TECHNICAL MEMORANDUM

TO:	Lake-Sumter Metropolitan Planning Organization
FROM:	Matt McIntosh, AICP, GFT Inc.
CC:	
SUBJECT:	**Lake-Sumter MPO 2050 LRTP TSM&O/ITS Element Technical Memorandum**
DATE:	July 3, 2025

1. INTRODUCTION

The Lake-Sumter Metropolitan Planning Organization (LSMPO) Long Range Transportation Plan (LRTP) is a 25-year planning vision to address transportation needs and expectations for the communities in the MPO's planning area. The LRTP is developed in coordination with federal, state, and local agencies. The vision plan develops both short-term and long-term cost-feasible multimodal transportation strategies through 2050 for all modes of travel, including roadway, public transit, freight, bicycle, pedestrian, and multi-use trail projects.

The LSMPO seeks to establish a comprehensive plan via its 2050 LRTP that can serve as a crucial roadmap for implementing Intelligent Transportation Systems (ITS) solutions and Transportation System Management & Operations (TSM&O) strategies. These strategies and solutions will optimize travel experiences, improve safety, reduce congestion, and establish connected and resilient transportation infrastructure. A key component of the LRTP is the integration of TSM&O strategies, which aim to improve safety and security of the existing transportation network for motorized and non-motorized users, while also supporting improved accessibility and mobility for people and freight.

TSM&O actively manages the multimodal transportation network to improve performance, streamline systems, and enhance safety and mobility. MPO strategically merges its ITS programs with TSM&O, using communication and computer technologies to detect congestion, improve safety, and provide real-time traffic information, helping drivers make informed travel choices and find alternative routes and reduce congestion.

2. VISION, GOALS, AND OBJECTIVES

2.1 VISION

The vision of the TSM&O program is to create a safe, reliable, and efficient multimodal transportation network that leverages advanced technology and coordinated operations to optimize the performance of the existing transportation system, while improving safety and mobility for all users.

2.2 GOALS

To support this vision, the key goal of TSM&O is to enhance safety, reduce delays, and supports the efficient movement of people and goods throughout the Lake-Sumter region through the deployment of ITS and coordinated operational strategies.

2.3 OBJECTIVES

To achieve these goals, the following TSM&O initiatives and objectives are outlined:

- Improve safety and security for all users by deploying an *integrated traffic incident management system*, such as cameras and sensors, enabling real-time decision-making and rapid response to roadway crashes or hazards
- Enhance the mobility of people and goods by implementing *advanced traveler information systems (ATIS)* and *advanced traffic management systems (ATMS)* that dynamically adjust traffic signals (such as adaptive signal control (ASCT) and/or active arterial management programs), incorporate transit signal priority and emergency vehicle/rail preemption operations, and allow the integration of *connected and automated vehicle (CAV)* technologies.
- Promote and support the deployment of *ITS infrastructure* across regional roadways through the development and maintenance of ITS standards, specifications, and the ITS Strategic Plan. Manage the statewide *ITS Architecture and software system* and guide and promote the expansion of *ITS communications (fiber network)*.
- Coordinate with regional agencies and stakeholders to ensure integrated TSM&O planning and operations.

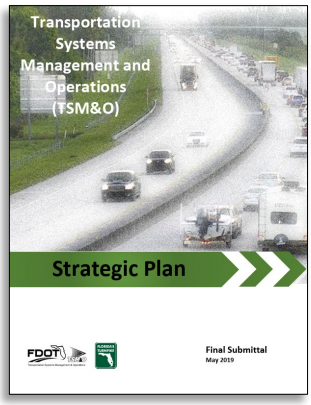
In response to increasing travel demand, fiscal constraints, and growing concerns over congestion and safety, the implementation of TSM&O ensures more effective transportation system management through data and technology-driven operations, including real-time monitoring, to improve safety, enhance travel reliability, and reduce delays for all modes. TSM&O strategies leverage and optimize existing infrastructure resources to meet future mobility needs, while **preserving and maintaining** the existing transportation network.

3. STRATEGIC AND MASTER PLANS REVIEW

A literature review of relevant and similar studies and TSM&O/ITS plans was performed, and some key documents are summarized within this section. This review was conducted to ensure that TSM&O and ITS projects and strategies outlined within this element of the LRTP are consistent with regional and local comprehensive plans; by aligning with their visions, goals, objectives, funding sources, and priorities.

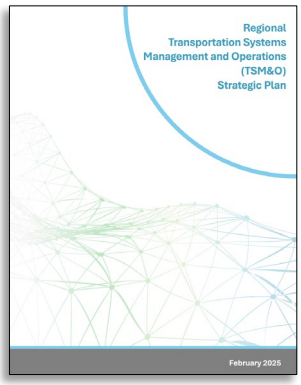
FDOT TSM&O Strategic Plan

The FDOT TSM&O Strategic Plan outlines a statewide vision centered on achieving fatality-free and congestion-free travel. It establishes performance metrics—such as Planning Time Index, crash reduction, throughput, and delay mitigation—paired with SMART goals across districts. Key strategies include freeway and arterial management, connected vehicles, express lanes, and integrated traveler information systems. The plan provides a strong template for aligning local efforts with statewide performance goals, offering examples for goal setting, funding, and operations. For regional and local agencies, it serves as a guide for developing measurable outcomes that can justify funding and elevate reliability and safety in planning.



