2024

Congestion Management Process

CORE
COASTAL REGION MPO

Contents

1.0 Executive Summary

The Chatham County – Savannah Metropolitan Planning Commission (MPC) Congestion Management Process (CMP) was conducted by the CORE MPO to evaluate the conditions of the existing roadway network, prepare recommendations for congestion mitigation measures, and project the future conditions of the primary roads within the Coastal Region Metropolitan Planning Organization (CORE MPO) Metropolitan Planning Area (MPA) which includes CORE MPO's MPA which includes all of Chatham County, the portion of Effingham County south of SR 119 - Indigo Road - Bethany Road, Richmond Hill, the portions of the 2020 census defined Savannah Urban Area that fall within unincorporated Bryan County, and the areas that are connecting Richmond Hill and the Savannah Urban Area in Bryan County. This information will be used by the MPO primarily to identify congestion and mobility problems and target these areas for improvement.

> *The study approach is to identify problem areas using multimodal data sources and prepare recommendations to improve the traffic flow on the transportation system as a whole and on specific corridors. The results of this study will be used as factors in prioritizing needed improvements.*

The objective of the Coastal Region Metropolitan Planning Organization (CORE MPO) Congestion Management Process is the application of strategies to improve performance and reliability of the transportation system. The CMP assists regional stakeholders in assessing congestion-related metrics, formulating decisions aimed at relieving congestion, and communicating congestion metrics to public officials and the general public.

The CMP serves several key functions:

- Ensures consistency with the CORE MPO's 2050 Metropolitan Transportation Plan (MTP) and other planning processes;
- Provides a "toolbox" of congestion management strategies that can be applied to various improvement needs; and
- Establishes a recommended framework to assess, report and monitor congestion.

2.0 Background

The Coastal Region Planning Metropolitan Planning Organization (CORE MPO) is a federally designated MPO formed to conduct the comprehensive, continuing, and cooperative ("3-C") transportation planning process for the Savannah urbanized area, as per census designation. CORE MPO is tasked with transportation policy development, planning, and programming which encompasses all of Chatman County, as well as portions of Bryan County, and Effingham County.

Under the Intermodal Surface Transportation Efficiency Act (ISTEA), of the early 1990s, a Congestion Management System (CMS) plan was required to enhance and support effective decision-making, as part of the overall metropolitan transportation planning processes. In 2005, the term "Congestion Management System" was changed to "Congestion Management Process" as part of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). This change reflects a shift in perspective and practice to address congestion management through a comprehensive process with enhanced linkages to the Metropolitan Planning Organization (MPO) planning process and the environmental review process; as well as cooperatively developed travel demand reduction and operational management strategies, and capacity increases.[1] The subsequent transportation authorization act, Moving Ahead for Progress in the 21st Century (MAP-21), signed into law[2] by President Obama on July 6, 2012, essentially made no change in the requirements for a CMP.

Federal regulations require that MPOs with a population over 200,000 be designated as Transportation Management Areas (TMA)[3]. The TMA is required to develop and have in place a process for managing congestion. This CMP must provide recommendations for the effective management of congested facilities and efficient mobility and ensure that all potential alternatives to address congestion have been examined for identified projects that include additional roadway capacity.

CORE MPO has been designated as a TMA since 2002. The urbanized area population of CORE MPO is 397,661 per the 2020 Census and is projected to increase to almost 600,000 in 2050. As described in federal regulations (23 CFR 450.322) and guidance, the CMP should be a systematic process that "provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities..."

Figure 1 Congestion Management Process (CMP) Overview

Source: FHWA

FAST Act

On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act." It is the first law enacted in over ten years that provides long-term funding certainty for surface transportation, meaning States and local governments can move forward with critical transportation projects, like new highways and transit lines, with the confidence that they will have a Federal partner over the long term. The FAST Act continues the requirements of a Congestion Management Process which was first introduced as the Congestion Management System in the Intermodal Surface Transportation Efficiency Act of 1991.

The Federal Register established the regulations and expectations of a CMP that applies to those TMA's above 200,000 in population as determined by the 2010 Census. The Register is written in such a way as to provide guidance and minimums but leaves specifics up to the agency to customize their

[1] USDOT, FHWA, Office of Planning, Environment, & Realty (HEP), http://www.fhwa.dot.gov/planning/congestion_management_process/

[2] Public Law No: 112-141

[3] In some cases, a UZA represented by a MPO with less than 200,000 residents may also be designated as a TMA, upon request from the State Governor and MPO representatives.

approach to maximize the local benefits. Those minimums include the requirement that the system needs that are identified through the CMP be considered in preparation of the Metropolitan Transportation Plan (MTP). Congestion, for the CMP guidance, is the level at which the transportation system performance is no longer acceptable due to traffic interference.

This regulation leaves it open to the local agency to define what is unacceptable delay or congestion. The register further suggests, “An effective CMP is a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet State and local needs.”

This development process is structured within the framework of the federal legislative and regulatory requirements, including the Federal Highway Administration (FHWA) guidance entitled *Congestion Management Process: A Guidebook, 2011.* The tasks completed as a part of the CORE MPO CMP align with the eight elements outlined within these guidelines which provide a general approach for the development of a CMP. The illustration from the Guidebook shown in Figure X demonstrates the elements of the CMP.

The following steps of the CMP development as published in the FHWA’s Congestion Management Process Guidebook[4] include:

- **Develop regional objectives for congestion management:** – The regional objectives for congestion management should draw from the regional vision and goals identified in the long range-transportation plan. Congestion management objectives should be developed to support performance measurement, and should define what the region wants to achieve in relation to congestion management;
- **Define CMP network** – The CMP network should define the geographic boundaries and components of the transportation system that will be examined as part of the CMP;
- **Develop multimodal performance measures:** The performance measures included in the CMP should relate to the CMP and objectives and measure congestion for multiple modes of transportation on a regional and local scale;
- **Collect data and monitor system performance** – After defining performance measures, data should be collected and assessed to determine transportation system performance from a congestion management perspective. Data-collection may be continuous and can involve coordination with state and local partners;
- **Analyze congestion problems and needs** – The data collected and evaluated through the established performance measures should be analyzed to identify congestion issues associated with the transportation system. This analysis should assist in identifying components of the transportation system with unacceptable levels of performance;
- **Identify and assess CMP strategies** – The identification and assessment of multimodal strategies designed to address congestion issues should be completed through a collaborative process involving various transportation stakeholders. The strategies should be tailored to address congestion issues specific to the region, and should contribute to the achievement of the CMP goals and objectives;
- **Program and implement CMP strategies** – The implementation of CMP strategies can occur at various geographic scales, depending on the nature or scope of the strategy. These strategies

[4] http://www.fhwa.dot.gov/planning/congestion_management_process/cmp_guidebook/

should be programmed and implemented, where possible, through the metropolitan transportation planning process;
- **Evaluate strategy effectiveness** – Following the implementation of the CMP strategies, the CMP strategies should be evaluated from both system-level and strategy specific perspectives. The ongoing monitoring of transportation system performance should inform future decision-making regarding the effectiveness of transportation strategies.

Figure 2 FHWA CMP Process Model

Source: FHWA

IIJA/BIL

On November 15, 2021, President Biden signed the Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58, also known as the "Bipartisan Infrastructure Law") into law. The Bipartisan Infrastructure Law is the largest long-term investment in our infrastructure and economy in our Nation's history. It provides $550 billion over fiscal years 2022 through 2026 in new Federal investment in infrastructure, including in roads, bridges, and mass transit, water infrastructure, resilience, and broadband.

Congestion management is still a requirement for MPOs under IIJA. Instead of a stand-alone document, CMP can be a part of the MTP development.

CMP Development

CORE MPO developed its first Congestion Management System (CMS) in 2003/2004 under the original CMS requirements prior to the passage of the Safe, Accountable, Flexible, Efficient Transportation Act:

A Legacy for Users (SAFETEA-LU). After the passage of SAFETEA-LU, FHWA advised CORE MPO that the existing CMS had exceeded the original CMS requirements at the time it was developed, and that it already met the new SAFETEA-LU requirements for a Congestion Management Process (CMP). FHWA further recommended that the CMS be renamed and recertified by the CORE MPO as a Congestion Management Process. CORE MPO recertified the CMS as a CMP on June 27, 2007.

The CORE MPO CMP seeks to address congestion and improve the transportation network using a streamlined approach. This was accomplished through identified performance measures and tools, as well as goals established in the previous 2004 CMP Report.

The 2004 CMP used travel time runs and GPS data to measure a.m. and p.m. travel speed on all arterials and major collectors in Chatham County, and then Level of Service (LOS) was estimated and a congestion index was defined. The CMP identified problem areas using travel-time, and provided strategies to improve the traffic flow on the transportation system as whole, as well as on specific corridors. Performance measures identified through the CMP process were both quantitative and qualitative, and included:

- Congestion Index;
- Approach Level of Service;
- Preservation of regional mobility through the implementation of alternative access improvements to enhance local mobility;
- Implementation of sustainable development through the incorporation of mixed-use, pedestrian-oriented design that helps to minimize trip length; and
- Promotion of multimodal connectivity through the implementation of transit, bicycle, and pedestrian enhancements.

