2024 Congestion Management Process

UPWP Task 5.23

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Prepared for:

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1. Introduction

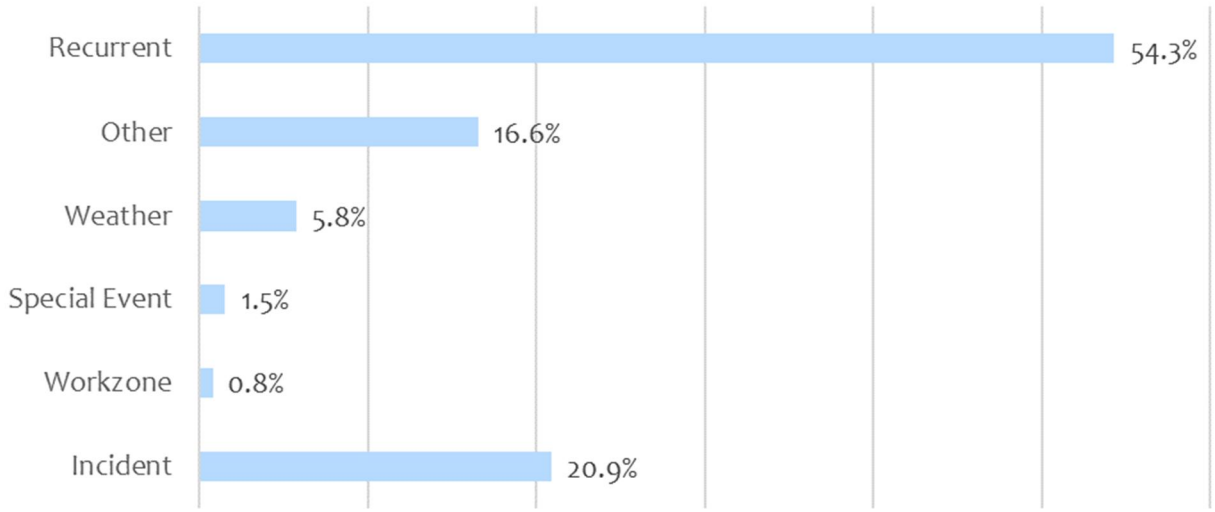
Congestion cost the average commuter in North Florida 54 hours of lost time, expenditure of 14,215 gallons of excess fuel consumption, and resulted in $1.067 billion dollars of economic loss in 2022.

Texas Transportation Institute's Urban Mobility Report, Retrieved June 15, 2024.

Congestion is not just about managing the rush hour traffic. Of the six major causes of congestion, only two are considered recurring: capacity bottlenecks and poor traffic signal timing. The remaining four do not reoccur every day: traffic crashes, weather, work zones, and special events.

The contributing percentages of these causes of delay during 2019 in North Florida (Clay, Duval, Nassau, and St. Johns counties) are summarized in Figure 1.

Figure 1. Causes of Congestion in North Florida during 2019

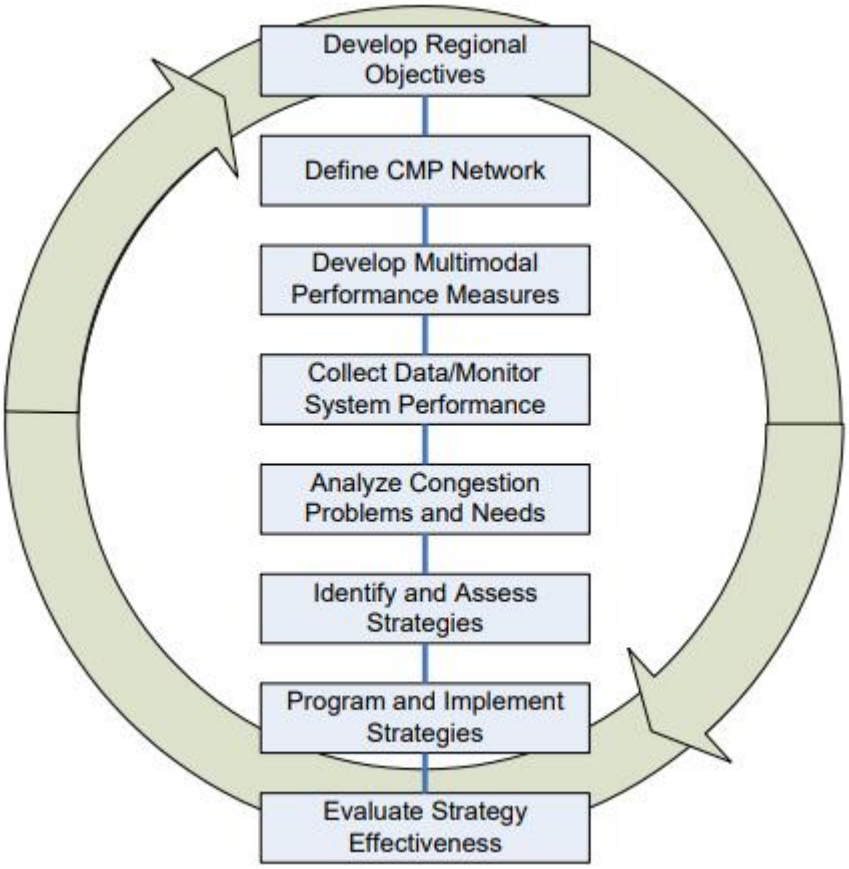


Source: Regional Integrated Transportation Information System (RITIS), 2019 Data. Retrieved 1/30/24.

A Congestion Management Process (CMP) begins by evaluating all transportation modes and corresponding activities to identify the most congested areas. Once these areas are identified, solutions are selected to help alleviate congestion levels along busy corridors. The CMP's purpose is to fund and implement strategies that help meet North Florida TPO's performance measures for reducing traffic delay and improving safety.

The Federal Highway Administration (FHWA) has an eight-step process model for congestion management shown in Figure 1.

Figure 2. FHWA Congestion Management Process Eight Step Process Model



Source: FHWA Congestion Management Process: A Guidebook. Retrieved 1/30/24.

2. Purpose

This project's purpose is to prepare a CMP. This process aligns strategies, objectives and investments within the region to ensure resources are dedicated to reducing congestion within the metropolitan area. This CMP builds on the work prepared in the 2019 CMP and related annual mobility reports provided on the North Florida TPO's performance measures website. This CMP includes

1. A review of best practices identified from across the nation and identification of innovations that can be used to enhance this continuing planning process.

2. Goals, objectives and performance measures that

    a. Are consistent with the 2050 Long Range Transportation Plan (LRTP)
    b. Are associated with performance-based benchmarks or targets
    c. Can be updated on an annual basis to reflect trends and conditions
    d. Leverage new and existing data such as probe vehicles to provide for a more robust understanding
    e. Address recurring and non-recurring congestion in the region
    f. Include economic impacts of congestion

3. Designation of congestion planning network consisting of the state highway system and local transportation network arterials

4. Identification of regional congestion spots and system bottlenecks

5. Recommended improvement strategies on a regional basis that will include rural and urban congestion issues. These strategies include lower cost, short-term improvements and system capacity improvements.

3. Review of Other CMP Documents

Five CMPs developed by other agencies were reviewed to identify lessons learned and to identify best practices for inclusion in this CMP.

- Miami-Dade TPO
- Broward TPO
- Palm Beach TPO
- MetroPlan Orlando
- Pinellas TPO

A detailed summary of the five CMPs is included in Appendix A. The major findings from this review are shown below:

- All CMPs reviewed cited the eight-step congestion management process flow chart given in the FHWA guidelines.
- All CMPs reviewed contain a map of the roadway network with highlights of the most congested segments.

- A majority of the CMPs rely on data obtained from the FDOT.
- Solutions and mitigation strategies were provided to help reduce congestion. These solutions consisted of capital improvements, operational improvements, policy initiative and transportation system management and operations (TSM&O) strategies.

4. Goals and Objectives

The goals and objectives for this report were reviewed and aligned with the 2050 LRTP. Previously adopted CMP goals and objectives were also reviewed during the planning process. The following are goals and objectives that are consistent with those adopted for the 2050 LRTP.

Objectives and policies were differentiated by the following:

- Objectives have quantifiable performance measures.
- Policies are strategies to be implemented by the TPO or partners or are not measurable.

Nine goals with corresponding objectives are summarized in Table 1.

Table 1. Goals and Objectives

Goal 1: Invest in Projects that Enhance Economic Competitiveness	
Objective 1.1	Improve travel reliability on major freight routes
Objective 1.2	Maintain adequate infrastructure conditions on primary freight corridors
Objective 1.3	Invest in infrastructure that supports growth and logistics

Goal 2: Invest in Livable and Sustainable Communities	
Objective 2.1	Enhance transit accessibility
Objective 2.2	Enhance bicycle and pedestrian quality of service throughout the region
Policy 2.3	Reduce the impacts of investments on the natural environment
Objective 2.4	Reduce emissions from automobiles
Policy 2.5	Support regional evacuation needs
Objective 2.6	Provide more trails to connect destinations throughout the region, including the completion of existing regional and local trail systems
Objective 2.7	Provide more pedestrian facilities to connect destinations throughout the region
Objective 2.8	Provide more bicycle facilities to connect destinations throughout the region

Goal 3: Encourage Safe and Secure Travel	
Objective 3.1	Reduce crashes for all modes
Objective 3.2	Promote the implementation of safety and security improvements in the design or retrofit of all transportation systems

Goal 4: Enhance Mobility and Accessibility	
Objective 4.1	Optimize the quantity of travel
Objective 4.2	Optimize the quality of travel
Objective 4.3	Optimize the utilization of the system
Policy 4.4	Deploy strategies to support First Mile/Last Mile travel options

Goal 5: Enhance Equity in Decision Making	
Policy 5.1	Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects (including social and economic effects) on minority and low-income populations
Policy 5.2	Ensure full and fair participation by all potentially affected communities in the transportation decision-making process
Policy 5.3	Prevent the denial of, reduction in, or significant delay of the receipt of benefits by minority and low-income populations

Goal 6: Preserve and Maintain our Existing System	
Objective 6.1	Maintain and update roadways to current standards
Objective 6.2	Maintain and update bridges to current standards
Objective 6.3	Maintain and update transit systems to current standards

Goal 7: Create Reliable and Resilient Multimodal Infrastructure	
Policy 7.1	Incorporate climate risk in project planning, system preservation and maintenance and determine appropriate measures to mitigate risk or repurpose threatened facilities
Policy 7.2	Support regional evacuation needs as reflected in municipal Emergency Management Plans
Policy 7.3	Address social equity in adaptation/resilience strategy implementation

Goal 8: Enhance Tourism Transport Management	
Policy 8.1	Improve and provide diverse tourism transportation options
Policy 8.2	Encourage the integration of alternative transportation into tourist activities

Goal 9: Ensure North Florida is Ready for Future Technologies that Support Transportation	
Policy 9.1	Accelerate public sector modernization in transportation
Policy 9.2	Promote clean and sustainable fuels, vehicles and infrastructure

5. Multi-modal Performance Measures

Table 2 lists the performance measures and the benchmarks associated with the goals/objectives. The performance measures are for the state highway system only.

The numbering system is provided for traceability to the goals and objectives identified in the 2050 LRTP.

Table 2. Summary of Performance Measures by Goal and Objective

Goal 1: Invest in Projects that Enhance Economic Competitiveness				
Objective/Policy		Performance Measure	Benchmark	Data Source
Objective 1.1	Improve travel reliability on major freight routes	1.1.1 The Truck Travel Time Reliability (TTTR) index compares longer travel times (95th percentile) to the normal travel time for trucks. This is expressed as a ratio.	TTTR less than 2.0 (2-Year Target: 1.75, 4-Year Target: 2.00)	The National Performance Management Research Data Set FDOT Source Book
Objective 1.2	Maintain adequate infrastructure conditions on primary freight corridors	1.2.1 Percentage of National Highway System (NHS) with pavement in poor condition*	Maintain and improve*	FDOT Source Book
Objective 1.3	Invest in infrastructure that supports growth and logistics**	1.3.1 Number of automobiles shipped	Annual monitoring of automobiles shipped	JAXPORT
		1.3.2 Number of tons shipped	Annual monitoring of tons shipped	JAXPORT and the Port of Fernandina Ocean Highway and Port Authority
		1.3.3 Number of containers shipped (20-ft Equivalency Units [TEU])	Annual monitoring of containers shipped	JAXPORT and Ocean Highway and Port Authority
		1.3.4 Air cargo shipped (1,000 lbs. loaded weight)	Annual monitoring of air cargo shipped	Jacksonville Aviation Authority (JAA)
*See objective 6.1 and 6.2 below for performances measure and benchmarks				
**Included in Regional Freight Plan				

Goal 2: Invest in Livable and Sustainable Communities				
Objective/Policy		Performance Measure	Benchmark	Data Source
Objective 2.1	Enhance transit accessibility	2.1.2 Use of park-and-ride lots	Maintain or increase the number of park and ride lots	JTA
Objective 2.2	Enhance bicycle and pedestrian quality of service throughout the region	2.2.1 Create a network of connected bicycle and pedestrian facilities	Miles of context appropriate bicycle and pedestrian facilities.	FDOT D2 Bicycle/Pedestrian Coverage MapFDOT D2 Bicycle/Pedestrian LTS
		2.2.2 Maintain or reduce pedestrian and bicycle (Level of Traffic Stress)	Pedestrian and bicycle LTS	FDOT D2 Bicycle/Pedestrian LTS
Policy 2.3	Reduce the impacts of investments on the natural environment	2.3.1 Environmental screening and mitigation	Apply Efficient Transportation Decision Making (ETDM) Process to all projects in LRTP	ETDM Manual
Objective 2.4	Reduce emissions from automobiles	2.4.1 Carbon dioxide, nitrous oxides, and volatile organic compound emissions due to reduced delay (tailpipe emissions)	Maintain or reduce emissions from vehicles caused by travel delays and vehicle-miles traveled in the evaluation of projects/scenarios	Clean Cities and Communities: North Florida Clean Fuels Coalition FDOT Annual Report of Daily VMT on the State Highway System Congestion Management and Air Quality (CMAQ) Toolkkit
		2.4.2 Emissions due to promoting alternative fuels (tailpipe emissions)	Maintain or reduce emissions by expanding the market share of alternative fuel vehicles	Clean Cities and Communities: North Florida Clean Fuels Coalition

Goal 2: Invest in Livable and Sustainable Communities				
Objective/Policy		Performance Measure	Benchmark	Data Source
Policy 2.5	Support regional evacuation needs	2.5.1 Projects that improve evacuation routes	Evaluation of projects	Florida Department of Emergency Management Disaster Preparedness Maps
Objective 2.6	Provide more trails to connect destinations throughout the region, including the completion of existing regional and local trail systems	2.6.1 Miles of multi-use trails that connect destinations	Maintain and increase the miles of multi-use trails	Northeast Florida Regional Multi-Use Trail Master Plan, 2019
Objective 2.7	Provide more pedestrian facilities to connect destinations throughout the region	2.7.1 Total sidewalk mileage	Maintain and increase the total miles of sidewalks	FDOT Source Book
Objective 2.8	Provide more bicycle facilities to connect destinations throughout the region	2.8.1 Total bicycle network mileage	Maintain and increase the total miles of bicycle facilities	FDOT Source Book

Goal 3: Encourage Safe and Secure Travel				
Objective/Policy		Performance Measure	Benchmark	Data Source
Objective 3.1	Reduce crashes for all modes	3.1.1 Number of vehicle fatalities	Reduce the number of fatalities to zero	Florida Highway Safety and Motor Vehicles
		3.1.2 Number of serious injuries	Reduce the number of serious injuries to zero	Florida Highway Safety and Motor Vehicles
		3.1.3 The fatality rate (fatalities per 100 million vehicle miles)	Reduce the fatality rate to zero	Florida Highway Safety and Motor Vehicles and VMT per FDOT Sourcebook

Goal 3: Encourage Safe and Secure Travel				
Objective/Policy		Performance Measure	Benchmark	Data Source
		3.1.4 Reduce the serious injury rate (serious injuries per 100 million vehicle miles)	Reduce the serious injury rate to zero	Florida Highway Safety and Motor Vehicles and VMT per FDOT Sourcebook
		3.1.5 Number of non-motorized fatalities and non-motorized serious injuries	Reduce the total number of non-motorized fatalities and serious injuries on the transportation network to zero.	Florida Highway Safety and Motor Vehicles
Policy 3.2	Promote the implementation of safety and security improvements in the design or retrofit of all transportation systems	3.2.1 Implemented safety countermeasures on high crash corridors identified in the Regional Strategic Safety Plan	Reported in the Regional Strategic Safety Plan	FDOT Target Zero Countermeasures

Goal 4: Enhance Mobility and Accessibility				
Objective/Policy		Performance Measure	Benchmark	Data Source
Objective 4.1	Optimize the quantity of travel	4.1.1 Vehicle-miles traveled	Increase in vehicle occupancy	FDOT Source Book
		4.1.2 Person-miles traveled	Increase in vehicle occupancy	FDOT Source Book
		4.1.3 Truck-miles traveled	Increase in vehicle occupancy	FDOT Source Book
		4.1.4 Vehicle Occupancy	Annual monitoring	FDOT Source Book
		4.1.5 Air Travel Passengers	Increase air travel passengers	JAA
		4.1.6 Transit Ridership	Increase transit ridership	JTA
Objective 4.2	Optimize the quality of travel	4.2.1 Average Vehicle Delay	Maintain or reduce the average vehicle delay	FDOT Source Book
		4.2.2 Average Commute Time	Maintain or reduce the average commute time	US Census Journey to Work

Goal 4: Enhance Mobility and Accessibility				
Objective/Policy		Performance Measure	Benchmark	Data Source
		4.2.3 Interstate Level of Travel Time Reliability - Percent of person-miles traveled on the Interstate that are reliable	Maintain or improve the Interstate Level of Travel Time Reliability of 70%. This figure will be revisited every 4 years	FDOT Source Book
		4.2.4 Non-Interstate Level of Travel Time Reliability - Percent of person-miles traveled on non-Interstate roads that are reliable	Maintain or improve the Non-Interstate Level of Travel Time Reliability of 50%. This figure will be revisited every 4 years	FDOT Source Book
		4.2.5 Level of service	Maintain the level of service standard (FDOT standard for Strategic Intermodal System facilities and local government standards for other facilities)	FDOT D2 LOS Report
		4.2.6 Percent of population within quarter mile of a transit route	Increase the percent of population within quarter mile of a transit route	JTA
Objective 4.3	Optimize the utilization of the system	4.3.1 Percent of system heavily congested	Maintain or reduce the percentage of miles congested by adding capacity for people vs cars	FDOT Source Book
		4.3.2 Duration of congestion	Maintain or reduce the duration of congestion	FDOT Source Book
Policy 4.4*	Deploy strategies to support First Mile/Last Mile travel options	4.4.1 Complete first mile/last mile plan	-	-
*No defined benchmark				

Goal 5: Enhance Equity in Decision Making				
Objective/Policy		Performance Measure	Benchmark	Data Source
Policy 5.1*	Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects (including social and economic effects) on minority and low-income populations	Consider as part of each project	-	-
Policy 5.2	Ensure full and fair participation by all potentially affected communities in the transportation decision-making process	5.2.1 Adherence to the Public Involvement Plan	-	-
Policy 5.3	Prevent the denial of, reduction in, or significant delay of the receipt of benefits by minority and low-income populations	5.3.1 Number of projects in low-income and minority census tracts	Evaluation of projects	-
*No quantifiable performance measure				

Goal 6: Preserve and Maintain our Existing System				
Objective/Policy		Performance Measure	Benchmark	Data Source
Objective 6.1	Maintain and update roadways to current standards	6.1.1 Percent of Interstate Pavement in Good Condition	Maintain or improve pavement in good condition to be greater than 60%	FDOT Source Book
		6.1.2 Percent of Interstate Pavement in Poor Condition	Maintain or reduce the percent of pavement in poor	FDOT Source Book

Goal 6: Preserve and Maintain our Existing System				
Objective/Policy		Performance Measure	Benchmark	Data Source
			condition to be less than 5%	
		6.1.3 Percent of Non-Interstate NHS Pavement in Good Condition	Maintain or improve pavement in good condition to be greater than 40%	FDOT Source Book
		6.1.4 Percent of Non-Interstate NHS Pavement in Poor Condition	Maintain or reduce the percent of pavement in poor condition to be less than 5%	FDOT Source Book
Objective 6.2	Maintain and update bridges to current standards	6.2.1 Percent of National Highway System Bridges in Good Condition	Maintain or increase the number of bridges in good condition to be greater than 50%	FDOT Source Book
		6.2.2 Percent of National Highway System Bridges in Poor Condition	Maintain or reduce the number of bridges in poor condition to be less than 10%	FDOT Source Book
Objective 6.3	Maintain and update transit systems to current standards	6.3.1 Average Age of Rolling Stock*	Maintain or reduce the average of rolling stock	National Transit Database
		6.3.2 Average age of equipment*	Maintain or reduce the average of equipment	National Transit Database
		6.3.3 Conditions of transit facilities*	Maintain or improve the condition of transit facilities	National Transit Database
		6.3.4 Conditions of transit infrastructure*	Maintain or improve the condition of transit infrastructure	National Transit Database

*Additional detail on these measures is provided in the FHWA PM-3 and Annual Mobility Report.

Goal 7: Create Reliable and Resilient Multimodal Infrastructure				
Objective/Policy		Performance Measure	Benchmark	Data Source
Policy 7.1	Incorporate climate risk in project planning, system preservation and maintenance and determine appropriate measures to mitigate risk or repurpose threatened facilities	7.1.1 Consideration for vulnerable, at-risk facilities	Evaluation of projects/scenarios	FDOT Resilience Action Plan
Policy 7.2	Support regional evacuation needs as reflected in municipal Emergency Management Plans	7.2.1 Number of projects on an evacuation route	Evaluation of projects/scenarios	State Emergency Response Team: Disaster Preparedness Maps
Policy 7.3	Address social equity in adaptation/resilience strategy implementation.	7.3.1 Number of projects in low-income Census tracts	Evaluation of projects/scenarios	2020 Census

Goal 8: Enhance Tourism Transport Management				
Objective/Policy		Performance Measure	Benchmark	Data Source
Policy 8.1	Improve and provide diverse tourism transportation options	8.1.1 Number of projects in high tourism areas: St. Augustine, Fernandina Beach, Jacksonville Beaches, Downtown Jacksonville	Evaluation of projects/scenarios	-
		8.1.2 Support cruise line ridership	Number of cruise passengers	JAXPORT
Policy 8.2	Encourage the integration of alternative transportation into tourist activities	8.2.1 County comprehensive plans include alternative transportation for tourists	-	-

Goal 9: Ensure North Florida is Ready for Future Technologies that Support Transportation				
Objective/Policy		Performance Measure	Benchmark	Data Source
Policy 9.1	Accelerate public sector modernization in transportation	9.1.1 Engage public sector partners to deploy technologies to modernize process, improve efficiency, and find innovative solutions to transportation issues	-	-
		9.1.2 Use emerging transportation data to better plan and respond to transportation issues	-	-
Policy 9.2	Promote clean and sustainable fuels, vehicles and infrastructure	9.2.1 Reduce petroleum consumption by increasing alternative fuels, vehicles and infrastructure diversity in North Florida	-	-
		9.2.2 Collaborate with community organizations, non-profits, local governments, utilities, and private sector stakeholders to implement alternative fuel programs and initiatives that prioritize equity and inclusivity	-	-

Source: 2050 Path Forward LRTP, Draft Goals and Objectives.

6. CMP Network

The North Florida TPO planning boundaries include all of Clay, Duval, Nassau, and St. Johns counties. The boundaries for these four counties are shown in Figure 3. This area spans approximately 3,000 square miles and includes 14 municipalities.

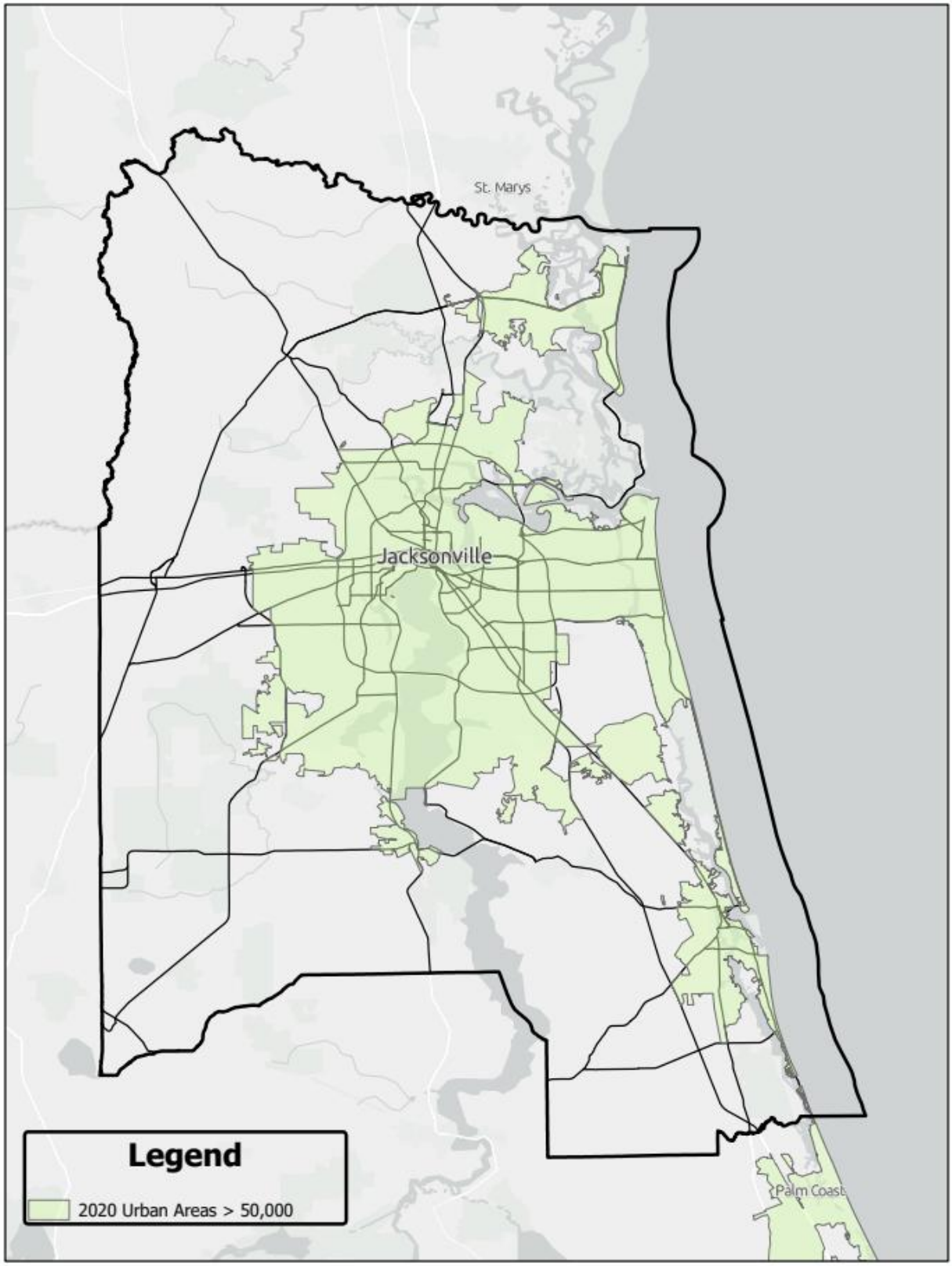
6.1 Roadway Network

The FDOT functional classification system is used to categorize the roadway network used. The categories include principal arterials, minor arterials and major collectors.

6.2 Bicyclist and Pedestrian Network

In 2020, FDOT launched ConnectPed to the public. This resource shows pedestrian and bicycle related data on a map showing where the facilities are located as well as how the facilities connect to one another. The ConnectPed resource can be found at www.fdot.gov/connectped

Figure 3. North Florida TPO Boundary



Source: Kimley-Horn. Retrieved 5/30/24.

7. Performance Measure Trends

The following performance measure trends are tracked over five years where available.

Goal 1: Economic Competitiveness

Truck Travel Time Reliability (TTTR) – Objective 1.1

Travel time reliability was obtained from the NPMRDS, AADT from Highway Performance Monitoring System (HPMS), and occupancy factors provided by the FHWA.

Freight movement is assessed by TTTR. This ratio divides the 95th percentile time by the normal time (50th percentile) for each segment. The goal is to maintain a TTTR ratio of under 2.0. For the North Florida TPO, the observed TTTR from 2019 through 2023 was 1.64, 1.34, 1.39, 1.49, and 1.53. Table 3 shows the TTTR on major freight corridors within the TPO boundary. The critical value is the worst performing segment along the corridor and the corridor values are weighted by the total corridor length.

Table 3. Truck Travel Time Reliability

Facility	Direction	Critical Segment	Critical Period	Critical Value	Corridor
I-10	Eastbound	I-295 to Stockton Street	Weekday 6 -10 a.m.	2.11	2.11
I-10	Westbound	Stockton Street to I-295	Weekday 4 – 8 p.m.	1.32	1.32
I-295 East Beltway	Northbound	I-95 to SR-152 (Baymeadows Road)	Weekday 4 – 8 p.m.	2.78	1.86
I-295 East Beltway	Southbound	SR-152 (Baymeadows Road) to I-95	Weekday 4 – 8 p.m.	6.76	2.92
I-295 West Beltway	Northbound	Commonwealth Avenue to Pritchard Road	All Days 8 a.m. -6 p.m.	1.62	1.22
I-295 West Beltway	Southbound	I-10 to SR-228 (Normandy Boulevard)	Weekday 4 – 8 p.m.	2.53	1.55
I-95	Northbound	North of Old St. Augustine Road to I-295	Weekday 6 - 10 a.m.	2.61	2.04
I-95	Southbound	SR-111 (Edgewood Avenue) to SR-115 (Lem Turner Road)	Weekday 6 - 9 a.m.	2.86	1.7
SR-200 (Buccaneer Trail)	Eastbound	Amelia Island Pkwy to Sadler Road	Weekday 6 - 10 a.m.	1.63	1.48
SR-200 (Buccaneer Trail)	Westbound	Chester River Road to I-95	Weekday 4 – 8 p.m.	2.24	1.83

Facility	Direction	Critical Segment	Critical Period	Critical Value	Corridor
US 1 (Philips Highway)	Northbound	SR-202 (JT Butler Boulevard) to University Boulevard	All Days 8 a.m. -6 p.m.	2.31	1.68
US 1 (Philips Highway)	Southbound	Chester River Road to I-95	Weekday 4 – 8 p.m.	2.24	1.53
US 17	Northbound	SR-134 (Timuquana Road) to San Juan Avenue	All Days 8 a.m. -6 p.m.	2.05	1.54
US 17	Southbound	SR-134 (Timuquana Road) to Collins Road	Weekday 4 – 8 p.m.	3.05	1.73

Source: NPMRDS. Retrieved 1/30/24.

Primary Freight Corridors with Poor Pavement – Objective 1.2

Pavement condition within the study area is evaluated by the FDOT. The areas reviewed include major roads such as interstates and highways with U.S. or state road numbers. FDOT standard for acceptable pavement is set at the 80% mark on the SHS. According to data from the FDOT state materials office, a pavement condition survey program showed that for 2023, 72.7% of SHS pavement in District 2 was meeting FDOT standards. The North Florida TPO area has data from as recent as 2023. For 2023, the percentage of interstate pavement in poor condition was 0.5% which is higher than the previous year. The percentage of non-interstate NHS pavement in poor condition was 1.4% which was about the same as the previous year. Table 4 summarizes the data for the North Florida TPO.

Table 4. 2019 - 2023 North Florida TPO Pavement Condition

Year	Road Type	% of Interstate pavements in			% of Interstate lane miles with missing Data	% of Interstate lane miles with invalid Data
		Good	Fair	Poor		
2019	Interstate NHS	47.0%	52.6%	0.4%	2.3%	0.5%
	Non-Interstate NHS	31.0%	68.3%	0.6%	0.8%	3.0%
2020	Interstate NHS	49.4%	50.0%	0.6%	0.0%	0.2%
	Non-Interstate NHS	-	-	-	-	-
2021	Interstate NHS	49.6%	50.1%	0.3%	0.0%	0.5%
	Non-Interstate NHS	42.1%	56.3%	1.6%	0.0%	1.2%

Year	Road Type	% of Interstate pavements in			% of Interstate lane miles with missing Data	% of Interstate lane miles with invalid Data
		Good	Fair	Poor		
2022	Interstate NHS	58.4%	41.4%	0.2%	0.0%	0.0%
	Non-Interstate NHS	42.1%	56.3%	1.6%	0.0%	1.2%
2023	Interstate NHS	53.3%	46.2%	0.5%	0.3%	0.7%
	Non-Interstate NHS	42.0%	56.7%	1.4%	0.0%	1.1%

Source: FDOT Source Book (PM2 – Pavement). Retrieved 9/1/24.

Infrastructure that Supports Growth and Logistics – Objective 1.3

JAXPORT is maintaining its position as the primary container port in Florida and one of the top 10 in the nation. The following table highlights the benchmarks in 2022 for growth and logistics.