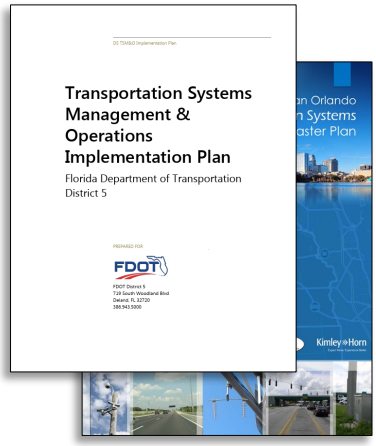
Regional Transportation Systems Management and Operations (RTSM&O) Strategic Plan

This collaborative plan involves 10 MPOs and TPOs, including LSMPO, working toward a unified TSM&O vision. It defines Tier 1 and Tier 2 actions across focus areas such as collaboration, public outreach, dedicated staffing, data-sharing, and funding. The plan advocates for board-level engagement and pilot projects, aiming to embed TSM&O into broader transportation planning processes. It's a strategic playbook for scaling TSM&O efforts and shaping a more integrated, cooperative approach across jurisdictions.



FDOT District 5 TSM&O Implementation Plan

FDOT District 5's Implementation Plan uses a Capability Maturity Model to evaluate progress in six focus areas of TSM&O. It highlights existing strengths and gaps, proposes SMART goals, and provides recommendations to enhance business processes, agency coordination, and performance monitoring. The plan offers a step-by-step framework for improving institutional readiness and maturing local TSM&O programs. It's a practical tool for benchmarking and elevating regional efforts, especially useful for MPOs seeking to assess internal processes and set a trajectory for TSM&O growth.

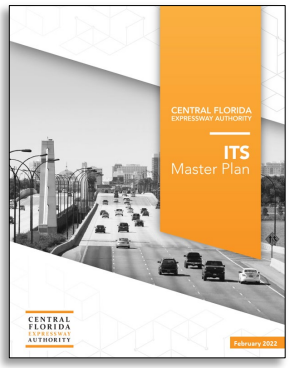


LYNX 2022 ITS Strategic Plan

The LYNX 2022 ITS Strategic Plan updates the agency's vision for deploying transit technologies such as Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) systems, real-time passenger info, electric buses, and upgraded fare systems. It includes a cross-department needs assessment and prioritizes shovel-ready projects to support grant opportunities. This plan is particularly useful as a model for phasing ITS deployments and aligning them with operational needs and funding strategies. It demonstrates how transit focused ITS planning can enhance the rider experience while positioning agencies competitively for future investment.

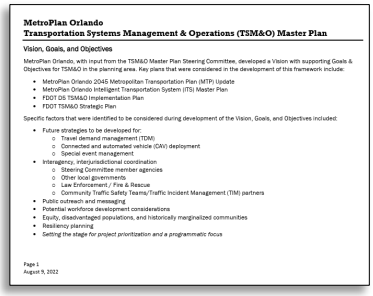
CFX ITS Master Plan

The Central Florida Expressway Authority's ITS Master Plan presents strategies across key technology areas, including signal systems, fiber networks, connected vehicles, smart parking, and active traffic management. The plan also includes sustainability goals and data-sharing initiatives. It provides a clear example of how toll authorities can advance ITS strategies while collaborating with regional partners to support smart corridors and future-oriented deployments.



MetroPlan TSM&O Vision, Goals, and Objectives

This document defines MetroPlan Orlando's overarching TSM&O vision and outlines five core goals related to safety, performance, economic prosperity, accessibility, and environmental stewardship. It integrates additional focus areas such as equity, resilience, and technology readiness. The plan is a helpful model for crafting consistent, goal-oriented planning language that mirrors both state and regional priorities. It supports the development of adaptable objectives that reflect current and future mobility challenges.


MetroPlan Orlando
Transportation Systems Management & Operations (TSM&O) Master Plan

Vision, Goals, and Objectives

MetroPlan Orlando, with input from the TSM&O Master Plan Steering Committee, developed a Vision with supporting Goals & Objectives for TSM&O in the planning area. Key plans that were considered in the development of this framework include:

- MetroPlan Orlando 2045 Metropolitan Transportation Plan (MTP) Update
- MetroPlan Orlando Intelligent Transportation System (ITS) Master Plan
- FDOT D5 TSM&O Implementation Plan
- FDOT TSM&O Strategic Plan

Specific factors that were identified to be considered during development of the Vision, Goals, and Objectives included:

- Future strategies to be developed for:
  - Travel demand management (TDM)
  - Connected and automated vehicle (CAV) deployment
  - Special event management
- Interagency, interjurisdictional coordination
  - Steering Committee member agencies
  - Other local governments
  - Law Enforcement / Fire & Rescue
  - Community Traffic Safety Teams/Traffic Incident Management (TIM) partners
- Public outreach and messaging
- Potential workforce development considerations
- Equity, disadvantaged populations, and historically marginalized communities
- Resiliency planning
- *Setting the stage for project prioritization and a programmatic focus*

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MetroPlan Orlando TSM&O Master Plan Summary

MetroPlan Orlando's TSM&O Master Plan outlines a roadmap for identifying, prioritizing, and funding TSM&O projects through 2050. Developed with stakeholder and public input, it uses a goals-based framework focused on safety, equity, and reliability. It introduces strategies like signal control, transit signal priority (TSP), and real-time traveler info, and even explores future challenges like cybersecurity, AI, and shared data systems. This plan exemplifies a comprehensive TSM&O process from needs assessment to project implementation and offers practical tools for building out project pipelines and setting funding priorities.

MetroPlan Orlando ITS Master Plan

MetroPlan Orlando's ITS Master Plan assesses the region's existing infrastructure and identifies priority ITS projects through stakeholder input and a scoring framework. It includes a Concept of Operations and long-term tools for implementation. The plan serves as a strong example of translating a regional needs assessment into a funded strategic project list. It's valuable for agencies looking to build a comprehensive ITS inventory, evaluate system gaps, and guide stakeholder-driven investments.

Sumter County ATMS (Phase I)

The first phase of Sumter County's ATMS planning identifies signal upgrade needs across priority corridors, emphasizing communication gaps and proposing improved signal timing. This plan helps clarify the current state of infrastructure and lays the groundwork for future ATMS coordination. It is particularly helpful for MPOs seeking to identify strategic investment areas and align signal operations with regional goals.