Key findings of the 2004 CMP included:

- 90% of roadway segments were observed to operate at an acceptable level of service.
- Most congested segments were on roadways that already had planned and/or programmed improvements on the books.
- The next highest portion of congested segments would benefit from improved signal timing optimization and coordination. Of the roadway segments that were congested, 23% and 15% of them would improve to acceptable levels with updated timing in the a.m. and p.m. periods respectively.
- The third large group of congested segments were roadways previously designated as constrained corridors. Capacity improvements on these roads are limited, thus operational improvements should be considered to maximize throughput.

In 2009 and 2016, the CORE MPO Congestion Management Process (CMP) Update was developed to further evaluate and address congestion in Chatham County areas focusing on congested hot spots. The CMP Update recommended addressing congestion through an ongoing process involving improving traffic operations and management on existing roads and adding capacity, among other strategies. These strategies have been incorporated into the performance measures identified in this CMP update and have been used to address roadway system performance, land use and development impacts, and freight system service.

Ongoing Congestion Management Process activities since the initial CMP focused on implementation of its recommendations, evaluation of the implemented strategies, development of performance measures, and additional data collection and analysis in certain areas. Specifically, these activities include:

- CMP update to include reliability measures such as travel, buffer and planning time indexes (2016 - 2023)
- Numerous capacity improvements (2004 – 2023)
- Signal retiming and coordination on some of the most congested corridors, including Abercorn Street and DeRenne Avenue (2004 – 2023)
- Focused corridor studies and hot spot analyses (2009 CMP Update; SR 204 Corridor Study (2013); SR 21 Corridor Study (2013); US 80 Bridge Replacement Study (2013); Victory Drive Corridor Studies – 2015 to 2016); SR 307 Corridor Study (2021 to 2022); SR 21 Access Management Study (2021 to 2022); US 80 Corridor Study (2022 to 2023); SR 204 Access Study (ongoing); US 17/SR 25 Corridor Study (ongoing); President Street Railroad Crossing Elimination Study (ongoing)
- Other congestion related studies supporting MTP and TIP development (SW Chatham Sector Study – 2007; President Street Corridor Study – 2007; Transit Vision Plan – 2012; Park and Ride Study – 2014)
- Traffic Management Center Study (2016 - 2017)
- Freight Transportation Plans (Freight Network Bottleneck, 2016); Freight Network Congestion, Bottleneck, Safety and Security Issues, 2022-2023
- Report card for the top 20 congestion corridors identified in the 2007 CMP (2016)
- Congestion reduction performance measures development (Freight Transportation Plans – 2016 and 2023, 2040 Total Mobility Plan – FY 2015, 2045 Metropolitan Transportation Plan – 2019; federal webinars and workshops – 2015-2023)

Updates to the 2024 CMP report, including information added to sections in the previous CMP, consist of the following: planning time index, cost of congestion, percent of non-single occupant vehicle travel, and total emissions reduction.

Planning Process

The CORE MPO CMP was developed through a collaborative effort and provides a means to achieve the region's vision and goals in coordination with other planning efforts. The CMP is a dynamic tool that serves as a mechanism for implementing strategies to achieve regional mobility, livability, emissions reduction, and the integration of transportation and land use.

The development of the CORE MPO CMP was completed within the framework of the overall goals and objectives of the MPO and the CMP. Input and guidance were also provided by the CORE MPO Technical Coordinating Committee (TCC) and the CORE MPO Board.

Travel Characteristics

The City of Savannah and the CORE MPO study area have various modes of transportation to serve an incredibly diverse population. While single occupant vehicle travel remains the main mode of transportation, more facilities are being created throughout the area for other modes of transportation including pedestrian and bicycle facilities.

- In Bryan County, 89.90% of the population drove alone in a car, truck, or van, as shown in Table X. In Chatham County, 71.20% of the population drove alone in a car, truck, or van, as illustrated in Table X. In Effingham County, 95.70% of the population drove alone in a car, truck, or van, as outlined in Table X.

- Carpooling is most prevalent in Chatham County, at 11.80% of the population of the county. Bryan County has the next highest population of carpoolers at 6.00%, followed by Effingham County, with 5.40%.
- With technological development and the impact from the pandemic, more people are working from home. Chatham County has the highest percentage of people working from home (12.10%), followed by Bryan County (5.2%) and Effingham County (3.4%).

Figure 3 Bryan County- Means of Transportation to Work

Car, Truck, or Van: Drove Alone	Car, Truck, or Van: Carpool	Public Transportation	Walked	Bicycle	Taxicab, Motorcycle, other	Worked from home
89.90%	6.00%	0.10%	0.60%	1.00%	1.00%	5.20%

Source: American Community Survey (ACS)

Figure 4 Chatham County- Means of Transportation to Work

Car, Truck, or Van: Drove Alone	Car, Truck, or Van: Carpool	Public Transportation	Walked	Bicycle	Taxicab, Motorcycle, other	Worked from home
71.20%	11.80%	1.30%	2.10%	0.90%	0.70%	12.10%

Source: American Community Survey (ACS)

Figure 5 Effingham County- Means of Transportation to Work

Car, Truck, or Van: Drove Alone	Car, Truck, or Van: Carpool	Public Transportation	Walked	Bicycle	Taxicab, Motorcycle, other	Worked from home
94.7%	5.40%	0.40%	0.50%	0.0%	1.00%	3.40%

Source: American Community Survey (ACS)

3.0 Regional Objectives for Congestion Management

The key elements that guide the CMP are the regional objectives for congestion management. These objectives draw from the regional vision and goals designated in the MPO's 2050 Metropolitan Transportation Plan (MTP). Congestion management objectives define what the region wants to achieve regarding congestion management, and are an essential part of an objectives-driven, performance-based approach to planning for operations. Congestion management objectives are paramount in serving as a basis for defining the direction of the CMP and the performance measures.

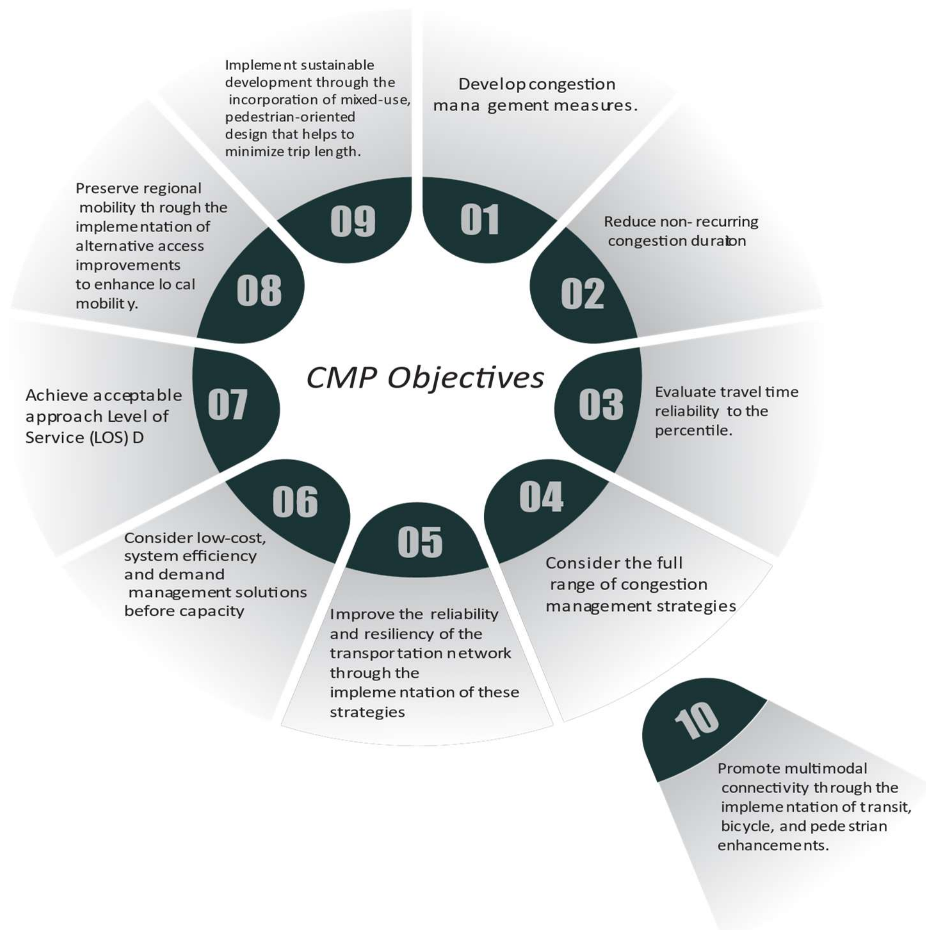
The goals that CORE MPO identified as part of the 2050 MTP update (see Figure 3) form the framework for the identification of the goals for the CMP. The CORE MPO goals include:

- Safety and Security
- Performance & Reliability

- Stewardship
- Accessibility and Connectivity
- System & Environmental Preservation

The CMP addresses the goals of the MTP and includes objectives specific to the CMP development. The ten objectives are summarized in the chart below.