Table 5. 2022 Growth and Logistics Data

Type	2022 Data
Automobiles shipped	0.5 Million
Tons Shipped	10.7 Million
Containers Shipped (20-ft Equivalency Units [TEU])	1.3 Million TEU
Air Cargo Shipped	592 Million Pounds

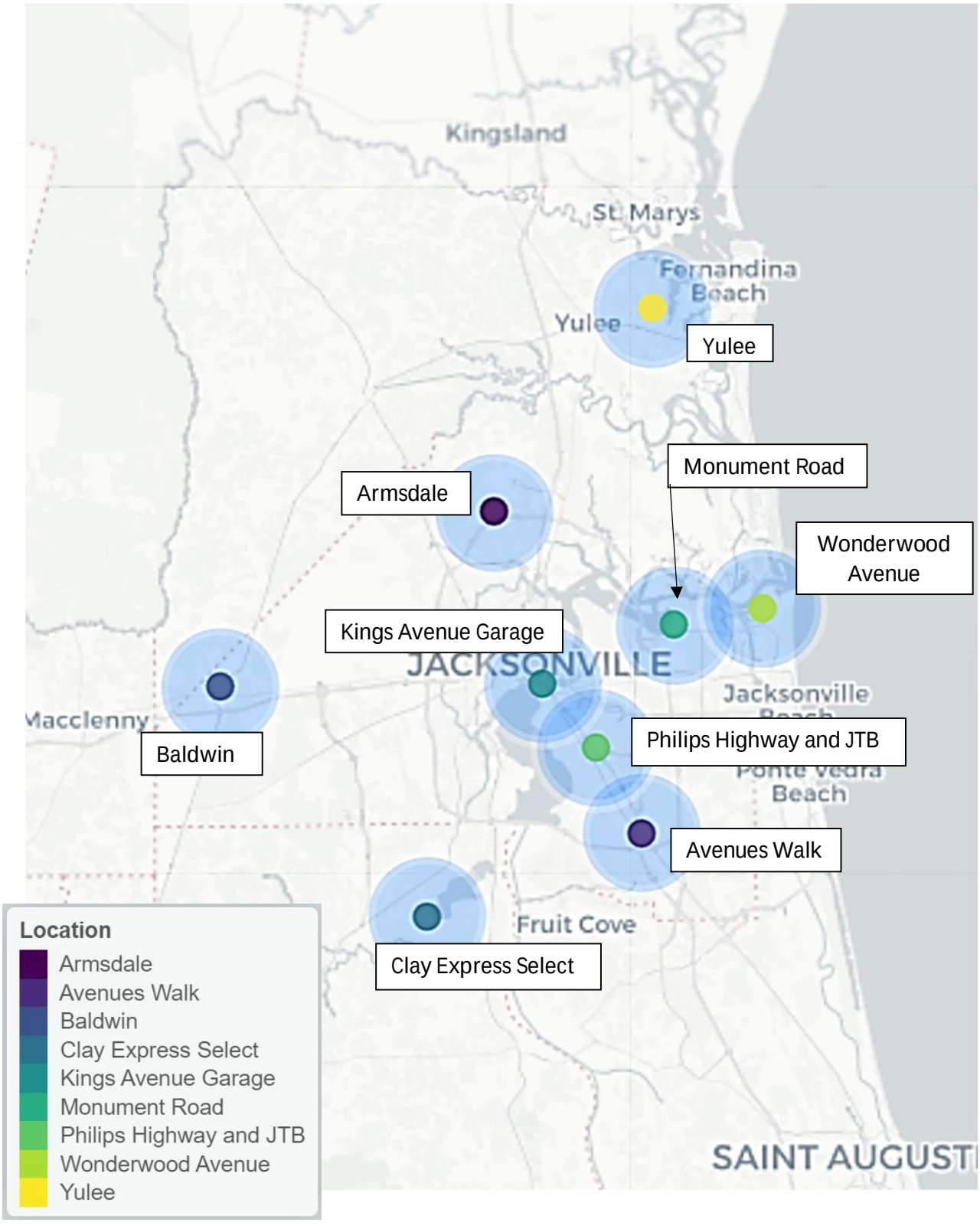
Source: JAXPORT and JAA Retrieved 9/1/24.

Goal 2: Livable and Sustainable Communities

Transit Accessibility: Park-and-Ride Usership – Objective 2.1

Park-and-ride lots are placed throughout the North Florida TPO area. The Jacksonville Transportation Authority (JTA) lists nine different park-and -ride lots: Armsdale, Avenues Walk, Baldwin, Clay Express Select, Kings Avenue Garage, Monument Road, Philips Highway and JTB, Wonderwood Avenue, and Yulee. A total of 56.5% of the population is within 5 miles of a park-and-ride lot. Figure 4 shows the JTA park-and-ride locations. https://www.jtafla.com/ride-jta/how-to-ride/park-n-ride/

Figure 4. JTA Park-and-Ride Locations



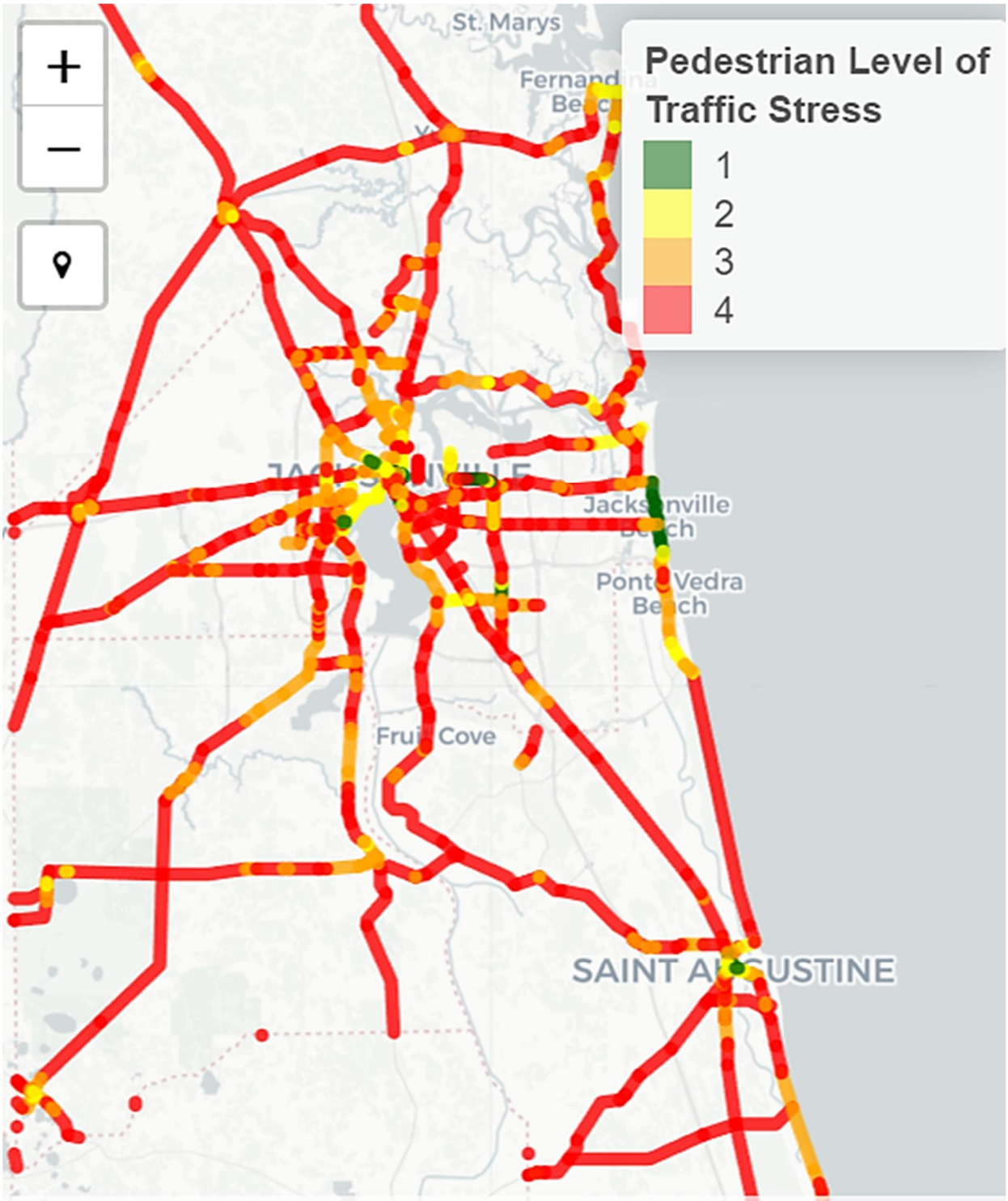
Source: Jacksonville Transportation Authority. Retrieved 6/30/24.

Bicyclist and Pedestrian Quality of Service – Objective 2.2

The quality of service determines how satisfied travelers are with a particular facility or service. Factors that affect the comfort of pedestrians and bicyclists range from pavement condition, heavy vehicle presence, facilities at intersections, etc. The FDOT Multimodal Quality/Level of Service Handbook published in 2023 shows a flow chart for both pedestrian and bicycle level of traffic stresses. The handbook can be found here: https://www.fdot.gov/planning/systems/systems-management/systems-management-documents .

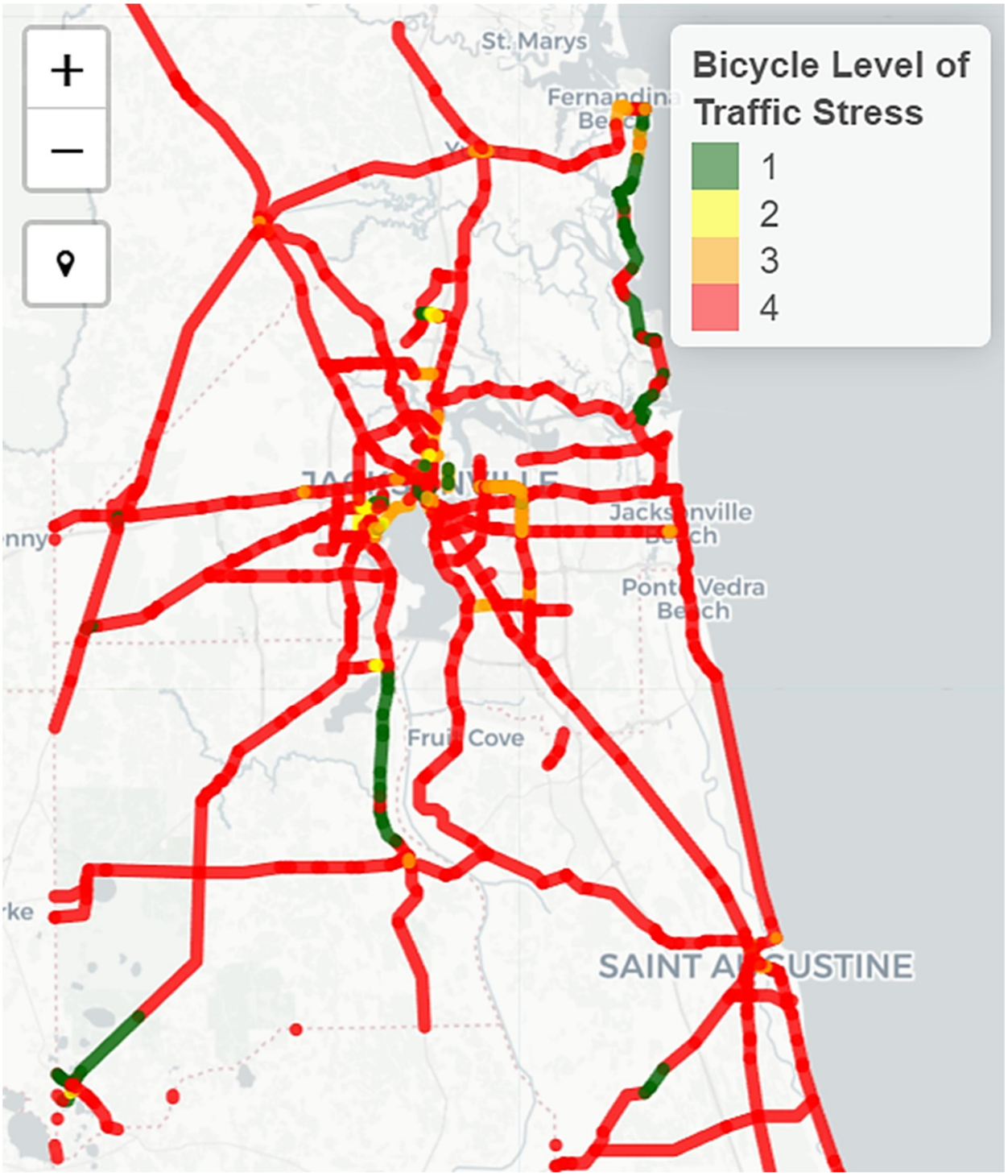
A bicycle/pedestrian level of traffic stress tool is available here: https://fdot-d2-los-pedbike.hdrgateway.com. The level of traffic stress for pedestrian and bicycle facilities is shown in Figure 5 and Figure 6.

Figure 5. Pedestrian Level of Traffic Stress



Source: FDOT District 2 Bicycle/Pedestrian LTS. Retrieved 6/30/24.

Figure 6. Bicycle Level of Traffic Stress



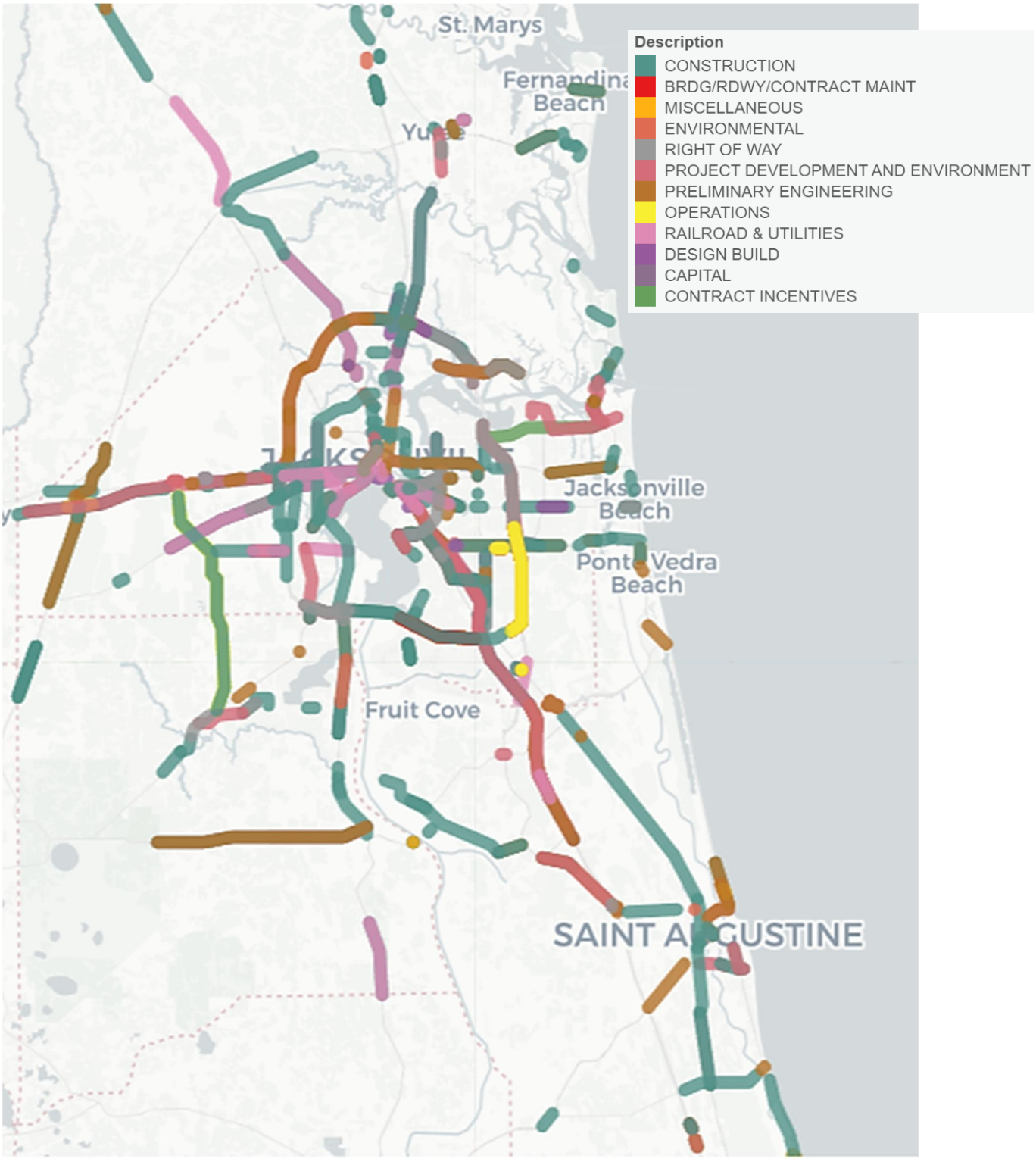
Source: FDOT District 2 Bicycle/Pedestrian LTS. Retrieved 6/30/24

Impacts of Investments on the Natural Environment – Policy 2.3

Florida's Efficient Transportation Decision Making (ETDM) process is a procedure used to consider the potential for environmental impacts in transportation planning and project design. The ETDM process addresses the need for environmental coordination as part of the TPO's planning process including the LRTP. The ETDM process involves coordination with federal, state, and local government permitting agencies. Additional information is available on FDOT's webpage at https://www.fdot.gov/environment/pubs/etdm/etdmmanual.shtm.

Figure 7 is a map of the projects that are currently active in the ETDM process by type. Appendix C lists the projects.

Figure 7. ETDM Projects



Source: FDOT Environmental Screening Tool. Retrieved 6/30/24.

Emissions – Objective 2.4

Common air pollutants from transportation modes that negatively affect humans are sulfur oxides, nitrogen oxides, and fine particulate matter. The FDOT is working on alternative vehicle types to help reduce the amount of emissions present. Travel delay reduction can also help alleviate emissions. The cost of emissions is related to the amount of congestion, as congestion increases vehicle delay.

The U.S. Department of Transportation (USDOT) lists the damage costs for emissions per metric ton within the Benefit-Cost Analysis Guidance for Discretionary Grant Programs. To calculate the total damage costs of these emissions, the emission factor per vehicle miles traveled was taken from the United States Environmental Protection Agency, and this number was applied to the total vehicle miles traveled within the North Florida TPO region. The emissions per mile is estimated to be:

$$3.91 \times 10^{-4}\ metric\ tons \frac{CO_2}{mile}$$

Source: United State Environmental Protection Agency Greenhouse Gases Equivalencies Calculator – Calculations and References. Retrieved 1/30/24.

The emissions factors displayed in this report also account for electric vehicles.

FDOT estimated there were 32.346 million daily vehicle miles traveled on the state highway system in 2022. Based on this and the emissions factor, a total of 18,418 metric tons of CO_2 was emitted during 2022 within the North Florida TPO region. Table 6 shows the total estimated future damage costs of CO_2 emissions using the 2022 VMT data.

Table 6. Future Damage Costs of CO_2 Emissions on State Highway System

Year	CO2 (Damage Cost/Metric Ton)	Emission (Metric Tons CO2/mile)	VMT (2022)	Metric Tons CO2	Total Damage Costs (millions of $)
2023	$228	3.91 x 10-4	32.546	12,647	$2.884
2024	$233				$2.947
2025	$237				$2.997
2026	$241				$3.048

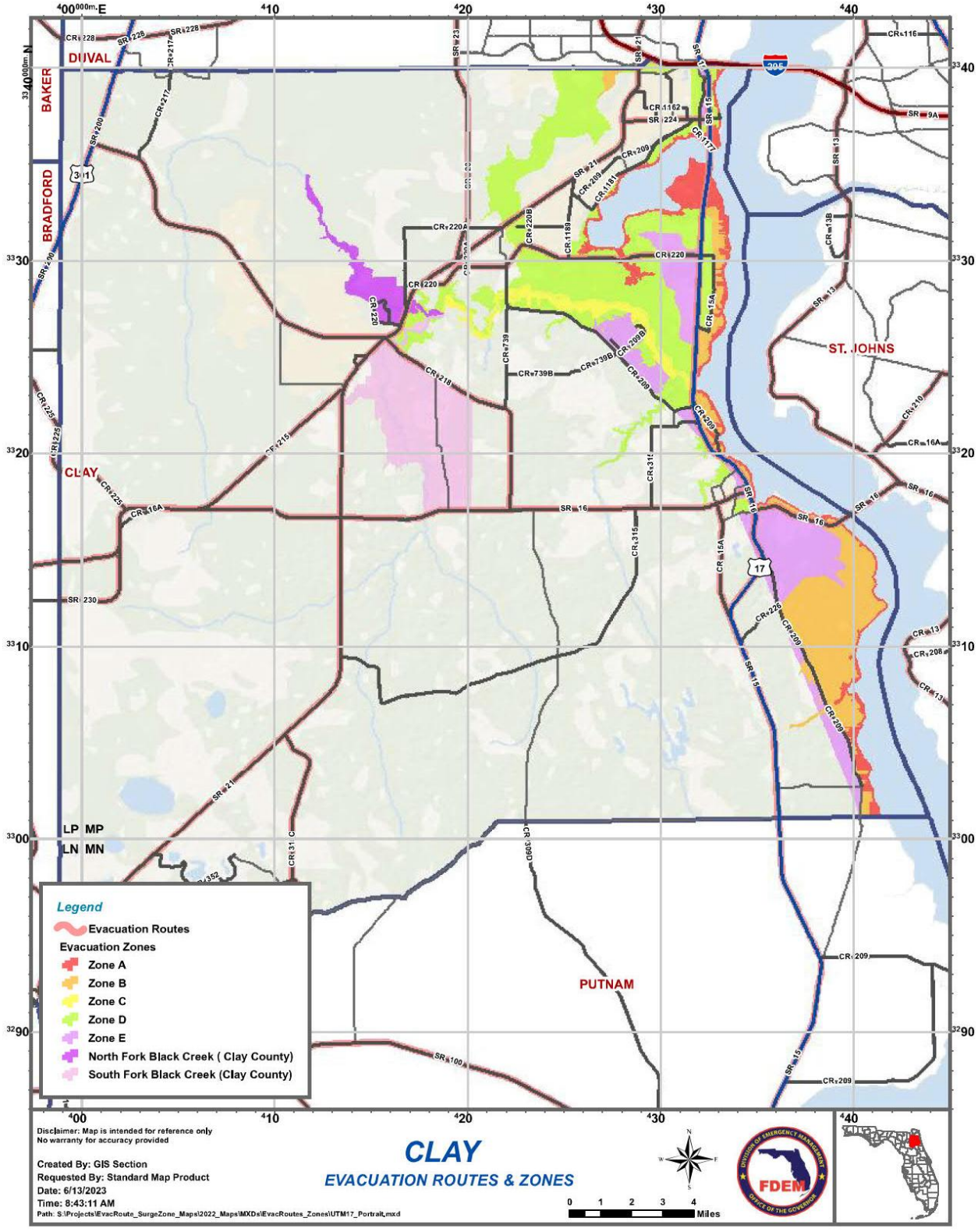
Source: Kimley-Horn, Daily VMT on the state highway system is from FDOT.

Regional Evacuation Routes – Policy 2.5

The Northeast Florida Regional Council conducts regional evacuation studies for areas within the TPO's planning boundaries. These studies include topics such as clearance time, shelter demand, behavioral rates, regional destination rates, maximum evacuating population by time interval, and other evacuation metrics. More information on the studies can be found here: https://www.floridadisaster.org/dem/preparedness/regional-evacuation-studies/ (Retrieved 1/30/24).

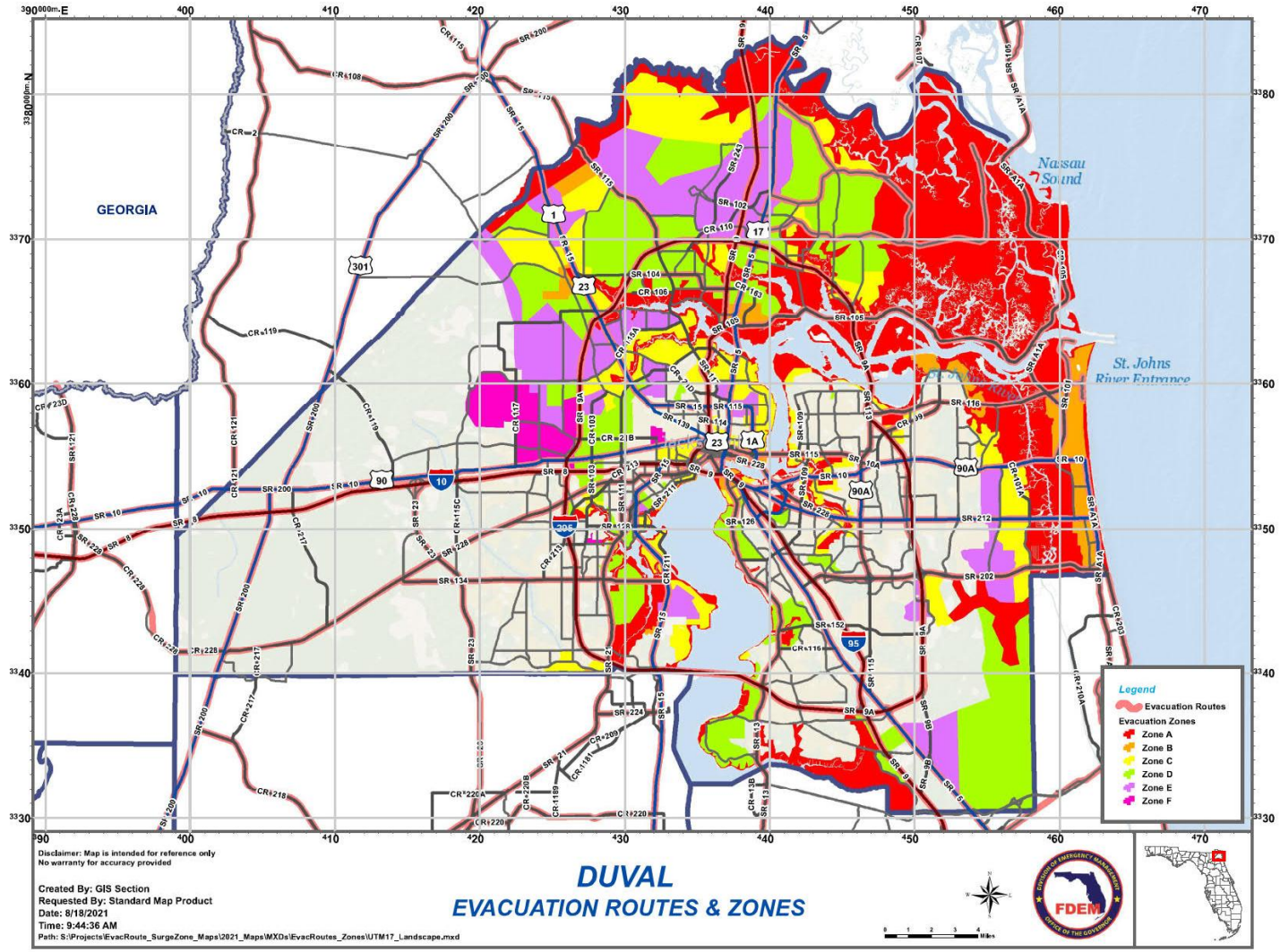
The Florida Division of Emergency Management aids in planning and preparing for various disasters statewide. Evacuation routes and zone maps were created by county based on the most updated regional evacuation studies. The evacuation routes are shown in Figure 8 through Figure 11.

Figure 8. Clay County Evacuation Routes



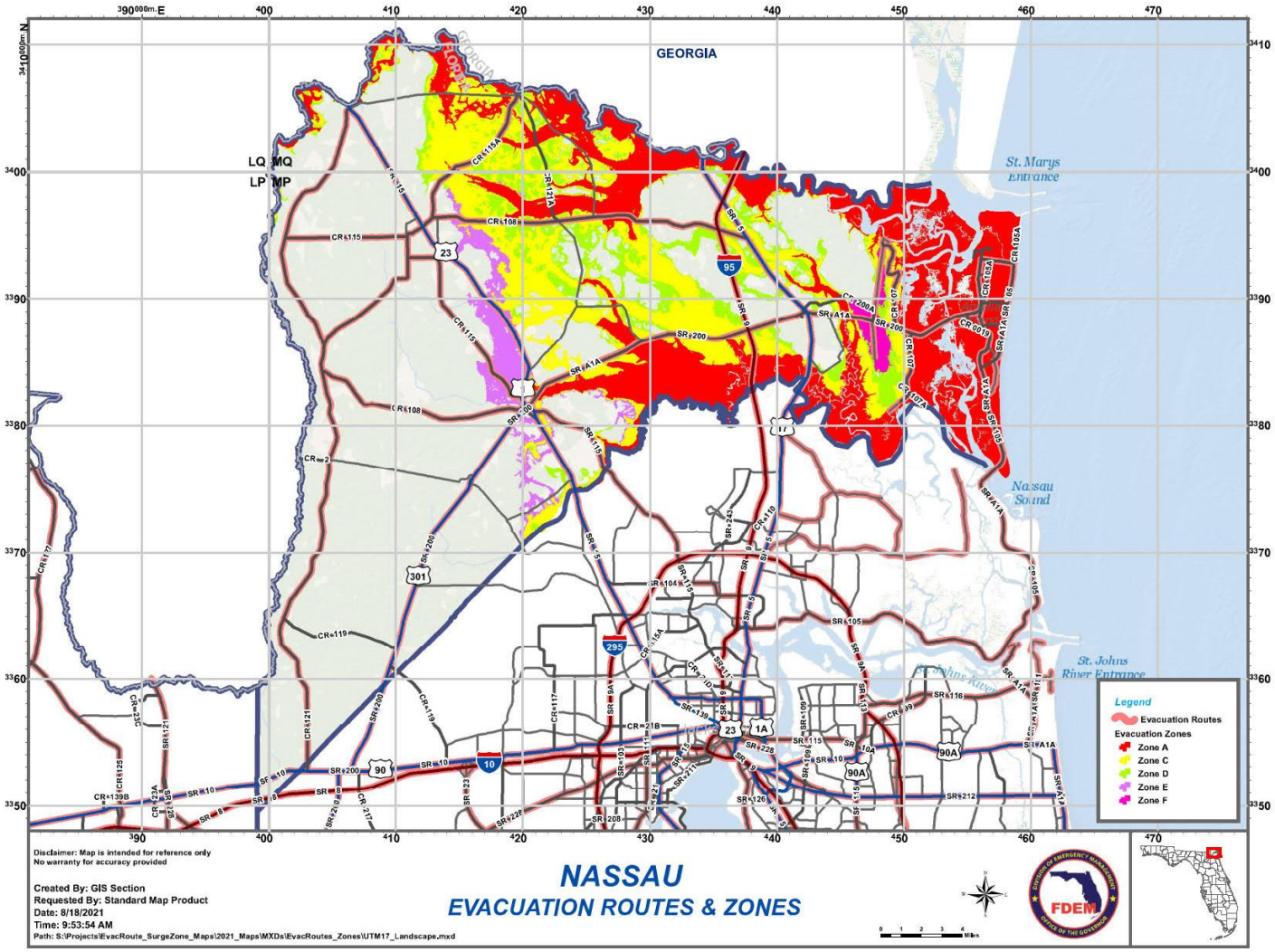
Source: Florida Disaster Division of Emergency Management. Retrieved 2/30/24

Figure 9. Duval County Evacuation Routes



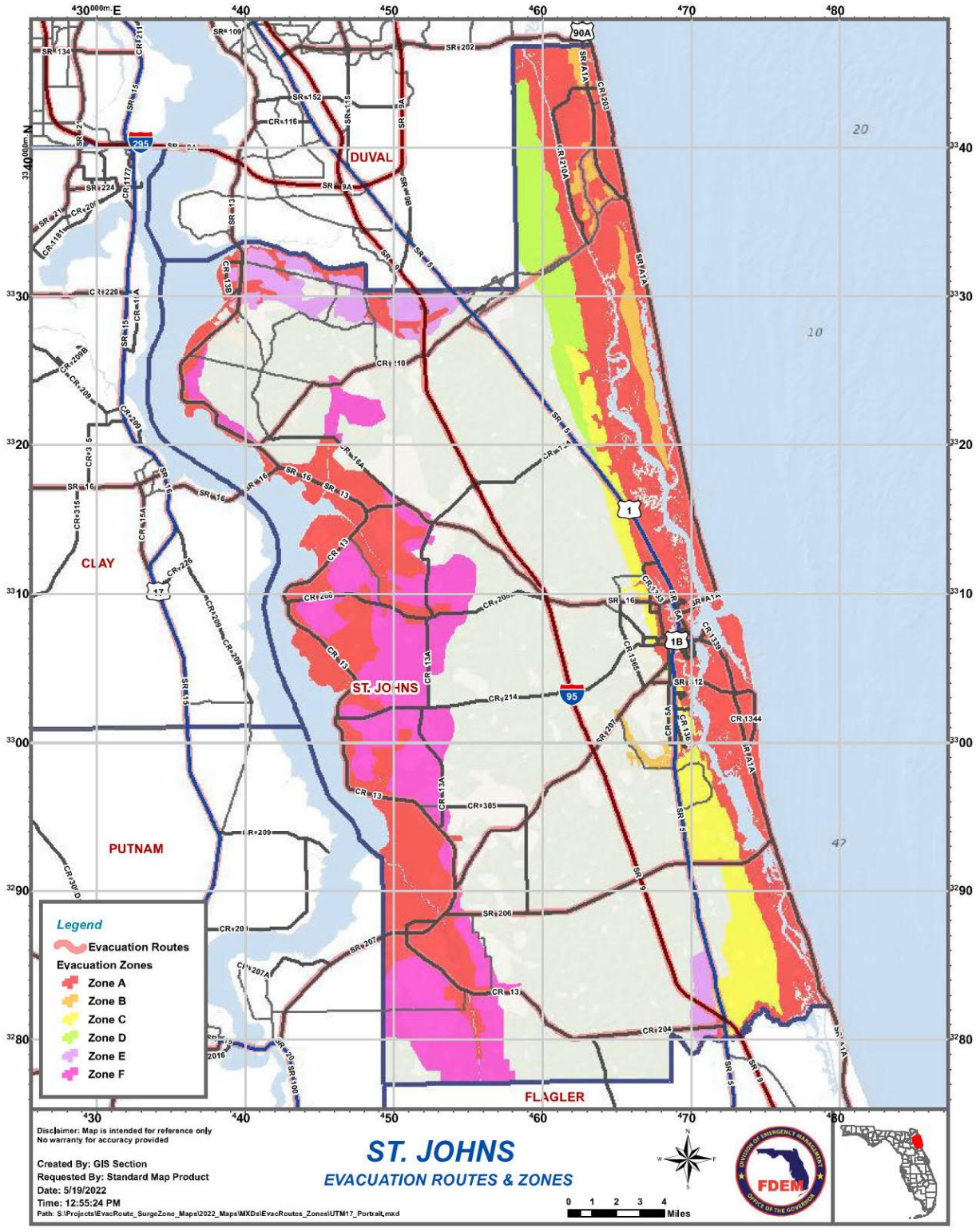
Source: Florida Disaster Division of Emergency Management. Retrieved 2/30/24.