Sumter County ATMS Master (Phase II)

Phase II builds on the first by examining Sumter County's traffic signal operations and ITS capabilities. It proposes updates to controllers, travel time and detection systems, and traffic monitoring infrastructure. The focus is on operational flexibility and improved coordination. This document is a critical planning tool for mapping infrastructure gaps and planning future ATMS enhancements.

Lake County TSM&O Master Plan Deployments

The Lake County TSM&O Master Plan lays out a strategic roadmap to modernize transportation infrastructure through fiber communications deployments. The early deployment phase centers on foundational improvements, including a new fiber connection to Leesburg, the establishment of a basic Traffic Management Center (TMC), integration with FDOT District 5 systems, and enhancements to signal cabinet security. Following this, four major deployment zones—Golden Triangle, Leesburg, Lady Lake, and South Lake—are slated for expanded implementation, featuring upgrades to the fiber optic communications network, the installation of new closed-circuit television (CCTV) cameras for better traffic monitoring, and the deployment of Bluetooth-based travel time systems to support real-time traffic data collection and traveler information. Together, these initiatives mark a major step toward a smarter, more connected transportation network for Lake County.

4. TSM&O AND ITS PROJECTS

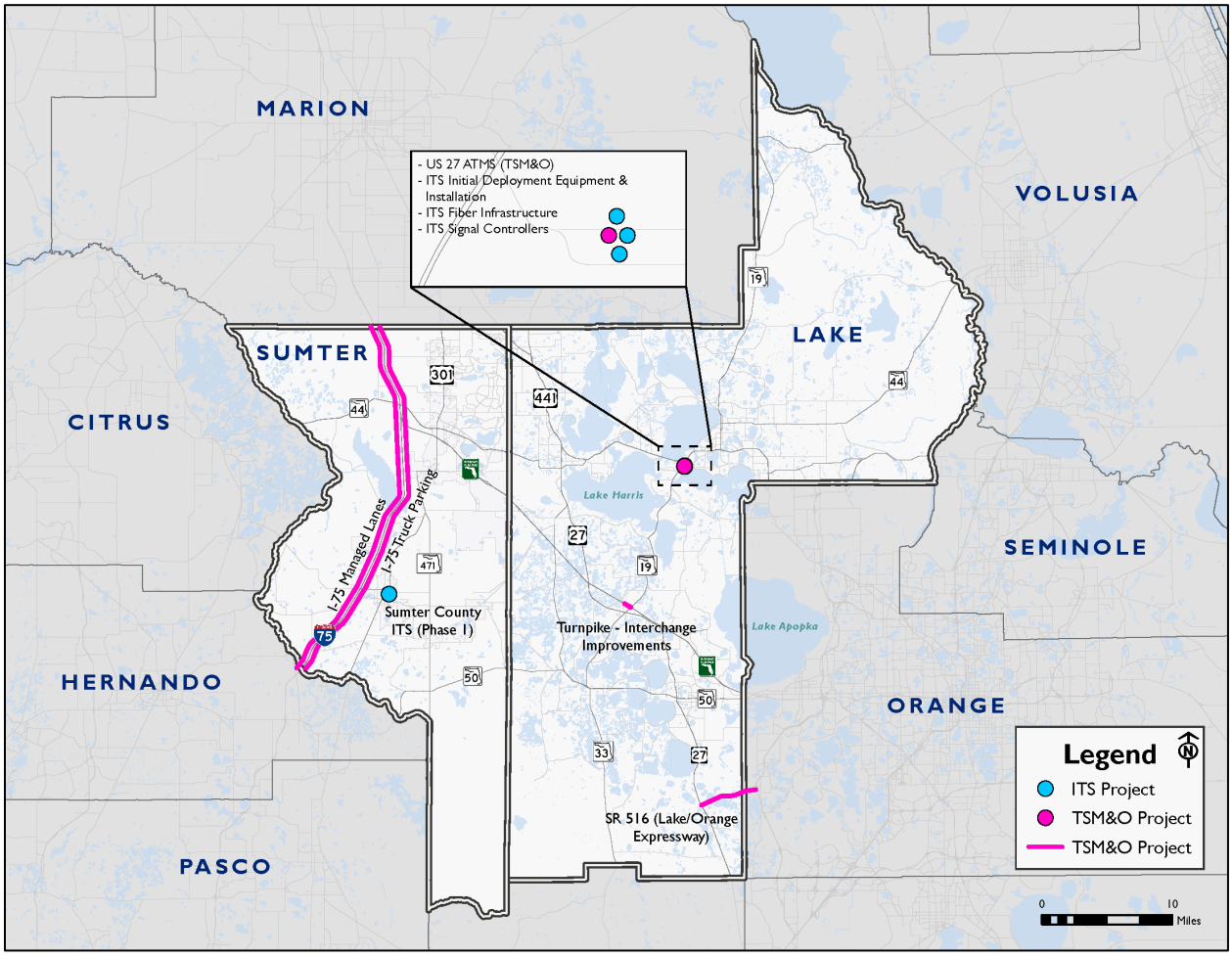
The Lake-Sumter MPO actively identifies transportation needs and opportunities to support TSM&O and ITS operations across the region. The List of Priority Projects (LOPP) is developed and updated annually, serving as a bridge between the long-range planning and project programming within the Transportation Improvement Program (TIP) and 5-Year Work Program (WP). **Table 1** and **Figure 1** highlight the TSM&O- and ITS-related projects included and prioritized in the draft 2025 LOPP.

