Central Mississippi ITS Architecture Plan Update

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Stakeholder Kickoff Workshop

November 28, 2023

Outline

- Welcome and Introductions
- Overview of the ITS Architecture Project
- Existing and Planned ITS Projects in the Region
- ITS Needs
- Next Steps
- Conclusion

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Introductions

Name

Agency

Role

Experience with Intelligent Transportation Systems

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Overview of the ITS Architecture Plan Update Project

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What is ITS?

ITS
Intelligent Transportation Systems

One Definition of ITS
The application of data processing and data communications to the surface transportation system to increase safety and efficiency

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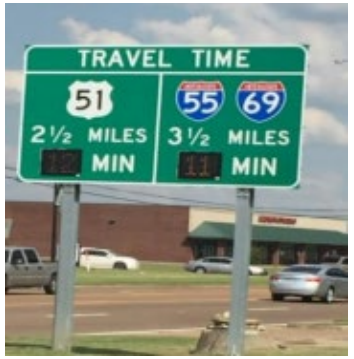
What is ITS?



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Emerging ITS Technologies

- Connected Vehicles
- Automated Vehicles
- Active Traffic Management
- Integrated Corridor Management
- Decision Support Systems
- Privatized Traffic Data

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Why Deploy ITS?

Improve Safety*: In 2022, Mississippi had 697 traffic fatalities.

Reduce Congestion: Congestion costs Americans almost $200 billion in additional travel time and wasted fuel cost

Increase Reliability*: Travelers report variability in travel times to be one of their greatest sources of frustration

*Identified as one of five **goals** for the region in the ***2045 Metropolitan Transportation Plan***.

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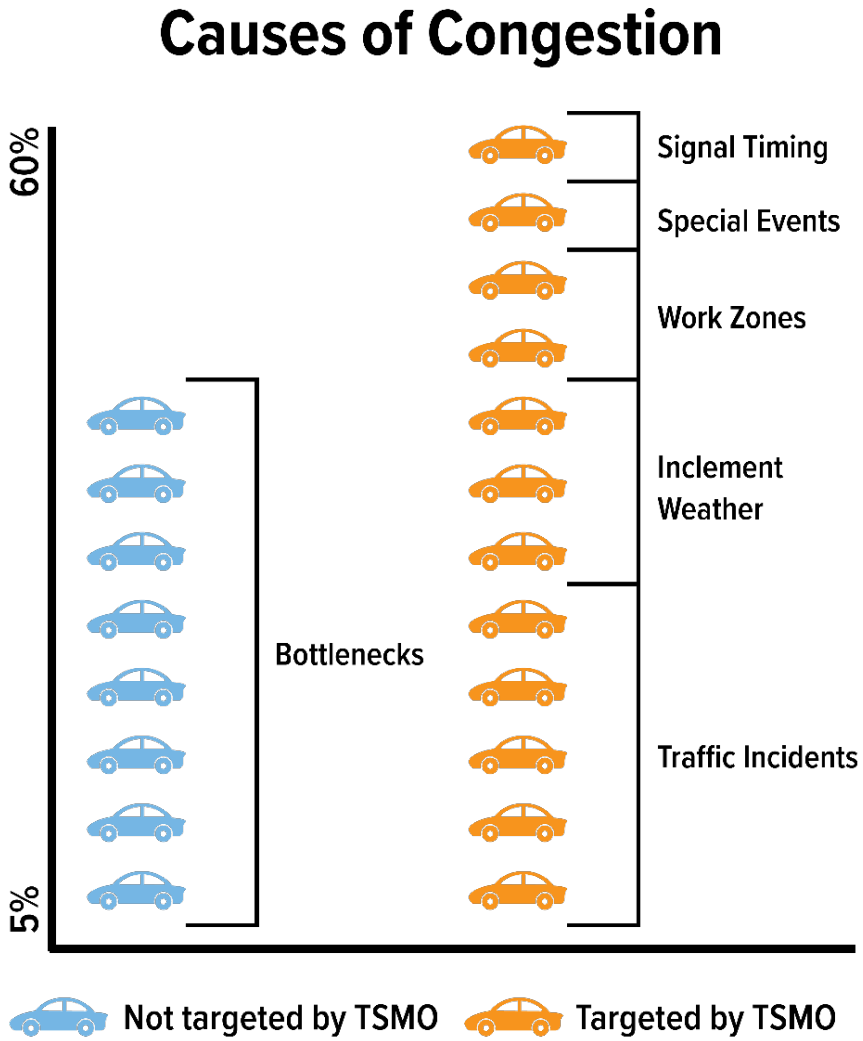
Why Deploy ITS?