Figure 10. Nassau County Evacuation Routes



Source: Florida Disaster Division of Emergency Management. Retrieved 2/30/24.

Figure 11. St. Johns County Evacuation Routes



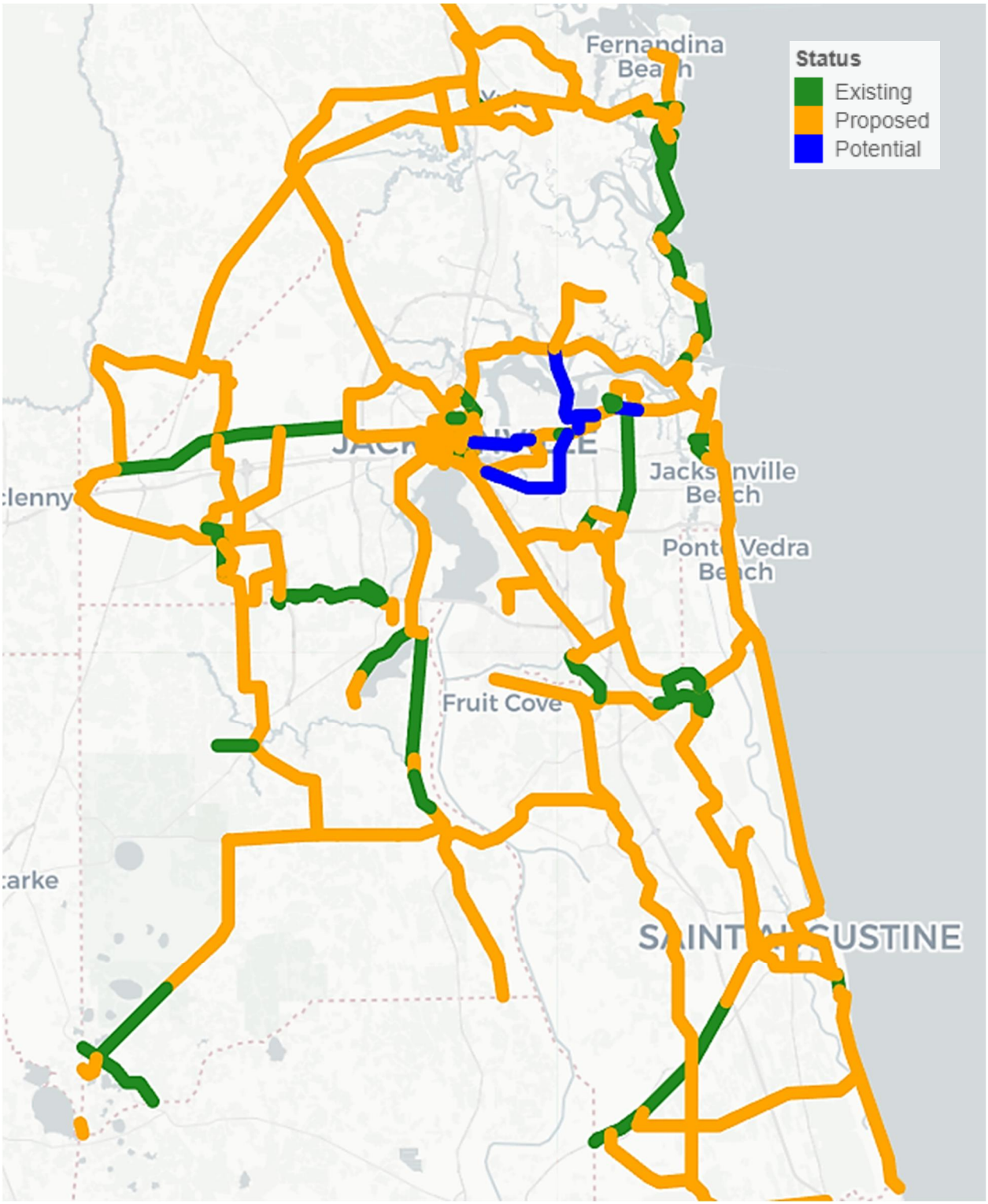
Source: Florida Disaster Division of Emergency Management. Retrieved 2/30/24

Trail Connectivity – Objective 2.6

The North Florida TPO published the Northeast Florida Regional Multi-Use Trail Master Plan in 2019. The plan addresses the regional trail network and how funding could be applied to projects to expand the multi-use paths within the region. Funding opportunities such as Shared Use Network (SUN) Trail Funding were considered.

As of 2019 there were 121 miles of trails within the region. A trail network of approximately 570 miles is proposed. Figure 12 shows the existing and proposed trails identified within the North Florida TPO network.

Figure 12. North Florida TPO Existing and Proposed Network Trails



Source: Northeast Florida Regional Multi-Use Tail Master Plan. Retrieved 1/30/24.

Pedestrian Connectivity – Objective 2.7

The FDOT aims to provide 100% coverage of the state highway system for bicycles and pedestrians where appropriate. Pedestrians and bicyclists are not permitted to operate on Interstate System roadways and other freeways and toll roads where access is limited for their safety.

Based on the FDOT roadway characteristics inventory, the average pedestrian facility coverage over the four counties within the North Florida TPO area is 65.62% for 2022. Year over year, the total pedestrian coverage within the North Florida TPO region generally increases, resulting in increased sidewalk mileage.

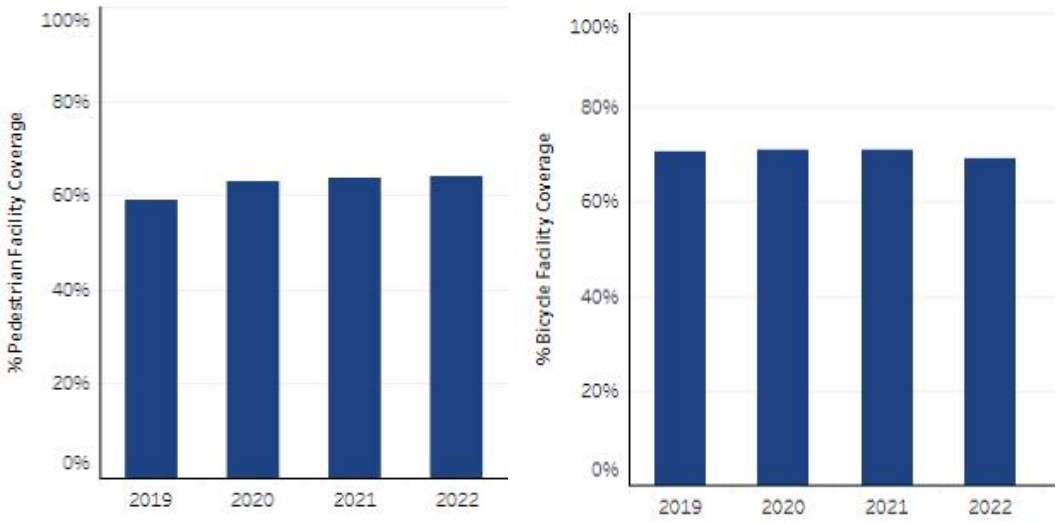
Table 7 shows the percentage of facility coverage in the North Florida TPO counties for pedestrians and bicyclists. This data is illustrated in Figure 13. A map of the FDOT sidewalks and gaps in the region is provided in Figure 14.

Table 7. Percentage of Facility Coverage

Pedestrian/Bicycle	County	2019	2020	2021	2022
Pedestrian	Clay	70.80%	79.42%	79.90%	79.90%
	Duval	59.70%	63.36%	62.77%	62.77%
	Nassau	34.21%	44.69%	56.31%	56.31%
	St. Johns	61.89%	60.15%	60.15%	63.49%
Bicycle	Clay	76.49%	80.66%	82.53%	82.53%
	Duval	54.04%	57.11%	57.42%	57.48%
	Nassau	89.69%	81.58%	79.12%	79.12%
	St. Johns	90.27%	86.88%	86.88%	79.29%

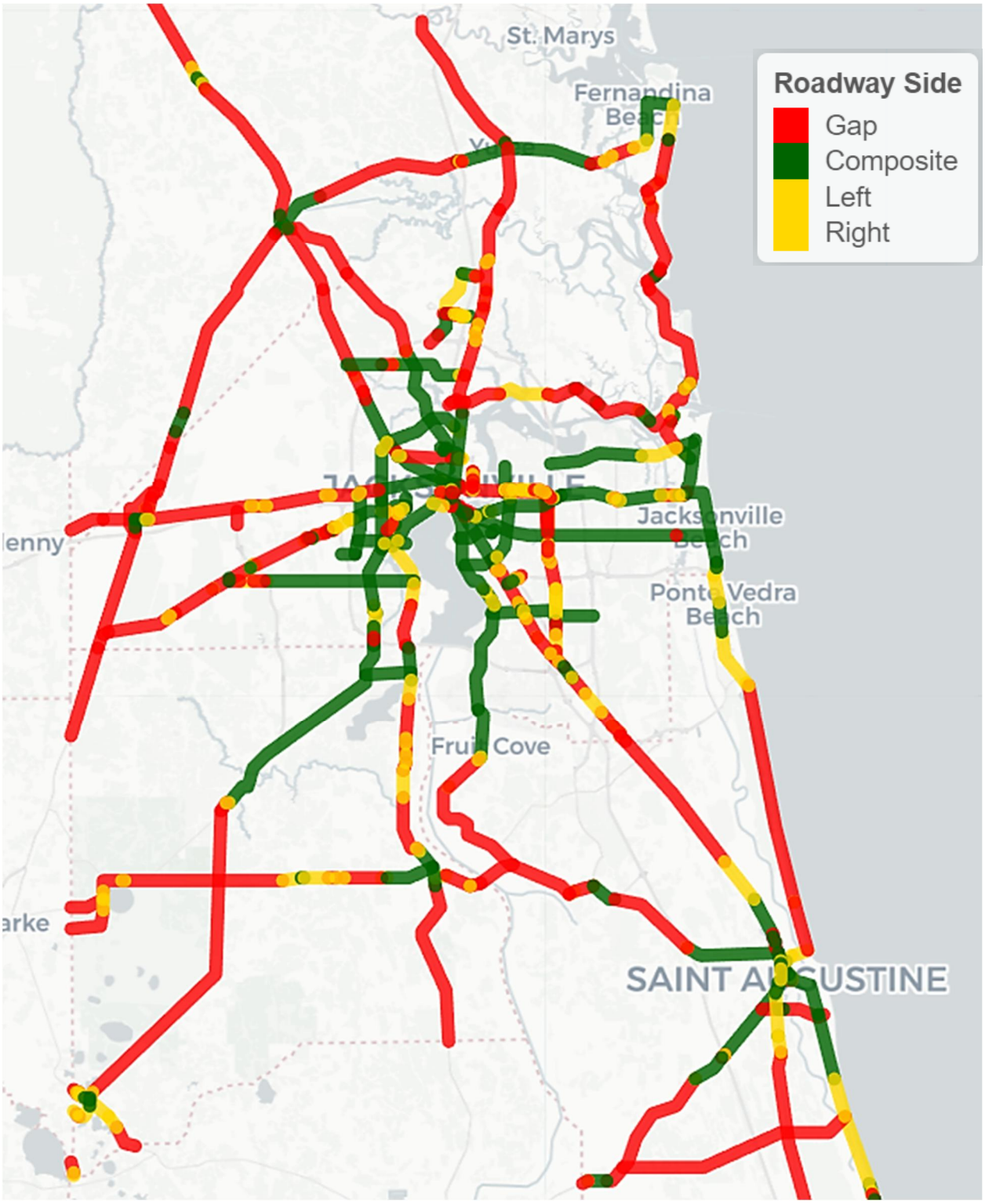
Source: Roadway Characteristics Inventory Feature 216 (Bike Lanes/Pedestrian Facilities). Retrieved 1/30/24.

Figure 13. Pedestrian and Bicycle Facility Coverage



Source: FDOT Source Book. Retrieved 1/30/24

Figure 14. Map of Sidewalk/Sidewalk Gap and Bicycle Lanes



Source: FDOT Sidewalks and Gaps TDA. Retrieved 1/30/24.

Goal 3: Safe and Secure Travel

According to the Florida Department of Highway Safety and Motor Vehicles, there was a total of 31,550 crashes that occurred over the four North Florida TPO counties in 2023. Duval County accounted for a majority of these crashes due to the county population and extent of roadways present.

Federal Safety Performance Measure

Number of Fatalities

The number of fatalities is a crucial benchmark of progress when assessing the target zero initiative. According to the Florida Highway Safety and Motor Vehicles dashboard, there were 238 fatalities within the region during 2023. Over the past 5 years, the number of fatalities in the region has stayed relatively consistent.

Rate of Fatalities

The rate of fatalities is the ratio of the total number of fatalities to the number of vehicle miles traveled (VMT) expressed in 100 million VMT. Since VMT data is not available for 2023, the 2022 rate of fatalities was analyzed. According to the FDOT Source Book, the rate of fatalities was 1.26 in 2022. This rate saw a spike from 2019 to 2020, and since then it has been steadily decreasing.

Number of Injuries

The Florida Highway Safety and Motor Vehicle dashboard lists the total number of injury crashes as 13,443 within the region during 2023. Since 2019, this number has been declining.

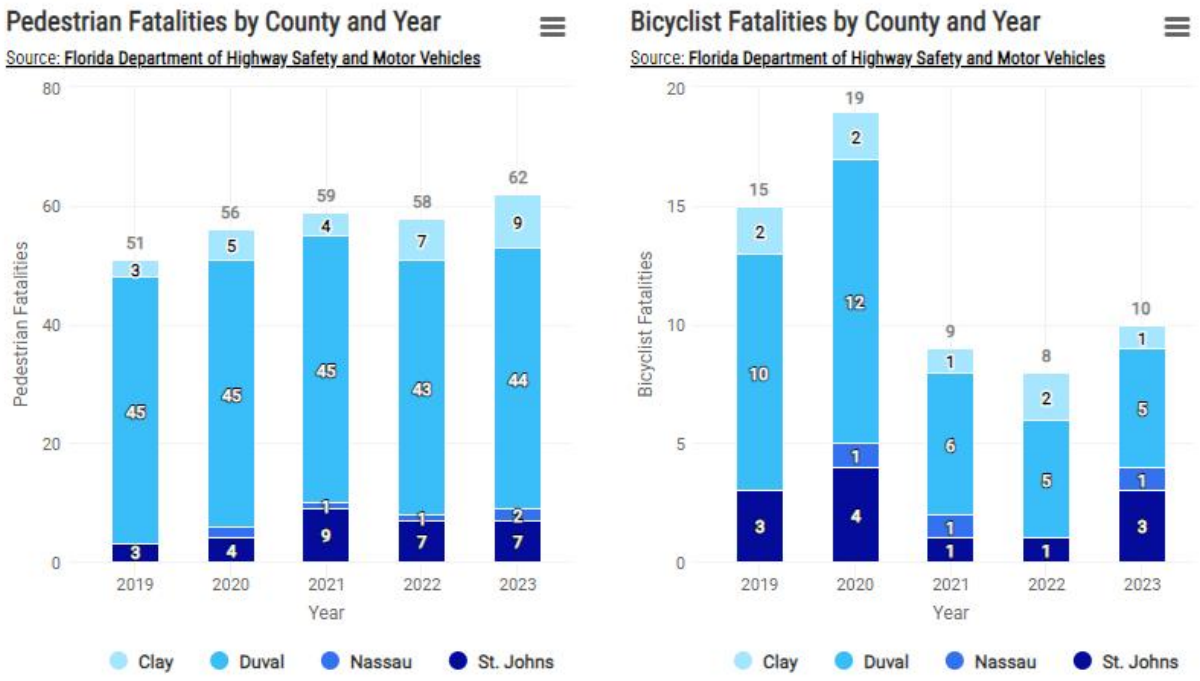
Rate of Injuries

The rate of injuries is the ratio of the total number of injuries to the number of vehicle miles traveled (VMT) expressed in 100 million VMT. Since VMT data is not available for 2023, the 2022 rate of injuries was analyzed. According to the FDOT Source Book, the rate of serious injuries was 4.67 in 2022 for the region. Since 2019, this number has been declining.

Number of Non-motorized Fatalities and Injuries

According to the Florida Highway Safety and Motor Vehicles, the number of non-motorized fatalities and injuries was 1,041 in 2023. Since 2019, this number has been relatively consistent. Figure 15 summarizes the non-motorized fatalities per year from 2019-2023.

Figure 15. Bicycle and Pedestrian Fatalities by Year



Source: Florida Department of Highway Safety and Motor Vehicles. Retrieved 6/30/24.

Transit Safety Performance Measures

The transit safety performance measure is used to ensure that the local transit agencies operate in a safe manner to meet the demands of the public. The reportable fatalities, injuries and security events are compared to the total vehicle revenue miles. Security events include all collisions, fire, security breaches, assaults involving transit workers, and assaults involving transit riders. Data for the Jacksonville Transit Authority (JTA) is shown in the table below.

Table 8. Transit Safety Performance (JTA)

Fiscal Year (ending Sep 30)	Fatalities	Fatalities per 1 million Revenue Miles	Injuries	Injuries per 1 million Revenue Miles	Other Events	Events per 1 million Revenue Miles
2018	0	-	24	1.79	25	1.86
2019	1	0.07	43	3.06	22	1.57
2020	0	-	37	3.41	19	1.75
2021	3	0.27	31	2.75	20	1.78
2022	1	0.09	45	4.23	18	1.69
2023	2	0.18	28	2.56	27	2.47

Source: Federal Transit Administration

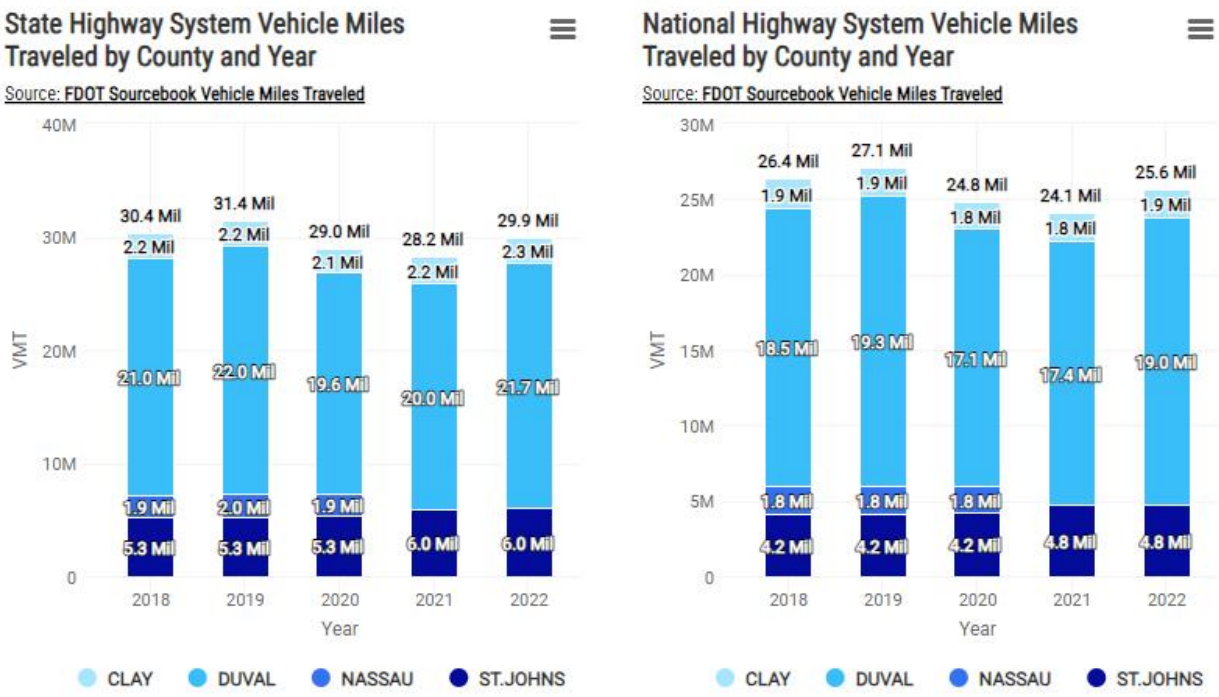
Goal 4: Mobility and Accessibility

Quantity of Travel – Objective 4.1

Vehicle-miles Traveled (VMT)

Vehicle-miles traveled considers the Annual Average Daily Traffic (AADT) and the roadway segment length. There is not a set benchmark or goal for vehicle miles traveled, however reducing this number can help with congestion issues along the roadway network. The FDOT Source Book contains information for the North Florida TPO region. According to the data, 32.2 million vehicle miles traveled was estimated for 2022 on all SHS facilities. The trend in VMT is shown in Figure 16.

Figure 16. North Florida TPO VMT Data by Year

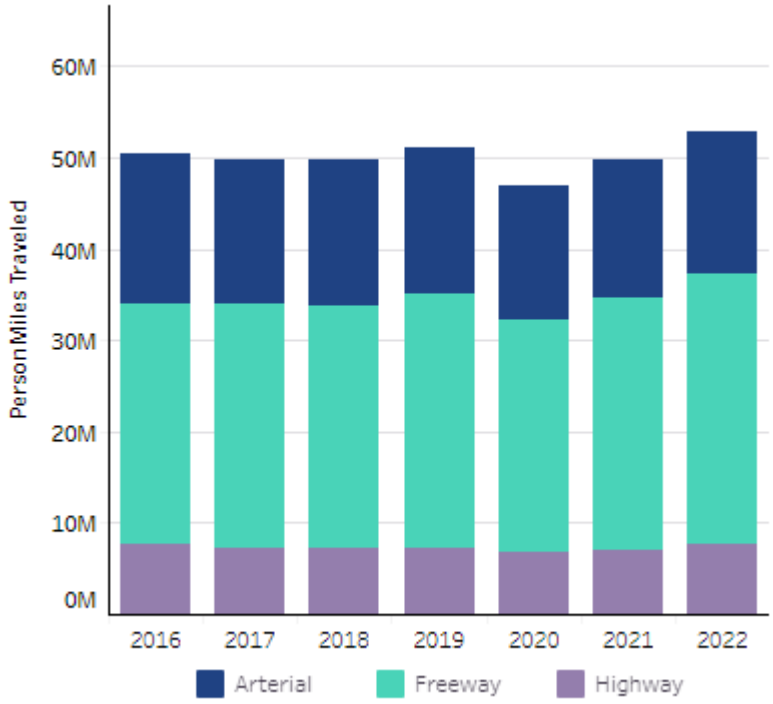


Source: FDOT Source Book. Retrieved 6/20/24.

Person-miles Traveled (PMT)

Person-miles traveled takes total vehicle-miles traveled and multiplies it by persons per vehicle. The FDOT Source Book was used to obtain the following 2022 data shown in Figure 17. According to the data, 52.9 million person-miles traveled was estimated for 2022 on all SHS facilities.

Figure 17. North Florida TPO PMT Data by Year and Facility Type



Source: FDOT Source Book. Retrieved 6/20/24.

Truck-miles Traveled

Truck-miles traveled looks at the total miles traveled by combination trucks within a region. The FDOT Source Book was used to determine the total truck miles traveled in the North Florida TPO region. The total SHS truck miles traveled in 2022 was 1.4 million miles and the total NHS truck miles traveled in 2022 was 1.3 million miles.

Vehicle Occupancy

Estimates of the average number of occupants in a vehicle is referred to as the Vehicle Occupancy Factors (VOF). This measure can be calculated using person-miles traveled divided by vehicle-miles traveled. For 2022 data from the FDOT Source Book, the vehicle occupancy was calculated as 1.64. Crash data taken for the Crash Analysis Reporting System (CAR) can also used in estimating the average vehicle occupancy rate. A technical report titled Vehicle Occupancy Factor and Transit Occupancy Factor Calculation was also completed by the FDOT forecasting and trends office in 2022 (Vehicle Occupancy Factor and Transit Occupancy Factor Calculation).

Air Travel

Passenger air travel is monitored with a goal of increased usage annually. The Jacksonville Aviation Authority tracks the amount of arrival and departure flights within the region. In 2023, there were a

total of 7,446,084 arrival and departure passenger flights. This number has been steadily increasing since the 2020 pandemic.

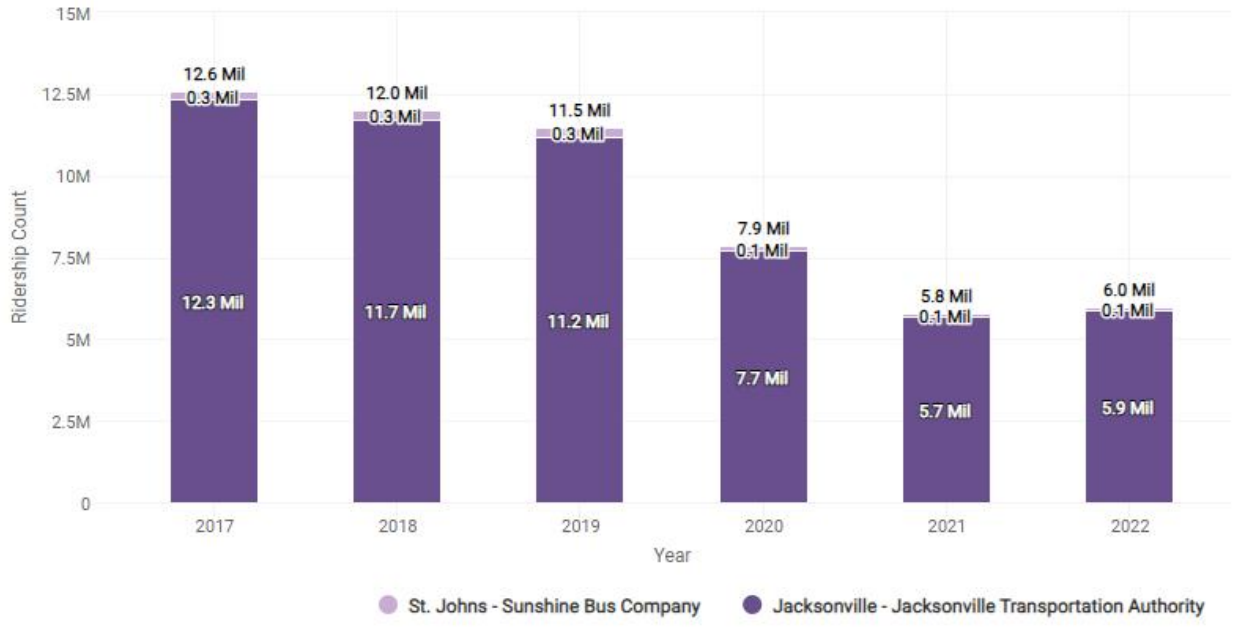
Transit Ridership

Transit ridership has declined in the wake of the COVID-19 pandemic. The JTA keeps track of these metrics and levels continue to remain stagnant over the past few years. Autonomous vehicle implementation is imminent within the region and JTA expects this will help increase transit ridership. Services that are included within JTA's scope consist of the St. Johns River Ferry, ReadiRide (on-call transportation service), Clay Flex, St. Johns Express, Clay Express, and Nassau Express. The 2022 ridership data related to these services are shown in table below. On-time performance was only tracked for the St. Johns River Ferry during 2022 and this came in at 98%.

Table 9. 2022 Ridership Data

Transit Agency	2022 Ridership
St. Johns – Sunshine Bus Company	127,131
Jacksonville Transportation Authority	5,867,113

Figure 18. Transit Ridership by County and Year



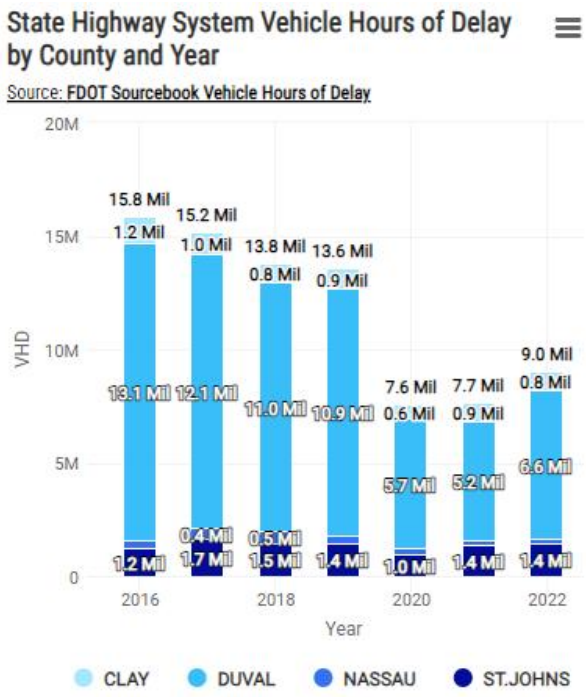
Source: FDOT Source Book Transit Ridership. Retrieved 7/20/24.

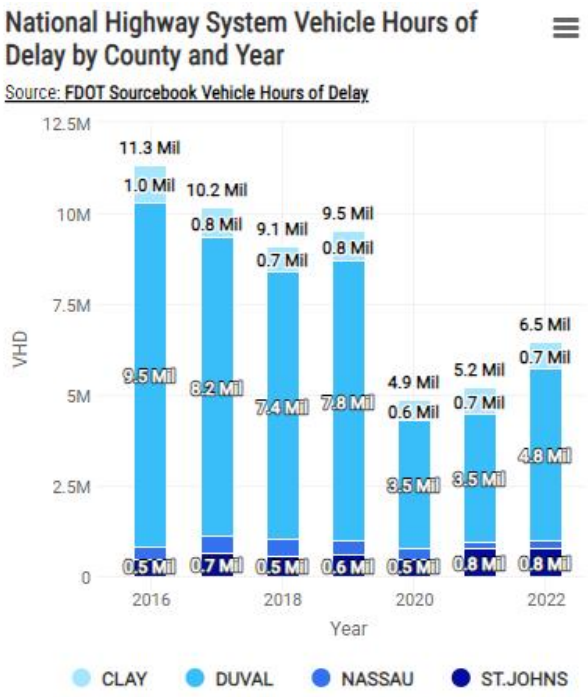
Quality of Travel – Objective 4.2

Average Vehicle Delay

Vehicle delay is typically reported annually in vehicle-hours per day and is calculated by the sum of the daily delay. The FDOT Source Book shows data provided from HERE technologies and can be summarized for the region, by county, and by functional classification of the roadway. For all highway systems in the North Florida TPO region, the daily vehicle hours of delay increased from 2021 to 2022 but is still far below pre-COVID-19 delay.

Figure 19. Vehicle Hours of Delay





Source: FDOT Source Book. Retrieved 6/20/24.