Table 1. TSM&O Projects from the 2025 List of Priority Projects

Sponsor/ Location	LOPP Category	Project Name	Description	Proposed Phase	Proposed Phase FY	Proposed Phase Cost*
Sumter County	Safety/ Operations/ TSM&O	Sumter County ITS (Phase1) FM# 436365-1	ITS	CST	2026/27	$714,150
FDOT/ Lake County	Safety/ Operations/ TSM&O -	US 27 ATMS	ATMS	CST	2026/27	$1,656,000
Lake County	Safety/ Operations/ TSM&O -	ITS Initial Deployment Equipment & Installation	ITS	CST	2026/27	$350,000
Lake County	Safety/ Operations/ TSM&O -	ITS Fiber Infrastructure	ITS	CST	2026/27	$7,900,000
Lake County	Safety/ Operations/ TSM&O -	Intelligent Traffic Signal Controllers	ITS	CST	2026/27	$250,000
Turnpike	Strategic Intermodal System (SIS)	Florida's Turnpike (SR91) at US 27 FM# 452106-1	South Interchange Improvements	CST	2026/27	N/A
FDOT	Strategic Intermodal System (SIS)	I-75	Managed Lanes	Design	2031-2035	$12,400,000
CFX	Strategic Intermodal System (SIS)	SR-516 (Lake/Orange Expressway)	New Expressway	CST	2026/27	N/A
FDOT	Strategic Intermodal System (SIS)	I-75 Truck Parking	Truck Parking	PDE	2035-2040	$2,500,000

*Proposed cost estimates are under review and will be finalized based on project-specific factors or to-be-determined inflation factors.

Figure 1. Locations of TSM&O and ITS Projects from 2025 LOPP



Note: Some of the circle icon projects, such as the ITS projects, are not spot specific projects and represent more of corridor-wide or county-wide deployment effort and may be planned for connection with the FDOT D5 TMC.

None of the identified TSM&O and ITS projects are part of the top 20 priority list, in either the 2024 or draft 2025 LOPP. However, there are safety and roadway projects within the top 20 and other LOPP categories that potentially contain or can integrate TSM&O and ITS elements such as fiber communications, detection, DMS signs, cameras, and other devices, depending on what phase of the project they are in. That is why continued coordination and interagency agreements and/or partnerships are critical to the long-range planning process. Some other important local and regional projects to take into consideration and keep at the forefront during re-prioritization efforts are listed below:

- The Marsh Bend Trail (CR 501) from Corbin Trail to Central Parkway (FM# 447931-1) project, which included ITS elements and is now funded through the construction phase with a funding source from both State and local agencies.
- Lake County Traffic Signal Maintenance and Compensation Agreement (TSMCA) (5-Yrear WP) – Funding Years 2028 and 2029 at $914,000 for each year.
- Sumter County TSMCA (5-Year WP) – Funding Years 2028 and 2029 at $155,000 and $160,000, respectively.
- I-75 Florida's Regional Advanced Mobility Elements (FRAME) project utilizes CAV technologies, advanced signal control, CCTV, Roadside Units (RSUs), and multimodal integrated corridor management (MMICM) deployments/strategies for congestion management along I-75 from, Alachua to Wildwood in Sumter County. The corridors within Sumter County that are impacted by this project, in addition to I-75, include SR 44 and US 201/US 441.
- Moving Florida Forward (FPID # 452074-2) I-75 Auxiliary Lanes Project from south of SR 44 to SR 200. This is mostly a widening project with some bridge reconstruction, however as part of the construction a smart work zone will be deployed for the increased safety of drivers and construction works. Also provides for the opportunity to monitor traffic congestion and work zone related bottlenecks and help decision making regarding active work periods, lane closure restrictions, and adaptability of detour routes and traffic signals.

Note that projects that are on SIS or limited access facilities, such as Florida's Turnpike Enterprise, Central Florida Expressways, or I-75 are managed by their respective maintain agencies and it is their responsibility to prioritize those projects.

5. EXITING CONDITIONS

This document evaluates existing conditions to identify any existing service gaps and develop potential TSM&O and ITS strategies for traffic, transit, and safety improvements. The evaluation is based on data collected for existing Annual Average Daily Traffic (AADT), multimodal infrastructure including transit routes and stops, as well as the presence of existing fiber infrastructure and the locations of signalized intersections. These maps present existing infrastructure gaps and highlight key locations and corridors with higher needs or deficiencies in service.