Figure 6 CMP Objectives



Source: CORE MPO

These objectives are devised by analyzing national, state and regional planning processes and requirements and comparing them to CORE MPO goals and objectives. The latest transportation legislation and related regulations are reviewed from national policy and paired with guiding statewide and regional planning processes. Regionally, CORE MPO goals and objectives are weighed given the local conditions of the network and prevailing policies of the area's jurisdictions. Finally, the CMP objectives address the multimodal nature of transportation, as well as the need to address both recurring and non-recurring congestion. With the understanding of the dynamic nature of congestion at the national, state, regional and local levels, CORE MPO will continue to periodically review the process and make further refinements needed to address changing conditions.

4.0 Network

The purpose of the CMP is to monitor and relieve traffic congestion throughout the MPO region. As part of the CMP process, a roadway network needs to be defined for the study area. The 2004 and 2009 CMP efforts for the CORE MPO were contained within the boundary of Chatham County. With the 2010 Census, the CORE MPO planning area expanded to include portions of Effingham County and Bryan County within the Savannah Urbanized Area, as well as the City of Richmond Hill. Thus, the 2017 CMP included the roadway network within this boundary for analysis. As of February 2024, the planning area expanded to CORE MPO's MPA which includes all of Chatham County, the portion of Effingham County south of SR 119 - Indigo Road - Bethany Road, Richmond Hill, the portions of the 2020 census defined Savannah Urban Area that fall within unincorporated Bryan County, and the areas that are connecting Richmond Hill and the Savannah Urban Area in Bryan County. Noting that people's travels are not restricted to any boundaries and that data is normally available at the county level, the CORE MPO's 2024 CMP network includes transportation assets in the three-county area, coinciding with the Savannah Metropolitan Statistical Area (MSA).

Fundamentally, the CMP network must include those areas that meet the regionally identified definition of 'congested' and represent the area for data collection and monitoring activities. Multimodal transportation elements are important factors for addressing congestion in any urban area. Elements of a multimodal network include:

- Freeways or interstate highways
- Arterial roadways (primarily Principal Arterials although minor arterials often support other elements of the multimodal network for example non-motorized strategies are more likely to be located on a minor arterial or collector versus a principal arterial.)
- Transit services
- Bicycle networks
- Pedestrian networks
- Freight networks
- Ferry System

Although the CMP has traditionally focused primarily on the road network, the 2024 CMP network has developed to consider the transit, bicycle, and pedestrian modes as well as their interface with the highway network. This decision to further expand the CMP to include transit, bicycle, and pedestrian modes enables the CMP to analyze other modes to reduce single occupancy vehicle (SOV) travel. Typically, collectors and local roadways are not included in the roadway analysis of the CMP since it would be time-consuming to address these roadways and they generally have relatively low traffic volumes and congestion levels; however, these facilities should still be considered as potential bicycle, pedestrian, or transit corridors. The CMP analysis network will often include major intersections along arterials, given that intersections are often points where travel delay occurs.

The CORE MPO 2024 CMP network (see Figure 7) includes the following:

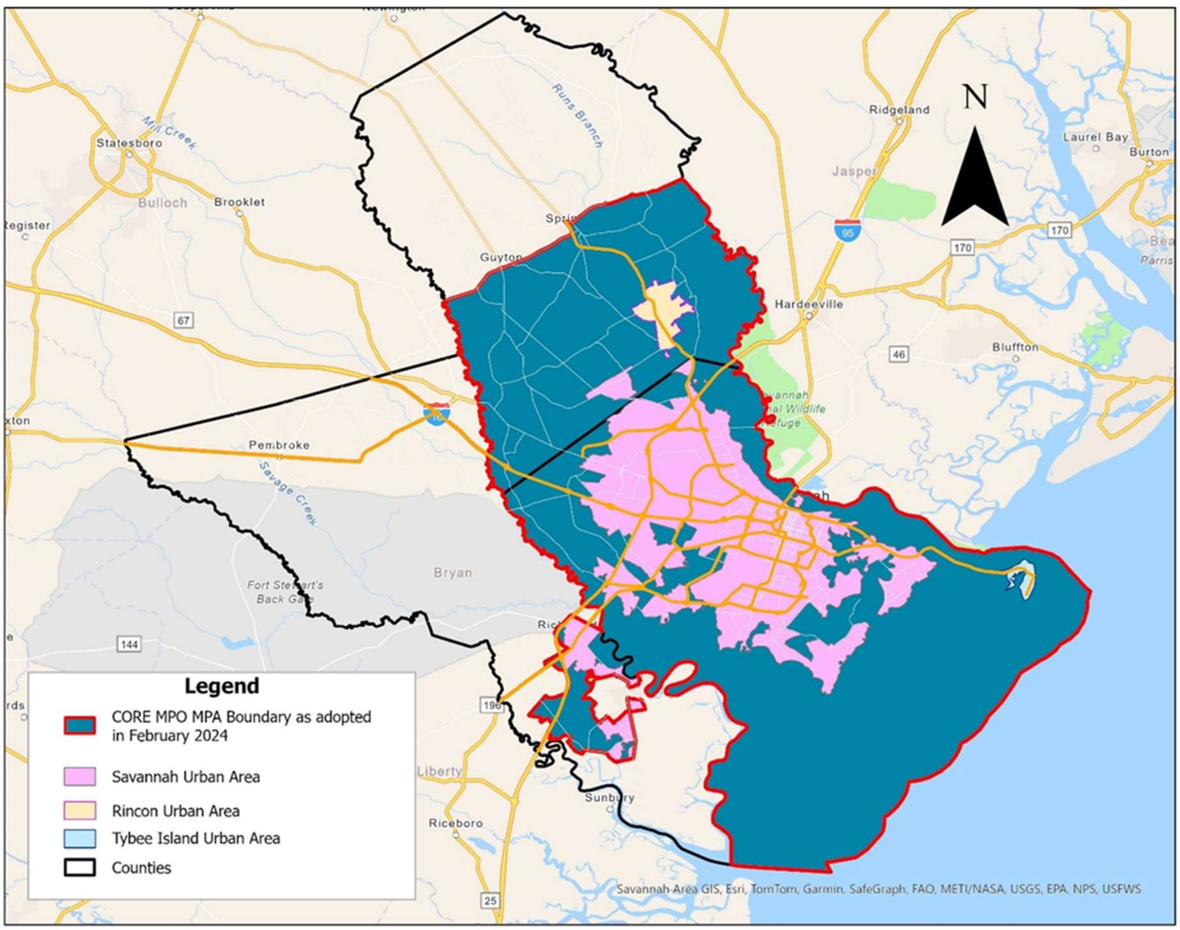
- The analysis area is the three-county Savannah MSA.
- Study timeframe: Base year 2023 (where data is available). Other data years may be substituted as needed.
- Roadway network: Major Arterials and higher (automobiles & freight), transit routes, non-motorized (bike, pedestrian) network and ferry system.

- Top 10 congestion corridors identified in previous CMP efforts, analyzed and updated in this report.

Geographic Area

The 2024 CMP update study area includes Chatham, Bryan and Effingham Counties. This area is larger than the newly adopted CORE MPO Metropolitan Planning Area (see Figure 7). The principal arterials and above of the roadway network within the study area would be the major focus for the highway congestion analysis for this CMP update.

Figure 7 CORE MPO MPA boundary as adopted in February 2024



Source: CORE MPO

5.0 Performance Measures

Performance measures are a critical component of the CMP. Per federal regulation, the CMP must include “appropriate performance measures to assess the extent of congestion and support the evaluation of the effectiveness of congestion reduction and mobility enhancement strategies for the movement of people and goods. Since levels of acceptable system performance may vary among local communities, performance measures should be tailored to the specific needs of the area and established cooperatively by the State(s), affected MPO(s), and local officials in consultation with the operators of major modes of transportation in the coverage area."[5]

Performance measures in the CMP characterize current and future conditions on the multimodal transportation system in the region. However, performance measures serve multiple purposes that intersect and overlap in the context of the CMP, including[6]:

- To characterize existing and anticipated conditions on the regional transportation system;
- To track progress toward meeting regional objectives;
- To identify specific locations with congestion to address;
- To assess congestion mitigation strategies, programs, and projects; and
- To communicate system performance, often via visualization, to decision-makers, the public, and MPO member agencies.