Commute Time

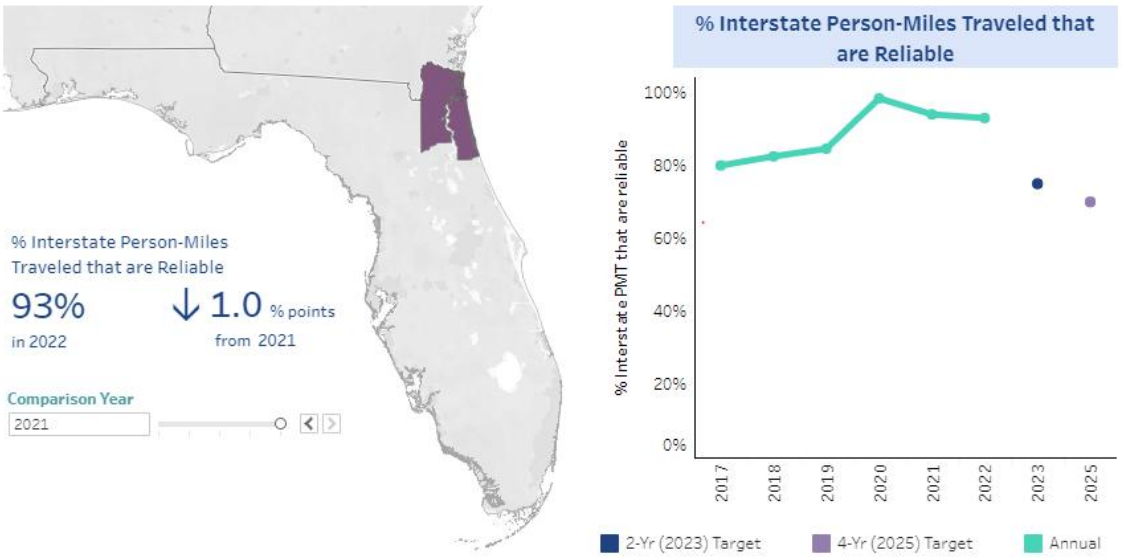
The average commute time data was taken from the U.S. Census Bureau through the American Community Survey. The average commute time for each county is shown below (U.S. Census Bureau):

- Clay: 32.4 minutes
- Duval: 24.4 minutes
- Nassau: 30.4 minutes
- St. Johns: 27.1 minutes

Interstate and Non-Interstate PMT that are Reliable

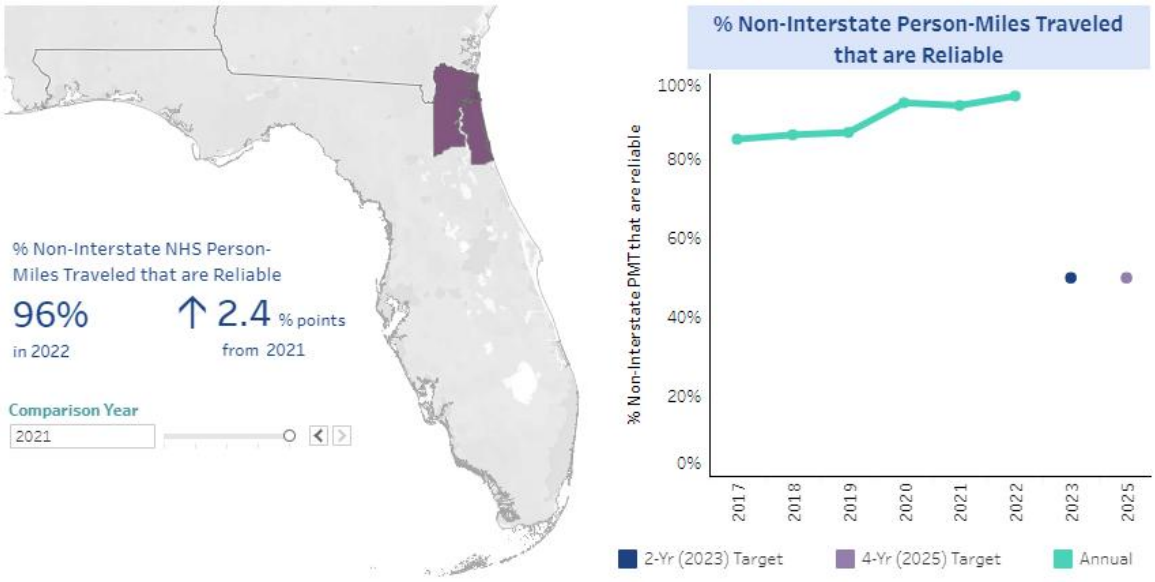
The percent of person-miles traveled that are reliable on the Interstate System in the North Florida TPO region is shown in Figure 20. The percent of PMT that are reliable increased from 2017- 2020. Since then, the system has been less reliable. The percent of person-miles traveled that are reliable for the North Florida TPO region off the Interstate System is shown in Figure 21 below. The percent PMT that are reliable has been steadily increasing since 2017 off the Interstate System.

Figure 20. Interstate PMT that are Reliable



Source: FDOT Source Book. Retrieved 1/30/24.

Figure 21. Non-Interstate PMT that are Reliable



Source: FDOT Source Book. Retrieved 1/30/24.

Level of Travel Time Reliability (LOTTR)

The data for travel time reliability was collected through the FDOT Source Book. The inputs included in this stem from historic data from vehicle probes, permanent and temporary count sites, HERE travel time data and FDOT's roadway characteristics inventory. The most congested corridors within the region were analyzed which include I-10, I-95, I-295, SR-10, SR-13, SR-21, SR-200, US-1, US-17, and US-90.

The 2022 LOTTR data is reported for the months of October, November and December, and takes the maximum value calculated throughout the period.

More detailed analysis of the travel time reliability was performed on the most congested corridors within the region. This index is the ratio of the 80th-percentile travel time and the median travel time. For a 10-minute trip with a level of travel time reliability of 2.5, there is an 80% chance of arriving within 25-minutes. The larger the level of travel time reliability the more variable the travel times are along each corridor. Table 10 summarizes the 2022 LOTTR values of 1.6 or greater for the region and the corresponding critical segment. These values are taken for the PM peak period.

Table 10. Level of Travel Time Reliability

Facility	Critical Segment	2022
US 23 (State Street)	I-95 to Madison Street	1.64
US 17 (Union Street)	Main Street to Liberty Street	1.67
I-95	Acosta Expressway to Atlantic Boulevard	1.94
I-95	Atlantic Boulevard Interchange	2.54
I-95	Atlantic Boulevard Interchange to Emerson Street	1.88
I-295	Town Center Parkway to SR 202	1.88

Source: Florida Department of Transportation. Retrieved 9/1/24.

Level of Travel Time Reliability (LOTTR) on Rural Facilities

The level of travel time reliability (LOTTR) along rural facilities was analyzed for context classifications C1 (natural), C2 (rural) and C2T (rural town). For the 6:00 AM to 10:00 AM weekday period, the LOTTR for these were 1.06, 1.04 and 1.07 respectively. For the 10:00 AM to 4:00 PM weekday period, the LOTTR for these were 1.04, 1.04 and 1.06 respectively.

Level of Service

Level of Service (LOS) is a rating system of A to F with A being the best – low volume of free-flowing traffic with no delays – and F being the worst – low speeds, volume exceeds capacity with stop-and-go traffic. The FDOT District 2 Level of Service Report was reviewed. The LOS can be evaluated for daily, peak hour directional, or peak hour two-way. The number of rural miles meeting acceptable operating conditions over the total number of rural road miles can be used to calculate the percent of miles meeting LOS criteria. Standards for LOS on state highways are in the FDOT Multimodal Quality/Level of Service Handbook published in 2023. The service volumes are split up into roadway classification and give specific input for rural areas. The handbook can be found at https://www.fdot.gov/planning/systems/systems-management/systems-management-documents.

Table 11 lists the segments that are currently operating at LOS E or LOS F. A level of service map is provided in Figure 22.

Table 11. Segments Operating at LOS E and LOS F

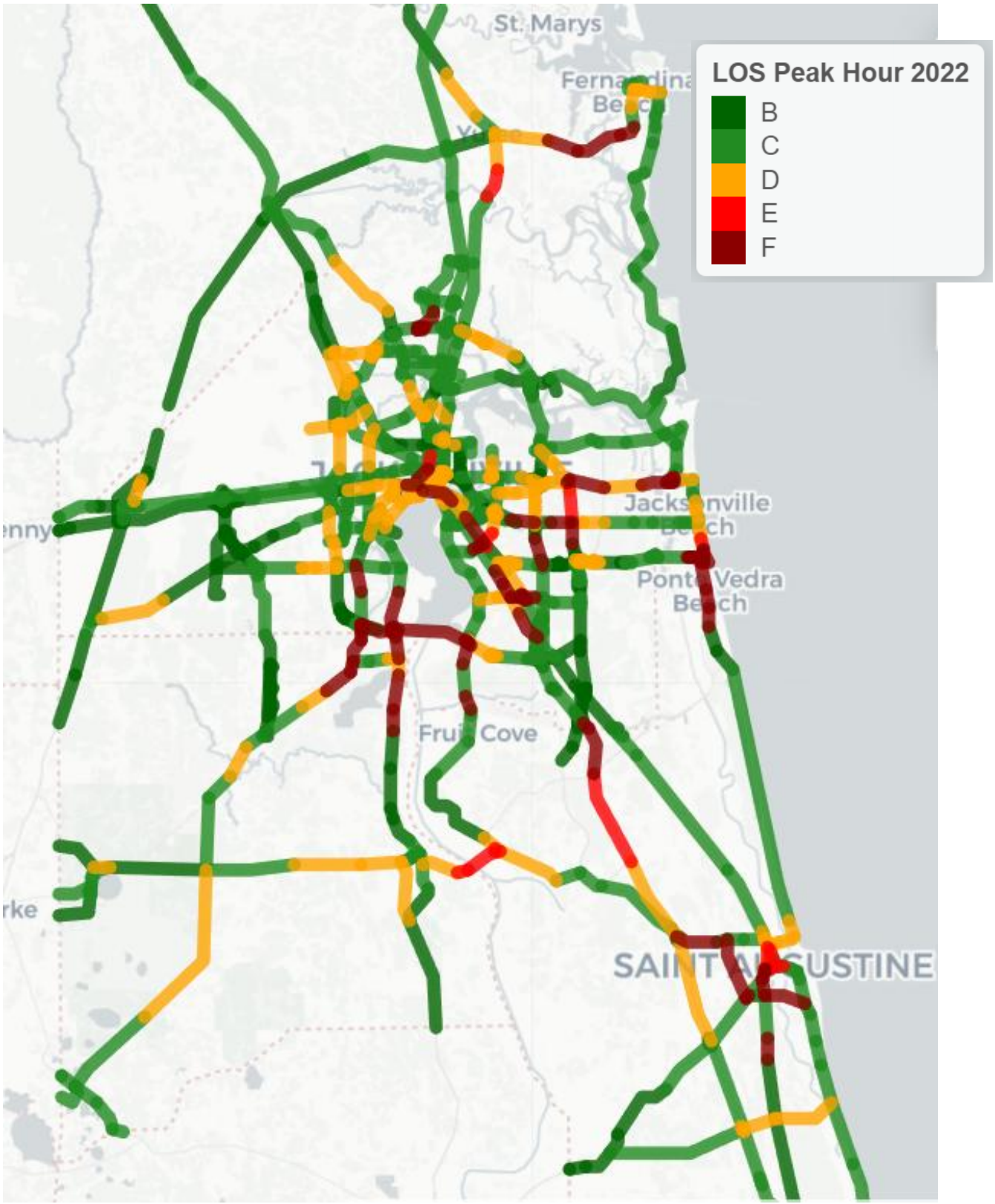
Segment ID	County	Road	From/To	Lanes	LOS
20787	Clay	SR 16	From Clark Road to West of Shands Bridge	2	E
20788		SR 16	From West of Shands Bridge to County Line	2	E
20743		US 17/SR 15	From CR 220 to Creighton Road	6	F
20744		US 17/SR 15	From Creighton Road to Elbow Road	6	F
20746		US 17/SR 15	From Kingsley Avenue to Wells Road	6	F
20747		US 17/SR 15	From Wells Road to I-295	9	F
20780		SR 21	From Suzanne Avenue to College Drive	6	F
20781		SR 21	From Kingsley Avenue to Suzanne Avenue	6	F
20782		SR 21	From Duval County Line to Kingsley Avenue	6	F
20845	Duval	I-295	From St. Johns Bluff Road to Beach Boulevard	4	E
20846		I-295	From Beach Boulevard to Town Center Parkway	4	F
20865		SR A1A/3rd Street	From 34th Avenue South to St. Johns County Line	4	F
20891		SR 109/University Blvd	From US 1 to Powers Avenue	4	F
20915		I 95/SR 9	From Kings Avenue to Olevia Street	7	F
20916		I 95/SR 9	From Riverside Avenue to Kings Avenue	7	F
20918		I 95/US 17	From Union Street to Forest Street	6	F
20919		I 95/US 17	From 8th Street West to Union Street	6	E
20935		SR 152/Baymeadows Rd	From US 1 to I-95	4	F
20936		SR 152/Baymeadows Rd	From I-95 to Old Baymeadows Road	4	F
20942		US 17/SR 15	From I-295 South Ramp to I-295	6	F
20965		US 90A/SR 115	From Beach Boulevard to SR 202	4	F
21015		US 17/SR 5	From Yellow Bluff Road to Nassau County Line	2	E
21021		US 1/SR 5	From Baymeadows Road to I-95	4	F
21022		US 1/SR 5	From SR 202 to Baymeadows Road	4	F
21089		US 90A/SR 10	From I-295 to St. Johns Bluff Road	6	F
21090		US 90A/SR 10	From St. Johns Bluff Road to Girvin Road	6	F
21093		US 90A/SR 10	From Mayport Road Flyover Ramp to Mayport Road	4	F
21099		US 90A/SR A1A	From 19th Avenue South to 34th Avenue South	4	E

Segment ID	County	Road	From/To	Lanes	LOS
21109	Duval	SR 228/Normandy Blvd	From Jacksonville Equestrian Center to McClelland Road	2	E
21151		SR 13/San Jose Blvd	From I-295 to Loretto Road	6	F
21165		SR 13/Acosta Bridge	From Riverside Avenue Ramp to Riverside Avenue	1	F
21166		SR 21/Blanding Blvd	From I-295 to Clay County Line	8	F
21168		SR 21/Blanding Blvd	From 103rd Street to South of Collins Road	4	F
21179		SR 212/US 90 (Beach Boulevard)	From Pottsburg Creek to Southside Boulevard	6	F
21180		SR 212/US 90 (Beach Boulevard)	From Southside Boulevard to I-295	6	F
21244		I 95/SR 9	From 9B Ramp to St. Johns County Line	6	F
21252		I 95/SR 9	From University Boulevard to Bowden Road	6	E
21253		I 95/SR 9	From Emerson Street to University Boulevard	6	F
21279		SR 243/Duval Rd	From I-295 Cedar Creek Bridge	2	F
21288	Nassau	US 17/ SR 5	From Gardners Creek Lane to Duval County Line	2	E
21318		SR 200/A1A	From Oneil Scott Road to Piney Island Drive	4	F
21460	St. Johns	SR A1A	From Summer Island Drive to Flagler County Line	2	E
21462		SR A1A	From Fort Matanzas Beach Ramp Road to Matanzas Inlet	2	E
21428		US 1/SR 5	From Lewis Point Road to Wildwood Drive	4	F
21487		SR 207	From SR 312 to S Holmes Boulevard	4	F
21418		SR 312	From US 1 to Santander Street	4	F
21430		US 1/SR 5	From SR 207 to SR 312	4	F
21431		US 1/SR 5	From King Street to SR 207	4	F
21435		SR 5A (King St)*	From US 1 to Cordova Street	2	E
21474		SR A1A/Bridge of Lions	From Avenida Menendez to Dolphin Drive	2	E
21439		SR 5A/A1A	From Old Mission Avenue to W Castillo Drive	2	E
21433		US 1/SR 5	From SR 16 to W Castillo Drive	4	E
21501		SR 16	From I-95 to 4 Mile Road	4	F
21497		SR 16	From S Francis Road to Turning Point at Calvary Church	2	E
21496		SR 16	From San Giacomo Road to S Francis Road	2	E
21523		I 95	From SR 210 to International Golf Parkway	6	E

Segment ID	County	Road	From/To	Lanes	LOS
21491	St. Johns	SR 16	From SR 13 On Ramp to SR 13 Off Ramp	2	E
21490		SR 16/Shands Bridge	From Clay County Line to SR 13 On Ramp	2	E
21524		I 95	From Duval County Line to CR 210	6	F
21517		SR 13	From Duval County Line to Race Track Road	4	F
21414		SR A1A	From L'Atrium Drive to Palm Valley Road	4	F
21415		SR A1A	From Corona Road to L'Atrium Drive	4	F
21416		SR A1A	From Solana Road to Corona Road	4	F
21417		SR A1A	From Duval County Line to Solana Road	4	F

*Constrained because widening is not viable along these segments due to potential environmental or right-of-way impacts.

Figure 22. Level of Service Map

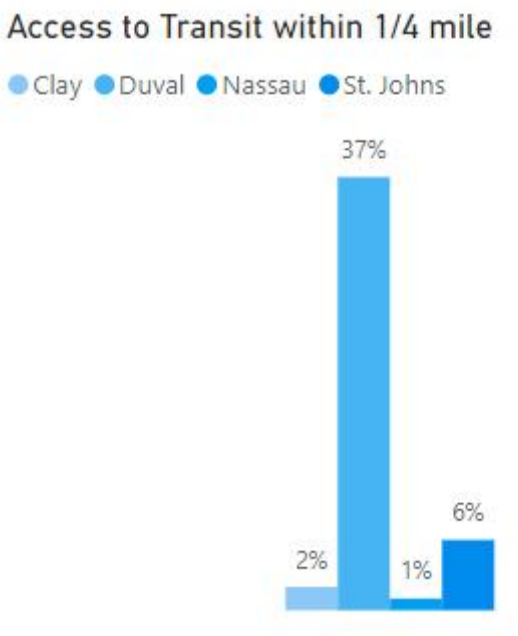


Source: FDOT District 2 Level of Service Report. Retrieved 6/30/24.

Transit Coverage

Transit coverage identifies the amount of people that live within 1/4 mile of a transit stop. The North Florida TPO region includes Nassau Transit, JTA and the Sunshine Bus Company. The goal is to have 95% of the regional population within 1/4 mile of a bus/transit stop. Population estimates used for this metric were obtained from the U.S. Census. Duval county had the highest population percentage within ¼ mile of a transit stop at 37 percent. St. Johns, Clay and Nassau counties followed at 6, 2, and 1 percent, respectively. However, the urban core of Jacksonville has nearly 89% of the population within ¼ mile of a transit stop. Figure 23 shows this data.

Figure 23. Access to Transit within ¼ Mile



Source: US Census. Retrieved 1/30/24.

Utilization

System Heavily Congested

Based on the FDOT Source Book, the peak hour for the North Florida TPO region experiences heavy congestion on 4.2 percent of the roadway system in 2022. Over the past five years of data (2018 – 2022), numbers have been down from 2018 and 2019 levels. However, they have been continuing to climb since 2020. The last five years of data (from 2018 – 2022) are 4.7 percent, 4.7 percent, 1.8 percent, 2.9 percent, and 4.2 percent.

Duration of Congestion

The daily duration of congestion for the North Florida TPO region is 16.4 minutes in 2022. This number has also been climbing since 2020. The last five years of data is shown in the table below.

Table 12. Duration of Congestion 2018 – 2022

Year	2018	2019	2020	2021	2022
Duration of Congestion (Min)	25.5	28.3	12.6	14.0	16.4

Source: Florida Department of Transportation/HERE Technologies. Retrieved 9/25/24.

First/Last Mile Options – Policy 4.4

The first/last mile option refers to the distance between a travelers' origin/destination and public transit options that are used to get closer to their final destination. The pedestrian connectivity section highlights the systems in place currently in the North Florida TPO region. The FDOT State Transit Strategy discusses the ways in which mobility needs change and how transit can adapt to serve these changing needs.

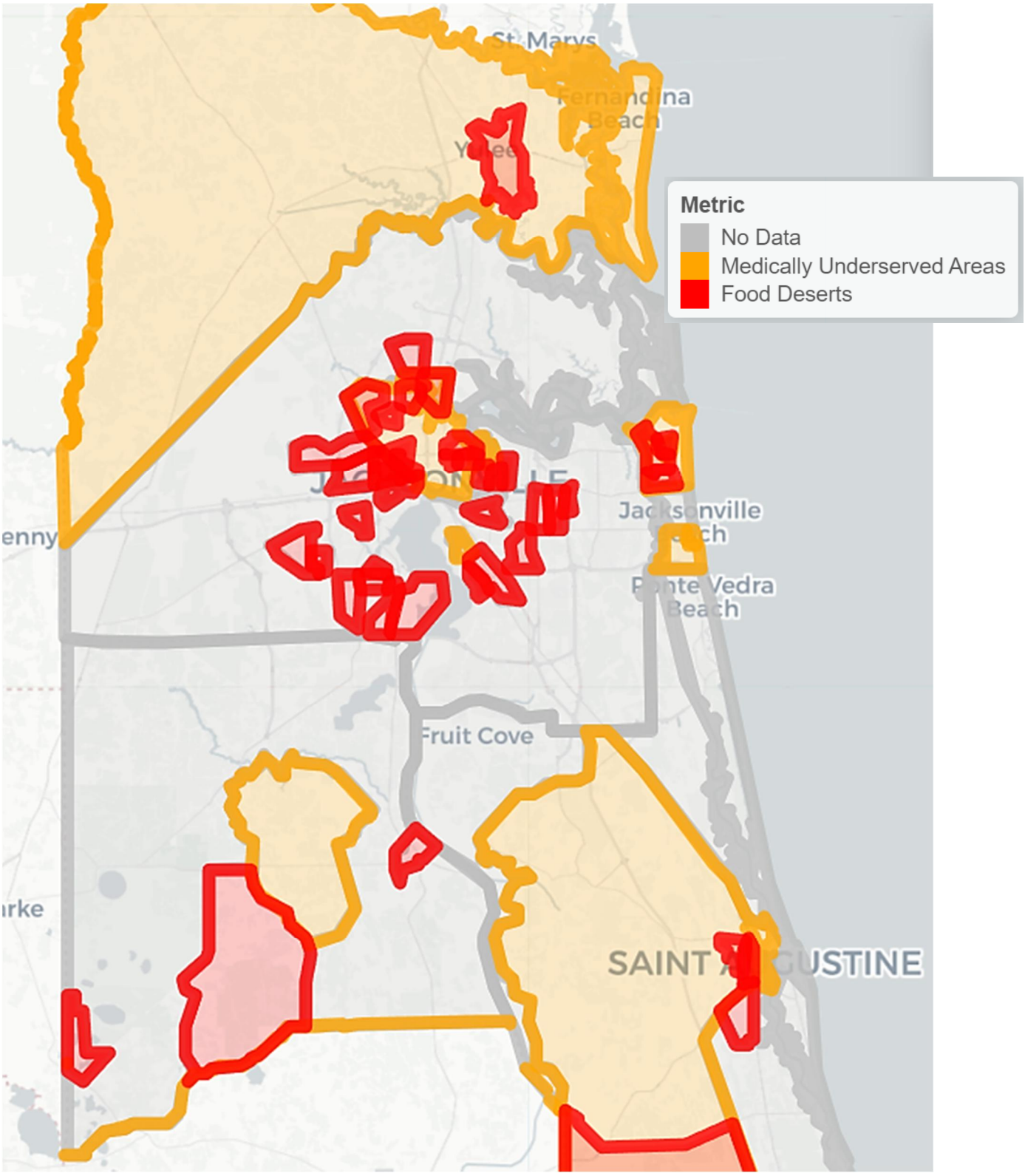
The JTA is currently preparing a first/last mile improvement study. No data is available to support this measure.

Bike share programs, and the emergence of pay-to-ride scooters are some of the ways in which connectivity gaps from transit stops to final destinations have been reduced. Advancement in autonomous vehicles is another way that the first/last mile issue is addressed to improve transit connectivity.

Goal 5: Equity

Living in areas underserved by transportation options is especially problematic for those with income below the poverty line and those that do not own vehicles. Being underserved also impacts access to healthy food and medical care. The North Florida TPO Ladders of Opportunity report addresses the needs of the region and how transportation/mobility can improve the lives of underserved communities. Figure 24 highlights the areas designated as medically underserved in 2019 and areas without reliable access to healthy foods in 2015 (the most recent statistics available).

Figure 24. North Florida TPO Underserved Areas



Source: US Economic Research Service of the Department of Agriculture. Retrieved 6/30/24.

Goal 6: Preserve and Maintain

This goal deals with bridge and pavement conditions in the region. Pavement condition is summarized for Interstate and non-Interstate facilities that are on the National Highway System (NHS). The percent is based on the lane-miles of facilities. Bridges are summarized by NHS and non-NHS facilities. The percent is calculated based on the bridge deck area. Goals are set by FDOT for how much of each category is in good condition and how much is in poor condition. Table 13 summarizes the pavement conditions. Table 14 summarizes the bridge conditions. The figures below also compare the yearly breakdown to the target goals.

Table 13. Pavement Conditions

Year	% of Interstate in GOOD Condition	% of Interstate in POOR Condition	% of Non-Interstate NHS in GOOD Condition	% of Non-Interstate NHS Pavements in POOR Condition
2015	68.00%	0.00%	37.20%	0.50%
2016	66.30%	0.10%	32.60%	0.50%
2017	57.50%	0.00%	36.20%	0.60%
2018	35.30%	0.50%	31.50%	0.40%
2019	47.00%	0.40%	31.00%	0.60%
2020	49.40%	0.60%	-	-
2021	49.60%	0.30%	42.10%	1.60%
2022	58.40%	0.20%	42.10%	1.60%
Target	≥ 60%	≤ 5%	≥ 40%	≤ 5%

Source: Florida Department of Transportation. Retrieved 1/30/24.

Table 14. Bridge Conditions

Year	% of NHS Bridge Deck Area in GOOD Condition	% of NHS Bridge Deck Area in POOR Condition
2015	-	-
2016	-	-
2017	52.10%	0.70%
2018	51.80%	0.50%
2019	51.50%	0.70%
2020	51.20%	0.90%
2021	52.20%	0.90%
2022	51.04%	0.70%
Target	≥ 50%	≤ 10%

Source: Florida Department of Transportation. Retrieved 1/30/24.

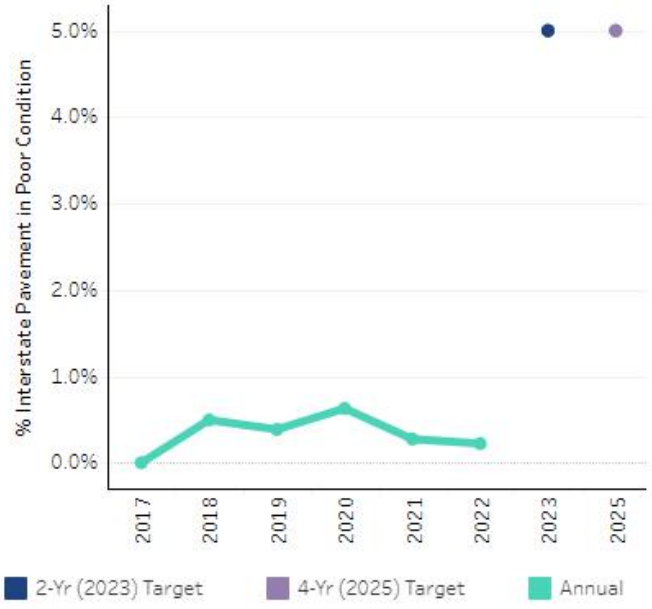
Figure 29 shows the locations and conditions of the bridges within the North Florida TPO region. According to the FDOT roadway characteristics inventory, there are a total of 909 bridges in the region.

Figure 25. Percent of Interstate Pavement in Good Condition

Target: 60% or higher

Source: FDOT Source Book. Retrieved 6/24/24.

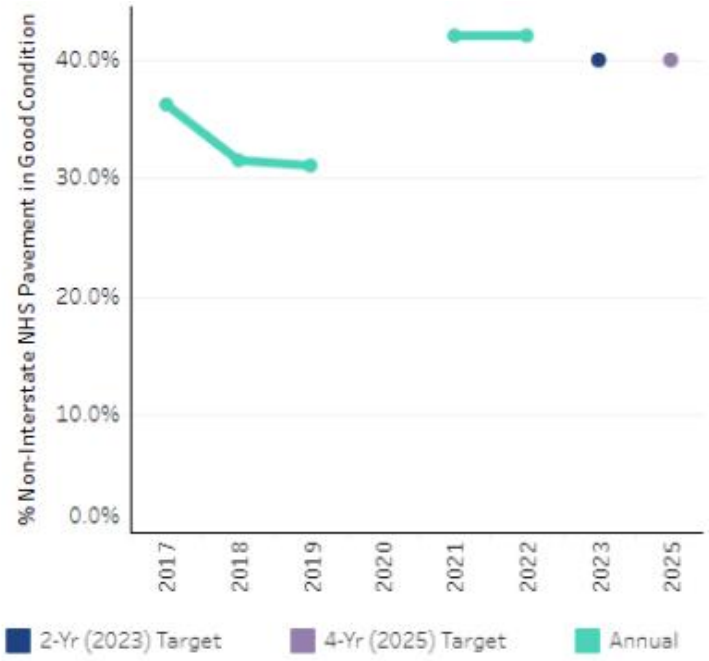
Figure 26. Percent of Interstate Pavement in Poor Condition



Target: 5% or lower

Source: FDOT Source Book. Retrieved 6/24/24.

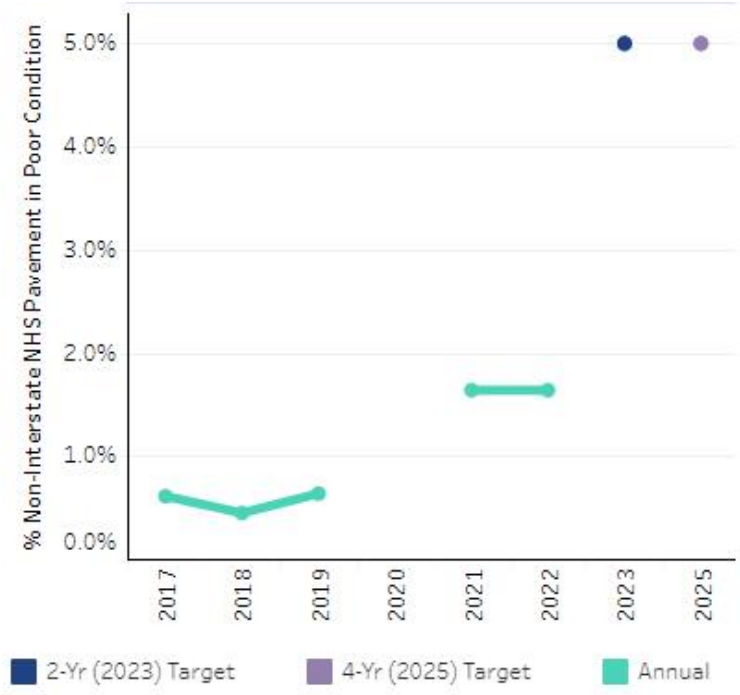
Figure 27. Percent of Non-Interstate NHS Pavement in Good Condition



Target: 40% or higher

Source: FDOT Source Book. Retrieved 6/24/24.

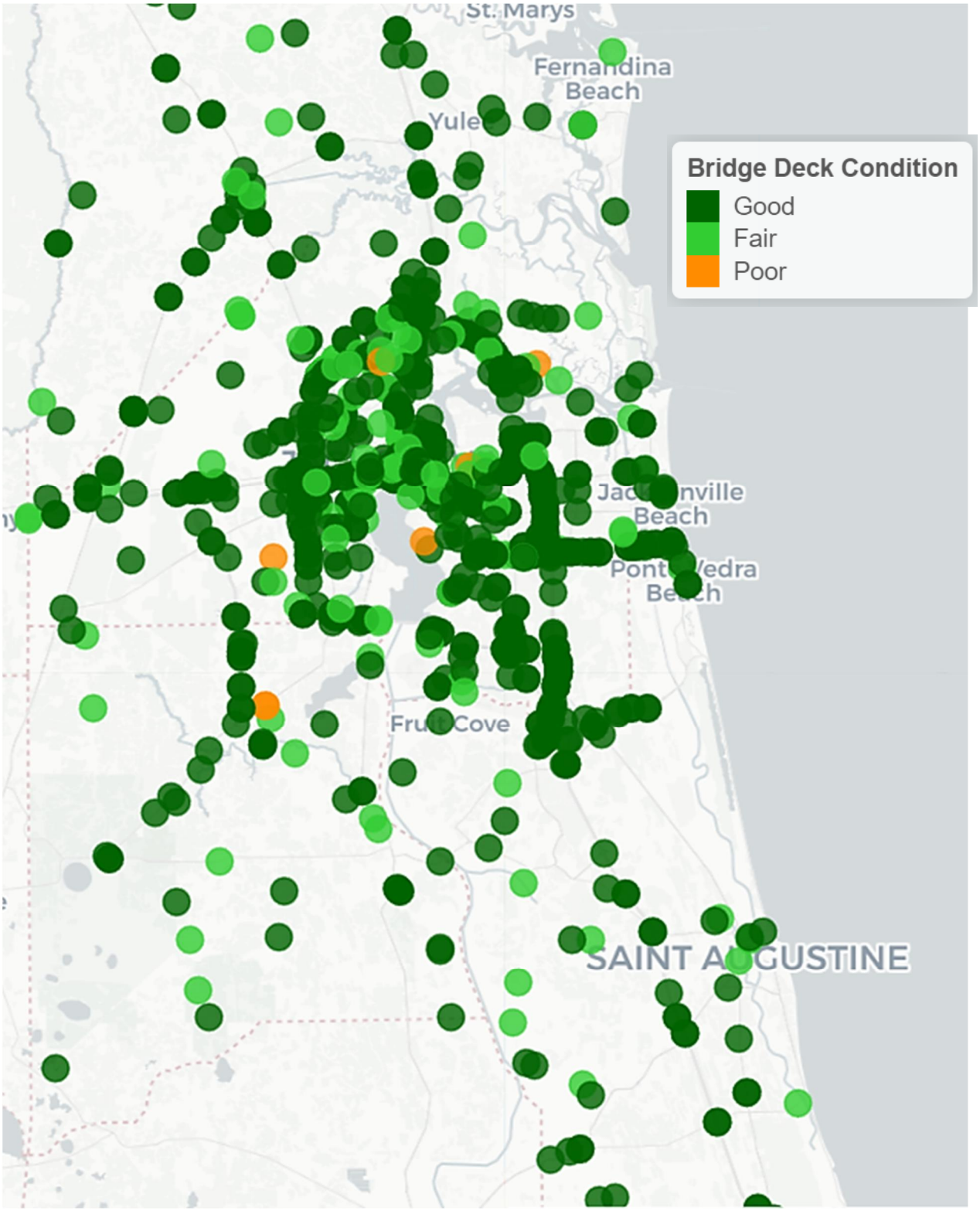
Figure 28. Percent of Non-Interstate NHS Pavement in Poor Condition



Target: 5% or lower

Source: FDOT Source Book. Retrieved 6/24/24.

Figure 29. Bridge Condition Map



Source: FDOT Forecasting and Trends Office Federal Highway Administration National Bridge Inventory. Retrieved 6/24/24.

Transit Asset Management – Objective 6.3

This objective is vital to maintain the transit systems efficiency and provide effective operations. The performance measures list in Table 15 and Table 16 are based on the Transit Economic Requirements Model.