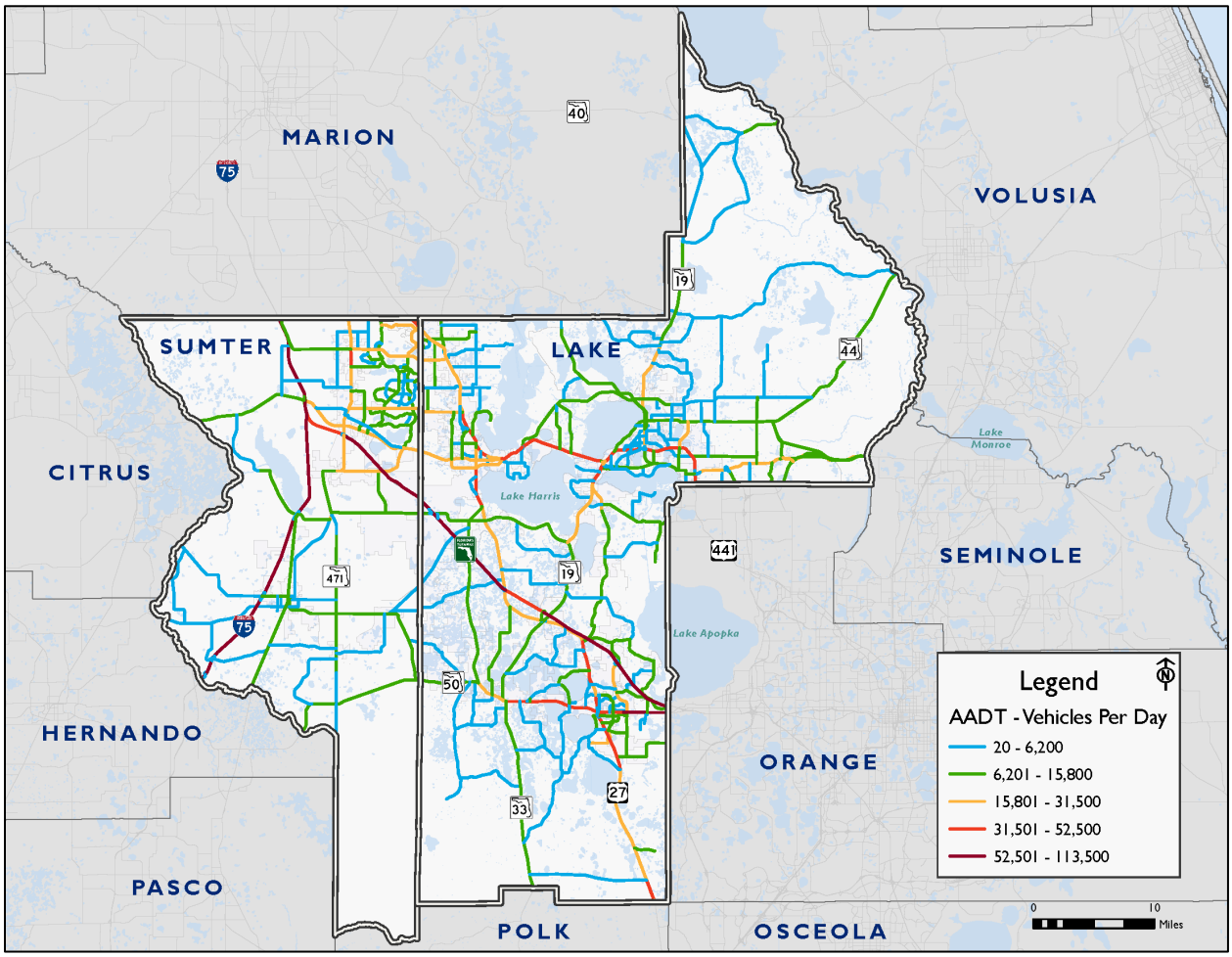
5.1 TRAFFIC CONDITIONS

Existing AADT maps provide insight into current traffic volumes and patterns, identifying areas with high demand, congestion, or operational challenges. **Figure 2** shows the existing AADT collected by traffic count stations across the regional roadway network. Future AADT maps provide insight into projected traffic growth. Corridors expected to experience significant increases in AADT reflect areas of growing travel demand and potential congestion, highlighting the need for operational strategies. These corridors are identified as key opportunities for deploying TSM&O strategies aiming to actively manage future traffic conditions with greater efficiency and safety.

By cross-referencing AADT data with existing roadway characteristics, such as number of lanes and functional classification, congested corridors can be identified. These data-driven evaluations prioritize locations where operational improvements or Integrated Corridor Management opportunities are most needed. ICM is a systematic approach to addressing congestion for a specific corridor through coordinated, real-time management. It is one of the specific strategies within TSM&O. ICM strategies may include adaptive signal control, signal coordination, real-time traveler information, and incident management systems. These technologies are designed to optimize traffic flow, enhance reliability, and improve the overall performance of the transportation system.

As part of a data-driven and performance-based planning process, the effectiveness of TSM&O strategies is evaluated through annual performance reporting. If the analysis demonstrates improved travel times and reduced congestion, the corridor may be considered a lower priority for future TSM&O investments, allowing resources for corridors with more critical needs.

Figure 2. Existing Condition AADT



5.2 Fiber Optics and ITS Devices

TSM&O strategies for traffic management rely on infrastructure such as traffic signals, closed-circuit television (CCTV) cameras, and the supporting fiber optic network to enable coordinated communication across the transportation system. Fiber optics provide the high-speed communication infrastructure needed for real-time data exchange between traffic systems and control centers. CCTV supports traffic monitoring, incident detection, and data collection for operational analysis. They are also utilized for verification of status of other TSM&O applications and ITS devices.