ITS is a key tool used for **Transportation Systems Management and Operations (TSMO)**



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What is an ITS Architecture Plan

A plan for the deployment, integration, and operation of Intelligent Transportation Systems in a state or region

The plan includes traffic, transit, public safety, and emergency management agencies

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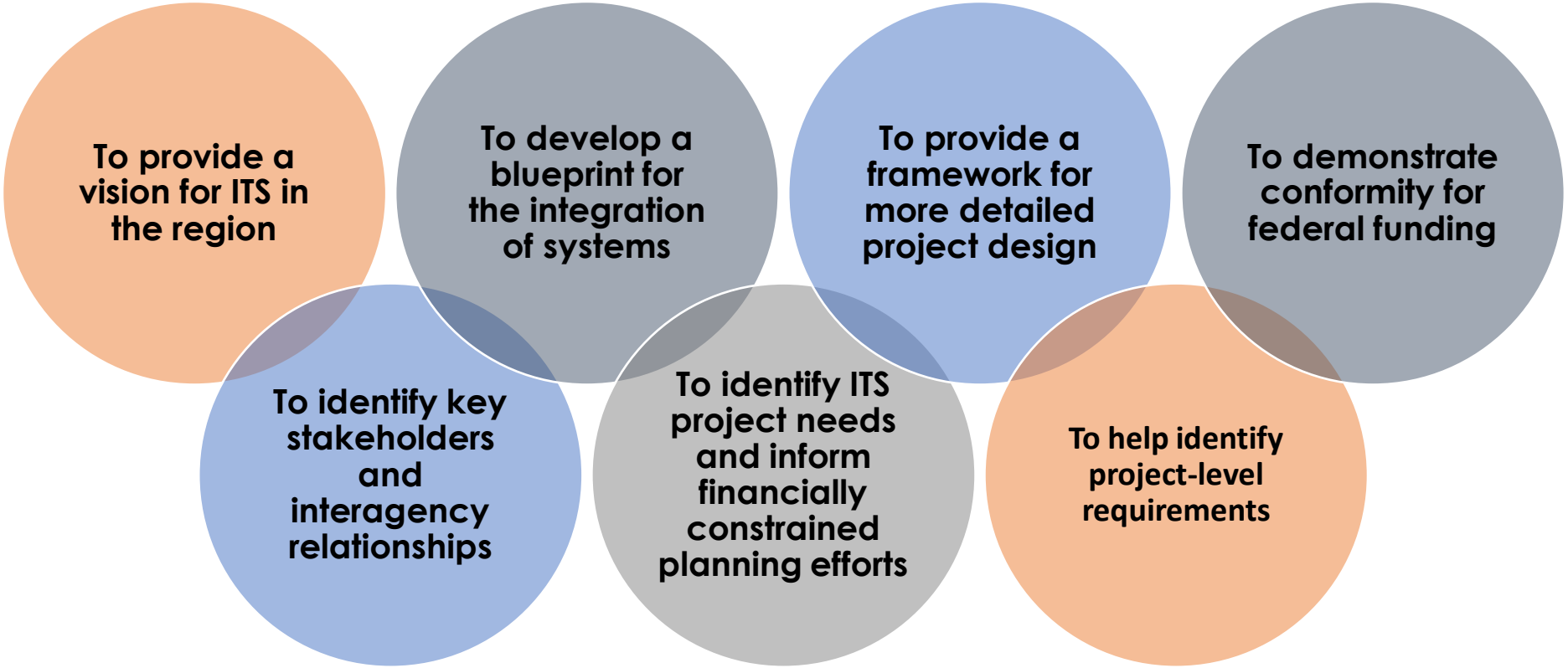
Purpose of the ITS Architecture



Why Should You Care

All transportation projects that incorporate ITS elements and are funded through the Highway Trust Fund must conform with an ITS Architecture

An ITS Architectures can also…

- Help scope projects appropriately
- Ensure regional interoperability
- Offer a focused perspective for long-range planning
- Ensure preparedness for future deployment of technology

History in Central Mississippi Region

First developed in 2008

Current Update for 2024

A living document often updated in coordination with the Regional Transportation Plan

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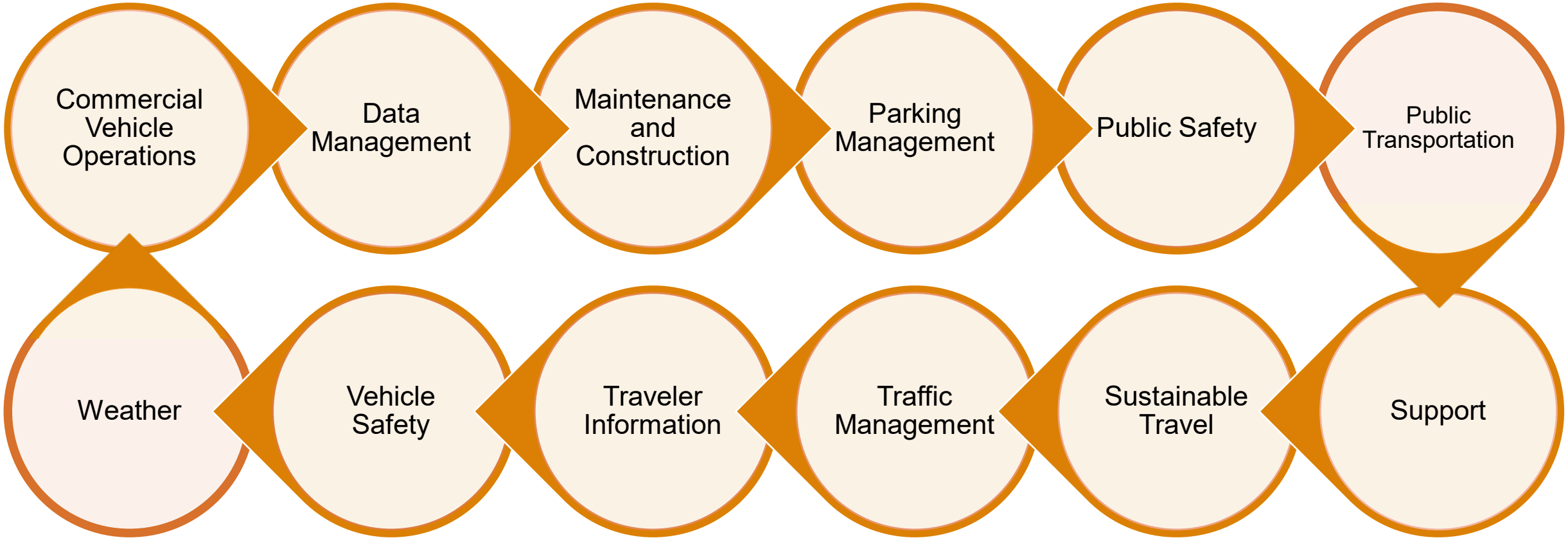
Requirements of an ITS Architecture