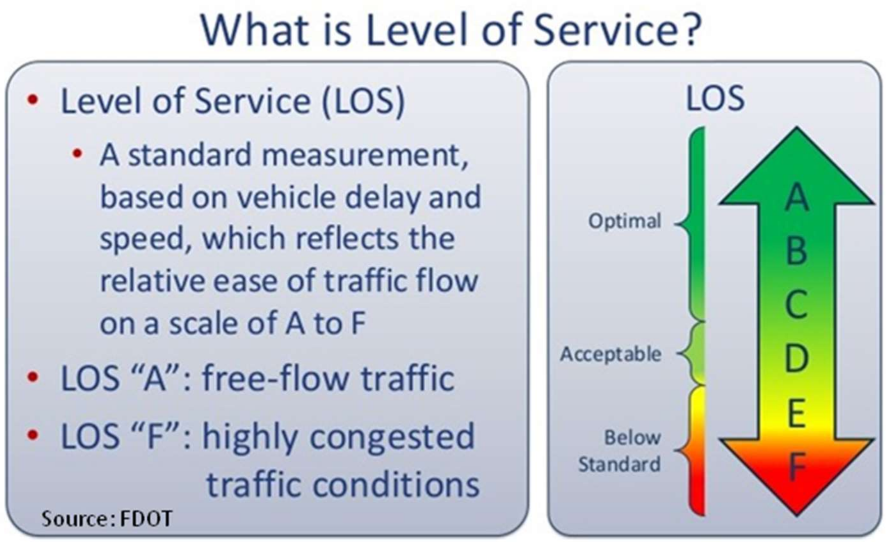
This section breaks down the various performance measures used in the CORE MPO's 2024 CMP update. Another key component to the performance measure is the data used to calculate the measures. Information on the data sources can be found in Section 7: Data Collection.

Level of Service (LOS)

Level-of-Service is introduced by the Highway Capacity Manual (HCM)[7] to denote the level of quality one can derive from a facility under different operation characteristics and traffic volume. HCM proposes LOS as a letter that designates a range of operating conditions on a facility. Six LOS letters are defined by HCM, namely A, B, C, D, E, and F, where A denotes the best quality of service and F denotes the worst (see Figure XX). These definitions are based on Measures of Effectiveness (MOEs) of that facility. Typical measures of effectiveness include speed, travel-time, density and delay. There will be an associated service volume for each of the LOS levels. A service volume or service flow rate is the maximum number of vehicles, passengers, or the like, which can be accommodated by a given facility or system under given conditions at a given LOS. For the purpose of identifying congestion in the CORE MPO CMP, analysis will focus on LOS D, E and F.

[5] 23 CFR 450.322 (c) 2
[6] http://www.fhwa.dot.gov/planning/congestion_management_process/cmp_guidebook/
[7] 2010 Highway Capacity Manual

Figure 8 Level of Service



Travel Time and Reliability[8]

Reliability is an important metric for highway users because it provides information that allows travelers to plan for on-time arrival with more certainty. Commuters can plan the daily trips to work during peak hours, parents can plan the afternoon run to the daycare center, businesses know when a just-in-time shipment must leave the factory, and transit agencies can develop reliable schedules. Travel time reliability measures compare high-delay days to those with an average delay. The most effective methods of measuring travel time reliability are 95th percentile travel times, buffer index, and planning time index.

Most travelers are less tolerant of unexpected delays because such delays have larger consequences than drivers face with everyday congestion. Travelers also tend to remember the few bad days they spent in traffic, rather than an average time for travel throughout the year. To improve travel time reliability, the first step is to measure it. Measures of travel time reliability better represent a commuter's experience than a simple average travel time.

Planning Time

The total time a traveler should plan for to ensure on-time arrival (95% Travel Time).

Planning Time Index: Free Flow Speed

The total travel time that should be planned when an adequate buffer time is included (95% Travel Time / Free-flow Travel Time). The planning time index differs from the buffer index because it includes typical delay, as well as unexpected delay. Thus, the planning time index compares near-worst case travel time to a travel time in light or free-flow traffic. For example, a planning time index of 1.60

[8] http://ops.fhwa.dot.gov/publications/tt_reliability/TTR_Report.htm

means that, for a 15-minute trip in light traffic, the total time that should be planned for the trip is 24 minutes (15 minutes x 1.60 = 24 minutes).

Planning Time Index: Posted Speed Limit

The total travel time that should be planned when an adequate buffer time is included (95% Travel Time / Speed Limit Travel Time). The planning time index differs from the buffer index in that it includes typical delay, as well as unexpected delay. Thus, the planning time index compares near-worst case travel time to a travel time in traffic moving at the posted speed limit. For example, a planning time index of 1.60 means that, for a 15-minute trip when moving at the speed limit, the total time that should be planned for the trip is 24 minutes (15 minutes x 1.60 = 24 minutes).

Travel Time Index: Free Flow Speed

Travel time represented as a percentage of the ideal travel time (Travel Time / Free-flow Travel Time).

Travel Time Index: Posted Speed Limit

Travel time represented as a percentage of the ideal travel time (Travel Time / Speed Limit Travel Time).

Buffer Time

The extra time (or time cushion) that travelers must add to their average travel time when planning trips to ensure on-time arrival (95% Travel Time - Average Travel Time).

Buffer Index

The buffer index represents the extra time (or time cushion) that travelers must add to their average travel time when planning trips to ensure on-time arrival. For example, a buffer index of 40 percent means that for a trip that usually takes 20 minutes a traveler should budget an additional 8 minutes to ensure on-time arrival most of the time.

Average travel time = 20 minutes
Buffer index = 40 percent
Buffer time = 20 minutes × 0.40 = 8 minutes

The 8 extra minutes is called the buffer time. Therefore, the traveler should allow 28 minutes for the trip to ensure on-time arrival 95 percent of the time.

Total Emissions Reduction

The Inventory of US Greenhouse Gas Emissions and Sinks reported the transportation sector was the largest emitter of greenhouse gas (GHG) emissions (28.5%) in the United States in 2021.[9]
According to the *US National Blueprint for Transportation Decarbonization*, emissions from transportation are the result of system design and land use, vehicle and engine efficiency, and high-GHG fuels and can be reduced by increasing convenience, improving efficiency, and transitioning to clean vehicles and fuels.[10] Understanding the link between emissions and transportation can result in

[9] https://www.epa.gov/system/files/documents/2023-04/US-GHG-Inventory-2023-Main-Text.pdf
[10] https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization

co-benefits such as safety and quality of life, equity, air quality, economic growth, and energy security. This measure will focus on those links most closely related to traffic congestion.

6.0 Methodology and Evaluation

The methodology for evaluating congestion as part of the Congestion Management Process (CMP) focuses on the development of performance measures. The following performance measures were identified by the CORE MPO Technical Coordinating Committee to quantify the CMP's objectives and provide a means for assessing and analyzing congestion. Figure 9 depicts the established performance measures, the data needed for the analysis, and how each performance measure aligns with CMP objectives.

The data collection effort for the CORE MPO CMP focused on travel time and speed data, Level of Service, crash data, travel patterns/desire lines and information from the regional travel demand model. Several supplemental data sets were also collected such as transit ridership, non-motorized data, freight data and ferry ridership.

Figure 9 Congestion Management Process (CMP) Performance Measures

Performance Measure	Definition	Data Source	CMP Objective
Roadway Miles at a Level of Service (LOS)	A qualitative measure that characterizes operational conditions within a traffic stream, and the perception by motorists and passengers.	Travel demand model	Develop congestion management measures
# of Fatalities	Number of Fatalities in the region in relation to the state.	GDOT GEARS	Reduce non-recurring congestion duration
Average Travel Time	Average travel time (the mean) is the average of all the recorded travel times. This measure describes the "average" experience on the road that year.	NPMRDS	• Develop congestion management measures. • Evaluate travel time reliability to 95th percentile.
95th Percentile Travel Time Reliability	The travel time required for reliable on time arrival 95 % of the time.	NPMRDS	• Develop congestion management measures. • Evaluate travel time reliability to 95th percentile.

Performance Measure	Definition	Data Source	CMP Objective
Travel Time Buffer Index	The buffer index represents the extra time (or time cushion) that travelers must add to their average travel time when planning trips to ensure on-time arrival.	NPMDRS	• Develop congestion management measures. • Evaluate travel time reliability to 95th percentile.

Source: CORE MPO

7.0 Data Collection

The CMP is a compilation of several data sources analyzed together to help determine areas of concern. Gathering data to monitor system performance is typically the element of the CMP that requires the largest amount of staff time for the MPO and its planning partners. After establishing performance measures that will be used to evaluate system performance and a plan for collecting data, regions are ready to gather the data necessary to inform the CMP. Below is a description of the data collection and resources used for the CORE MPO's 2024 CMP update.

Travel Time and Speed Data

Travel Time data was collected from three resources.