Table 15. JTA Transit Asset Management

JTA			
Performance Measure	Asset Type	2022 Performance	Benchmark
% of facilities rated under 3.0 on TERM scale	Admin/maintenance facilities	0%	< 3.0%
	Passenger/parking facilities total	3.45%	< 3.0%
% of fleet exceeds UL of 12 years or 5,000 miles	Buses	4.57%	< 23.0%
% of fleet exceeds UL of 25 years	Automated guideway vehicle	0.00%	0.0%
	Ferryboat	0.00%	0.0%
% of fleet exceeds UL of 4 years or 100,000 miles	Vans	17%	< 57.0%
% of fleet exceeds UL of 5 years or 150,000 miles	Cutaways	45.16%	< 55.0%
% of non-revenue service vehicles exceeds UL of 18 years	Boats (equipment)	-	100.0%
% of non-revenue service vehicles exceeds UL of 4 years or 100,000 miles	Automobile (equipment)	100%	100.0%
	SUVs (equipment)	-	< 48.0%
	Trucks (equipment)	-	< 85.0%
	Trucks and other rubber tire vehicles (equipment)	56.9%	< 66.0%
	Vans (equipment)	-	100.0%
% of track segments under performance restrictions	JTA rail fixed guideway	0.39%	< 8.0%

Source: Florida Department of Transportation. Retrieved 1/30/24.

Table 16. The Sunshine Bus Transit Asset Management

The Sunshine Bus			
Performance Measure	Asset Type	2021 Performance	Benchmark
% of facilities rated under 3.0 on TERM scale	Admin/maintenance facilities	0%	0.0%
% of fleet exceeds ULB	Cutaways	13%	< 65.0%
	Minivans	57%	< 66.0%
% of non-revenue service vehicles meet ULB	Trucks and other rubber tire vehicles (equipment)	100%	100.0%

Transit Asset Management

Goal 7: Reliable and Resilient Infrastructure

The FDOT historically addresses the effects that weather events pose to transportation facilities and how the public infrastructure can be built to withstand or rapidly recover from these events. The FDOT Resilience Action Plan was published in 2023 and discusses the state's history with resiliency, vulnerability assessments, and the framework to implement more resilient infrastructure throughout the state.

Strategies used to increase resiliency include monitoring trends and conditions, conducting vulnerability assessments, developing a decision-making network, and expanding planning study scopes. To move towards a more resilient region, at-risk facilities in the region are considered and studied as a proactive measure and projects along evacuation routes are set at a higher priority.

The Resilient Florida Grant Program for fiscal year 2023-24 was put in place and allocates funding for adaptation plans throughout the state. More information on this can be found here: https://floridadep.gov/ResilientFlorida.

Goal 8: Tourism

Tourism plays a major role in the state of Florida. According to the North Florida TPO's Tourism Mobility Study published in 2022, nearly 26 million visitors traveled to the region in 2022. Attractions include (but are not limited to) the St. Johns River, Jacksonville Beach, Neptune Beach, Atlantic Beach, and Black Rock Beach. Other destinations include wildlife sightseeing, camping, golfing and hiking/biking trails. The City of Jacksonville has more than 80,000 acres of parks. Sporting events are frequented in the area as the region is home to several minor league sports teams and home of the Jacksonville Jaguars of the National Football League. There are many annual events that occur in the North Florida TPO region which include (but are not limited to) the World Of Nations Celebration, the Gate River Run (USA 15K Championship Race), The Players Championship, the Jacksonville Jazz Festival, The Kingfish Tournament, and the Florida/Georgia college football game.

The goal is to increase the number of multi-modal projects in high tourism areas and provide transportation connectivity to tourists within the region. A summary of the visitors per year in each county is provided in Table 17.

Table 17. Visitors from Out of the Region

County	Year	Visitors
Clay	-	-
Duval	2022	22,000,000
Nassau	2022	758,000
St. Johns	Mid 2021 - 2022	3,025,500
Total		25,783,500

No data is available for Clay County.

Goal 9: Future Technologies that Support Transportation

There are no measures associated with this goal.

8. Bottleneck Analysis

The Regional Integrated Transportation Information System (RITIS) bottleneck tool was used to identify and rank the major roadway bottlenecks during 2023. The bottleneck ranking system organized the data based on total delay. The FDOT Fiscal Year 23/24 Five-year Work Program and the North Florida Roads database was reviewed to determine if a capacity improvement is active or programmed. If construction is ongoing or programmed for construction, then it was removed from the list. The top bottleneck corridors are summarized in Table 18.

Table 18. Top Bottlenecks

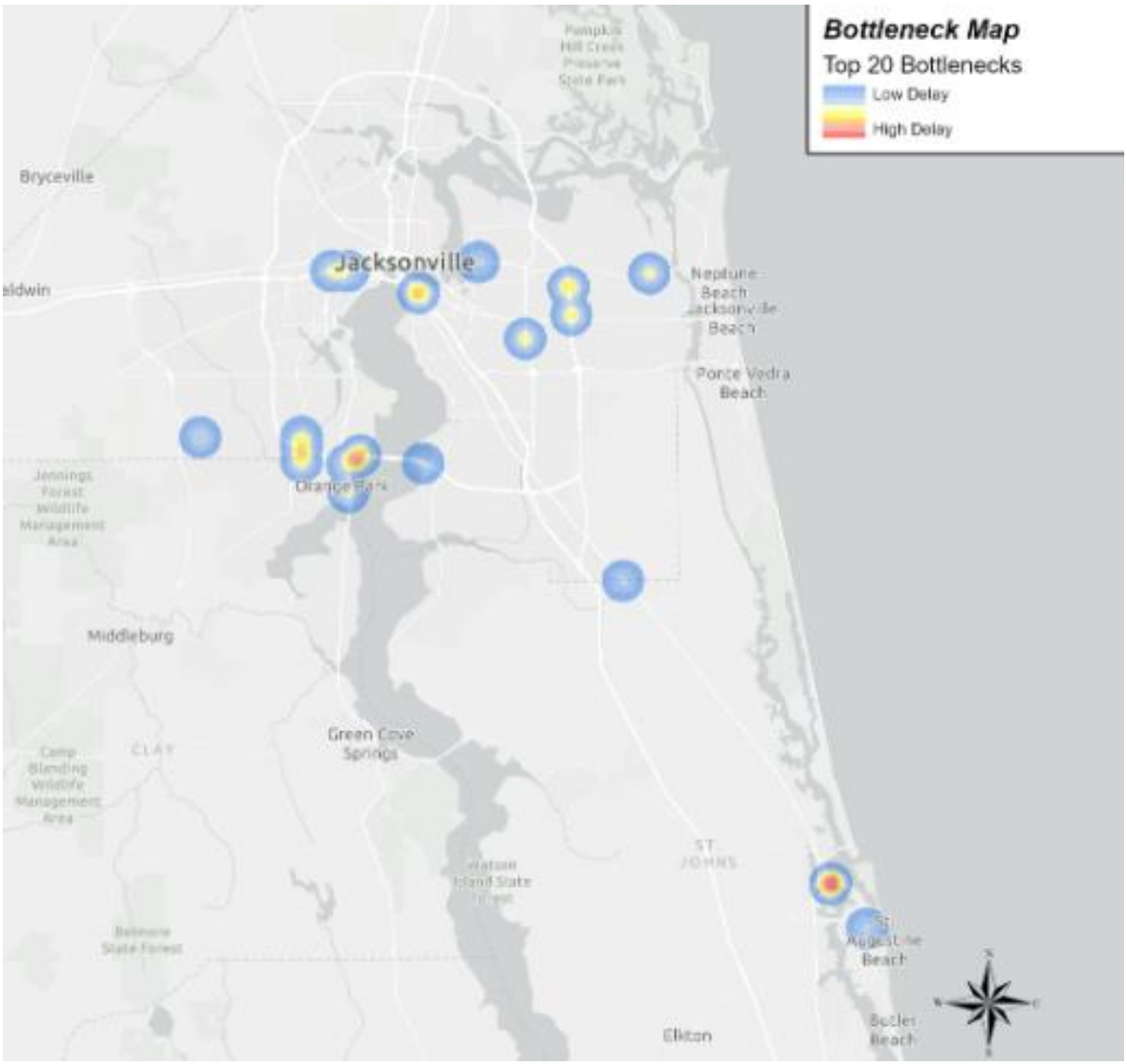
Major Road	Minor Road	Delay
I-295	Buckman Bridge	155,142,408
I-295	SR 212 (Beach Boulevard)	110,410,131
I-295	St Johns Bluff Road	92,229,392
US 17 (Park Street)	Wells Road	81,227,227
I-10	Luna Street	78,044,729
I-295	Dames Point Bridge	76,097,175
I-295	Town Center Parkway/ UNF Drive	72,837,762
I-10	SR 129 (McDuff Avenue)	71,137,946
US 17 (Park Street)	SR 224 (Kingsley Avenue)	66,789,791
US 17 (Roosevelt Boulevard)	SR 129 (McDuff Ave)	60,457,007
I-295	US 17 (Roosevelt Boulevard)	52,854,867
I-295	SR 10 (Atlantic Boulevard)	51,613,908
I-295	SR- 34 (103rd Street)	48,769,328
I-295	I-95 Interchange	40,098,424
I-10	SR 5/US 17 (Roosevelt Boulevard)	36,961,760
I-10	SR 111 (Edgewood Ave)	36,249,171
SR 105 (Heckscher Drive)	I-295 Interchange	5,879,222
I-295	SR 113 (Southside Connector)	33,126,278
US 17 (Roosevelt Boulevard)	Willow Branch Ave	31,717,997
I-295	SR-202 (J. T. Butler Boulevard)	9,096,180

Source: RITIS. Retrieved 1/30/24.

A majority of the top bottlenecks were located within Duval County. Other bottlenecks that are not listed in the above were identified but are not shown since they are currently under construction or construction is programmed to begin within the next five years.

- SR-202 (J. T. Bulter Boulevard) between I-295 and Kernan Boulevard
- I-10 ramp to US-17 ramp
- I-295 at SR-21 (Blanding Boulevard)

Figure 30. Top Bottlenecks



Source: RITIS 2023 Data. Retrieved 5/30/24.

9. 2050 LRTP Baseline Performance Report

This table summarizes the goals, objectives, performance measures. Combined with the bottlenecks and congested and constrained facilities, this information is used as inputs into the 2050 LRTP for the definition of needs.

Table 19. Baseline Performance Report

Goal 1: Invest in Projects that Enhance Economic Competitiveness				
Objective/Policy		Performance Measure	Benchmark	Baseline
Objective 1.1	Improve travel reliability on major freight routes	The Truck Travel Time Reliability (TTTR) index compares longer travel times (95th percentile) to the normal travel time for trucks. This is expressed as a ratio.	TTTR 2-Year Target: less than 1.75 4-Year Target less than 2.00	*In 2022,* *3 roads with TTTR greater than 1.75 were identified* • *I-95 (1.94)* • *I-295 East (1.88)* • *I-10 (1.79)* *No facilities were greater than 2.0.*
Objective 1.2	Maintain adequate infrastructure conditions on primary freight corridors	Percentage of National Highway System (NHS) with pavement in poor condition*	Maintain and improve*	*In 2022,* *0.2% of Interstate* *0.6% of Non-Interstate roadways pavements were in poor condition*
Objective 1.3	Invest in infrastructure that supports growth and logistics**	Number of automobiles shipped	Annual monitoring of automobiles shipped	*In 2022,* *0.5 million vehicles shipped*
		Number of tons shipped	Annual monitoring of tons shipped	*In 2022,* *10.7 million tons shipped*

Goal 1: Invest in Projects that Enhance Economic Competitiveness				
Objective/Policy		Performance Measure	Benchmark	Baseline
		Number of containers shipped (20-ft Equivalency Units [TEU])	Annual monitoring of containers shipped	*In 2022,* *1.3 million TEUs shipped*
		Air cargo shipped (1,000 lbs. loaded weight)	Annual monitoring of air cargo shipped	In 2022, 592 million pounds of air freight shipped
*See objective 6.1 and 6.2 below for performances measure and benchmarks				
**Included in regional freight plan				

Goal 2: Invest in Livable and Sustainable Communities				
Objective/Policy		Performance Measure	Benchmark	Baseline
Objective 2.1	Enhance transit accessibility	Increase the number of park-and-ride lots	Maintain or increase the number of park and ride lots	In 2022, 9 park-n-ride lots are operating
Objective 2.2	Enhance bicycle and pedestrian quality of service throughout the region	Pedestrian and Bicycle Level of Traffic Stress (LTS)	Maintain or reduce pedestrian and bicycle (LTS)	In 2022, 528 pedestrian and 480 bicycle centerline miles with LTS of 4 or more.
Policy 2.3	Reduce the impacts of investments on the natural environment	Environmental screening and mitigation	Apply Efficient Transportation Decision Making (ETDM) Process to all projects in LRTP	Ongoing - This is a continuous process performed in partnership with FDOT.

Goal 2: Invest in Livable and Sustainable Communities				
Objective/Policy		Performance Measure	Benchmark	Baseline
Objective 2.4	Reduce emissions from automobiles	Carbon dioxide, nitrous oxides, and volatile organic compound emissions due to reduced delay (tailpipe emissions)	Maintain or reduce emissions from vehicles caused by travel delays and vehicle-miles traveled in the evaluation of projects/scenarios	In 2022, 12,647 metric tons of CO2 emissions on the state highway system
		Emissions due to promoting alternative fuels (tailpipe emissions)	Maintain or reduce emissions by expanding the market share of alternative fuel vehicles	*In 2022,* *52,638 tons* *of carbon dioxide-equivalent (CO2e)*
Policy 2.5	Support regional evacuation needs	Projects that improve evacuation routes	Evaluation of projects	*Ongoing – this process is performed as part of each LRTP update.*
Objective 2.6	Provide more trails to connect destinations throughout the region, including the completion of existing regional and local trail systems	Miles of multi-use trails that connect destinations	Maintain and increase the miles of multi-use trails	*In 2019, there were* *121 miles of multi-use trails*
Objective 2.7	Provide more pedestrian facilities to connect destinations throughout the region	Total sidewalk mileage	Maintain and increase the total miles of sidewalks	In 2022, there was 64.1 percent of sidewalk facility coverage

Goal 2: Invest in Livable and Sustainable Communities				
Objective/Policy		Performance Measure	Benchmark	Baseline
Objective 2.8	Provide more bicycle facilities to connect destinations throughout the region	Total bicycle network mileage	Maintain and increase the total miles of bicycle facilities	In 2022, there was 69.3 percent of bicycle facility coverage

Goal 3: Encourage Safe and Secure Travel				
Objective/Policy		Performance Measure	Benchmark	Baseline
Objective 3.1	Reduce crashes for all modes	Number of vehicle fatalities	Reduce the number of fatalities to zero	In 2023, the five-year moving average was 247 fatalities per year
		Number of serious injuries	Reduce the number of serious injuries to zero	In 2023, the five-year moving average of injuries was 17,120 injuries per year
		The fatality rate (fatalities per 100 million vehicle miles)	Reduce the fatality rate to zero	In 2022, the five-year moving average fatality rate was 1.5 fatalities per million daily VMT
		The serious injury rate (serious injuries per 100 million vehicle miles)	Reduce the serious injury rate to zero	In 2022, the five-year moving average injury rate was 111.04 injuries per million daily VMT

Goal 3: Encourage Safe and Secure Travel				
Objective/Policy		Performance Measure	Benchmark	Baseline
		Number of non-motorized fatalities and non-motorized serious injuries	Reduce the total number of non-motorized fatalities and non-motorized serious injuries to zero on the transportation network	In 2023, there were 1,041 non-motorist fatalities and serious injuries
Policy 3.2	Promote the implementation of safety and security improvements in the design or retrofit of all transportation systems	Implemented safety countermeasures on high crash corridors identified in the Regional Strategic Safety Plan	Countermeasures reported in the Regional Strategic Safety Plan	Ongoing process.

* The FTA reports data for the JTA only for fiscal years ending September 30.

Goal 4: Enhance Mobility and Accessibility				
Objective/Policy		Performance Measure	Benchmark	Baseline
Objective 4.1	Optimize the quantity of travel	Vehicle-miles traveled	Annual monitoring*	In 2022, there were 29.9 million state highway system VMT and 25.6 million national highway system VMT
		Person-miles traveled	Annual monitoring*	In 2022, there were 52.9 million PMT

Goal 4: Enhance Mobility and Accessibility				
Objective/Policy		Performance Measure	Benchmark	Baseline
		Truck-miles traveled	Annual monitoring*	In 2022, there were 1.4 million SHS truck-miles traveled and 1.3 million NHS truck-miles traveled
		Vehicle Occupancy	Annual monitoring	In 2022, vehicle occupancy was calculated as 1.64
		Air Travel	Increase air travel usership	In 2023, there were a total of 7,446,084 arrival and departure passenger flights
		Transit Ridership	Increase transit ridership	In 2022, there were 5.994 million transit riders
Objective 4.2	Optimize the quality of travel	Average Vehicle Delay	Maintain or reduce the average vehicle delay	In 2022, the total vehicle delay in hours was 9 million
		Average Commute Time	Maintain or reduce the average commute time	In 2022, the average commute time was 28.6 min

Goal 4: Enhance Mobility and Accessibility				
Objective/Policy		Performance Measure	Benchmark	Baseline
		Interstate Level of Travel Time Reliability - Percent of person-miles traveled on the Interstate that are reliable	Maintain or improve the Interstate Level of Travel Time Reliability of 70%. This figure will be revisited every 4 years	In 2022, the percent of person-miles traveled on the Interstate that are reliable was 93%
		Non-Interstate Level of Travel Time Reliability - Percent of person-miles traveled on non-Interstate roads that are reliable	Maintain or improve the Non-Interstate Level of Travel Time Reliability of 50%. This figure will be revisited every 4 years	In 2022, the percent of person-miles traveled on non-Interstate roads that are reliable was 96%
		Level of service	Maintain the level of service standard (FDOT standard for Strategic Intermodal System facilities and local government standards for other facilities)	In 2022, there were 72 rural miles operating at the LOS standard on the SIS 64 segments at LOS E or F
Objective 4.3	Optimize the utilization of the system	Percent of system heavily congested	Maintain or reduce the percentage of miles congested by adding capacity for people vs cars	In 2022, the peak hour experiences heavy congestion on 4.2% of the roadway system
		Duration of congestion	Maintain or reduce the duration of congestion	In 2022, the daily duration of congestion is 16.4 min

Goal 4: Enhance Mobility and Accessibility				
Objective/Policy		Performance Measure	Benchmark	Baseline
Policy 4.4	Deploy strategies to support First Mile/Last Mile travel options	Complete first mile/last mile plan	-	-
* State Highway System only.				
**Reference objective 1.1				

Goal 5: Enhance Equity in Decision Making				
Objective/Policy		Performance Measure	Benchmark	Baseline
Policy 5.1*	Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects (including social and economic effects) on minority and low-income populations	Consider as part of each project	-	Ongoing process in the LRTP
Policy 5.2	Ensure full and fair participation by all potentially affected communities in the transportation decision-making process	Adherence to the Public Involvement Plan	-	Ongoing process in the LRTP

Goal 5: Enhance Equity in Decision Making				
Objective/Policy		Performance Measure	Benchmark	Baseline
Policy 5.3	Prevent the denial of, reduction in, or significant delay of the receipt of benefits by minority and low-income populations	Value of projects in construction in low-income and minority census tracts	Evaluation of projects	Ongoing process in the LRTP
*No quantifiable performance measure				

Goal 6: Preserve and Maintain our Existing System				
Objective/Policy		Performance Measure	Benchmark	Baseline
Objective 6.1	Maintain and update roadways to current standards	Percent of Interstate Pavement in Good Condition	> 60%	In 2022, 58.4%
		Percent of Interstate Pavement in Poor Condition	< 5%	In 2022, 0.2%
		Percent of Non-Interstate NHS Pavement in Good Condition	> 40%	In 2022, 42.1%
		Percent of Non-Interstate NHS Pavement in Poor Condition	< 5%	In 2022, 1.6%
Objective 6.2	Maintain and update bridges to current standards	Percent of National Highway System Bridges in Good Condition	> 50%	In 2022, 51.04%
		Percent of National Highway System Bridges in Poor Condition	< 10%	In 2022, 0.69%

Goal 6: Preserve and Maintain our Existing System				
Objective/Policy		Performance Measure	Benchmark	Baseline
Objective 6.3	Maintain and update transit systems to current standards	Average age of rolling stock	Maintain or reduce the average of rolling stock	In 2021, JTA: 12.5 years Sunshine Bus: 4.1 years Nassau: 8.2 years
		Average age of equipment	Maintain or reduce the average of equipment	In 2021, JTA: 6.2 years Sunshine Bus: 18 years Nassau: N/A
		Conditions of transit facilities	Maintain or improve the conditions of transit facilities	JTA passenger parking (2023): 3% JTA admin maintenance (2023): 0% Sunshine Bus admin maintenance (2022): 0% Nassau County parking (2021): 0% Nassau County admin maintenance (2021): 6.67%

Goal 6: Preserve and Maintain our Existing System				
Objective/Policy		Performance Measure	Benchmark	Baseline
		Conditions of transit infrastructure	Maintain or improve the conditions of transit infrastructure	JTA rail fixed guideway (2023): 0%

*Equipment not in revenue service.

Goal 7: Create Reliable and Resilient Multimodal Infrastructure				
Objective/Policy		Performance Measure	Benchmark	Baseline
Policy 7.1	Incorporate climate risk in project planning, system preservation and maintenance and determine appropriate measures to mitigate risk or repurpose threatened facilities	Consideration for vulnerable, at-risk facilities	Evaluation of projects/scenarios	Ongoing process in the LRTP
Policy 7.2	Support regional evacuation needs as reflected in municipal Emergency Management Plans	Number of projects on an evacuation route	Evaluation of projects/scenarios	Ongoing process in the LRTP
Policy 7.3	Address social equity in adaptation/resilience strategy implementation.	Number of projects in low-income census tracts in LRTP		

Goal 8: Enhance Tourism Transport Management				
Objective/Policy		Performance Measure	Benchmark	Baseline
Policy 8.1	Improve and provide diverse tourism transportation options	Number of projects in high tourism areas: St. Augustine, Fernandina Beach, Jacksonville	Evaluation of projects/scenarios	Ongoing process in the LRTP

Goal 8: Enhance Tourism Transport Management				
Objective/Policy		Performance Measure	Benchmark	Baseline
		Beaches, Downtown Jacksonville		
		Support cruise line ridership	Number of cruise passengers	In 2022, 90,241 cruise passengers traveled
Policy 8.2	Encourage the integration of alternative transportation into tourist activities	County comprehensive plans include alternative transportation for tourists	-	Ongoing process in the LRTP

Goal 9: Ensure North Florida is Ready for Future Technologies that Support Transportation				
Objective/Policy		Performance Measure	Benchmark	Baseline
Policy 9.1	Accelerate public sector modernization in transportation	Engage public sector partners to deploy technologies to modernize process, improve efficiency, and find innovative solutions to transportation issues	-	-
		Use emerging transportation data to better plan and respond to transportation issues	-	-

Goal 9: Ensure North Florida is Ready for Future Technologies that Support Transportation				
Objective/Policy		Performance Measure	Benchmark	Baseline
Policy 9.2	Promote clean and sustainable fuels, vehicles and infrastructure	Reduce petroleum consumption by increasing alternative fuels, vehicles and infrastructure diversity in North Florida	-	-
		Collaborate with community organizations, non-profits, local governments, utilities, and private sector stakeholders to implement alternative fuel programs and initiatives that prioritize equity and inclusivity	-	-

Source: 2050 Path Forward LRTP, Draft Goals and Objectives. December 2023.

10. Congestion Mitigation Strategies

This section describes various mitigation strategies that can be implemented to reduce and relieve congestion. These strategies include ways to reduce travel demand and increase operational efficiency through management steps. This list is not intended to be exhaustive. The CMP uses a strategy toolbox with tiers of strategies to support the congestion strategies for corridors.

The congestion mitigation strategies are summarized in Table 20.

The following sections summarize these strategies and how they have been considered in project plans and development since 2019 and potential opportunities on where the strategies could be deployed on future projects.

10.1 TSM&O Strategies

The existing transportation system can be utilized most effectively and efficiently through TSM&O strategies. TSM&O is an integrated program developed to optimize the performance of existing multimodal infrastructure through implementation of systems, services, and projects to preserve capacity and improve the security, safety, and reliability of the transportation system. Several TSM&O strategies are described in detail below.

Freeway Surveillance and Incident Management Systems

A freeway incident detection and management system consists of one or some combination of: roving tow or service vehicles, citizen cellular devices, incident teams, traffic detectors, changeable message signs, closed circuit television surveillance, a communication system, and central computer control. A system of detectors connected to the central computer allows monitoring of conditions throughout the freeway system. Pertinent driver information is provided through the dynamic message sign system and radio traffic reports to alert drivers to congested conditions and allows diversion to alternate routes if necessary.

FDOT has implemented through freeway and incident management systems on the entire limited-access network in North Florida.

The North Florida TPO supports incident management through funding of the Road Ranger's service patrols.

Table 20. Summary of Potential Congestion Management Strategies

Goal	Objective	Performance Measure	TSM&O Strategies														Travel Demand Management Strategies				Transit Improvements					Capacity Improvements				
			Surveillance and Incident Management	Access Management	Congestion Pricing	Integrated Corridor Management	Arterial Management Systems	Hard Shoulder Running	Reversible Lanes	One-way Streets	Ramp Metering	Transit Signal Priority	Variable Speed Limits	Dynamic Detours	Queue Warning Systems	Traveler Information Systems	High-Occupancy Vehicle (HOV) Incentives	Park-and-Ride Lots	Multimodal Transportation Centers	Commuter Assistance Service Programs	Local Bus Service Improvements	Express Buss Service Improvements	Bus Rapid Transit Improvements	Light Rail Transit Improvements	Commuter Rail Improvements	Add New Lanes	Add New Managed Lanes	Intersection Improvements	Interchange Improvements	Add Auxiliary Lanes
Goal 1: Enhance Economic Competitiveness	Improve Truck Travel Time Reliability	Truck Travel Time Reliability	●	●							●			●	●	●										●	●		●	●
	Enhance Freight Activities	Enplanements														●			●			●	●	●	●					
		Air Cargo	●		●	●	●							●	●															
		Tons Moved	●		●	●	●							●	●															
		Containers Moved	●		●	●	●							●	●															
		Automobiles Moved	●		●	●	●							●	●															
	Improve Local Economy	GDP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Goal 2: Livability and Sustainability	Reduce the Cost of Congestion	Cost of Emissions	●	●	●	●	●			●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Cost of Congestion	●	●	●	●	●			●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Fuel Consumption	●	●	●	●	●			●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Goal 3: Enhance Safety	Reduce Crashes	Total Crash Rate	●	●		●	●				●		●	●	●	●										●	●		●	●
		Total Crashes	●	●		●	●				●		●	●	●	●										●	●		●	●
		Total Pedestrian Crashes	●	●		●	●				●		●	●	●	●										●	●		●	●
		Total Bicycle Crashes	●	●		●	●				●		●	●	●	●										●	●		●	●
	Reduce Fatal Crashes	Fatal Crash Rate	●	●		●	●				●		●	●	●	●										●	●		●	●
		Total Fatalities	●	●		●	●				●		●	●	●	●										●	●		●	●
		Total Pedestrian Fatalities	●	●		●	●				●		●	●	●	●										●	●		●	●

Goal	Objective	Performance Measure	TSM&O Strategies														Travel Demand Management Strategies				Transit Improvements					Capacity Improvements				
			Surveillance and Incident Management	Access Management	Congestion Pricing	Integrated Corridor Management	Arterial Management Systems	Hard Shoulder Running	Reversible Lanes	One-way Streets	Ramp Metering	Transit Signal Priority	Variable Speed Limits	Dynamic Detours	Queue Warning Systems	Traveler Information Systems	High-Occupancy Vehicle (HOV) Incentives	Park-and-Ride Lots	Multimodal Transportation Centers	Commuter Assistance Service Programs	Local Bus Service Improvements	Express Buss Service Improvements	Bus Rapid Transit Improvements	Light Rail Transit Improvements	Commuter Rail Improvements	Add New Lanes	Add New Managed Lanes	Intersection Improvements	Interchange Improvements	Add Auxiliary Lanes
		Total Bicycle Fatalities	●	●		●	●				●		●	●	●	●												●	●	●
	Reduce Serious Injuries	Number of Serious Injuries	●	●		●	●				●		●	●	●	●												●	●	●
		Rate of Serious Injuries	●	●		●	●				●		●	●	●	●												●	●	●
		Non-motorized Serious Injuries	●	●		●	●				●		●	●	●	●												●	●	●
	Optimize the Quantity of Travel	Vehicle Miles Traveled	●	●	●	●	●	●	●	●	●		●	●	●	●	●									●	●	●	●	●
		Vehicle Occupancy															●	●												
		Person Miles Traveled	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Truck Miles Traveled	●	●							●			●	●	●										●	●		●	●
		Transit Ridership										●						●	●		●	●	●	●	●					
	Optimize the Quality of Travel	Travel Time Reliability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									●	●	●	●	●
		Travel Speed	●	●	●	●	●				●		●	●	●	●	●									●	●	●	●	●
		Delay	●	●	●	●	●				●		●	●	●	●	●									●	●	●	●	●
		Percent Miles Meeting LOS Criteria Rural Facilities				●	●							●		●		●		●						●	●	●	●	●
		Hours Severely Congested	●	●	●	●	●				●		●	●	●	●	●									●	●	●	●	●
Goal 4: Enhance Mobility																														

Goal	Objective	Performance Measure	TSM&O Strategies														Travel Demand Management Strategies				Transit Improvements					Capacity Improvements				
			Surveillance and Incident Management	Access Management	Congestion Pricing	Integrated Corridor Management	Arterial Management Systems	Hard Shoulder Running	Reversible Lanes	One-way Streets	Ramp Metering	Transit Signal Priority	Variable Speed Limits	Dynamic Detours	Queue Warning Systems	Traveler Information Systems	High-Occupancy Vehicle (HOV) Incentives	Park-and-Ride Lots	Multimodal Transportation Centers	Commuter Assistance Service Programs	Local Bus Service Improvements	Express Buss Service Improvements	Bus Rapid Transit Improvements	Light Rail Transit Improvements	Commuter Rail Improvements	Add New Lanes	Add New Managed Lanes	Intersection Improvements	Interchange Improvements	Add Auxiliary Lanes
		On-time Reliability ("FL Method" - speed over 45 mph	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									●	●	●	●	●
	Improve Accessibility to Mode Choices	Miles of Pedestrian Facilities																	●											
		Miles of Bicycle Facilities																	●											
		Percent of Population with Access to Transit																			●	●	●	●	●					
	Optimize the Utilization of the System	Percent Miles Severely Congested	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Percent Travel Severely Congested	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		Duration of Congestion	●	●	●	●	●		●		●		●	●	●	●	●				●	●	●	●	●	●	●	●	●	●
Goal 6: System Preservation	Maintain Bridges	Bridge Condition	●			●	●																							
	Maintain Roadways	Roadway Condition	●			●	●																							
	Maintain Transit Systems	Average Active Fleet Age																			●	●	●	●	●					

In addition to the strategies mentioned in the above table, other strategies were considered related to mobility enhancement. Incidents accounted for over 20 percent of the total congestion from 2019 data. The strategies applicable to reduce congestion caused by incidents are shown in the table below.

Table 21. Summary of Potential Congestion Management Stra

Goal	Objective	Performance Measure	TSM&O Strategies														Capacity Improvements				
			Surveillance and Incident Management Systems	Access Management	Congestion Pricing	Integrated Corridor Management	Arterial Management Systems	Hard Shoulder Running	Reversible Lanes	One-way Streets	Ramp Metering	Transit Signal Priority	Variable Speed Limits	Dynamic Detours	Queue Warning	Traveler Information	Add New Lanes	Add New Managed	Intersection Improvements	Interchange Improvements	Add Auxiliary Lanes
Goal 4: Enhance Mobility	Reduce Congestion from Incidents	Events	●	●															●	●	.
		Incident Verification Time	●			●	●							●	●	●					
		Incident Clearance Time	●			●	●	●	●					●	●	●					
		Response Duration	●			●	●	●	●					●	●	●					
		Open Roads Duration	●			●	●	●	●					●	●	●					
		Departure Duration	●			●	●	●	●					●	●	●					
		Roadway Clearance Duration	●			●	●	●	●					●	●	●					

Access Management

An access management program can improve average travel speeds, safety, performance, and capacity of arterials. Access management elements often include physical restriction of left turns, restricting curb cuts and driveways, separating obvious conflict areas, eliminating parking, adequate intersection spacing, and frontage roads. Access management improves safety and serves as a congestion reduction technique because it controls and limits the locations where vehicles can exit or enter the road.

The FDOT and most local partners follow the FDOT's Access Management Program which is summarized as part of the Systems Management Program.

Congestion Pricing

Congestion pricing, sometimes called value pricing, is a way to harness the existing roadway capacity to reduce traffic congestion. Congestion pricing works by shifting rush hour highway travel to other transportation modes or to off-peak periods. By removing a fraction of the vehicles from a congested roadway, pricing enables the system to flow much more efficiently, allowing more cars to move through the same physical space. Congestion pricing programs raise the price during rush hours and lower the price during off-peak periods to better use the road space. The tolls can be adjusted according to a set toll schedule or dynamically, based on demand. Adjusting the toll can persuade drivers to choose: an alternate route, a different departure time, a different mode, telecommute, or eliminate low-priority trips.

Congestion pricing is implemented as part the existing network of express lanes on I-295 and on SR-23 (First Coast Expressway).

Managed lanes (which include express lanes) are identified as needs on Table 22.