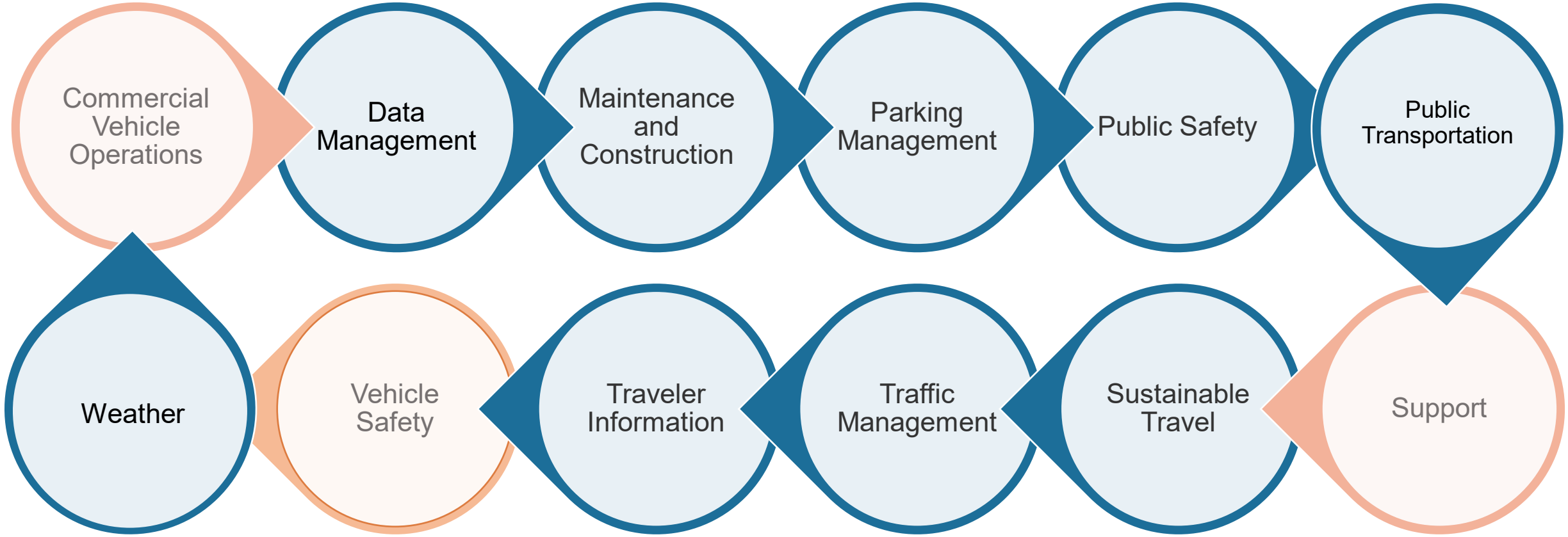
- **Stakeholder Agencies**
- **Inventory of ITS Elements (Existing or Planned)**
- **ITS Needs**
- Identification of ITS Services (ITS Service Packages)
- Interfaces/Information Flows
- Standards
- Project Sequencing (ITS Deployment Plan)
- Agreements
- Maintenance Plan