National Performance Management Research Data Set (NPMRDS)

FHWA has acquired a national data set of average travel times for use in performance measurement. This data set is being made available to States and Metropolitan Planning Organizations (MPOs) as a tool for performance measurement. Passenger probe data is obtained from several sources including mobile phones, vehicles, and portable navigation devices. Freight probe data is obtained from the American Transportation Research Institute leveraging embedded fleet systems. Data includes:

- Passenger vehicle travel times.
- Freight vehicle travel times.
- Combined freight and passenger vehicle travel times.

I-95 Coalition

The I-95 Corridor Coalition is a partnership of transportation agencies, toll authorities, public safety, and related organizations, from the State of Maine to the State of Florida, with affiliate members in Canada. The Coalition provides a forum for key decision makers to address transportation management and operations issues of common interest. This volunteer, consensus-driven organization enables its myriad state, local and regional member agencies to work together to improve transportation system performance far more than they could working individually. The Coalition has successfully served as a model for multi-state/jurisdictional interagency cooperation and coordination for over two decades.

As an affiliate member of the I-95 Coalition, CORE MPO has access to travel time data contained in the Probe Data Analytics tools suite. The Probe Data Analytics tools make use of 3rd party probe data (HERE, INRIX, TomTom, and even the NPMRDS) fused with other agency transportation data in a true “big data” analytics platform. The suite consists of a collection of data visualization and retrieval tools. These web-based tools allow users to download reports, visualize data on maps or in other interactive graphics, and even download raw data for off-line analysis.

Georgia Department of Transportation Crash Data

Crash data is obtained from the electronic repository (relational database) of the state’s crash reports. The GDOT Geographic Electronic Accident Reporting System (GEARS) website is developed and maintained by LexisNexis on behalf of the Georgia Department of Transportation to serve as a portal into the State of Georgia’s repository for traffic accident reports completed by Georgia law enforcement agencies. The integrity of the GEARS data is dependent upon both the accuracy and frequency with which the data is updated and user’s interpretation.

Chatham Area Transit Ridership Data

CAT has 16 bus routes and 2 downtown shuttles- all of which are fixed routes. All of CAT’s ridership data is collected through the farebox. Each farebox is probed in the evening, which captures the ridership data from that day and feeds it into the software Genfare. The CAT planning department can then query the ridership data based on day/time, route, bus number, operator, fare type, etc. CAT will be installing Automatic Passenger Counters (APCs) on future bus purchases for stop-level ridership data.

Georgia Department of Transportation Traffic Counts

GDOT collects traffic counts using primarily permanent and portable counting devices at stations throughout the CORE MPO region. A traffic count (TC) is a count of the number of vehicles on State Routes, major county roads, and major city streets in each direction of the traffic flow. The following describes the three most common traffic data collection GDOT uses: permanent, portable and weigh-in motion traffic data collection.

- *Permanent Traffic Data Collection*

  Throughout Georgia, there are approximately 230 traffic data collection sites with permanent traffic data collection devices or Automatic Traffic Recorders (ATR). The devices at these sites classify and count the number of vehicles 7 days a week, 24 hours a day, 365 days a year. Collected traffic data is used for calculating the Annual Average Daily Traffic (AADT) estimates, determining traffic patterns and flows for modeling purposes, and developing plans for alleviating traffic congestion. There at 19 such devices in Chatham County, 3 in Bryan County and 0 in Effingham County.

- *Portable Traffic Data Collection*

  Throughout Georgia, there are approximately 9,000 traffic data collection sites with portable traffic data collection devices. The devices at these sites count or classify the number of vehicles during a typical 48-hour period. Collected traffic data is used for calculating the Annual Average Daily Traffic (AADT) estimates, determining traffic patterns and flows for modeling purposes, and developing plans for alleviating traffic congestion. There are 594 such devices in Chatham County, 94 in Effingham County, and 75 in Bryan County.

- *Weigh-In-Motion Data Collection*

  Throughout Georgia, there are 34 weigh-in-motion data collection sites with portable weigh-in-motion data collection devices and 11 weigh-in-motion data collection sites with permanent weigh-in-motion data collection devices. The Federal Highway Administration (FHWA) requires that 10 of the weigh-in-motion data collection sites are on Interstates. The devices at these sites classify, weigh, and count the number of vehicles. Weigh-in-Motion data is used for pavement and capacity studies, for enforcement and inspection purposes, and for analysis of truck transport practices. There are no such devices in the CORE MPO area.

Local Agency Traffic Counts

Several local agencies have traffic counts completed with traditional counting methods. These counts are not comprehensive for the region but rather completed on an as needed basis. CORE MPO has received traffic count data from Chatham County, the City of Savannah and the City of Richmond Hill on various corridors.

Non-Motorized Data

Non-motorized data includes both bicycle and pedestrian, as well as other non-motorized forms of transportation. Data considerations include both bike and pedestrian capacity and volumes.

- *Non-Motorized Volumes*

  Bicycle and pedestrian counts are gathered via Strava Metro. The Strava Metro data is collected from GPS data from devices like mobile phones and other IoT devices. Locations are depicted based on the activity of the app user when they use the app to track runs, walks, and bike trips.

- *Non-Motorized Capacity*

  The MPO measured mileage of various types of non-motorized facilities to the extent that those types were mapped. The mileage is depicted in a latter section of this plan. All existing facility data for non-motorized capacity was gathered from the 2020 Non-Motorized Transportation Plan.

Freight Data

The CORE MPO’s Regional Freight Transportation Plan contains a bottleneck analysis where the most critical bottlenecks along the network were identified as well as other areas where congestion exists and where bottlenecks may occur with increased demand. A bottleneck has been defined as a roadway segment with significant negative impacts on freight network performance. Bottlenecks are generally locations where capacities are inadequate to handle traffic flows, which impact the performance of freight network segments. Congestion, or the queuing/delay of freight movements, reduces the performance and dependability of the freight network in terms of serving freight traffic flows.

The bottlenecks were identified with the base year of 2020 with data from the NPMRDS database. The NPMRDS database had data on truck-delay, truck travel time, truck buffer time index.

Origin and Destination Data

Origin-Destination studies are often used in transportation planning to determine the travel patterns (origin-destination matrix) of vehicles and goods in an area. Given these travel patterns, the impacts of alternative solutions to current and future transportation problems can be evaluated.

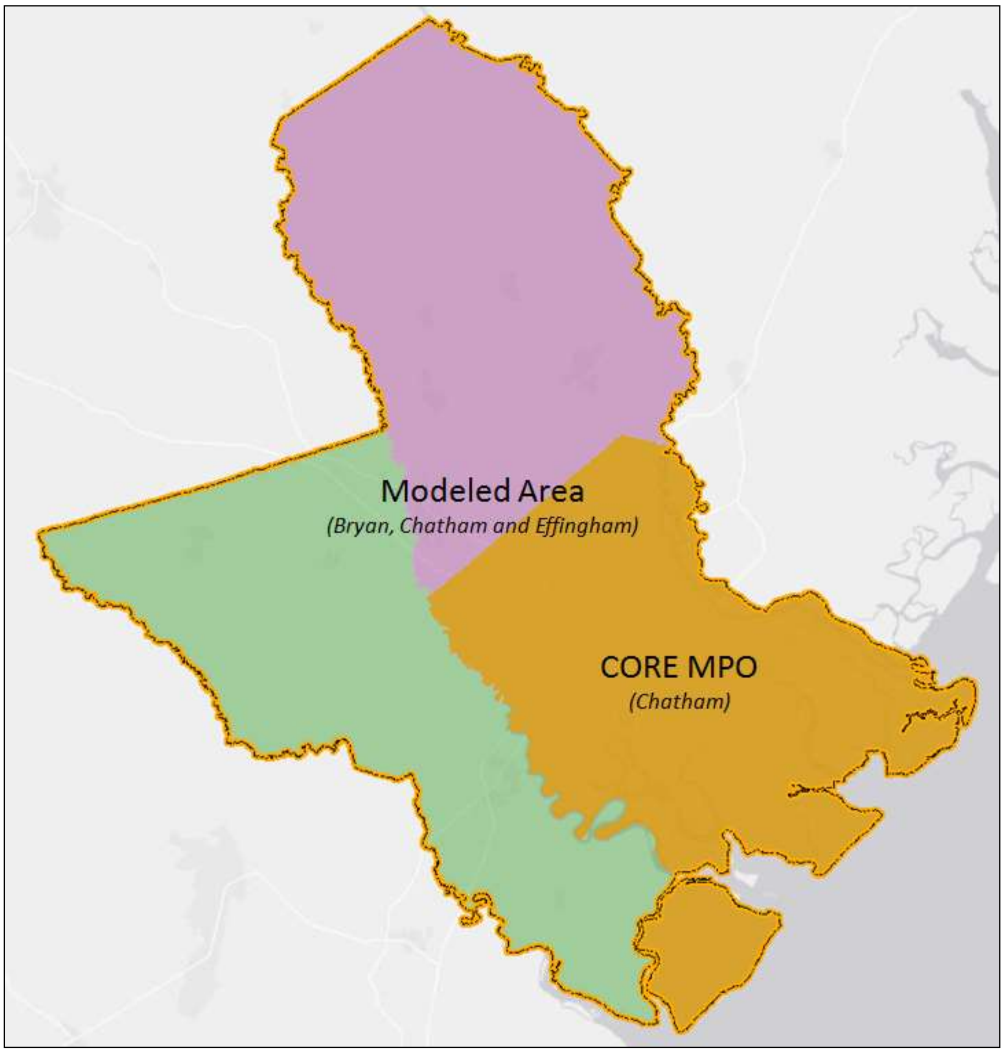
CORE MPO obtained origin-destination data from NPMRDS using the Georgia data set. The data will be organized by the County jurisdiction from the most recent data.