Table 22. Managed Lane Projects

Roadway	From	To	Status
I-10	I-295	I-10	Under construction
I-295 West Beltway	I-95	Buckman Bridge	Cost Feasible Plan
I-295 West Beltway	Buckman Bridge		Cost Feasible Plan
I-95	International Golf Parkway	I-295	
I-95	I-295	SR 10 (US 90) Atlantic Boulevard	Under construction
SR-23 First Coast Expressway	SR-21	St. Johns River Bridge	Under construction
SR-23 First Coast Expressway	St. Johns River Bridge	I-95	Under construction

Integrated Corridor Management

Integrated Corridor Management (ICM) systems combine individual transportation assets along a corridor into one operating system. By partnering local, state, and private agencies responsible for freeway, arterial, and transit operations within the corridor, ICM offers an opportunity to optimize transportation throughout the entire network by combining technologies and sharing information between network partners. This allows for the leveraging of underutilized infrastructure and improved dissemination of information to the traveling public.

ICM currently exists on the I-95 and US-1 Philips Highway Corridor from Bayard to Atlantic Boulevard.

Other corridors that are candidates for ICM include:

- *I-10 and SR-228 Normandy Boulevard*
- *I-95 and US-1 from International Golf Parkway to SR-9B*

Arterial Management Systems

Arterial management systems regulate or direct traffic along arterial roads, employing traffic detectors, traffic signals, and various means of communicating information to travelers. These systems use information collected by traffic surveillance devices to smooth the flow of traffic along travel corridors. They also disseminate important information about travel conditions to travelers via technology such as dynamic message signs (DMS) or highway advisory radio (HAR). Arterial management may include the following strategies: incident detection with service patrols, roving tow vehicles, motorist information systems, and incident teams; intersection surveillance and monitoring using loop detectors, interconnected signal systems, and video monitoring of intersections; parking control and management; integration of freeway and arterial management programs; and traffic surveillance and metering.

Arterial management systems exist on all principal arterials within the urban area. Candidate corridors for arterial management systems include:

- *CR-210 from I-95 to US-1*

Hard Shoulder Running

Drivable shoulder use, also known as hard shoulder running, is a strategy designed to permit a roadway shoulder to serve as additional roadway capacity on a temporary basis. By allowing vehicles (either all vehicles or only eligible vehicles, such as transit, HOVs, etc.) on the shoulder with reduced speed limits, it is possible to serve a higher number of vehicles and minimize congestion during peak periods. The drivable shoulders could also be used temporarily for incident or construction management. The decision to implement should be made by an operator in the traffic management center based on traffic conditions, after a check for obstacles and in accordance with operations policies.

Hard shoulder running strategies were previously evaluated by FDOT on the Interstate System in the urban areas in North Florida to address recurring congestion and incident management. These strategies were not considered viable at the time. This strategy may provide a viable solution in the future.

Hard shoulder running is part of the statewide evacuation operations plans in rural areas.

Reversible Lanes

Reversible or changeable traffic lanes add capacity to a road and decrease congestion by utilizing capacity from the other (off-peak) direction. Reversing lanes reduces congestion during morning and evening commutes, when there is an incident blocking a lane of traffic, or when construction or maintenance is being done on the road. Both freeway and arterial roads can be adjusted to become a one-way street or have the middle lane(s) operate in the peak direction of travel. These adjustments, indicated by changeable message signs and/or arrows, occur at specified times of the day or when volume exceeds limits.

Reversible lanes exist on Bay Street in downtown Jacksonville from US 17 Ocean Street to the Hogan Creek Bridge. This system has operated for over 20 years successfully during special events such a Florida-Georgia annual football game and Jacksonville Jaguars games.

Reversible lane strategies were previously evaluated on I-95 from the downtown area to Trout River and not advanced because of the significant operating costs.

One-way Streets

Although most streets and highways are designed for use as two-way traffic, high volumes of traffic and vehicle conflicts often lead to consideration of one-way traffic regulations. In major activity centers, such as the central business districts of cities with large traffic volumes and closely spaced intersections, one-way traffic regulations are frequently used because of traffic signal timing considerations and to improve street capacity. In the development of new activity centers such as shopping centers, sports arenas, industrial parks, and so on, one-way regulations are frequently incorporated into original streets and traffic plans. One-way streets are generally operated in one of the following three ways: a street on which traffic moves in one direction at all times; a street that is normally one-way but at certain times may not be operated in the reverse direction to provide additional capacity in the predominant direction of flow; or a street that normally carries two-way traffic but which during peak traffic hours may be operated as a one-way street, usually in the heavier direction of flow.

There are several one-way streets in downtown Jacksonville. Forsyth Street and Adams Street are being reverted to two-way streets to promote more pedestrian friendly environments for travelers.

Duval Street and Church Street are also being considered for conversion to two-way operations.

Ramp Metering

Ramp metering, also known as ramp flow control, uses specialized traffic signals that release vehicles onto a freeway in a smooth and even manner. The goal is to keep entering vehicles from crowding out freeway traffic and creating stop-and-go traffic that ripples upstream and slows the entire freeway. By releasing one or two vehicles at a time, ramp meter signals keep the freeway moving efficiently for a longer period of time. Less stop-and-go traffic means fewer crashes that cause additional congestion. In turn, vehicles will wait on the ramp. Queue by-pass lanes can be added to ramps to give priority to high-occupancy vehicles (HOV), including carpools and buses.

Ramp metering currently occurs at the SR 202 J.T. Butler Boulevard interchange at San Pablo Road.

FDOT previously conducted a systemwide evaluation of ramp metering on the limited-access facilities in North Florida. No systemwide operations strategies are being advanced currently.

Transit Signal Priority

Transit signal priority and transit signal preemption are standard traffic controller features that transfer normal signal operations to a special control mode to facilitate the passage of buses and emergency vehicles by prohibiting conflicting traffic flow. The primary objective is to improve intersection safety. For emergency vehicle services, an equally important objective is faster response times. Transit signal priority can be best implemented on traffic signals near railway crossings or on corridors with heavy transit use or designated express bus or bus rapid transit routes.

Transit signal priority was implemented as part of the Bus Rapid Transit corridors along:

- *Bay Street and Forsyth Street from JRTC to Main Street*
- *SR-10 Atlantic Boulevard from SR-212 Beach Boulevard*
- *US-1 Philips Highway from Bayard to Atlantic Boulevard*
- *SR-21 Blanding Boulevard from Collins Road to US-17 Roosevelt Boulevard*

These corridors are currently under evaluation to determine if there is an impact on the total person delay on the corridors because of the spacing of intersections and large cross street traffic.

Variable Speed Limits

Variable speed limits, also referred to as speed harmonization, use speed limit signs that can be changed to alert drivers when traffic congestion is imminent. Sensors along the roadway detect when congestion weather conditions exceed specified thresholds and automatically reduce the speed limit in 5 miles per hour increments to slow traffic uniformly and delay the onset of congestion. Depending upon the objectives set for the system, speed limits can be regulatory or advisory. Dynamic message signs can also be deployed in conjunction with this system to give drivers travel-time information or explanations.

No plans to implement variable speed limits are currently under consideration.

Dynamic Detours

A dynamic detour is the concept of detouring traffic in real time based on real time traffic information. A major part of the dynamic detour system is the ITS component that collects real-time traffic information from the road network and disseminates information to travelers to help them make informed decisions on selecting an alternate route or continue on the original route. Detour routes are a common feature of the highway system. Many detours are planned in conjunction with work zones or special events, but the roadway used for the detour may not be able to accommodate the additional traffic without prior improvements. Improvements to detour routes are intended to improve the capacity of corridors.

A dynamic detour ICM system was implemented on the I-95 and US-1 Philips Highway corridor between Bayard and Atlantic Boulevard. However, because the changes in signal timing plans impacted side street traffic where a policy priority was is given to those routes, the alternate signal timing plans were not implemented. Trail blazer signs are currently being used.

Queue Warning Systems

Queue warning system's basic principle is to inform travelers of the presence of downstream stop-and-go traffic (based on real-time traffic detection) using warning signs and flashing lights. Drivers can anticipate an upcoming situation of emergency breaking and slow down, avoid erratic behavior, and reduce queuing-related collisions. Dynamic message signs show a symbol or word when stop-and-go traffic is near. Speed harmonization and lane control signals that provide incident management capabilities can be combined with queue warning. The system can be automated or controlled by a traffic management center operator. Work zones also benefit from queue warning with portable dynamic message sign units placed upstream of expected queue points.

*Queue warning systems are currently not being considered in North Florida. **Table 23** summarizes the severity of rear-end crashes near intersection in 2018-2022.*

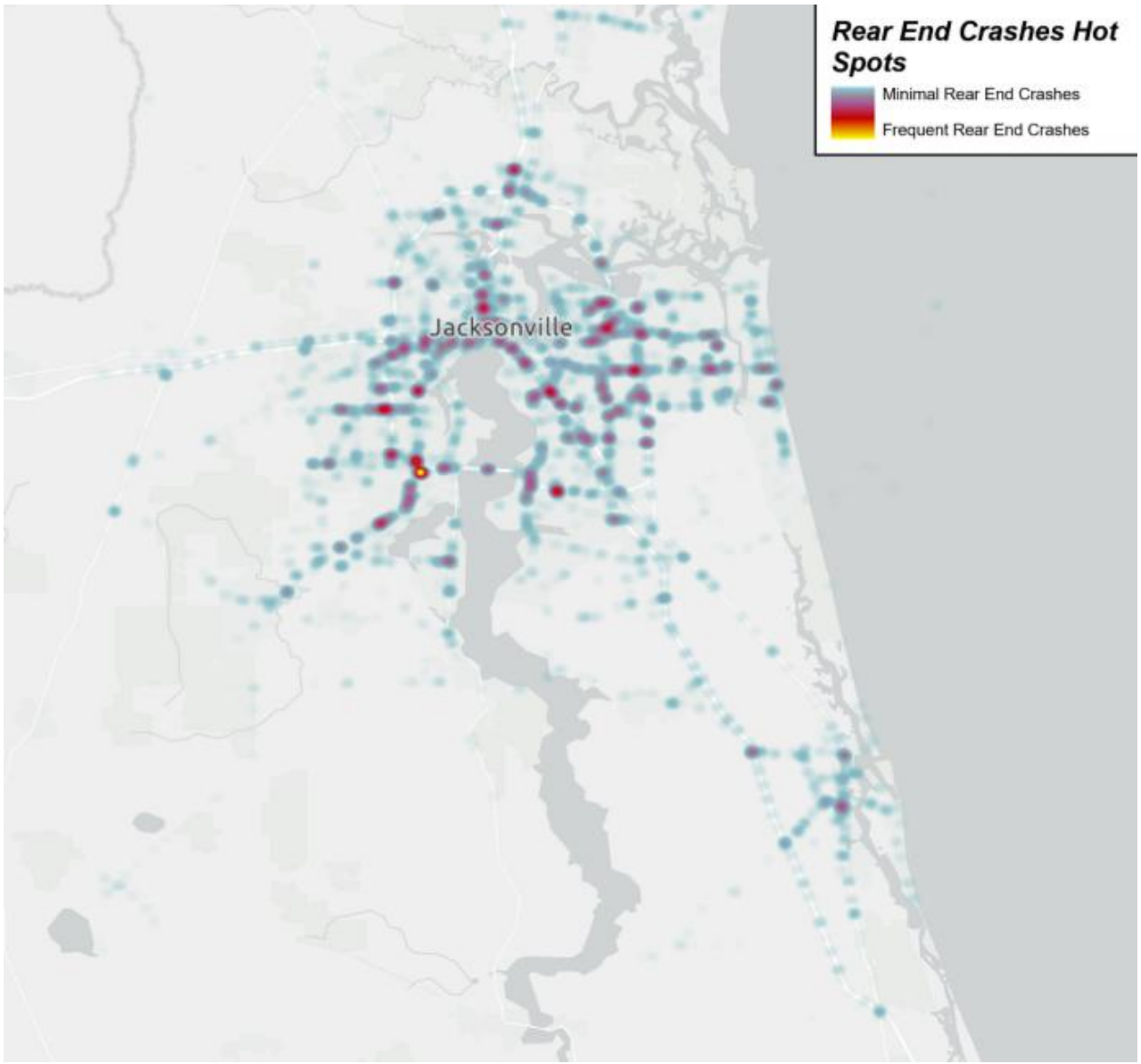
Table 23. Rear End Crashes (2018-2022)

Year	Fatality	Serious Injury	Injury	No Injuy	Total
2018	21	153	4916	13570	18660
2019	17	161	4523	13322	18023
2020	25	131	3652	10542	14350
2021	20	137	4392	12826	17375
2022	17	156	4628	12110	16911
Total	100	738	22111	62370	85319

Source: North Florida TPO Strategic Safety Plan

is a hot-spot map of where these crashes occurred. Additional engineering studies are needed to determine where these strategies may be viable.

Figure 31. Rear End Crashes Hot Spots (2017-2022)



Source: Signal Four Analytics 5/30/24.

Traveler Information Systems

Traveler information systems inform drivers on current roadway conditions – including delays, incidents, weather-related messages, travel times, emergency alerts, and alternative routes. Providing this information to drivers before and during trips allows them to make more effective travel decisions about changing routes, modes, departure times, or even destinations. More informed drivers result in more efficiently utilized roadway capacity, less gridlock, and better traffic flow.

Travel information is generated by sensors reporting to a traffic management center or through private entities using data from in-vehicle location devices, or from smart phones communicating location and speed. This information is then disseminated via traditional broadband media, internet, mobile devices, or roadside messaging. Personalized travel messages and alerts enable individuals to get trip-specific information on demand, or have it pushed to them via email or text message subscription services.

Traveler information systems exist throughout the SIS network in North Florida and are being implemented as part of the Smart St. Augustine project which is under construction.

10.2: Travel Demand Management Strategies

These strategies are recommended to encourage HOV use. Examples include HOV lanes, park-and-ride lots, multimodal transportation corridors and centers, and commuter assistance service programs. These strategies are described in detail below.

High-Occupancy Vehicle (HOV) Lanes

A HOV lane, also known as a carpool or diamond lane is a restricted traffic lane reserved at peak travel times or longer for exclusive use of vehicles with a driver and one or more passengers, including carpools, vanpools, and transit buses. The normal occupancy level is two or three occupants. HOV lanes are normally created to increase higher average vehicle occupancy and person throughput with the goal of reducing traffic congestion and air pollution.

FDOT's policy for consideration of HOV lanes has transitioned to express lanes which include tolls and congestion pricing. No HOV lanes are planned.

Park-and-Ride Lots

Park-and-ride lots are typically located on the suburban fringe of urbanized areas. Usually, park-and-ride lots are strategically placed outside of the "ring of congestion" on major commuter corridors. Services offered at park-and-ride lots may include local fixed route bus, express bus, bus rapid transit, and rail. The lots are designed for commuters transferring from low-occupancy mode of travel (usually private automobiles) to high-occupancy modes (rail, bus, van, and/or car-pools). Services from park-and-ride lots are designed to concentrate transit demand, offering transit services that could not otherwise be cost-

effectively provided. Typical park-and-ride amenities include covered or enclosed waiting areas, benches, and sometimes vending machines and restrooms. Lots may vary in size from 200 to over 1,000 spaces and can be used exclusively for transit or offer shared uses, such as vanpool staging. Transit fares from park-and-ride lots are typically higher than basic local fares, and parking may be free or for a small fee.

Nine park-n-ride lots exist in North Florida. No additional lots are planned.

Commuter Assistance Service Programs

A commuter assistance service program (CAP) is a program or series of programs with the goal of reducing single-occupant vehicle commuter congestion and travel on our nation's roads. These CAPs advocate alternative transportation strategies such as carpooling, vanpooling, car sharing, telework, flex time, congestion pricing, walking, biking, and many other methods. Employers can implement four major types of initiatives to reduce congestion:

- Encourage ridesharing, carpools, and vanpools
- Take advantage of legislation that allows tax write-offs for employee transit subsidies
- Institute flex-time programs that allow employees to spread their arrival and departure time throughout the peak periods of the day
- Participate in Transportation Management Associations.

North Florida's TPO's Cool to Pool ride share program had limited success but is actively providing support for public rideshare users.

Private rideshare companies such as Uber and Lift have grown substantially throughout the region, even necessitating the need for curb management program considerations in highly-used areas. Curb management strategies were evaluated as part of

- *Atlantic/Neptune Beach Town Center Smart Parking Plan*
- *Smart St. Augustine (under construction)*

10.3 Transit Improvements

There are two types of strategies to shift automobile trips to other modes: public transit strategies and non-motorized transportation strategies. Public transit strategies include improvements in local bus service, express bus service, bus rapid transit, light rail, and commuter rail. Non-motorized transportation strategies include new sidewalk connections, designated bicycle facilities, improved safety of existing bicycle and pedestrian facilities, exclusive non-motorized right of way, and complete streets.

The following summarizes excerpts from the JTA's MOVES 2027 strategic plan.

> *The JTA's Mobility Optimization Through Vision and Excellence 2023 - 2027 (MOVE2027) Strategic Plan was developed to respond to current and future needs of Northeast Florida and sets an ambitious agenda for the JTA over the next five years to keep the Authority at the forefront of a changing region and mobility landscape. As the JTA and the region recover from*

the COVID-19 pandemic, now is the time to think boldly about seamless mobility solutions for Northeast Florida.

The plan to reach JTA's five-year vision, the Board has laid out seven goals for the Authority:

1. Safety and Security: Ensure safety and security throughout the transportation system and in the Authority work environment

2. Employee Success: Strengthen workforce through professional development opportunities that enhance knowledge, skills, and leadership abilities

3. Customer Satisfaction: Deliver a superior and reliable customer experience

4. Financial Stability: Ensure long-term financial stability

5. Organization Efficiency and Effectiveness: Attain the highest level of agency performance

6. Sustainability: Advance transportation solutions that support environmental goals and are mindful of the context of our community

7. Transformative Mobility Solutions: Deliver innovative transportation choices that provide accessible mobility throughout the community

The current situation and trends impacting transit are

- *Rapidly Growing Region: The JTA serves a rapidly growing region. Between 2020 and 2030, the population of Northeast Florida is forecast to grow by 14 percent, twice the projected national rate. While population growth creates new economic opportunities, the region will need to invest in transportation infrastructure to accommodate that growth. The JTA plays an essential role in ensuring Northeast Florida remains able to absorb new people and jobs.*
- *Need for Regionalism: Mobility in the region does not stop at county lines. Increasingly, there is a need for strong regional and state collaboration to usher in bold investments in the transportation network. The JTA believes there is an opportunity to bring together state, federal, and local partners and jurisdictions to establish a seamless Northeast Florida regional transportation network.*
- *Access to Opportunity: Northeast Florida grapples with structural inequality, with one's race and neighborhood of origin being a major predictor of health, education, and economic outcomes throughout a lifetime. The region ranks poorly in both measures of economic mobility and income inequality. The JTA serves a critical role in addressing structural inequality by improving access to services, jobs, and education.*
- *Affordability: Between January 2021 and February 2022, housing prices and rents in Jacksonville surged by over 25 percent. Transportation and housing affordability are closely linked. Searching for affordable housing causes families to move farther away from jobs and services, increasing transportation costs. The JTA plays an important role in supporting affordability by providing the public low-cost mobility to access more housing and job opportunities.*
- *Plan for the Future Workforce: The JTA will be developing its people for future roles and will also be the engine to support the region's growing workforce. New*

technologies and automation are ushering in the need for new skills. The region already faces labor shortages that constrain economic growth. The JTA can be part of the solution by creating pathways to recruit and train the region's future workforce.

- *Revitalization and Alternatives to Sprawl: In a 2014 national study, Jacksonville ranked as the most sprawling large metro area in Florida and among the most sprawling in the nation. Low density development leads to greater transportation costs for residents, infrastructure costs for governments, and environmental costs for society. The region is investing in countering sprawl through investments in compact walkable centers, notably Downtown Jacksonville. Multi-modal transportation solutions, like those provided by the JTA, are essential to support revitalization of Northeast Florida's historic urban centers and provide the region a better alternative to sprawl.*
- *Climate and Resiliency: Northeast Florida faces a climate crisis due to sea-level rise and the increasing frequency of extreme weather events. The JTA plays a key role in ensuring the region is more resilient, from reducing the carbon footprint of transportation to incorporating green infrastructure into our projects that help absorb rainfall and reduce flooding.*

TRANSITWORKS is the JTA's initiative to create a more convenient, nimble, and responsive transit network. Integrated mobility services provide the JTA's customers with affordable, efficient, and equitable travel options to make complete trips. Under TRANSITWORKS, the JTA will continue to optimize its bus network to meet changing customer needs, invest in bus stop infrastructure and accessibility, expand the use of microtransit, improve paratransit service, and invest in transit priority infrastructure that furthers equity. The strategies are summarized in

Table 24. JTA Transit Strategies

Strategy	Description
2.01: Transit Network Optimization	Continue adjusting the JTA's fixed-route network to meet changing travel demands in the region. Key aims of this strategy are re-aligning service to post-pandemic travel demands, extending bus service to underserved regional centers, and streamlining the service change process.
2.02: Transit Amenity and ADA Accessibility	Develop and implement a plan for improving bus stops across the region. Investments include making bus stops ADA accessible, safety improvements, new shelters, and expanded bus stop amenities
2.03: Microtransit Expansion	Expand the deployment of microtransit at the JTA to extend the reach of public transit and bridge the first/last mile gap to fixed-route service. As part of the strategy, the JTA would implement new technologies that make it easier for customers to request trips in real-time.
2.04: Paratransit Enhancements	Enhance paratransit through operating and marketing improvements that will make using those services easier and more accessible for customers.
2.05: Transit Equity Prioritization	Program to more equitably manage the region's roadways to prioritize public transit. Investments in transit priority are investments in equity, by expanding mobility for residents who rely on public transit to get around. The JTA strives to make transit more time competitive with personal vehicles.

10.4 Multimodal Improvements

New Sidewalk Connections

Sidewalk connectivity encourages pedestrian traffic. Maximum block lengths, building setback restrictions, and streetscape enhancements are examples of design guidelines that can be codified in zoning ordinances to encourage pedestrian activity.

Designated Bicycle Facilities

Designated bicycle lanes refer to on-road bikeways in urban areas with bicycle logo/arrow pavement markings (person on bike symbol) and signs indicating that it is a bicycle lane. Creating designated bicycle facilities enhances the visibility of bicyclists and increases safety. Bike lanes have a powerful influence on people's willingness to try bicycling in traffic. In many cases, bicycle lanes can be added to roadways through re-striping.

Improved Safety on Existing Bicycle and Pedestrian Facilities

Improved safety on existing bicycle and pedestrian facilities could include lighting, signs, striping, traffic control devices, pavement quality, curb cuts and extensions, median refuges, raised crosswalks, and protected bicycle lanes.

Complete Streets

Complete streets are context sensitive streets or roadways that are designed and operated for safe access and travel by users of all ages and abilities, including, but not limited to motorists, bicyclists, pedestrians, transit users, technology and other mobility providers, freight haulers. Complete streets allow the public to safely cross the street, walk or bicycle to shops and/or work. They support safe and convenient access to transit services. Designing and operating the entire right-of-way as a complete street can enable safe access for pedestrians, bicyclists, motorists, and transit users. Elements that may be found on a complete street include sidewalks, bike facilities, special bus lanes, comfortable and accessible transit stops, frequent crossing opportunities, median islands, accessible pedestrian signals, curb extensions, support for changing mobility technologies, and more.

Mixed Use Development

Mixed use development is characterized as pedestrian-friendly development that blends two or more residential, commercial, cultural, institutional, and/or industrial uses. Mixed use is one of the ten principles of Smart Growth, a planning strategy that seeks to foster community design and development that serves the economy, community, public health, and the environment. This strategy allows many trips to be made without automobiles because people can walk from their residences to other uses rather than use their vehicles.

10.4 Capacity Improvements

Strategies to add capacity are the costliest and least desirable strategies and should be considered a last resort method for reducing congestion. A capacity improvement strategy could include more traffic lanes, new roadways, or other options, such as managed lanes, auxiliary lanes, or intersection improvements. These strategies can either address long-term needs via corridor-wide or alternative route expansion or can contribute to moving more traffic through a short bottleneck location in less time. These improvements are costly and will require high construction dollars to accomplish the needed goals. Strategies to add capacity are described in detail below.

New Lanes

Adding new lanes or adding general capacity can be added to any facility by building more lanes. Additional general-purpose lanes can be directly adjacent, or at-grade, to the existing mainline. While this strategy is a traditional solution to the capacity needs, it can be costly to construct additional lanes due to right-of-way restrictions or structure costs. With today's funding challenges, growing right-of-way constraints in developed areas, and increased environmental regulations, it becomes more and more challenging for cities and states to "build" their way out of congestion.

New Managed Lanes

Managed lanes refer to any lane or corridor that controls usage by vehicle eligibility, price, or access control. Managed lanes provide travel alternatives, giving flexibility to users by allowing them to choose the best method of travel for the trip. This choice reduces congestion by maximizing existing capacity while encouraging transit and carpool/vanpool usage. Public acceptance is crucial to successfully integrate managed lanes into a transportation network.

Intersection Improvements

Geometric and signal timing improvements can improve the traffic flow through an intersection. These types of upgrades include additional turning lanes, protected turns, turn restrictions, lane widening, signal timing optimization, and other methods of improving the intersection's capacity. Roundabouts are becoming more popular and allow for increased capacity and simplification of some intersections. Signal coordination amongst consecutive intersections allows platoons of vehicles to travel along a corridor, further improving a system's efficiency. Intersection improvements are typically applied along arterial roadway corridors.

Interchange Improvements

Interchange improvements are typically performed on freeway corridors. When the traffic demand overwhelms available capacity along an interchange or a corridor, some form of improvements should be performed to eliminate these bottlenecks. These recurring

localized bottlenecks are encountered in everyday commutes and are characterized as being relatively predictable in cause, location, time of day, and approximate duration. Common locations of bottlenecks include places where the number of lanes decreases, at ramp junctions and interchanges, and where there are roadway alignment changes. Bottlenecks removal can be achieved through a myriad of solutions, ranging from relatively simple, low-cost strategies to more moderate enhancements.

Auxiliary Lanes

Auxiliary lanes are continuous lanes provided between closely spaced interchange entrance and exit ramps to balance the traffic load and maintain a more uniform level of service on the highway. Auxiliary lanes facilitate the positioning of drivers at exits and the merging of drivers at entrances. A collector-distributor (C-D) lane system is similar to auxiliary lanes, except that the entering and exiting traffic weaving maneuvers take place adjacent to the mainline, often separated by a striped or physical buffer. Collector-distributor (C-D) lanes handle entering and exiting freeway traffic separately from the mainline traffic. C-D lanes may be cost prohibitive due to the need for retaining walls if existing right-of-way is limited.

Appendix A – Review of Recently Published CMP's

Review of Recently Published CMP's

A review was conducted of various other Metropolitan Planning Organizations (MPO) Congestion Management Process (CMP). This review was completed to analyze different approaches that have been taken when compiling a congestion management process. A total of five CMP's were reviewed within the state of Florida. The following MPO's that were reviewed are shown below.

- Miami-Dade
- Broward
- Palm Beach
- Metropolitan Orlando
- Pinellas

The CMP's major points are summarized in more detail below.

Miami Dade

The congestion management process is a supporting document to the Miami-Dade transportation planning organizations 2045 LRTP. The CMP is divided into seven categories: Intro, objectives, performance management measures, CMP network, data collection plan, identification of congested corridors, and CMP strategies. The introduction lists the federal and state requirements that the CMP must include and then goes on to discuss successful past and current congestion management programs such as the tri-rail and municipal trolley services. The introduction ends with the eight elements of the CMP found in the FHWA Congestion Management Process guidebook.

CMP performance management measures were shown to be divided into two sets including ongoing monitoring and evaluation, and future congestion identification. The measures relate to four dimensions listed by the FHWA CMP Guidebook. Theses four dimensions are intensity, duration, extent, and variability.

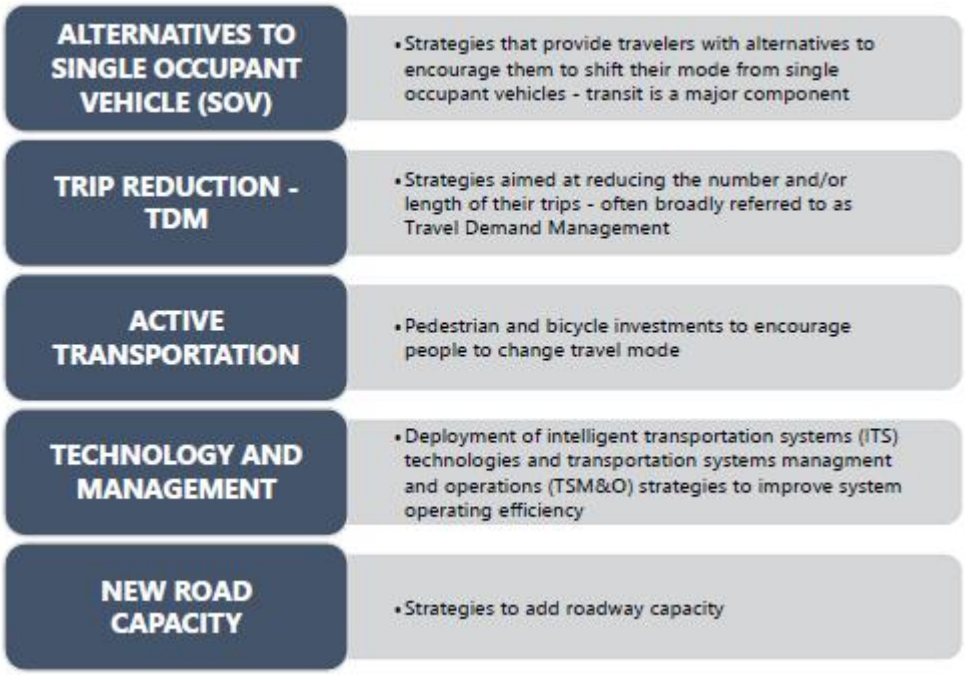
A CMP network was defined based on specific geographic locations. For this report, the network was defined as the Miami-Dade County portion of the National Performance Management Research Data Set (NPMRDS). The focus was with transit, freight, and non-motorized modes. For data collection, the common sources used were Miami-Dade count station data, archived ITS and operations data, cellphone data, and aerial photography.

The identification of congested corridors was mainly found by comparing overall reliability scores, AM peak periods, and PM peak periods. The scoring criteria used is shown here:

Scores to identify most-congested corridors:

- Unreliability Score: 0 points for no periods above 1.5
  - 1 point for 1 period above 1.5
  - 2 points for 2 periods above 1.5
  - 3 point for 3 period above 1.5
  - 4 points for 4 periods above 1.5
- AM Peak Period Score:
  - 0 Points for 50th Percentile Speed/Reference Speed > .67
  - 1 Point for 50th Percentile Speed/ Reference Speed >.33 and <.67
  - 2 Points for 50th Percentile Speed/Maximum Speed <.33
- PM Peak Period Score:
  - 0 Points for 50th Percentile Speed/ Reference Speed > .67
  - 1 Point for 50th Percentile Speed/ Reference Speed >.33 and <.67
  - 2 Points for 50th Percentile Speed/ Reference Speed <.33

Congestion management strategies developed a toolbox based on reviewing various metropolitan areas. The toolbox contains five CMP strategies as follows:



Broward MPO

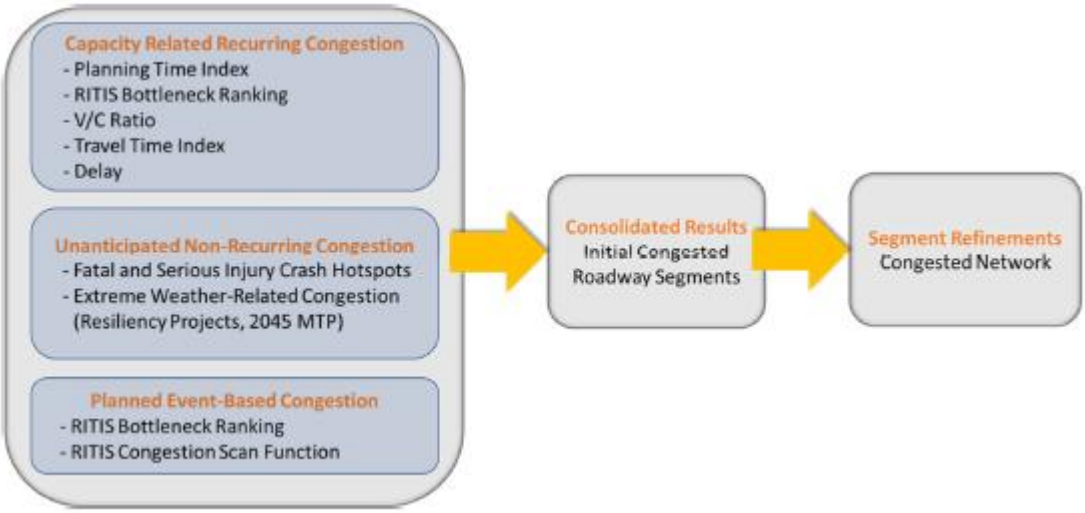
The congestion management process for Broward MPO is a published technical report dated from June 2022. The report is divided into four main categories which include an introduction, congested network analysis, congestion management strategies, and next steps. The introduction describes why a congestion plan is necessary and what MPO criteria's warrant such an analysis. Coordination with various other agencies was highlighted to guide the planning process used.

Congestion was broken up into three main classifications for analysis. The three classifications are capacity-related recurring congestion, unanticipated non-recurring congestion, and planned event-related congestion. The CMP network includes on-system state highways and roadways, off-system roadways, truck routes, transit routes, bicycle network, and pedestrian facilities.

For capacity-related recurring congestion, the metrics used to identify segments for the CMP include total daily hours of delay, volume/capacity ratio, travel time index, regional integrated transportation information system (RITIS) bottleneck ranking, and planning time index.