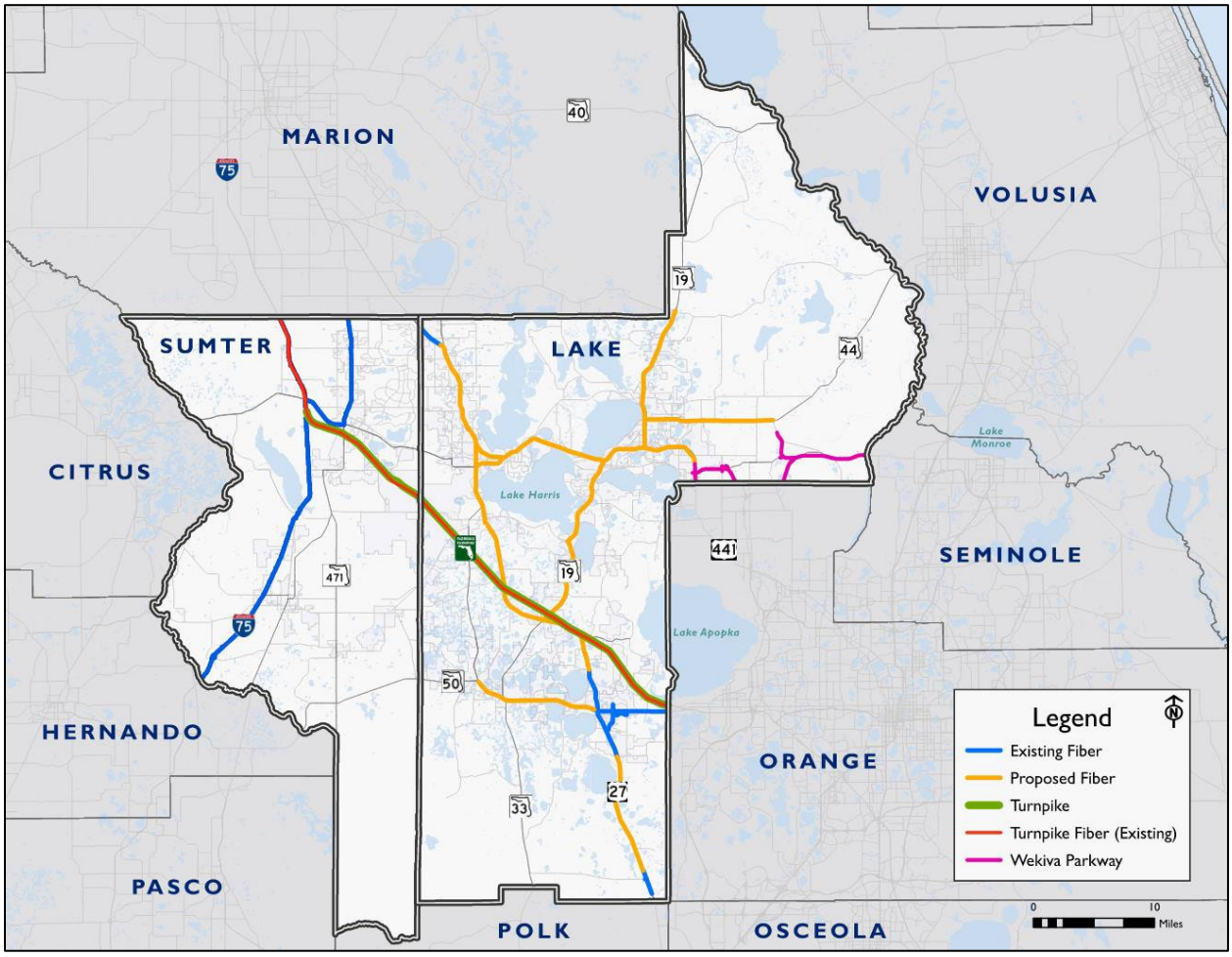
According to Florida 511 live traffic cameras (Florida Traffic Cameras | View Live Florida Traffic Cameras | FL511), there are 56 CCTV locations within Lake County located along SR 429, Florida's Turnpike Enterprise, SR 453, and at the intersection of SR 46 with US 441. Sumter County has 68 CCTV locations which are mostly located along I-75 and the Turnpike. Additionally, there is a location at the intersection of US 301 at CR 466 close to The Villages.

Some other ITS devices that can be found within the MPO planning area include:

- Dynamic Message Signs (DMS) – which provide travel time information as well as other important notices for travelers. There are currently sixteen (16) DMS signs within the MPO boundary.
- Non-Motorized Traffic Monitoring Sites – to collect bicycle and pedestrian volume data along multiuse paths and trails. (Non-Motorized Traffic Monitoring Program Data Dashboard)
    - There are currently two sites within Lake County, one along the Wekiva Trail and one on the South Lake Trail; and nine (9) planned sites.
    - There is one upcoming site within Sumter County on the Van Fleet State Trail at Mavel Trailhead.
- Truck Parking Availability Systems (TPAS) along I-75 near mile marker (MM) 306.3/307.

These technologies are core components of TSM&O strategies, supporting real-time data exchange, managing congestion, improving safety, and enhancing traffic flow. Evaluating the existing fiber optic network and CCTV coverage helps identify potential service gaps within the planning area. **Figure 3** maps the locations of existing fiber optic infrastructure in Lake County and Sumter County and helps identify areas and corridors where deficiencies may exist.

Figure 3. Fiber Optics Location & TSM&O Strategic Network



5.3 SIGNALS SYSTEM

Existing signal system maps serve as a foundation for signal coordination and optimization opportunities to enhance traffic operations. **Figure 4** shows a total of 240 signalized intersections within the Lake-Sumter MPO region, including 30 in Sumter County and 210 in Lake County. Automated Traffic Signal Performance Measures (ATSPM) offer high-resolution data that enables real-time analysis, proactive maintenance, and data-driven optimization to signal timing.