Bold indicates focus areas for today's workshop

ITS Service Package Areas



ITS Service Package Areas



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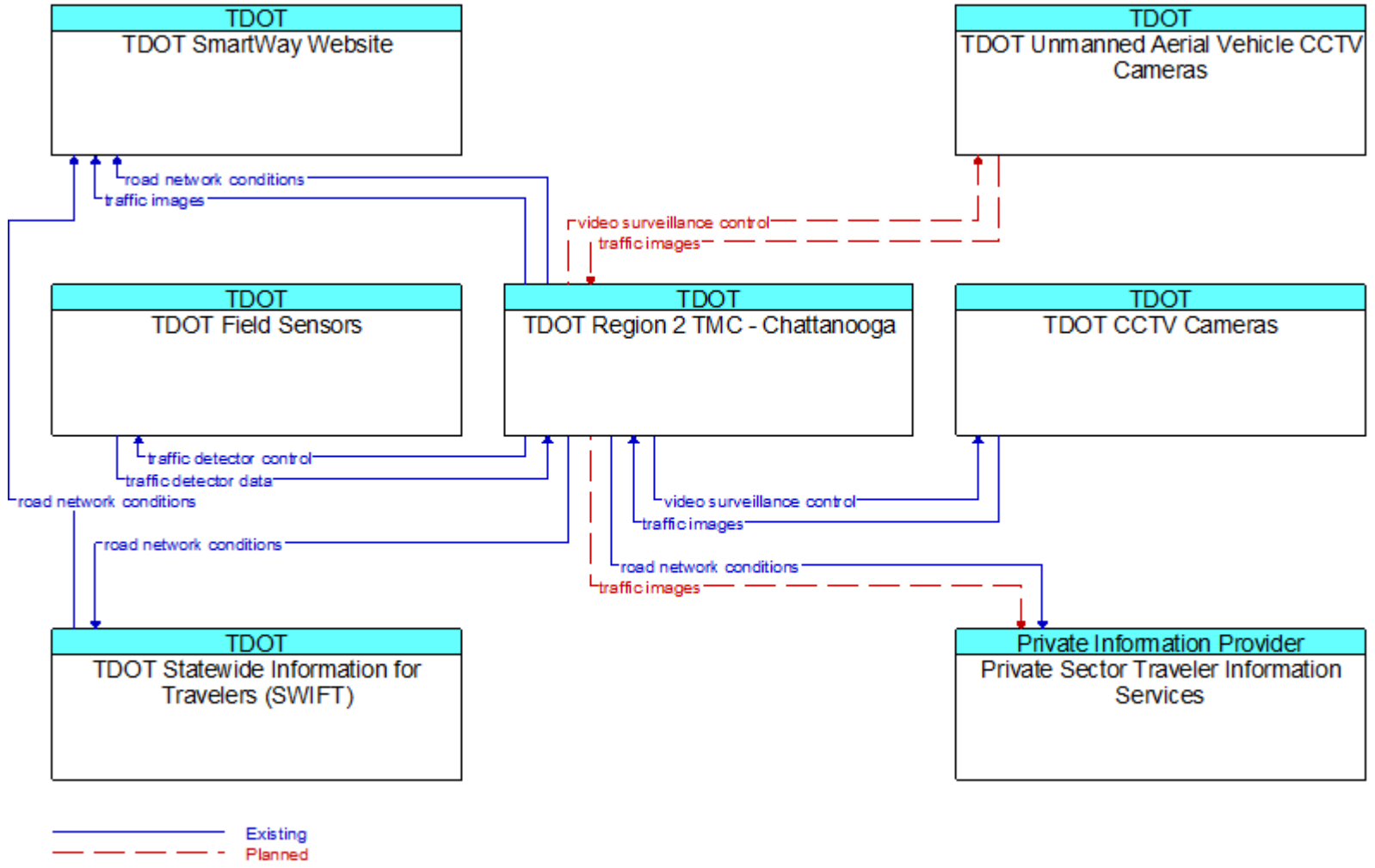
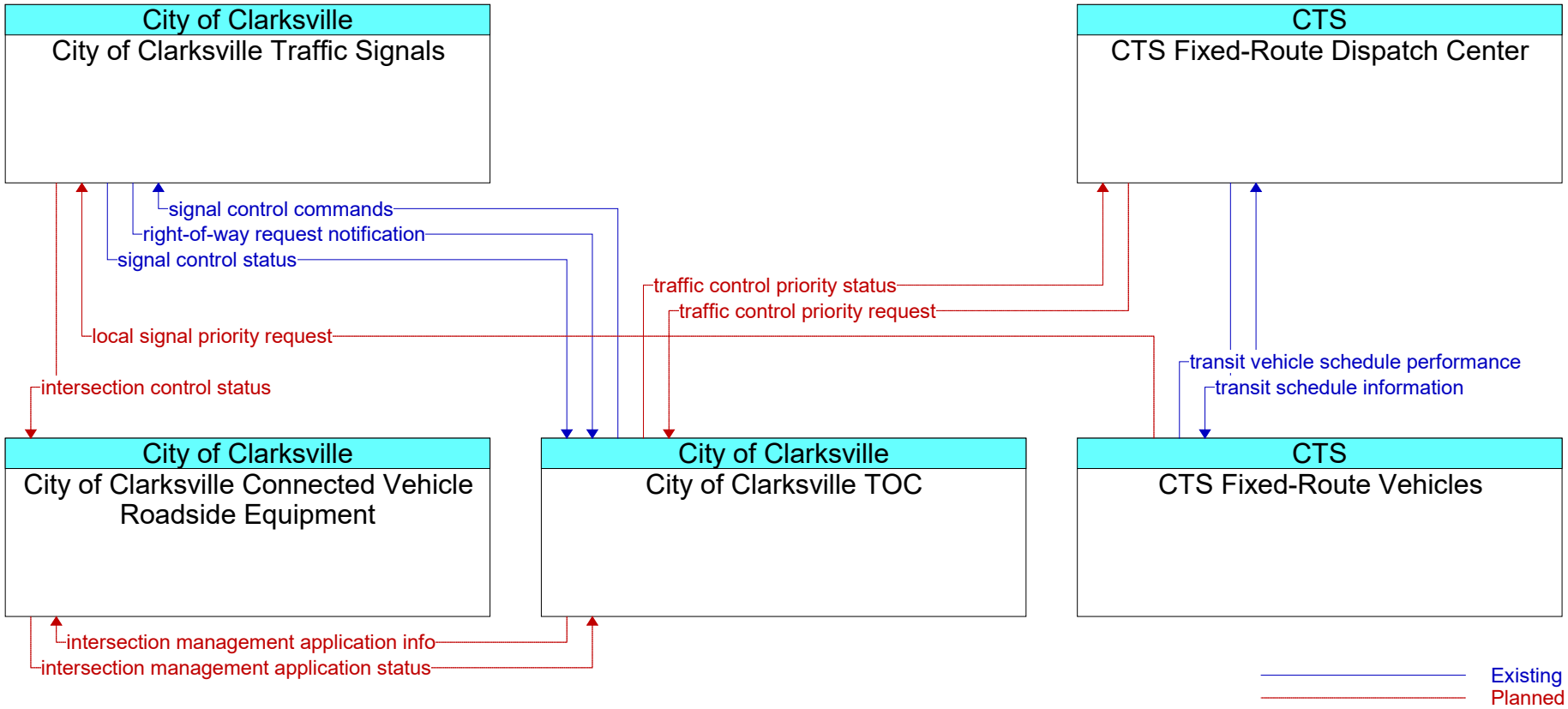
ITS Service Package Example