CORE MPO Travel Demand Model

The CORE MPO travel demand model is a traditional four-step aggregate trip-based model, with the four steps consisting of: trip generation, trip distribution, mode choice and traffic assignment.

While the CORE MPO Metropolitan Planning Area (MPA) consists of Chatham County and parts of Bryan and Effingham Counties, the travel demand model includes all three counties to better represent regional travel patterns (see Figure 10).

Figure 10 CORE MPO Travel Demand Model Area



While the Georgia Department of Transportation is primarily responsible for the development and maintenance of the CORE MPO travel demand model, the MPO prepares the existing and future socioeconomic data within the MPA based upon available data from many sources including U.S. Census data, employment records, land use inventories, historical development patterns and local knowledge of development proposals and anticipated infrastructure improvements.

The CORE MPO travel demand model is a useful analytical tool for predicting future traffic congestion and provides the basis for project identification in the Metropolitan Transportation Plan (MTP) and project traffic forecasts.

8.0 Existing Conditions

Roadway

The three-county area (Chatham, Bryan and Effingham) has more than 1,600 miles of roadway. These roadways are state and county roads and city streets. These roadways are categorized by their use and the amount of traffic that is carried. Table X below shows the mileages of these roadways by functional classification. The figure below (Figure 11) depicts the functional classification of the roadway network.

Figure 11 Miles by Functional Class Chatham County, 2022

<table>
<tr><th rowspan="2">Functional Class</th><th colspan="4">Miles</th><th colspan="3">Total</th></tr>
<tr><th colspan="2">State Route</th><th colspan="2">County Route</th><th colspan="2">Miles</th><th>Percent</th></tr>
<tr><td>Rural Interstates</td><td>-</td><td rowspan="6">16</td><td>-</td><td rowspan="6">15</td><td></td><td rowspan="6">31</td><td rowspan="6">5.86%</td></tr>
<tr><td>Rural Principal Arterials</td><td>9</td><td>-</td><td>9</td></tr>
<tr><td>Rural Minor Arterials</td><td>1</td><td>-</td><td>1</td></tr>
<tr><td>Rural Major Collectors</td><td>6</td><td>4</td><td>10</td></tr>
<tr><td>Rural Minor Collectors</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Rural Local</td><td>-</td><td>11</td><td>11</td></tr>
<tr><td>Urbanized Interstate</td><td>43</td><td rowspan="6">145</td><td>-</td><td rowspan="6">353</td><td>43</td><td rowspan="6">498</td><td rowspan="6">94.14%</td></tr>
<tr><td>Urbanized Freeway</td><td>6</td><td>11</td><td>17</td></tr>
<tr><td>Urbanized Principal Arterial</td><td>65</td><td>7</td><td>72</td></tr>
<tr><td>Urbanized Minor Arterial</td><td>19</td><td>41</td><td>60</td></tr>
<tr><td>Urbanized Collector</td><td>12</td><td>23</td><td>35</td></tr>
<tr><td>Urbanized Local</td><td>-</td><td>271</td><td>271</td></tr>
<tr><td>Small Urban Interstate</td><td>-</td><td rowspan="6">-</td><td>-</td><td rowspan="6">-</td><td>-</td><td rowspan="6">-</td><td rowspan="6">-</td></tr>
<tr><td>Small Urban Freeway</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Small Urban Principal Arterial</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Small Urban Minor Arterial</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Small Urban Collector</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Small Urban Local</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Total</td><td></td><td>161</td><td></td><td>368</td><td></td><td>529</td><td>100.0%</td></tr>
</table>

Source: Office of Transportation Data, Georgia Department of Transportation, 445 Series Report, 2022

Interstate/Freeway

Roads that are fully access controlled and are designed to carry large amount of traffic at a high rate of speed over long distances; examples include roadways such as I-16 and Harry Truman Parkway.

Arterials

Roads that are designed to carry large amounts of traffic at a relatively high speed, often over longer distances. Often some degree of access management is incorporated; examples of arterials include Bay Street, Islands Expressway, SR 204, and US 80.

Collectors

Roads that are designed to carry less traffic at lower levels of speed for shorter distances. These roadways typically "collect" traffic from the local roadways and provide access to arterials. Examples of collectors include Habersham Street, LaRoche Avenue, and Old Louisville Road.

Local Roadways

Local roadways are those not otherwise classified and tend to serve short, local trips or connect land uses with the collectors to access the broader roadway network.

Figure 12 shows the breakdown of the Vehicle Miles Traveled (VMT) on the network by functional classification as calculated by the CORE MPO travel demand model for 2010 and 2040. Over 80% of the VMT occurs on the region's principal arterials, expressway, and interstates which make up the CMP network.

Figure 12 VMT

VMT in CORE MPO's Planning Area

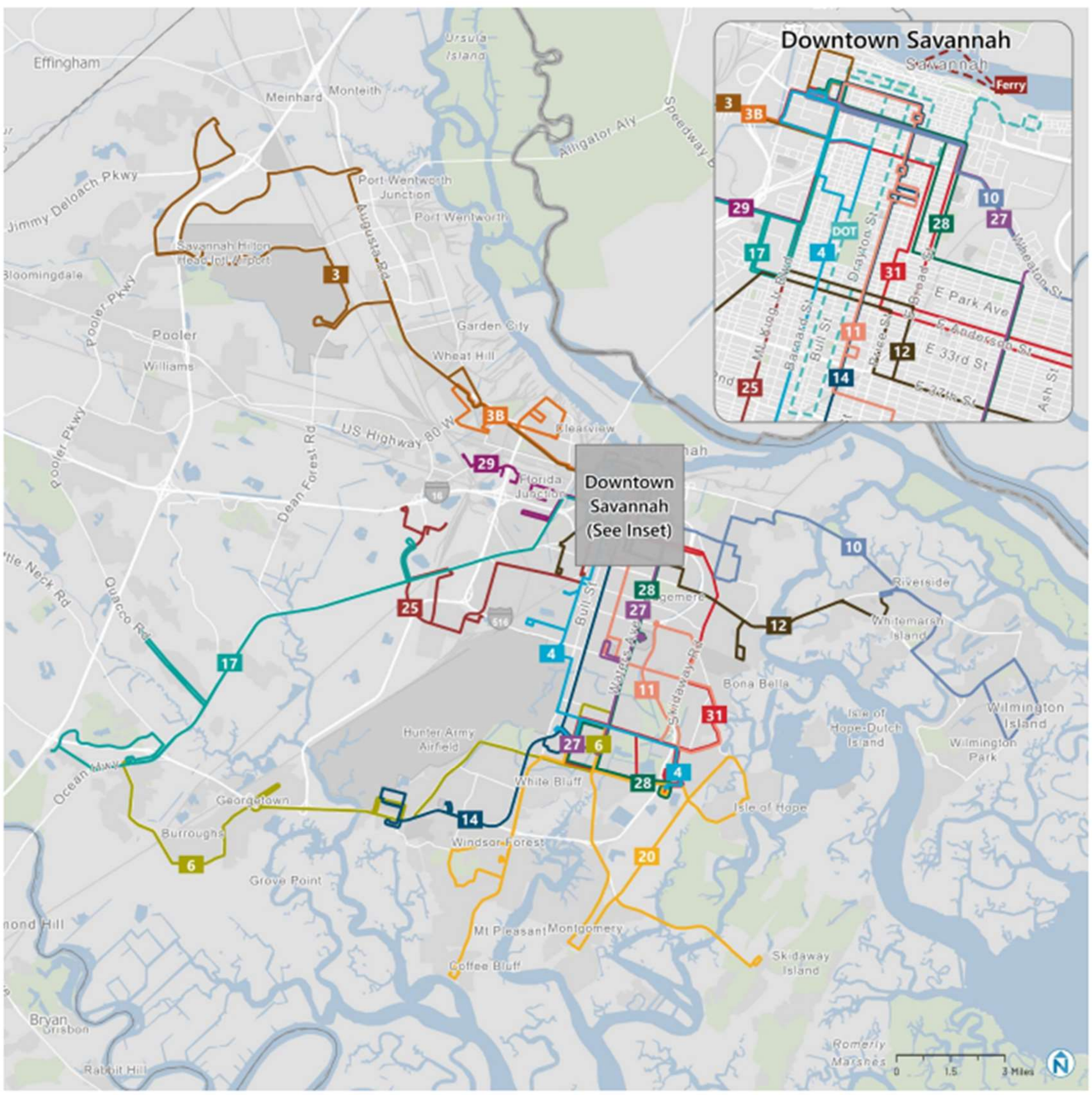
Functional Class	VMT 2010	Percent	VMT 2040	Percent
Interstates	2,381,144.36	34.32%	3,287,920.38	33.96%
Other Freeways	288,213.68	4.15%	628,025.26	6.49%
Expressways	197,769.77	2.85%	266,537.91	2.75%
Parkways	202,965.15	2.93%	238,533.11	2.46%
Ramps	187,427.00	2.70%	258,596.58	2.67%
Principal Arterials	2,414,185.11	34.79%	3,194,481.29	33.00%
Minor Arterials	791,808.92	11.41%	1,044,233.99	10.79%
One-Way Arterials	89,720.49	1.29%	106,524.22	1.10%
Major Collectors	236,339.76	3.41%	438,752.62	4.53%
Minor Collectors	76,253.16	1.10%	107,833.26	1.11%
One-Way Collectors	2,557.68	0.04%	3,537.71	0.04%
Local Roads	70,180.88	1.01%	105,546.08	1.09%
Total	6,938,565.96		9,680,522.41	