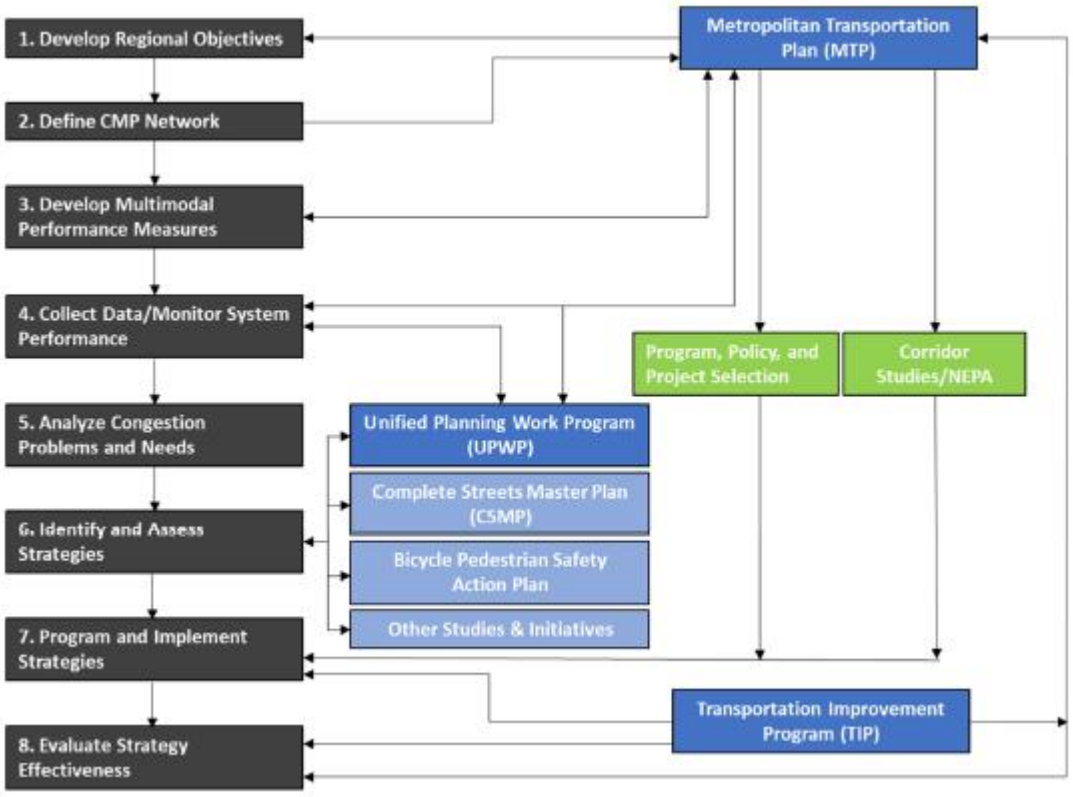
Multiple data sources were used when formulating the congestion issues and this helped to have higher confidence levels in the outcome. The main data sources used were RITIS, signal four analytics, southeast regional planning model (SERPM), and Broward MPO Level of Service Reports.

A two-step process is used that identifies initial congested segments:



Congestion management strategies are separated into two groups which are supply side strategies and demand side strategies. The supply side works on efficiency of existing facilities while the demand side addresses user behavior of the facilities. These strategies were evaluated with a focus on effectiveness, implementation costs vs. benefits received, equity impacts, and overall feasibility. Evaluation tools and techniques for congestion are given by the FHWA's Congestions Management Process Guidebook and include the following: sketch planning tools, regional travel demand model, analytical/deterministic tools, traffic control optimization tools, traffic simulation tools, and institutional knowledge and experience.

The relationship between the Broward's MPO's CMP and the areas other transportation planning and programming processes are shown below:



Palm Beach MPO

The Palm Beach MPO CMP begins with an executive summary and then is divided into eight sections: Introduction, define the CMP network, develop regional goals, objectives and performance measures, data collection, analysis, and recommendations, evaluation of alternative solutions, implementation, feedback, and conclusions. The introduction defines what a CMP is and what the goals of the report are. The eight step CMP process highlighted by the FHWA guidebook is also included within the introduction. The remainder of the report cover sections such as established performance measures and desired targets, existing data collection programs, project prioritization selection process, evaluation, implementation, and recommended future steps to further the evolution and development of the CMP.

The CMP network consists of the entirety of Palm Beach County which includes approximately 2,400 square miles. The CMP includes all modes of transportation including roads, transit (bus/tri-rail), and non-motorized (bike lanes/greenways). Goals for the CMP were first looked at through the lens of a set of values for the Palm Beach MPO. The values are shown below.

1	Improve the safety and security of the transportation system for all users.
2	Fund maintenance and rehabilitation of existing infrastructure before expanding.
3	Implement Transportation Systems Management and Operations (TSM&O) and Transportation Demand Management (TDM) strategies to maximize efficiency of existing system before expanding.
4	Maximize benefits of existing transportation revenues.
5	Provide multimodal access to areas with low income and/or traditionally under served populations.
6	Support context-sensitive implementation of complete street principles in or near identified redevelopment areas or urban centers.
7	Support economic growth and development through projects consistent with local comprehensive plans and with minimal environmental impacts.
8	Promote regionally significant facilities and coordination of projects crossing jurisdictional boundaries to facilitate effective movement of people and goods.
9	Prioritize non-motorized facilities at all transit hubs, interchanges, bridges, and railroad crossings.
10	Invest in efficient, convenient and attractive mass transit system.

There are a total of five long range transportation plan goals/objectives. The five goals are to provide an efficient and reliable vehicular transportation system, to prioritize an efficient and interconnected mass transit system, to prioritize a safe and convenient non-motorized transportation network, to maximize the efficient movement of freight through the region, and to preserve and enhance social and environmental resources. Five transportation modes were analyzed and data was collected for vehicular transportation, public transportation, bicycle and pedestrian transportation, freight movement, and social/environmental resources measures.

The solutions for the congested corridors included capital investments, operational improvements, and policy initiatives aimed toward demand management. Projects are prioritized and broken into three categories. The most financially feasible and highest ranked projects are put into the MPO's 5-year transportation improvement program (TIP). The final step of the CMP is to gain feedback on the strategies used for congestion management. This feedback runs on a recurring three-year cycle.

Metropolitan Orlando

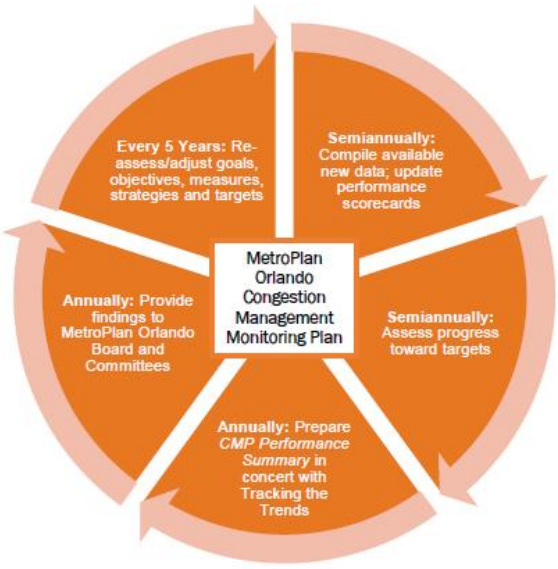
The congestion management process for the metropolitan Orlando area is included as a report within their 2045 Metropolitan Transportation Plan and was published/adopted in December of 2020. The report is broken up into nine sections with a background, goals and objectives, CMP area of application and network, performance measures, data collection and monitoring systems performance, evaluation of congestion problems and needs, identification and assessment of strategies, programming and implementation, and strategy effectiveness evaluation.

The background states that the FHWA requires transportation management areas (TMAs) with populations exceeding 200,000 to formulate a CMP. The eight steps referenced in the FHWA guidebook for CMPs were identified as developing regional objectives, defining CMP network, developing multimodal performance measures, collecting data/monitoring system performance, analyzing congestion problems and needs, identifying and assessing strategies, programing and assessing strategies, and evaluation of strategy effectiveness.

Sources of congestion are addressed and lumped into two categories of recurring congestion and non-recurring congestion. The five goals and objectives identified for the Orlando area are safety and security, reliability and performance, access and connectivity, health and environment, and investment and economy.

Metropolitan Orlando's CMP area includes all of Orange, Osceola, and Seminole counties. Each goal/objective is tracked with supporting data and organized onto a performance scorecard. This makes it easier to see if performance measures are trending in the right direction.

Data collection type encompassed a wide range, and a specific monitoring process was followed as indicated below:



Each goal analyzed different data to evaluate congestion within the region. The safety goal analyzed crashes and crash characteristics, the reliability goal analyzed travel time percentiles, the access/connectivity goal analyzed transit modes and their proximity to the urban population, the health/environment goal analyzed air quality and emissions data, and the investment and economy goal analyzed visitor corridors and their reliability.

Transportation system management and operations (TSM&O) strategies were used to help the existing transportation system be utilized effectively. The categories for this include transit and management, travel demand management, arterial management, freeway management, freight management, emergency/incident management, work zone management, special event management, travel weather management, traveler information, and non-motorized transportation strategies.

New projects were then identified based on what would have the greatest positive impact to the local transportation network. These congestion management strategies are the evaluated on a yearly basis so that the future improvements plan can make the necessary changes in prioritization for projects.

Pinellas

The congestion management process for Pinellas county was drafted in November of 2021. The report is split up into 11 sections: Introduction, background, FHWA process model, regional objectives, CMP network, performance measures, system performance results, hotspot analysis, mitigation strategies, programming and implementation, and strategy effectiveness evaluation.

This report is meant to be a continually changing process that forward Pinellas and local planning partners use for evaluation and improvement strategies. The FHWA eight step models was used for the CMP.

Regional objectives taken from the Advantage Pinellas 2045 LRTP were used to guide the CMP. These are grouped into broader categories and shown below.

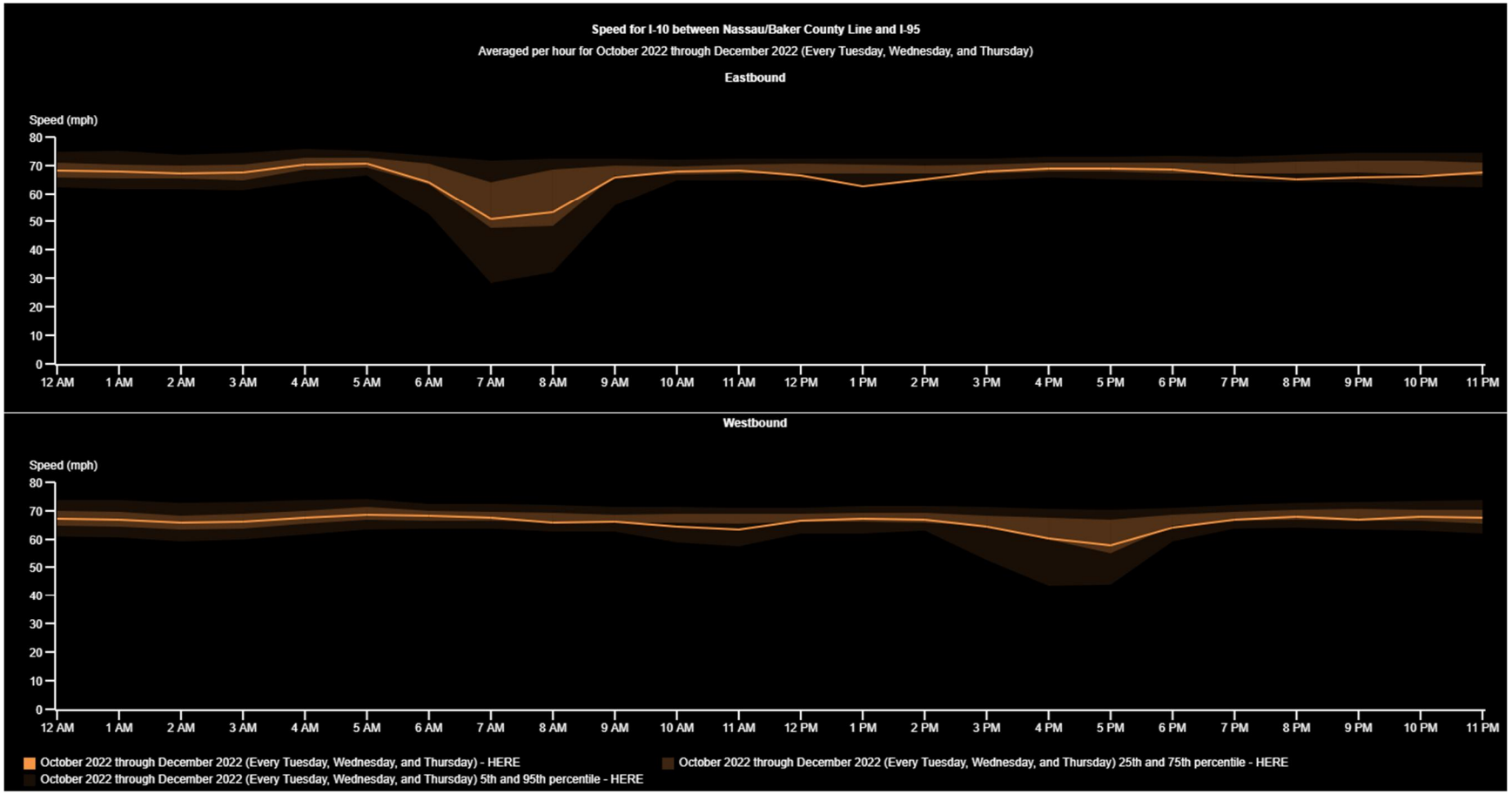
The CMP network consists of more than 900 centerline miles of roadway which includes local, regional, and inter-regional roads in Pinellas county. Fifty total performance measures were identified which were used as quantifiable assessments of the regions deficiencies. A more specific set of measures were used to perform a hotspot analysis. These measures are total crashes, total fatal and incapacitating injury crashes, total bicycle and pedestrian crashes, total bicycle and pedestrian fatal and incapacitating injury crashes, level of travel time reliability (LOTTR), annual to peak season LOTTR ratio, Level of truck travel time reliability (TTTR), peak AM speeds and speed limit difference, and peak PM speeds and speed limit difference.

Mitigation strategies undergo a two-step process. The first being a network screening to decide whether a multimodal focus, roadway focus, or hybrid focus is most appropriate, and the second uses a decision tree. The multimodal decision tree uses the following five variables: Presence of sidewalk, presence of bicycle lane, level of transit ridership, is segment part of a forward Pinellas designated investment corridor, and ROW constraint.

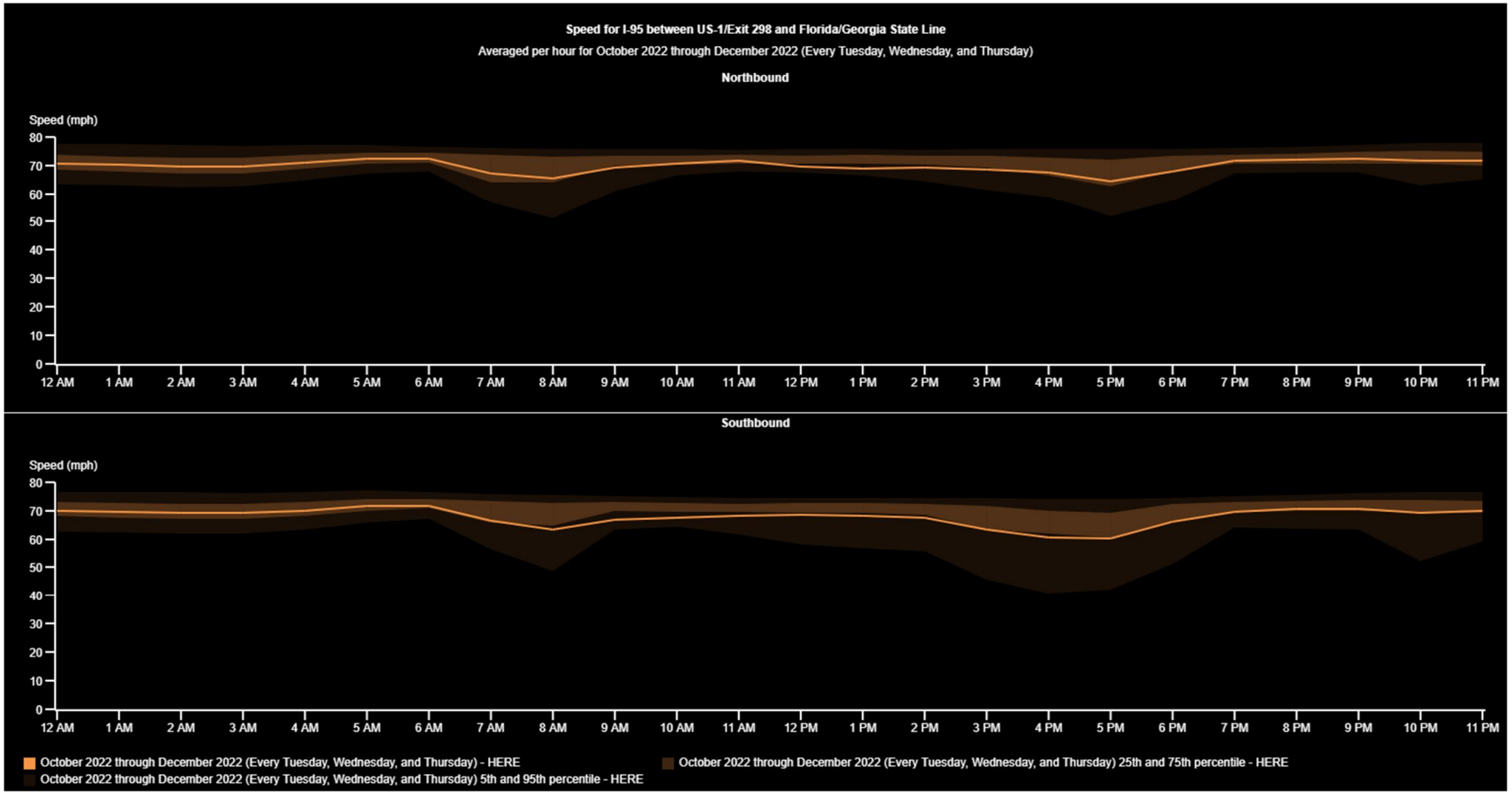
The FDOT five-year work program and Pinellas County's capital improvement program and reviewed for congestion improvements within the area. Strategies are evaluated for effectiveness using the county wide trends and conditions report. The data in this report is taken from Forward Pinellas and Federal, State and local agencies.

Appendix B – Speed Data

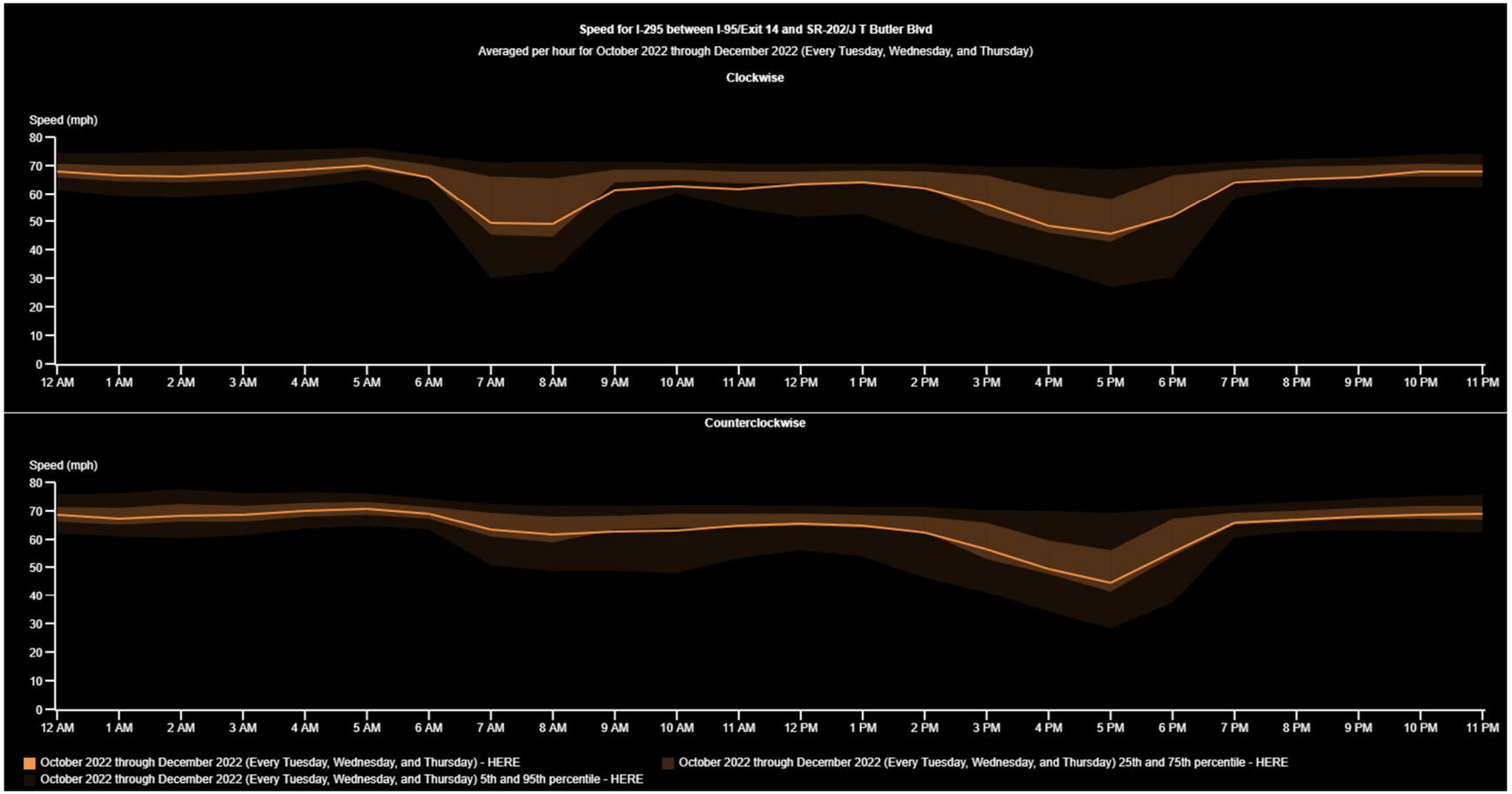
Speed by Time of Day: I-10
(MPH)



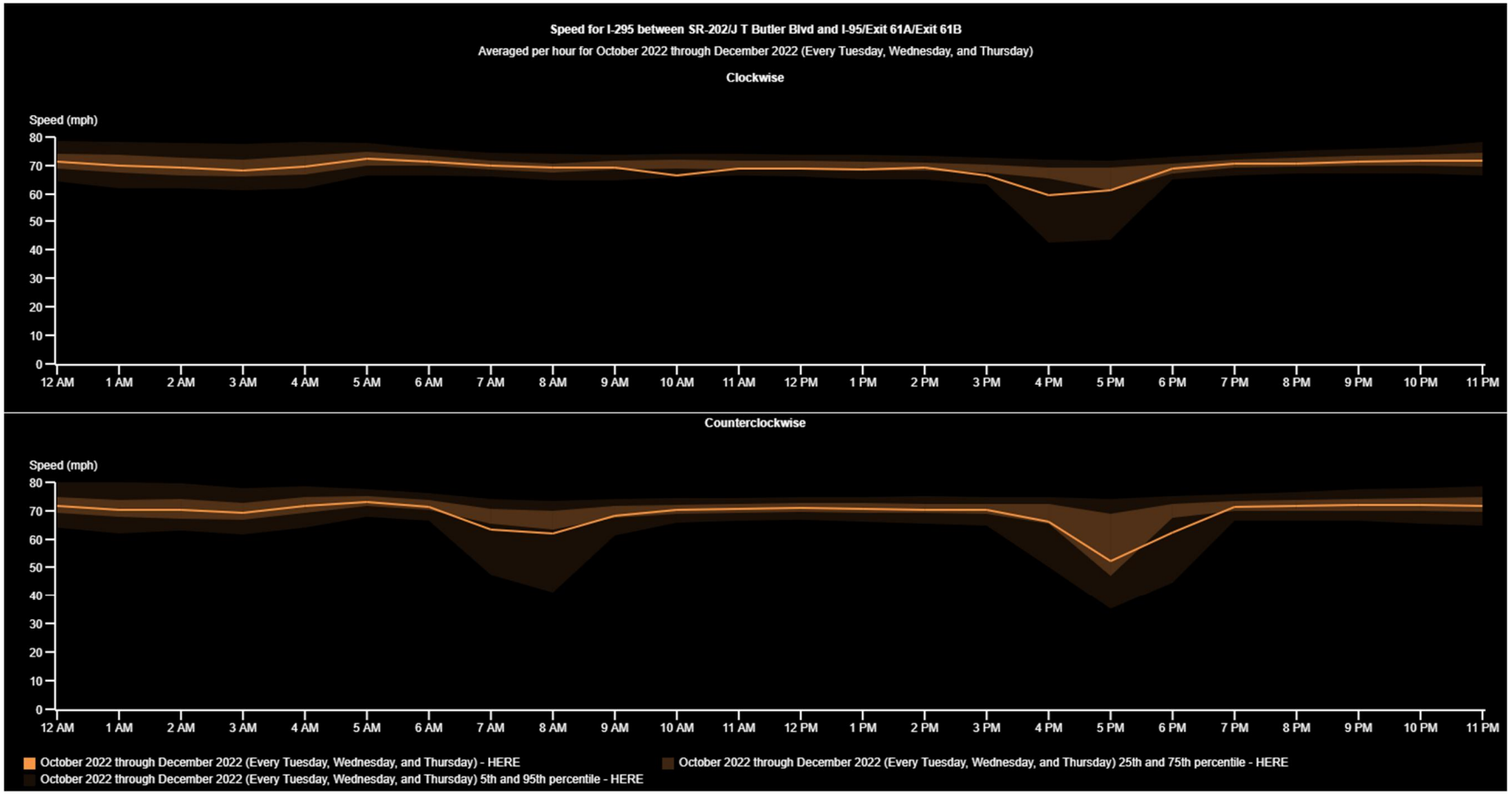
Speed by Time of Day: I-95
(MPH)



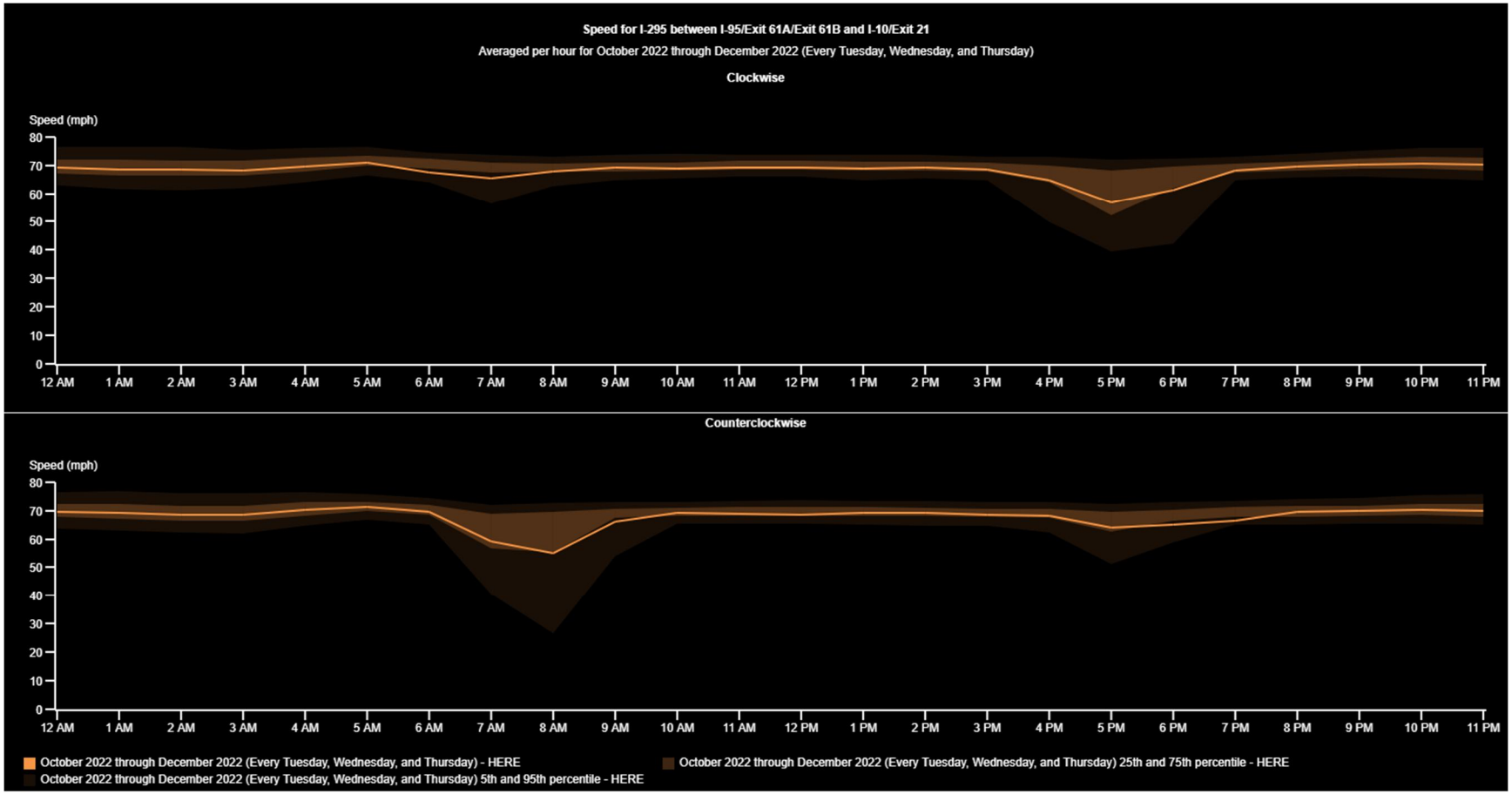
Speed by Time of Day: I-295 NE Quadrant
(MPH)



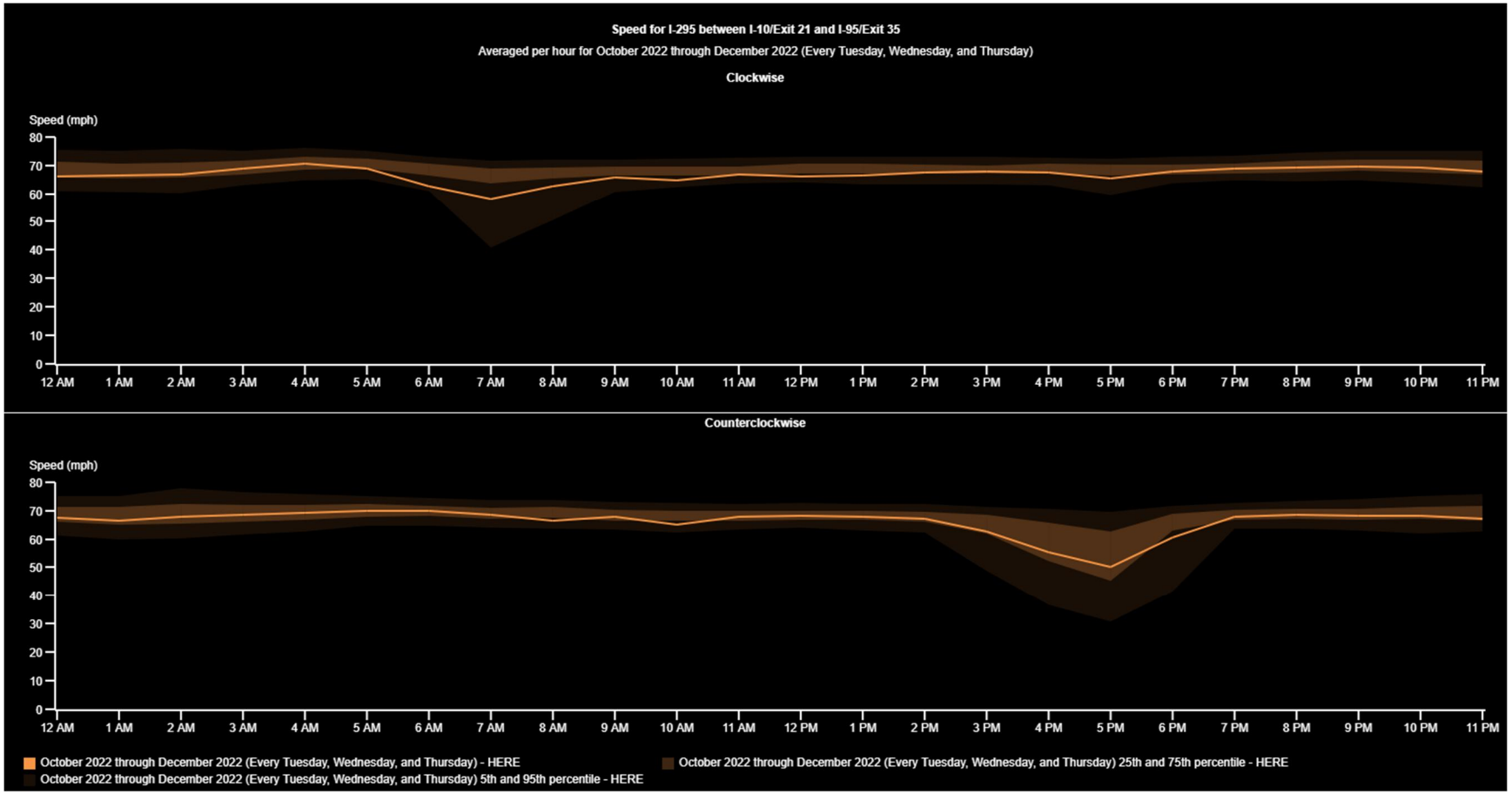
Speed by Time of Day: I-295 SE Quadrant (MPH)