Example ITS Service Package – Network Surveillance (Tennessee DOT CCTV Cameras)

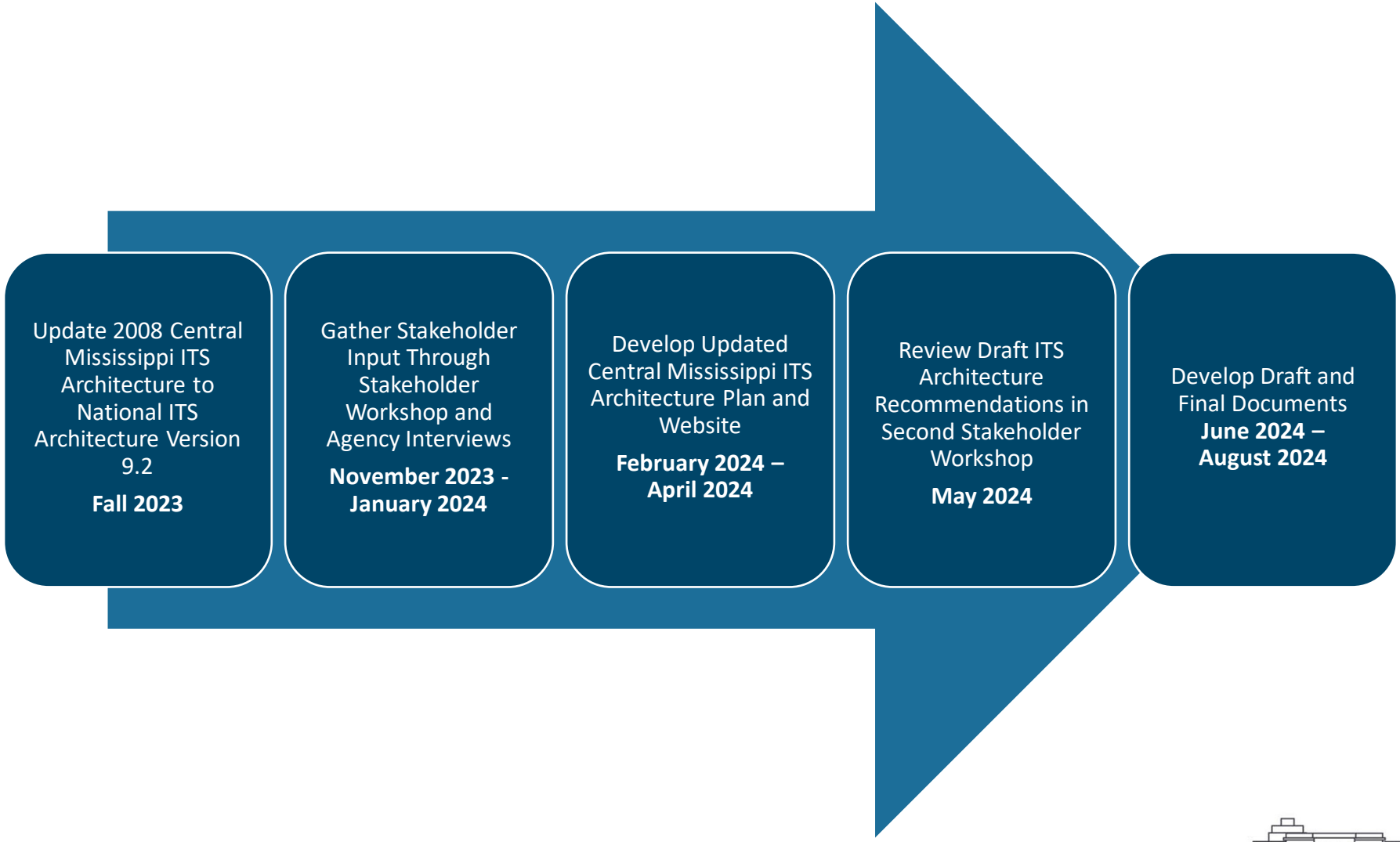


ITS Service Package Example

Example ITS Service Package – Transit Signal Priority (Clarksville Transit System)