Source: GDOT CORE MPO Travel Demand Model

Transit

Chatham Area Transit operates 16 core routes within Chatham County. CAT also contracts service to operate shuttle services including the DOT, South Savannah University Shuttle. Figure 13 illustrates the current CAT core routes.

Figure 13 CAT Alignment Routes

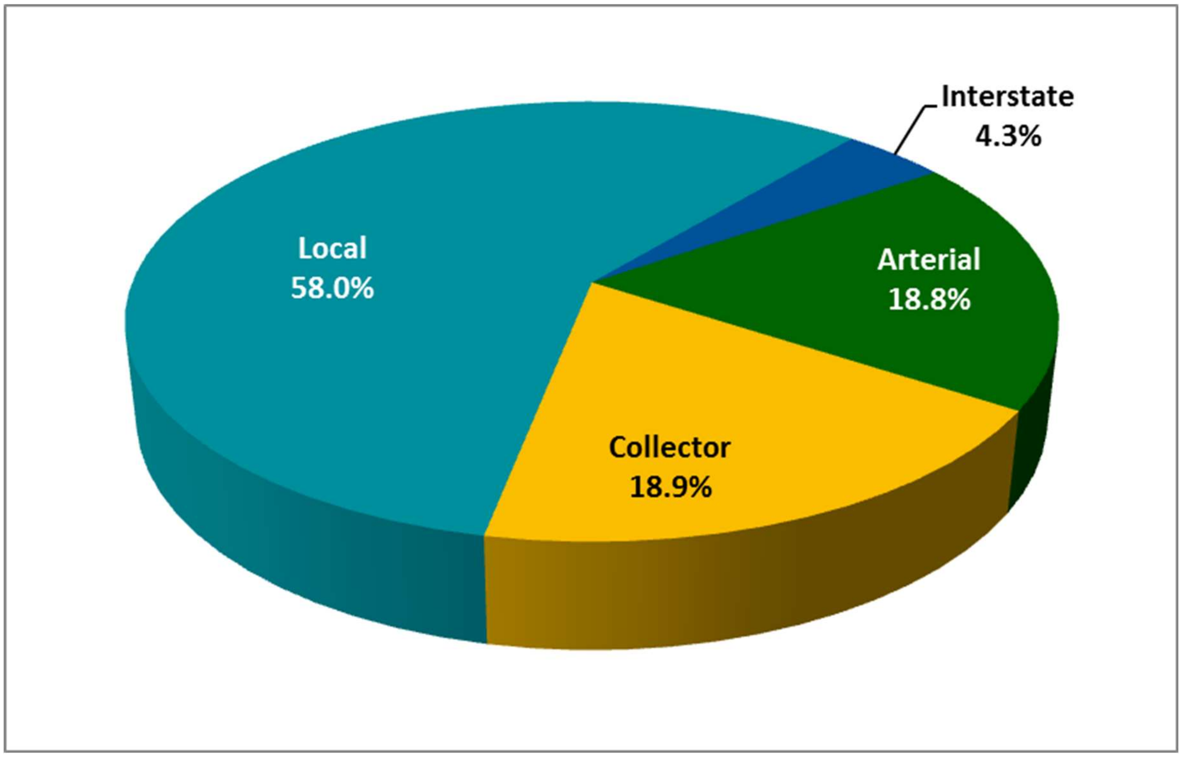


Source: 2022 GTFS

Freight

Highway functional classification and associated characteristics may be used as a predictor of truck usage. Most trucks rely on the interstate, expressway and arterial roads to move freight. The intended use and vehicle design will guide features that may induce commercial operator usage. Figure X below shows the percent of roadway miles by functional class across all area types. Local roads make up over half of the miles in the three-county area at 58.0 percent (964 miles). Therefore, much of truck traffic in the area is concentrated on less than half of the road miles in the area. Most trucks will travel on the 71 miles of interstate and 312 miles of arterial roads in the area, which represent 4.3 percent and 18.8 percent of the total system, respectively. Collector roads total 314 miles, or 18.9 percent.

Figure 14 Percent of Roadway Miles by Functional Class in the Study Area



Source: Office of Transportation Data, Georgia Department of Transportation, 445 Series Report, 2012

Non-Motorized Transportation

Existing Pedestrian Facilities

The majoroty of sidewalks, crosswalks, and pedestrian signals currently exist in the denser portions of the planning area. A complete GIS based inventory of existing sidewalks, has not been developed for the entire planning area. The City of Savannah staff maintain a GIS file of sidewalks within Savannah city limits. Regarding the rest of Chatham County, some exsting sidewalks have not been mapped in GIS, especially in the unincorporated areas. MPO staff mapped some sidewalks that were not covered by other data sources, but others remain to be mapped.

Table X lists existing mileage of sidewalks and the shared use paths from the area-wide bicycle network, as those paths may also be used by pedestrians. For the paths, the focus is on those used for transportation; loop paths that exist inside of some parks are not counted here; paths inside of gated communities are not counted, but paths on the Hunter Army Airfield base are included. Other bicycle facilites that are not shared with pedestrians are covered in a following section.

Figure 15 Mileage of Existing Sidewalks (each side counted separately) and Shared Use Paths

Type	Miles Existing
Sidewalks	574+ *
Shared Use Paths**	31
Totals	**605+**

Source: 2020 Non-Motorized Transportation Plan

** Sidewalks mapped to date, and thus easily measured, are mostly those within the City of Savannah and unincorporated Chatham County.*

*** This type of facility is intended to be shared with bicyclists and therefore this category's mileage is also included in the bicycle facility summation in a subsequent table.*

Existing Bicycle Facilities or Treatments

Bicycle facilities include on-street types and off-road paths. Technically, every roadway is a bicycle facility (except roads where bicycling is explicitly prohibited), as Georgia law recognizes bicycles as vehicles with rights to the road. Since general roadway conditions are covered above, this section focuses on more exclusive types of bicycle facilities: bike lanes and shared use paths. Again, for the paths, the focus is on those used for transportation.

Figure 16 Mileage of Existing Bicycle Facilities (in centerline miles)

Type	Miles Existing
Bicycle Lanes	17.4
Paved Shoulder	6.8
Shared Lanes	44.8
Shared Use Paths	30.5
Total	**99.5**

Source: 2020 Non-Motorized Transportation Plan

Safety

Traffic crashes data were obtained in the CORE MPO area, in all three counties, over a one-year reporting period (2020-2021). Figure 17 depicts accident data for the three-county area from March 2021-March 2022. Figure 18 below shows the number of fatalities for the State of Georgia. The CORE MPO's area crashes typically represent less than 1% of the fatalities occurring within the state.