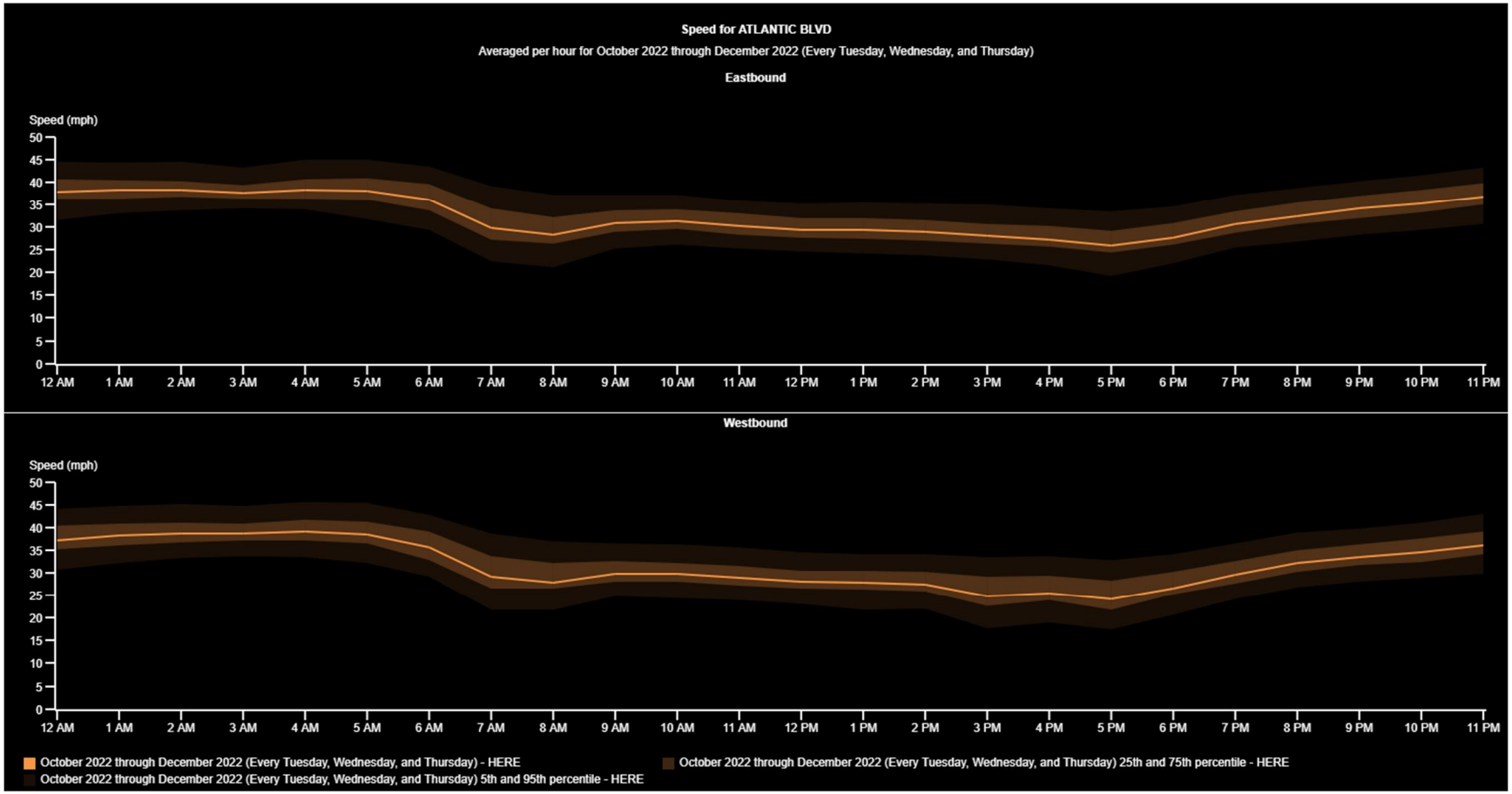
Speed by Time of Day: I-295 SW Quadrant (MPH)



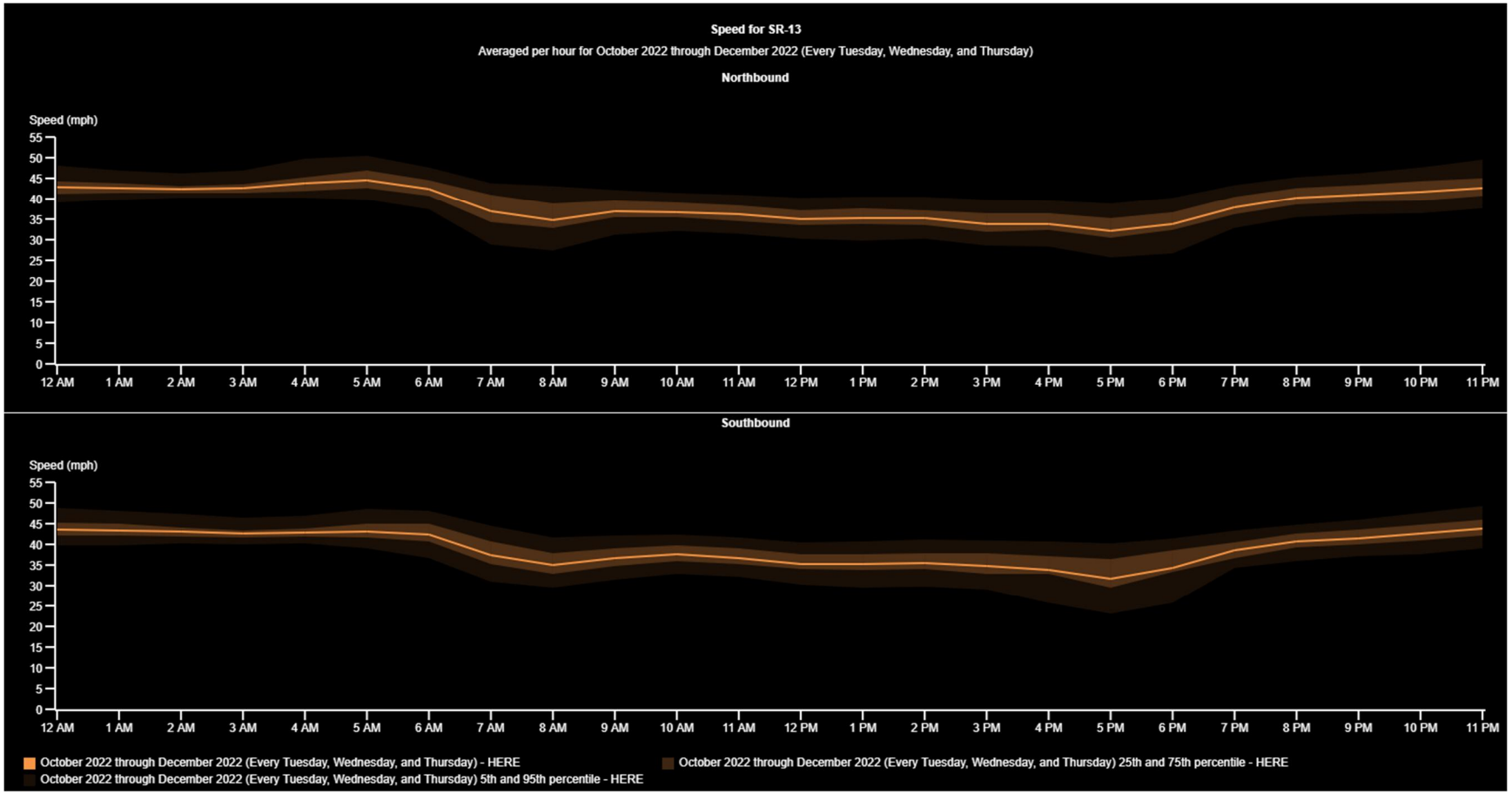
Speed by Time of Day: I-295 NW Quadrant (MPH)



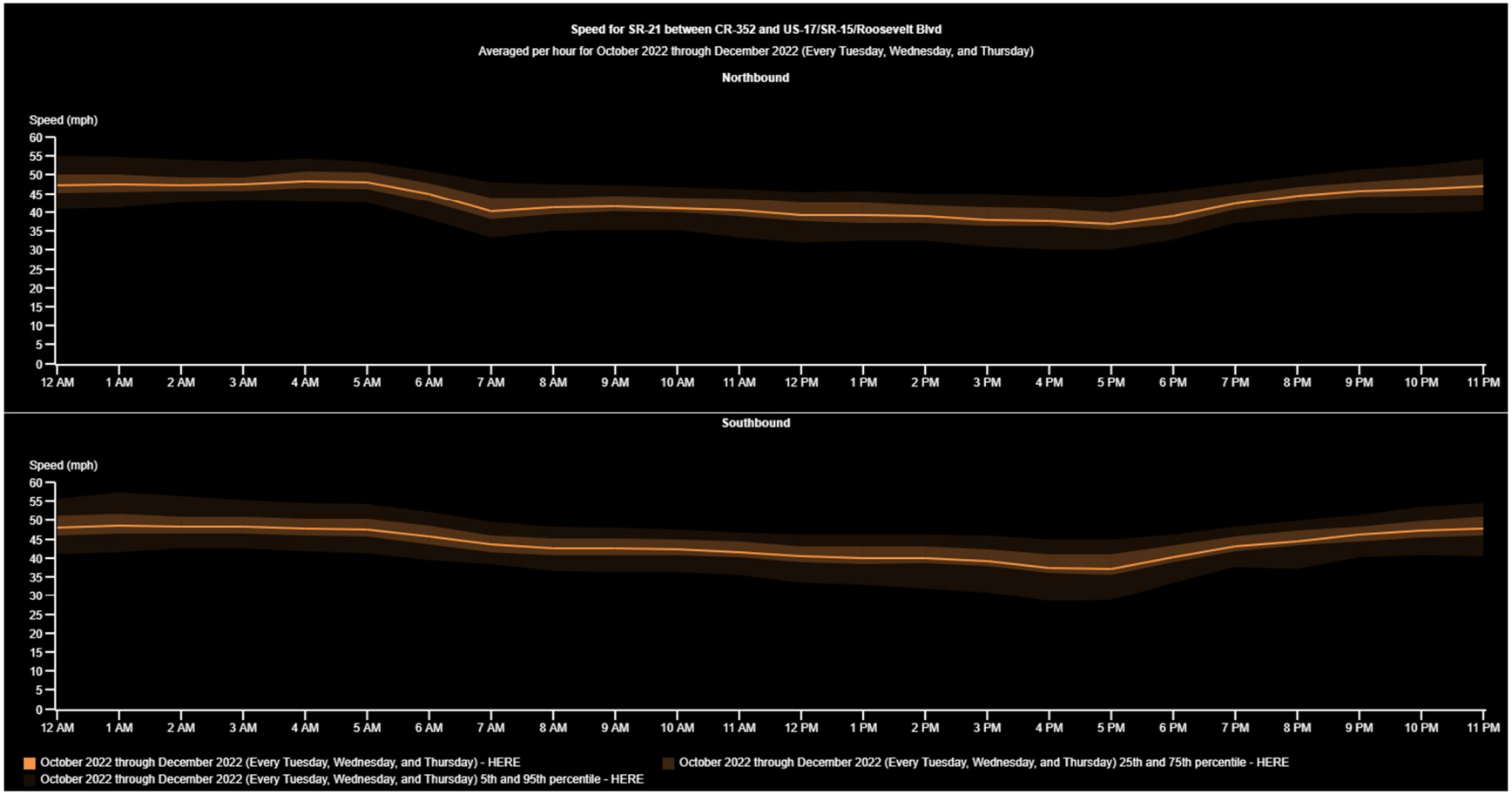
Speed by Time of Day: SR-10
(MPH)



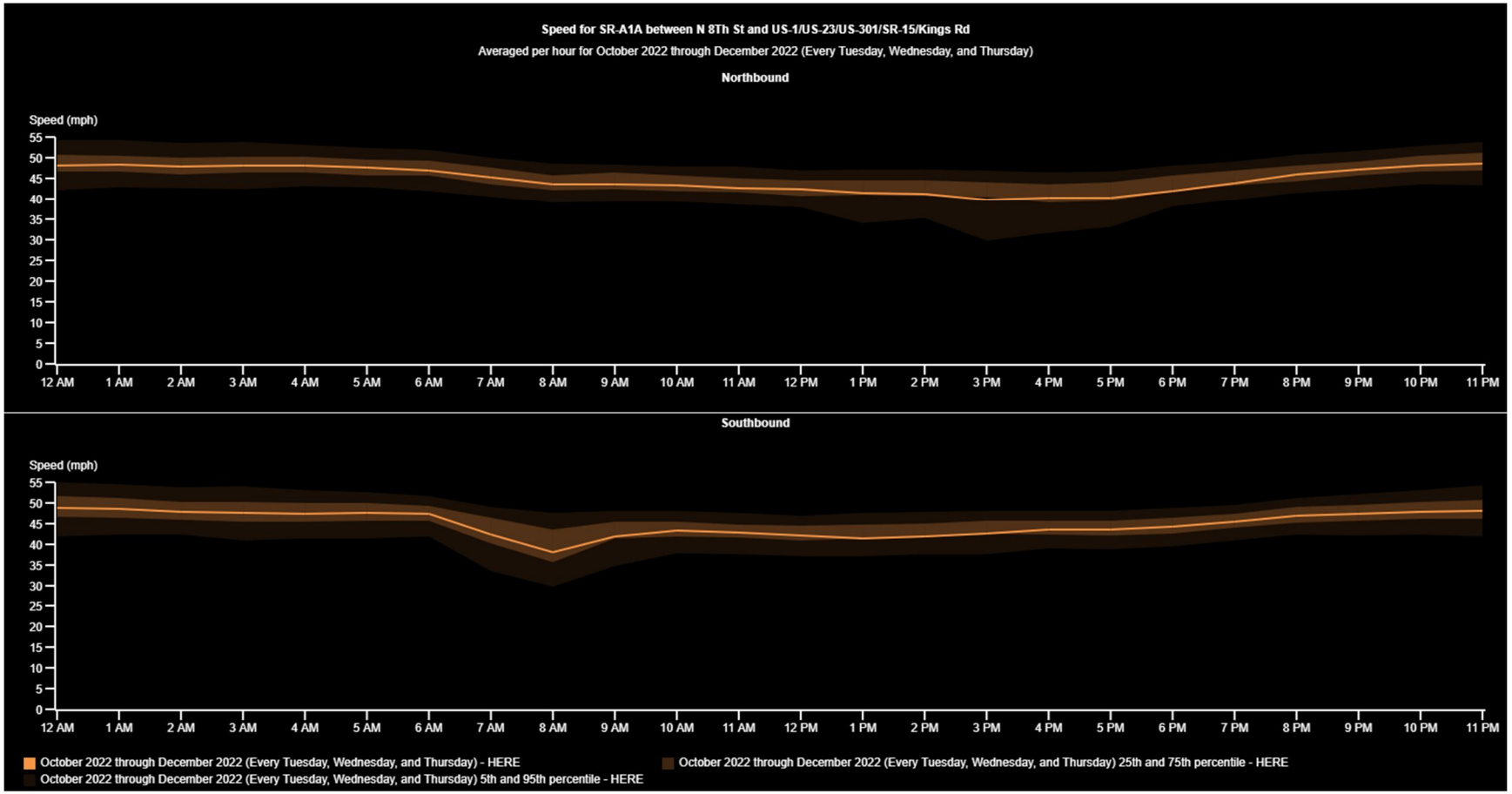
Speed by Time of Day: SR-13
(MPH)



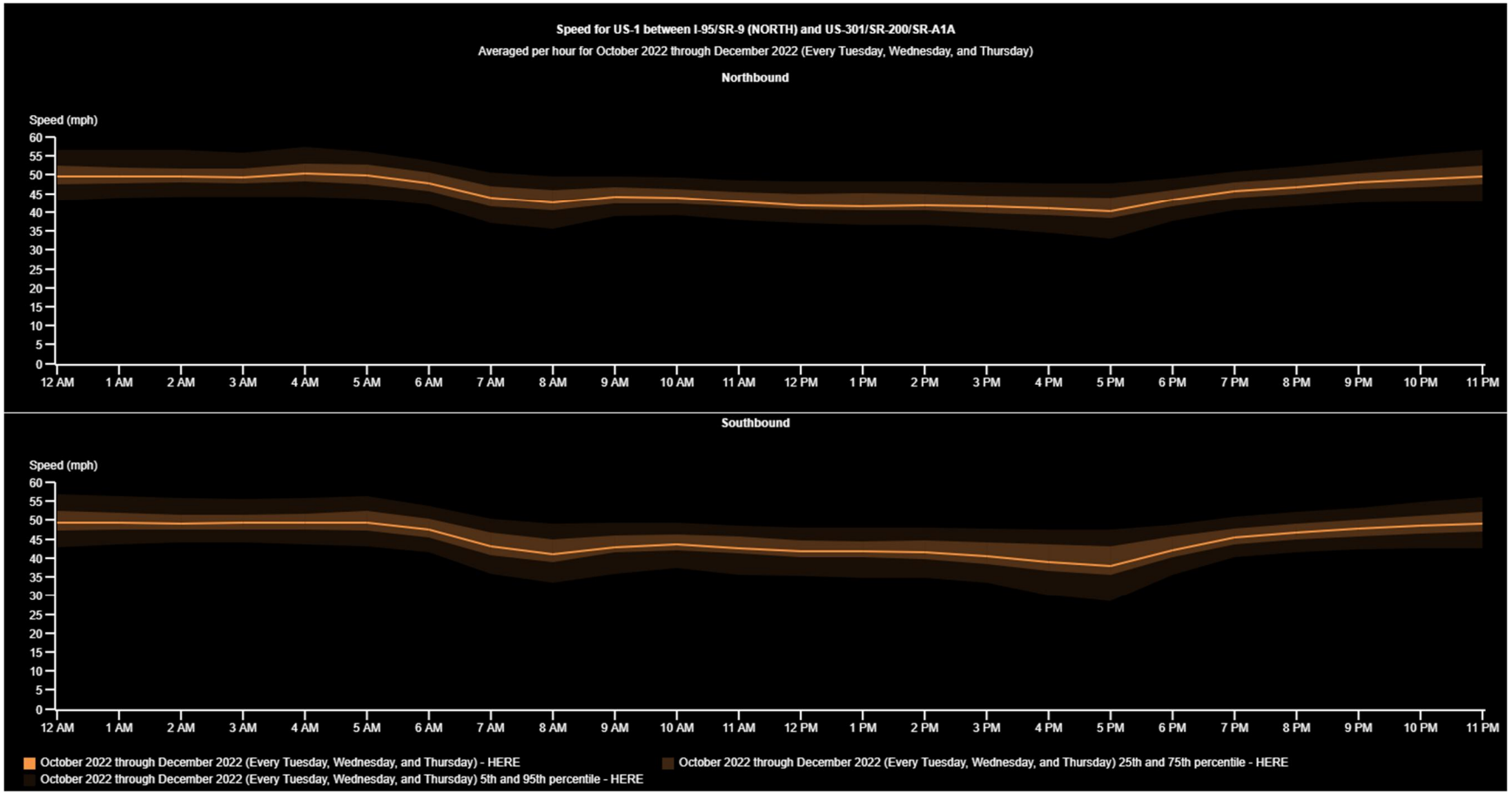
Speed by Time of Day: SR-21
(MPH)



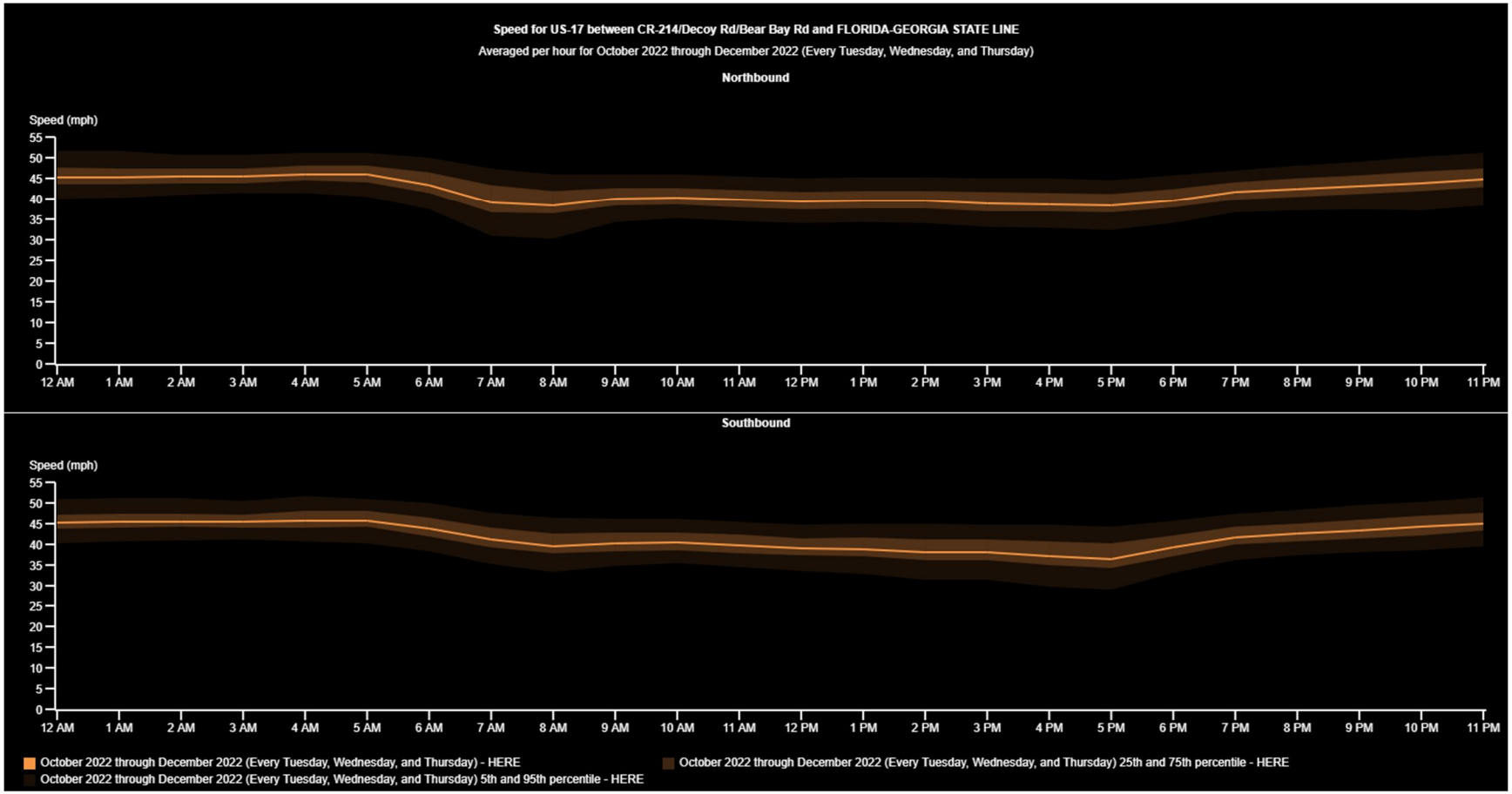
Speed by Time of Day: SR-200/SR-A1A (MPH)



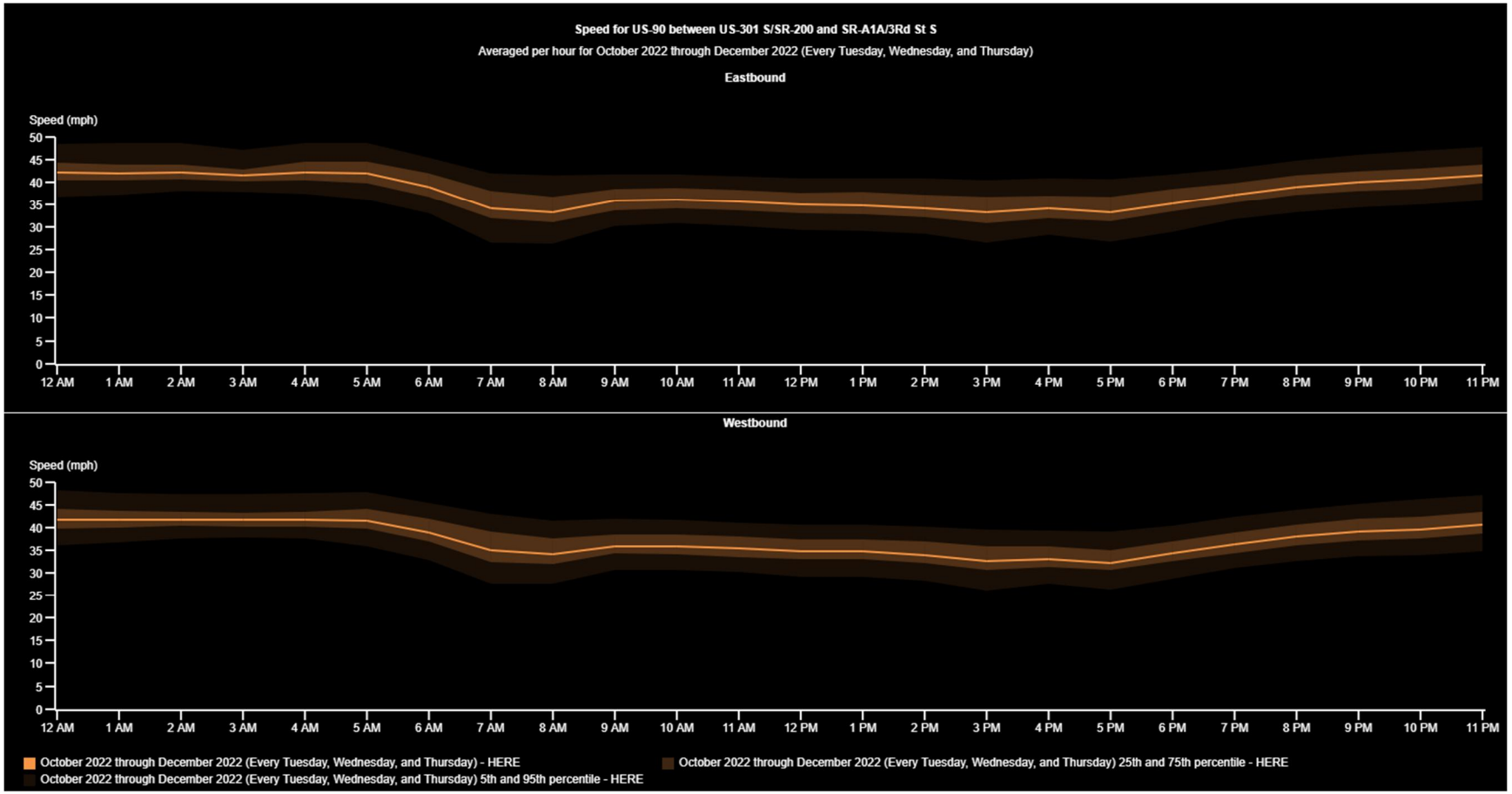
Speed by Time of Day: US-1
(MPH)



Speed by Time of Day: US-17
(MPH)



Speed by Time of Day: US-90
(MPH)



Appendix C – Efficient Transportation Decision Making Project List

ETDM Project List

Clay

- #6411 - US 17 - Shedd Rd to Town Center
- #6412 - US 17/CR 220 Interchange
- #7920 - St Johns River Crossing
- #11180 - Branan Field-Chaffee Road
- #14153 - Bus Rapid Transit (BRT) Southwest Corridor
- #14255 - SR 21 from CR 218 to Black Creek
- #14277 - I-295/US 17 Interchange Operational Improvements
- #14309 - CR 220 from Shamrock Dr. to Knight Boxx Rd.
- #14319 - SR 16 from First Coast Expressway (Juno Drive) to Oakridge Avenue
- #14411 - CR 220 from Blanding Boulevard to Henley Road

Duval

- #2801 - Beaver St (US 90)
- #2802 - Beaver St (US 90)
- #2802 - Beaver St (US 90)
- #2803 - Main St (US 17)
- #2803 - Main St (US 17)
- #2803 - Main St (US 17)
- #2804 - Normandy Blvd
- #2805 - J Turner Butler Blvd (SR 202) West
- #2805 - SR 202 (JTB)/I-95/US 1 (Philips Highway)
- #2807 - J Turner Butler Blvd (SR 202)East
- #3393 - Yellow Bluff Rd
- #3394 - New Berlin Rd

- #3395 - Alta Drive
- #2801 - Beaver St (US 90)
- #2802 - Beaver St (US 90)
- #2802 - Beaver St (US 90)
- #2803 - Main St (US 17)
- #2803 - Main St (US 17)
- #2803 - Main St (US 17)
- #2804 - Normandy Blvd
- #2805 - J Turner Butler Blvd (SR 202) West
- #2805 - SR 202 (JTB)/I-95/US 1 (Philips Highway)
- #2807 - J Turner Butler Blvd (SR 202)East
- #3393 - Yellow Bluff Rd
- #3394 - New Berlin Rd
- #3395 - Alta Drive
- #4573 - Cedar Point Corridor Bridge
- #4574 - Ortega Farms Blvd Ext
- #4578 - Pecan Park Rd E Ext
- #4579 - Pecan Park Rd W Ext

- #5571 - Norfolk Southern SIS Connector
- #5591 - I-10/US 301 Interchange
- #6851 - SR 200 / US 301 Baldwin Bypass
- #6851 - SR 200 / US 301 Baldwin Bypass
- #7091 - SR 212 (Beach Blvd) - SR 126 (Emerson St) to Parental Home Rd
- #7092 - SR 111 (Cassat Ave) - Lenox Ave to I-10
- #7112 - SR A1A (Mayport Road to Wonderwood Drive)
- #7236 - University Blvd - St Augustine Rd to Powers Ave
- #7237 - SR 115/Lem Turner Rd - I-295 to County Line
- #7238 - Baymeadows Way Extension
- #8507 - JTA Bus Rapid Transit Lines
- #8827 - Mathews Bridge / Arlington Expressway
- #8887 - I-295 from I-10 to Pritchard Rd
- #8947 - SR 202/ JTB from US 1 to SR A1A
- #10600 - JTA Bus Rapid Transit North Bus Corridor
- #10740 - I-95 / Overland Bridge
- #11180 - Branan Field-Chaffee Road
- #11440 - I-95 from IGP to I-95/I-295 Interchange
- #11860 - FEC Amtrak High Speed Rail: Mainline
- #13022 - BRT Southeast Corridor
- #13064 - Jacksonville National Cemetery Access Road
- #13064 - Jacksonville National Cemetery Access Road
- #13064 - Jacksonville National Cemetery Access Road
- #13208 - SR 9A
- #13823 - I-295 from Buckman Bridge to I-295/I-95 South Interchange
- #13881 - SR 9B from CR 2209 to I-95
- #13983 - I-295 (SR 9A) from SR 202 (JTB Boulevard) to SR 9B
- #13984 - I-295 (SR 9A) from the Southside Connector to SR 202 (JTB Blvd.)
- #13984 - I-295 (SR 9A) from the Southside Connector to SR 202 (JTB Blvd.)
- #14055 - Brooklyn Skyway Extension and Station Development
- #14100 - Bus Rapid Transit (BRT) East Corridor
- #14153 - Bus Rapid Transit (BRT) Southwest Corridor
- #14273 - I-95 (S.R. 9) from J. Turner Butler Blvd. to Atlantic Blvd.
- #14273 - I-95 (S.R. 9) from J. Turner Butler Blvd. to Atlantic Blvd.
- #14275 - I-10 from I-295 to I-95
- #14277 - I-295/US 17 Interchange Operational Improvements
- #14278 - I-95 (SR 9) from I-295 to J. Turner Butler Blvd.
- #14278 - I-95 (SR 9) from I-295 to J. Turner Butler Blvd.
- #14379 - I-295 from SR 13 (San Jose Blvd) to SR 21 (Blanding Blvd)
- #14387 - I-95 from I-10 to SR 115 (US 1)/ MLK Blvd.
- #14387 - I-95 from I-10 to SR 115 (US 1)/ MLK Blvd.
- #14420 - Southeast Commuter Rail Project from Downtown Jacksonville to St. Augustine
- #14424 - Jacksonville Skyway System Expansion
- #14449 - Lem Turner Road (SR 115) over Trout River Bridge Replacement
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- #14496 - SR 10 (US 90) from Dugger Street to SR 201 (US 301A/Baldwin Bypass)

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- #13809 - Chester Rd. from SR-A1A/SR-200 to Green Pine Rd.
- #14320 - SR 5 (US 17) from Johnson Lane to South of SR 200
- #14496 - SR 10 (US 90) from Dugger Street to SR 201 (US 301A/Baldwin Bypass)

St. Johns

- #4571 - Beach Pkwy S Ext
- #4572 - Woodlawn Road Ext
- #4994 - US1/CR210 Interchange
- #6051 - I-95/CR 210 Interchange
- #6391 - SR A1A - A St to CR A1A/Beach Blvd
- #6392 - SR 312 - SR 207 to Intercoastal Waterway Bridge
- #6393 - US 1 - Wildwood Dr to Lewis Pt Rd
- #6491 - US 1 Bridge No. 780075
- #6852 - SR 16 (SR 13 to CR 16A)
- #6871 - SR 16 - South Francis Rd to Whisper Ridge Dr
- #7920 - St Johns River Crossing
- #11440 - I-95 from IGP to I-95/I-295 Interchange
- #11860 - FEC Amtrak High Speed Rail: Mainline
- #12836 - FEC Amtrak High Speed Rail: St. Augustine Stations
- #13881 - SR 9B from CR 2209 to I-95
- #14420 - Southeast Commuter Rail Project from Downtown Jacksonville to St. Augustine
- #14535 - SR 16 from International Golf Parkway (IGP) to I-95