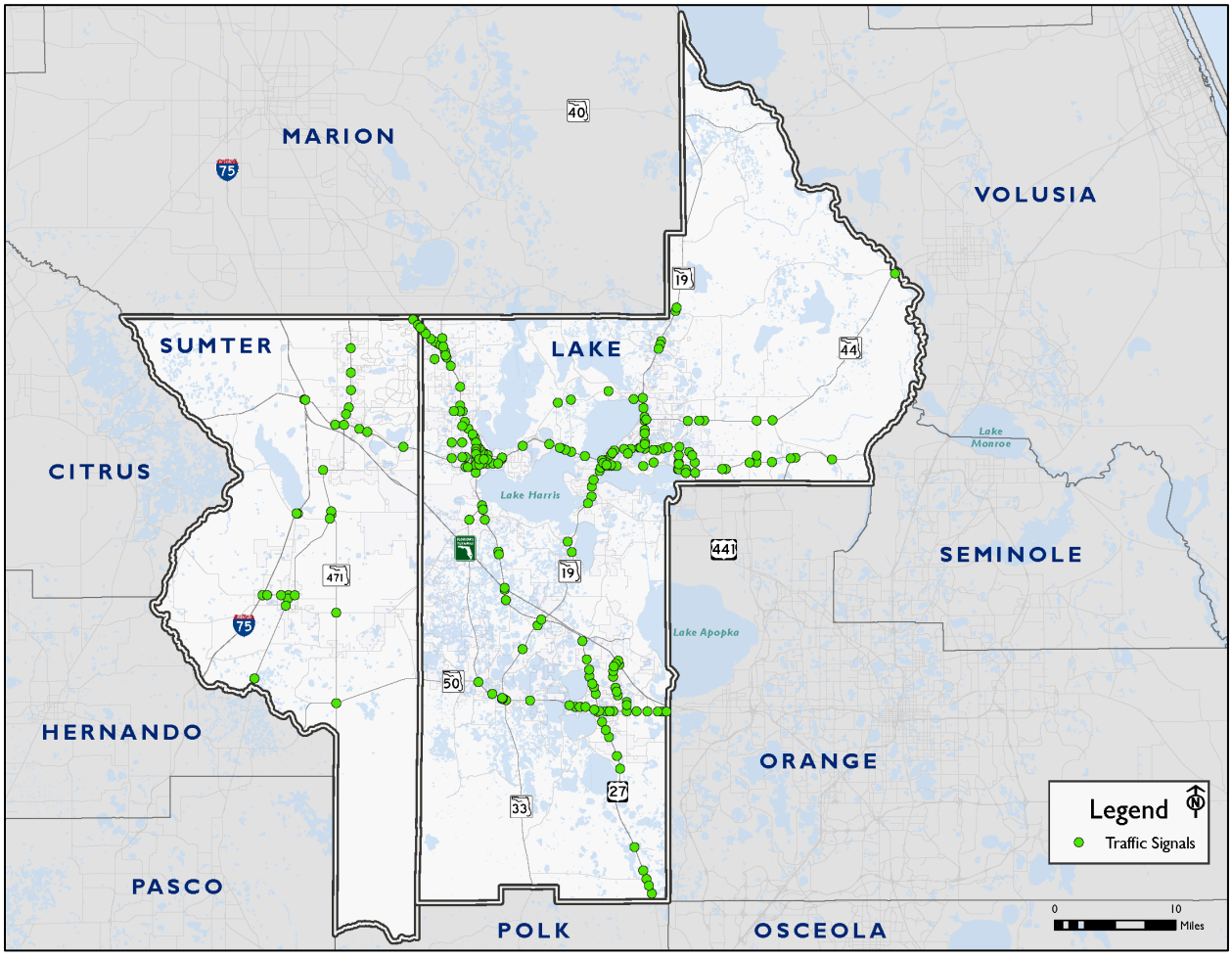
According to the FDOT District 5 NOEMI Smart Signal View application (NOEMI - Smart Signal); Lake County currently has five (5) singles along SR 50 (at Citrus Tower Road, S Greater Hills Blvd./Emil Jahna Road, CR 455 Hartlet Road, Magnolia Pointe Boulevard, and Lakes Boulevard) that are connected to the ATMS and have ATSPMs collection ability. There is also ATMS planned for US 441 at Wolfbranch Road and Palm Avenue (SR19) at Central Avenue. Of the 30 signals within Sumter County, there are also five (5) that are connected to the ATMS and have ATSPM collection capabilities, they are located along a segment of US 301 from CR 44A to SR 44. The same five intersections are also planned to deploy CAV RSUs.

As Lake-Sumter MPO promotes Connected Vehicle (CV) systems, the effective management and deployment of TSM&O strategies play a critical role in supporting this initiative. Connected Vehicle systems use technologies such as wireless communications, Signal Phase and Timing (SPaT), RSUs, OBUs, signal priorities, emergency vehicle preemption, vehicle sensors, and GPS navigation to improve overall network connectivity and performance. The signals map helps identify locations suitable for CV infrastructure. Integrating ITS technologies of CCTV and fiber optics into signal network supports MPO's goals for smart city planning and CV readiness. They provide the foundation for the safe, coordinated, and efficient integration of CV systems into the regional transportation network.

In addition to the planned deployment of CAV RSUs in Sumter County, there is also a Lake County CV smart Signal and VZERO project (CAV Deployments) that will deploy CV RSUs and smart/advanced traffic signal equipment at 10 signalized intersections along SR 50, likely overlapping with current fiber and ATMS connections.

As transportation demands continue to grow in the Lake-Sumter region, strategic investment in these TSM&O technologies is essential to create a safe, efficient, and resilient mobility system. Aligning TSM&O strategies with advanced technologies, Lake-Sumter MPO can ensure a coordinated and forward-thinking approach to future mobility needs and challenges.

Figure 4. Signalized Intersections



5.4 Public Transit

TSM&O strategies improve transit operation by enhancing efficiency, reliability, and safety. Traffic signal coordination, including Transit Signal Priority, prioritizes transit at signalized intersections to reduce delays and transit travel times. Traveler information systems provide real-time transit information to riders, allowing them to make informed decisions. Overall, TSM&O optimizes transit operations and improves passenger experience by reducing transit travel time, while making it more reliable and more convenient.

Lake County

LakeXpress is a public fixed-route transit system that provides scheduled bus services along designated routes and bus stops throughout Lake County. Operated by the Lake County Office of Transit Services, the system currently runs nine (9) fixed routes that connect key cities and communities. Operating Monday through Friday, LakeXpress offers reliable access to employment, services, and regional transit connections. Furthermore, the County provides on-demand services, such as shared rides, door-to-door, and pre-scheduled paratransit services for eligible users through the Lake County Connection program. By improving mobility and enhancing connectivity, the system supports accessibility for non-motorized users.

Sumter County
In coordination with the Sumter County Board of County Commissioners and the Florida Department of Transportation, Sumter County Transit operates scheduled shuttle routes, designed to be flexible by allowing deviations up to three-quarters of a mile to accommodate passenger needs. This flexibility improves accessibility for riders with limited mobility and those living in areas without nearby transit access.

At this time, it appears there is no existing Transit Signal Priority (TSP) deployed within the LSMPO planning area, and there is no information on any planned deployments.

6. STAKEHOLDERS COORDINATION

TSM&O projects are identified and prioritized by stakeholders through a coordinated review of regional safety, traffic, and transit needs. The planning process involves close coordination with LSMPO Governing Board, Community Advisory Committee (CAC), Technical Advisory Committee (TAC), along with active engagement with FDOT, County, and Municipal Partners. While the stakeholder feedback process is still in progress, there are several valuable resources available to support public engagement and informed participation, including interactive maps and a Needs Assessment Public Survey Form designed to gather stakeholder input and incorporate it into solution-oriented TSM&O/ITS strategies. The available resources are hosted by the LSMPO at the following web links:

LSMPO 2050 LRTP Portal

LSMPO 2050 LRTP Update - Needs Assessment Public Survey

Table 2 summarizes the key stakeholders at the state, county, and city levels, with their respective points of contact for TSM&O coordination.