ITS Architecture Update Process



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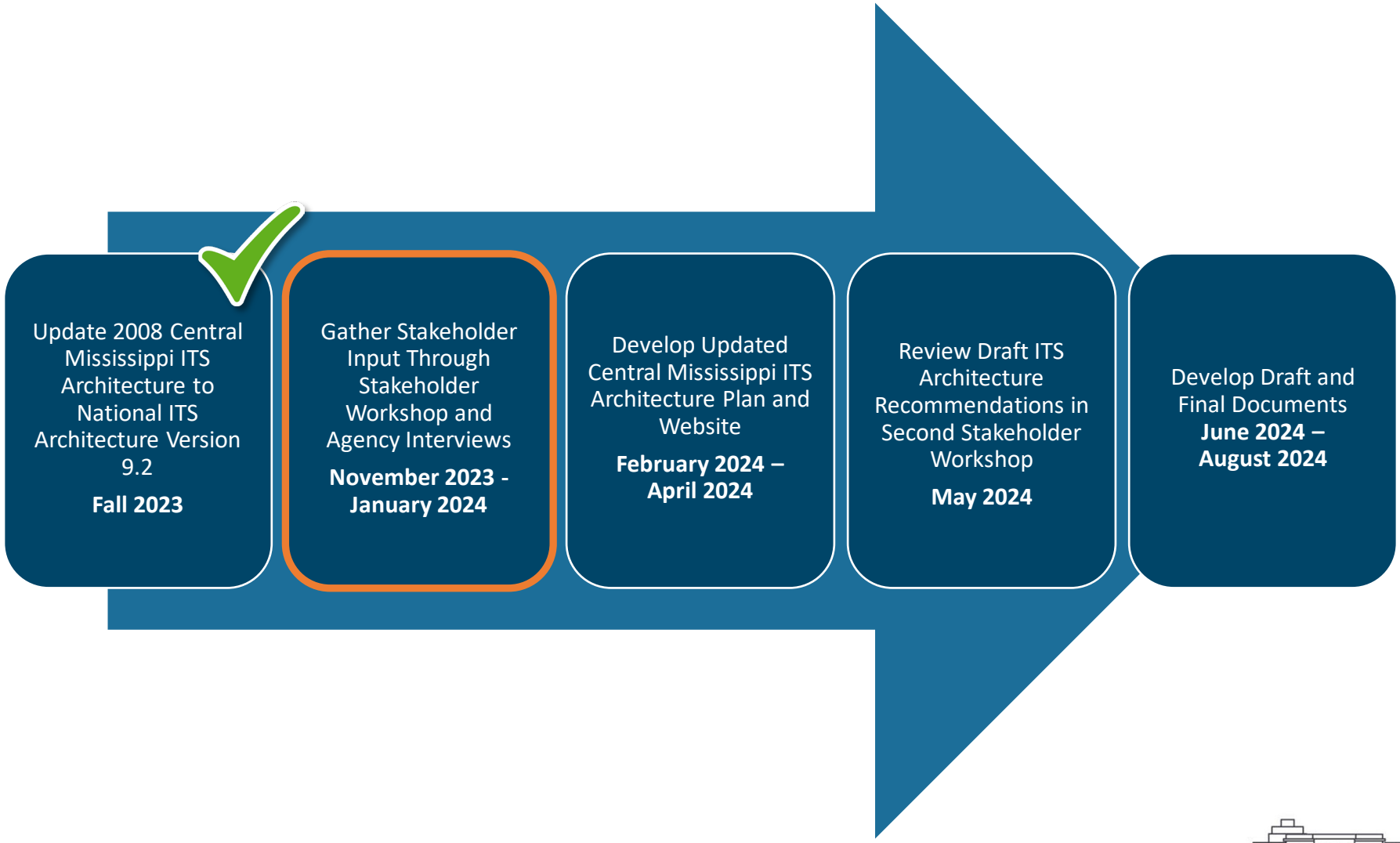

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ITS Architecture Update Process

