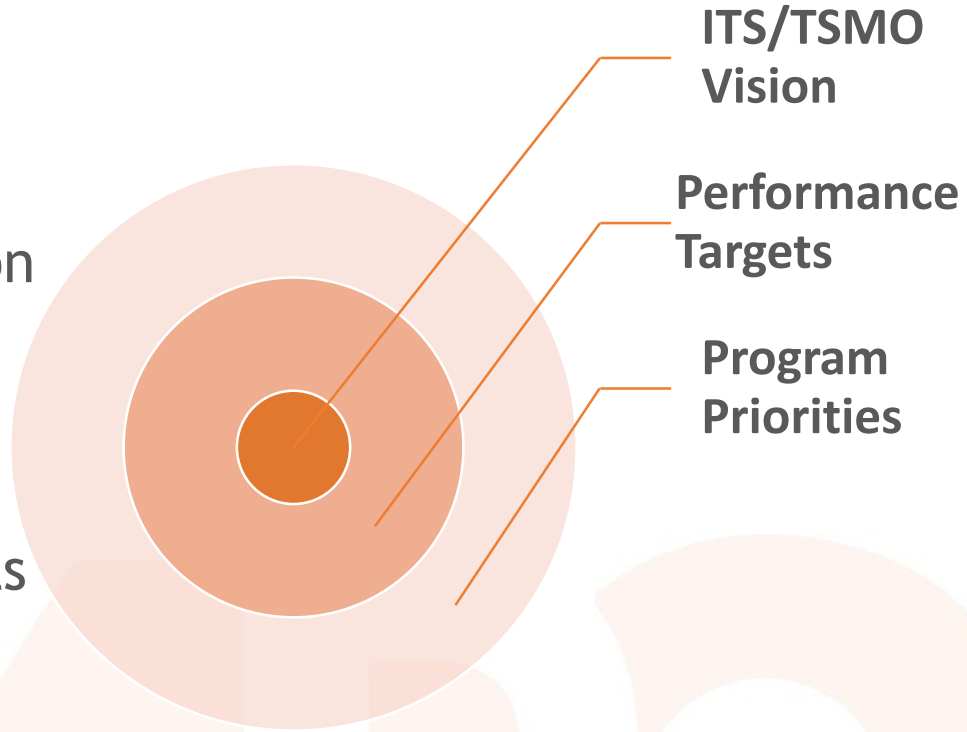


Local Agency Deployment Guide

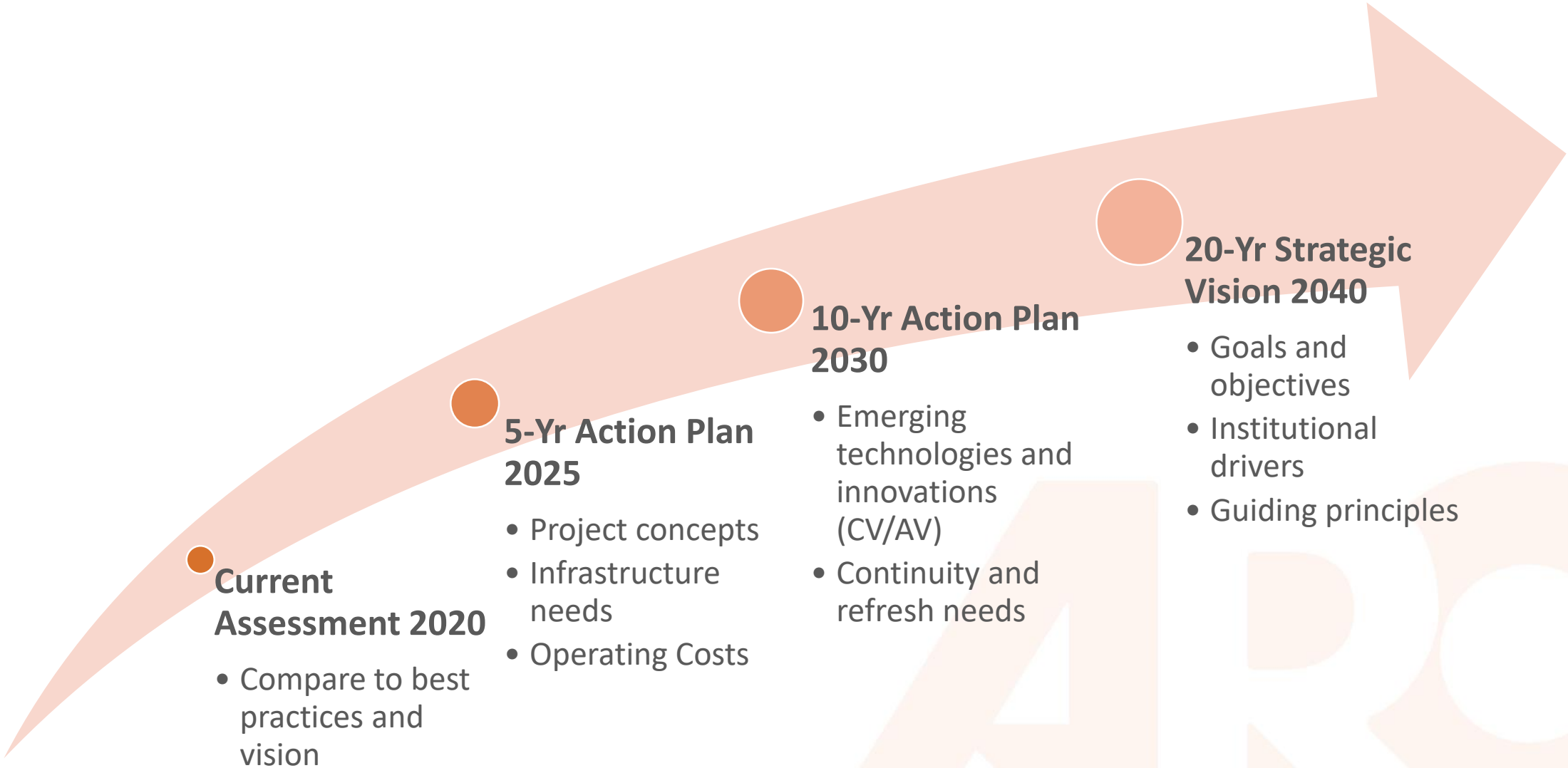
- Your role
  - Survey: Local needs and priorities
  - Workshop 3: Gather input on context and issues
- Potential Uses for ARC
  - TIP project selection
  - Planning study alternatives analysis

Regional Technology Assessment/Final Plan

- Technology Assessment
  - Compare Atlanta region nationally: identify strengths and weaknesses
  - Assess gap between current and Regional Vision
- Final Plan
  - Include 5- and 10-year action plans
  - Build off technology assessment
  - Achievable performance objectives and targets
  - Priority areas for investment
  - Institutional drivers and underlying program principles to guide technology decisions
- Your role
  - All previous engagement activities
  - Workshop 4: Review final plan



Regional Technology Assessment/Final Plan



Consultant Team

ICF

Kimley»Horn
Expect More. Experience Better.

ConSysTec

Lumenor
Consulting Group

Schedule

- Start Date: October 2018
- End Date: March 2020
- Workshops
  1. Establishing the Regional TSM&O/ITS Vision
     - Winter 2018
  2. Building a Technical Foundation: Data and ITS Architecture
     - Early Spring 2019
  3. Accelerating Deployment: Pilot Concepts
     - Summer 2019
  4. TSM&O Plan Draft Presentation and Discussion
     - Winter 2019

Questions?

mroell@atlantaregional.org