Table 2. Stakeholder Point of Contact Information

Stakeholder	Point of Contact
FDOT District 5	Jeremy Dilmore, TSM&O Engineer Phone: 386-943-5360 Email: Jeremy.Dilmore@dot.state.fl.us Tushar Patel, Production Manager Phone:386-943-5315 Email: Tushar.Patel@dot.state.fl.us
Lake County	Jeff Earhart Email: jeff.earhart@lakecountyfl.gov
Lake County Engineering Division	Phone: 352-253-6000 Email: cr_engineering@lakecountyfl.gov
Sumter County Public Works	Michael Bryant, Assistant Public Works Director of Operations Phone: 352-689-4400
Lake-Sumter MPO	Michael F. Woods, Executive Director Phone: 352-315-0170, ext. 2 Email: Michael.Woods@LakeSumterMPO.com

Table 2. Stakeholder Point of Contact Information (Continued)

Stakeholder	Point of Contact
Florida's Turnpike Enterprise (FTE)	Stephanie Sharp, P.E., Program Management Administrator Phone: 407-264-3038 Email: stephanie.sharp@dot.state.fl.us Pompano Florida's Turnpike Enterprise John Easterling, Traffic Operations Engineer Phone: 954-934-1620 Email: John.Easterling@dot.state.fl.us
Central Florida Expressway Authority (CFX)	Bryan Homayouni, P.E., Director of Intelligent Transportation Sys. Phone: 407-690-5333 Email: Bryan.Homayouni@cfxway.com Aaron Johnson, P.E., CFX Engineering Project Manager Email: Aaron.Johnson@CFXWay.com
Municipality	**Point of Contact**
City of Clermont	James Maiworm, Assistant Director Public Services Phone: 352-241-0178 Email: jmaiworm@clermontfl.org
City of Fruitland Park	Rob Dicus, Public Works Director Phone: 352-360-6795
City of Groveland	T.J. Fish, Director of Transportation and Public Works Phone: 352-429-2141 Email: publicworks@groveland-fl.gov
City of Lady Lake	C.T. Eagle, Public Works Director Phone: 352-751-1526 Email: cteagle@ladylake.org
City of Leesburg	Leesburg Public Works Department Phone: 352-435-9442
City of Mount Dora	Mark Decosta, Public Works Supervisor Phone: 352-735-7151 Email: decostam@cityofmountdora.com
City of Tavares	Brian Moore Email: bryan.moore@tavaresfl.gov
City of Wildwood	Jeremy Hockenbury, Public Works Dept Director Phone: 352-330-1343 Email: jhockenbury@wildwood-fl.gov Melanie Strickland, Development Services Director Phone: 352-330-1334 Email: dsdinfo@wildwood-fl.gov
City of Bushnell	Morgan Wilson, Assistant City Manager Email: mwilson@cityofbushnellfl.com

7. PERFORMANCE MEASURES AND REPORTING

Performance measurements are fundamental and critical for Federal, State, and local agencies to assess and determine TSM&O programs effectiveness. These measures help determine whether TSM&O strategies are effectively contributing to a safer, more reliable, and efficient transportation system. To support the evaluation, traffic data and periodic reports, such as SunGuide reports, are conducted and analyzed for performance of TSM&O implementation projects. Annually and monthly reports promote transparency and supports data-driven decision-making. **Table 3** identifies some key performance measures and the corresponding goal/objectives and TSM&O program areas.

Table 3. Performance Measure

Strategy	Performance Measure	Goals/Objectives	Reporting	Reporting Frequency
Dynamic Message Signs (DMS)	Number of messages, duration displayed	Ensure effective driver communication	DMS Usage Report	Monthly
Incident Management	Incident Detection/Clearance Time, Roadway Clearance Time, Road Ranger Response Time	Reduce incident impact and improve safety	TSM&O Summary Reports	Monthly
Traveler Information	Number of Messages and Number of Events	Improve public access to real-time traffic information through the service's website, mobile app, and social media platforms	511 Traveler Information System	-
Signal Coordination/ASCT	Travel Time Reliability, delay, number of stops	Optimize signal timing to reduce congestion	-	-
Active Arterial Management	Travel Time Reliability and Speed	Optimize traffic flow on arterial corridors, reduce delays and congestion	TSM&O Summary Reports/Travel Time Reliability Reports	Monthly
CAV On-Board Units (OBUs)	Travel Time Reliability and delay for equipped vehicles	Higher quality real-time data collection and improved traveler information		
ITS System Maintenance	Uptime/Availability of Video Wall, Detectors, CCTV, DMS, Traffic Signal & Controllers	Maximize uptime of ITS infrastructure, minimize device downtime	TSM&O Summary Reports	Monthly

8. CONCLUSION

The Lake-Sumter MPO's TSM&O and ITS Element outlines strategies that emphasize safety, reliability, and the preservation of the transportation system as fundamental priorities. These strategies fully align with the vision of a safe, efficient, and connected transportation network that enhances the region's economic vitality and quality of life. By leveraging existing ITS devices and communication networks and focusing on proactive maintenance, the MPO and its partners can make the most of limited resources.

Opportunities to integrate relevant TSM&O components into projects already programmed and funded in the LOPP will be pursued. Early coordination with agency stakeholders is essential to identify potential joint agency agreements and funding strategies that can accelerate implementation and deliver regional benefits.

Furthermore, ensuring resiliency is also critical to preservation. This includes maintaining durable physical infrastructure, strengthening network security to protect against cyber threats, and future-proofing technology so systems remain adaptable and effective as needs and standards evolve. A resilient system will help sustain safe and reliable operations during and after disruptive events, advancing the goals for a well-maintained, multimodal transportation system that serves all users.