One-on-One Outreach Planned for the Following Agencies

- MDOT
- City of Jackson
- City of Ridgeland
- JTRAN

- Other
- Other
- Other

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Stakeholder Input

Stakeholder Input

Review
Regional Boundaries

Review
Regional Stakeholders

Discuss
Existing and Planned
ITS Deployments
in the Region

Discuss
Regional ITS Needs

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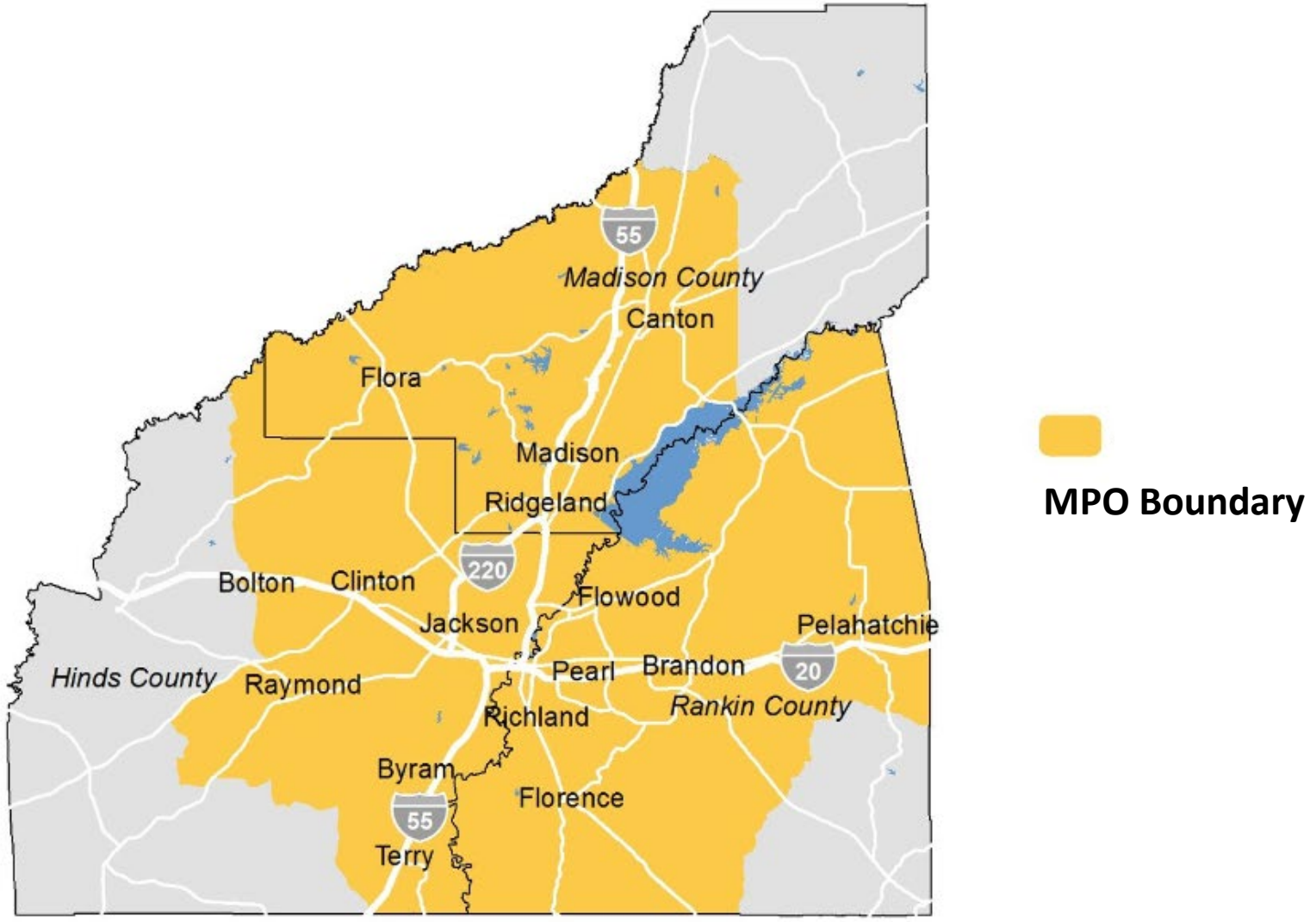
Central Mississippi Region

Jackson Metropolitan Planning Organization Boundary



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Regional Stakeholders

- **Mississippi DOT**
- **Cities**

  Brandon, Byram, Canton, Clinton, Florence, Flowood, Gluckstadt, Jackson, Madison, Pearl, Raymond, Richland, Ridgeland
- **Towns**

  Bolton, Flora, Pelahatchie, Terry
- **Counties**
  - Hinds, Madison, Rankin (Public Works, EMA, Sheriff)
- **JTRAN**
- **Federal Highway Administration**
- **School Districts**
- **National Park Service (Natchez Trace)**
- **Railroad Association**
- **Pearl River Valley Water Supply District**
- **Other?**

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Existing, Planned, and Potential ITS in the Region – MDOT

MDOT – Existing

- Jackson Traffic Management Center (TMC)
- CCTV Cameras
- Dynamic Message Signs (DMS)
- Road Weather Information System (RWIS)
- Radar and Bluetooth Readers
- Highway Advisory Radio (HAR)
- SMART Work Zones – Travel Times, Detour Routes, Queue Protection
- MDOTTraffic.com
- **Other?**

MDOT – Planned

- Signal Operations Project (“RTOP”)
- Integrated Modeling for Road Condition Prediction System (IMRCP)
- **Other?**

MDOT – Potential

- Freeway Safety Service Patrol
- Wrong-way Driver Detection and Warning
- Variable Speed Limits
- Ramp Metering
- Emergency Vehicle Signal Preemption
- Connected and Automated Vehicle Deployments
- Freight Parking Systems
- Archived Data Systems
- **Other?**

Existing, Planned, and Potential ITS in the Region – Cities and Towns

Cities and Towns – Existing

- Traffic Signal Systems
- Traffic Operations Center (Ridgeland)
- CCTV Cameras (Ridgeland)
- **Other?**

Cites and Towns – Planned

- **Other?**

Cities and Towns – Potential

- Traffic Operations Centers
- CCTV Cameras
- Dynamic Message Signs (DMS)
- Emergency Vehicle Signal Preemption
- Downtown Parking Systems
- Special Event Management Systems
- Real-Time Traveler Information Systems
- Archived Data Systems
- Connected and Automated Vehicle Deployments
- **Other?**

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Existing, Planned, and Potential ITS in the Region – JTRAN

JTRAN – Existing

- Automated Vehicle Location
- Real-time Bus Arrival Information (Web and App Based)
- Google Transit Planning
- On-board CCTV Cameras
- **Other?**

JTRAN – Planned

- **Other?**

JTRAN – Potential

- Real-time Bus Arrival at Stops
- Transit Vehicle Priority
- Automated Passenger Counters
- Coordination with Other Agencies for Road Closures (Real-time Incidents and Planned Construction Closures)
- **Other?**

Existing, Planned, and Potential ITS in the Region – Other

Do any other agencies have existing or planned ITS deployments?

Potential Areas for ITS Deployments

Traffic Management

Traveler Information

Maintenance and Construction

Weather Management

Special Event Management

Public Transportation

Public Safety

Parking Management

Data Management

Connected and Automated Vehicles

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Regional ITS Needs

Traffic Management

Traveler Information

Maintenance and Construction

Weather Management

Special Event Management

Public Transportation

Public Safety

Parking Management

Data Management

Connected and Automated Vehicles

Other?

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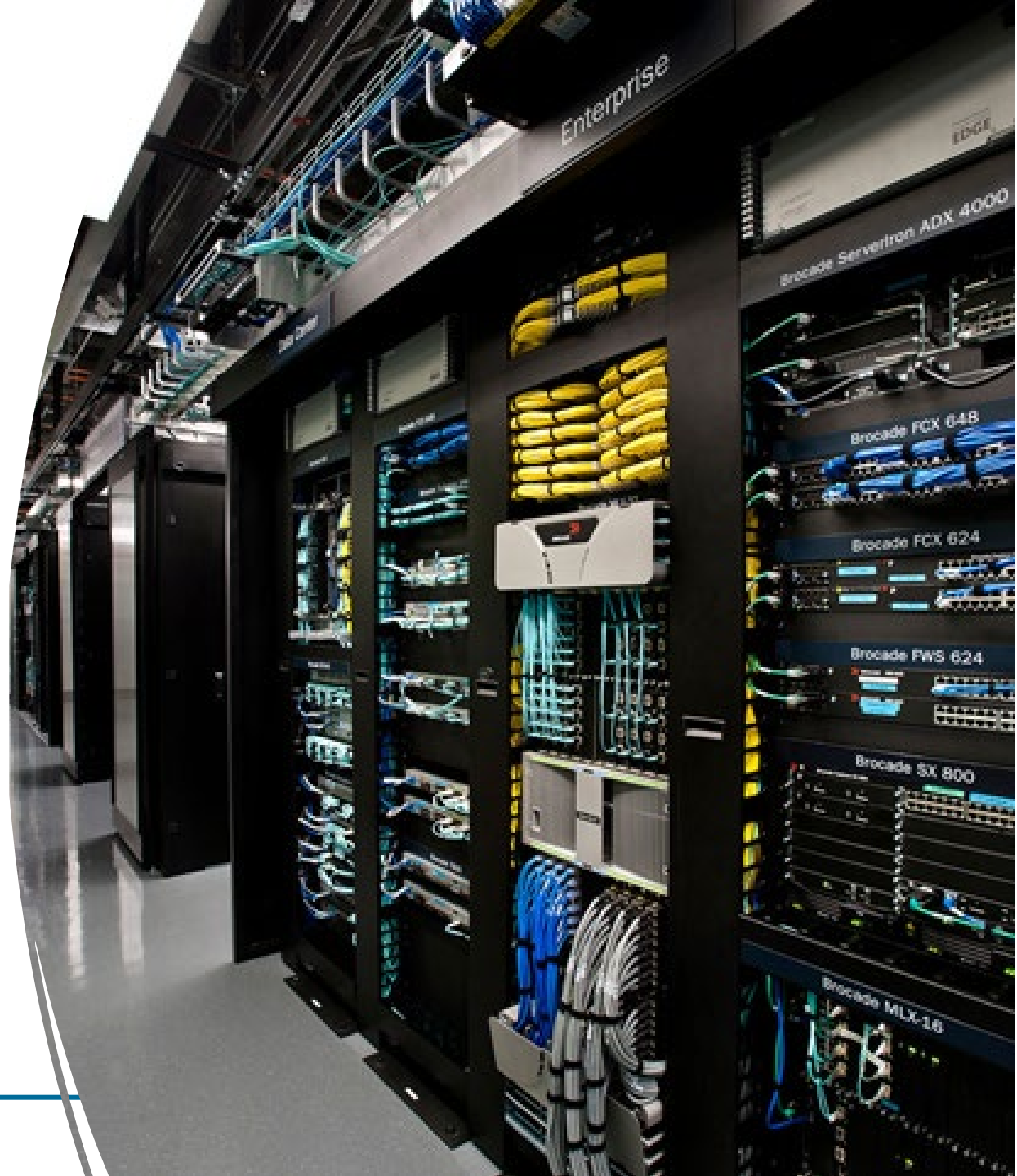
Next Steps

Next Steps and Deliverables

- One-on-One Agency Interviews
  (Early to mid-January)
- ITS Architecture Review Workshop
  (May 2023)
- Draft and Final Regional ITS Architecture Plan Update Report
- Project Website
- RAD-IT Architecture Database
  (Version 9.2)
- Presentations to the Intermodal Technical Committee and Metropolitan Planning Policy Committee



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Contacts

Central Mississippi Planning and Development District
Lesley Callender
Senior Transportation Planner
lcallender@cmpdd.org

Scott Burge
Senior Transportation Analyst
sburge@cmpdd.org

Kimley-Horn (Project Consultant)
Tom Fowler
thomas.fowler@kimley-horn.com

Doug Swett
douglas.swett@kimley-horn.com

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