Figure 17 CORE MPO Area Accident Data, (March 2021 – March 2022)

	Fatalities	Serious Injuries	Visible Injuries	Complains of Injury	Most Prevalent Number of Vehicles Involved per Crash
Bryan	13	62	313	617	2
Chatham	16	47	253	638	2

Effingham	22	101	415	671	2

Source: GDOT GEARS

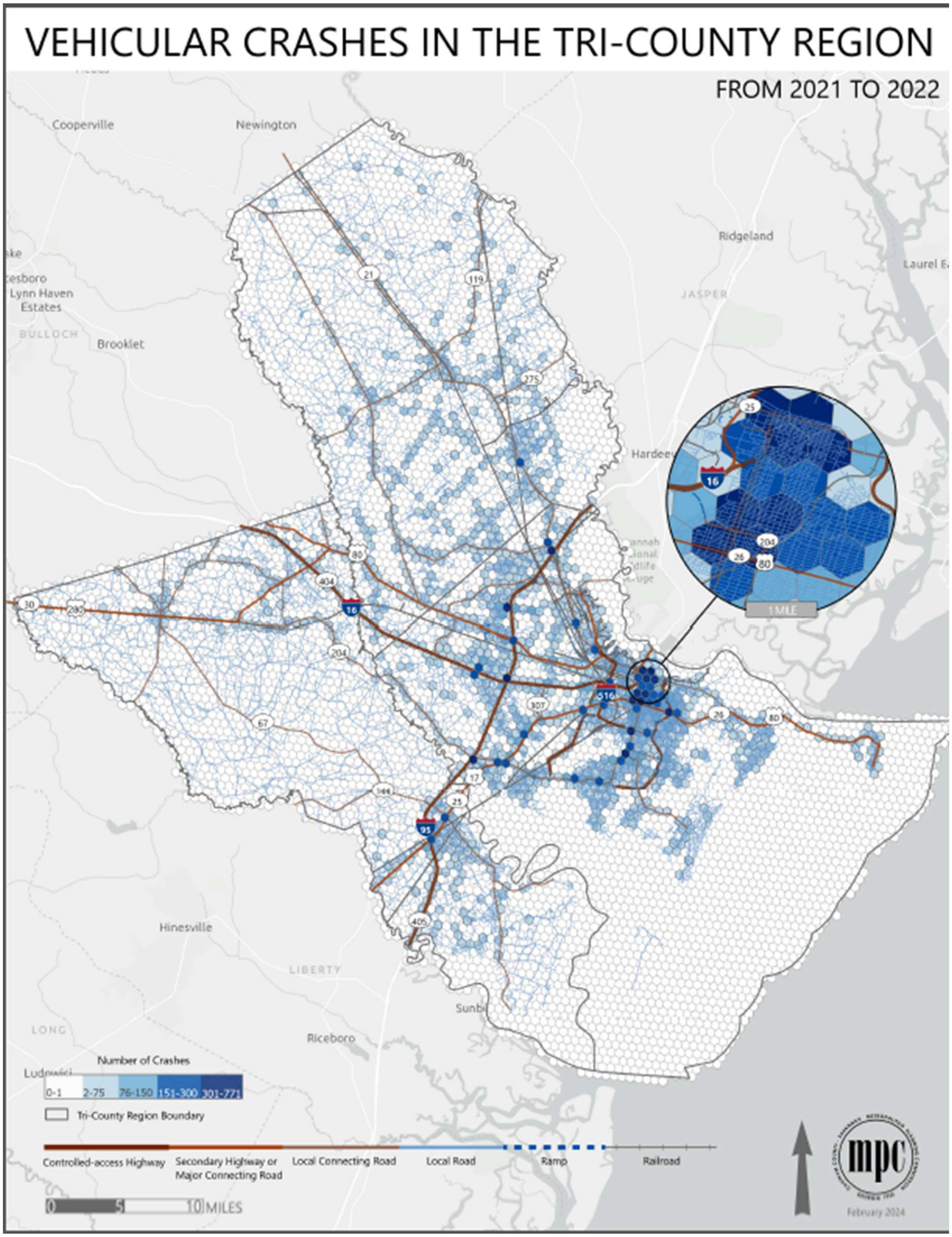
Figure 18 Fatalities for the State of Georgia

Traffic Fatalities		2016	2017	2018	2019	2020	2021
	Total	1,556	1,540	1,505	1,492	1,658	1,797
	Rural	603	594	508	520	645	598
	Urban	953	946	997	972	1,010	1,199
	Unknown	0	0	0	0	3	0

Source: GDOT GEARS

The map on the following page depicts vehicular crashes for the tri-county study area for the year of 2021-2022.

Figure 19 Vehicular Crashes for Bryan, Chatham, and Effingham County from 2021-2022



Source: SAGIS, CORE MPO 2024

9.0 Analysis of Congestion and Mobility Issues

To determine the causes of congestion and mobility issues, raw data was gathered from multiple sources and analyzed to pinpoint the causes of those issues. This section contains analysis of data from various sources, of varying levels of analyzation difficulty. Each multimodal performance measure required particular data sets. Each subsection of this section discusses the application of each data set and the performance measure addressed.

Interstate Travel Time Analysis

The travel time reliability performance measures previously noted, including travel times, and buffer index are evaluated in the following section. Additional measures such as travel speed, non-motorized data, origin and destination data and freight data are also included to augment the data and help define appropriate congestion reduction strategies.

Travel time performance measures were derived from two primary sources, the National Performance Management Research Data Set (NPMRDS) and the I-95 Corridor Coalition Vehicle Probe Data set. The I-95 Corridor Coalition dataset was used to derive travel time information for the interstates in the region including I-95, I-16 and I-516. The NPMRDS data set provided travel time data for much of the CMP network on the National Highway System (NHS)[11]. All data was analyzed for weekdays in the month of March 2023. The month represented a “typical” commuting pattern with school in session, no spring breaks, and no hurricane or severe weather incidents.

The Interstate travel time analyses (see Figure 20-21) showed that overall, the amount of time needed to travel the northbound and southbound segments of I-95 increased throughout the week.

The segments that showed the highest buffer time index were on I-95 Northbound on Thursdays and Fridays. On the I-95 Southbound segments, the highest buffer time index were Mondays, Wednesdays, and Fridays.

I-516, both eastbound and westbound, consistently had buffer time index differentials of less than 5 minutes, with the westbound segments having less than 2-minute variances.

I-16 was evaluated and indicated widely ranging buffer time indexes with the largest being on the eastbound segments on Mondays and Wednesdays, and the lowest being on the westbound segments on Thursdays and Wednesdays, respectively.

[11] There are some isolated segments where there was not enough data for a complete travel time analysis. These segments will be revisited and additional segments will be added in future updates to the CMP as the data sets become more robust.

Figure 20 Interstate Travel Time Analysis - I-95 Northbound (from Georgia state line to Richmond Hill, Georgia)

Northbound segments from I-95 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	**70.40**	**0.25**	**0.01**	**32.76**	**1.10**	**1.02**	**30.41**	**1.02**	**0.95**	**Mon**
Tue	**70.00**	**Optimal Conditions**	**Optimal Conditions**	**32.57**	**1.09**	**1.02**	**30.60**	**1.03**	**0.95**	**Tue**
Wed	**67.30**	**1.77**	**0.06**	**33.70**	**1.13**	**1.05**	**31.81**	**1.07**	**0.99**	**Wed**
Thu	**65.30**	**8.89**	**0.27**	**41.57**	**1.40**	**1.30**	**32.78**	**1.10**	**1.02**	**Thu**
Fri	**61.10**	**28.82**	**0.86**	**62.49**	**2.10**	**1.95**	**35.02**	**1.18**	**1.09**	**Fri**
Weekdays	**66.40**	**8.16**	**0.25**	**41.06**	**1.38**	**1.28**	**32.27**	**1.08**	**1.01**	**Weekdays**
Sat	**63.80**	**20.65**	**0.60**	**54.79**	**1.84**	**1.71**	**33.54**	**1.13**	**1.05**	**Sat**
Sun	**65.60**	**19.45**	**0.60**	**51.75**	**1.74**	**1.61**	**32.66**	**1.10**	**1.02**	**Sun**
Weekends	**64.70**	**19.57**	**0.59**	**52.81**	**1.77**	**1.65**	**33.10**	**1.11**	**1.03**	**Weekends**
AllDays	**65.90**	**11.53**	**0.35**	**44.52**	**1.50**	**1.39**	**32.48**	**1.09**	**1.01**	**AllDays**

Source: NPMRDS 2023

Figure 21 Interstate Travel Time Analysis – I-95 Southbound (from Georgia state line to Richmond Hill, Georgia)

Southbound segments from I-95 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	69.10	1.10	0.03	33.41	1.12	1.04	30.98	1.03	0.97	Mon
Tue	69.90	0.42	0.01	32.97	1.10	1.03	30.63	1.02	0.95	Tue
Wed	69.20	0.87	0.03	33.29	1.11	1.04	30.97	1.03	0.97	Wed
Thu	68.30	Optimal Conditions	Optimal Conditions	33.50	1.12	1.04	31.35	1.05	0.98	Thu
Fri	66.50	0.92	0.03	33.46	1.12	1.04	32.21	1.07	1.00	Fri
Weekdays	68.50	0.18	0.01	33.23	1.11	1.04	31.26	1.04	0.97	Weekdays
Sat	70.40	0.90	0.03	32.70	1.09	1.02	30.43	1.02	0.95	Sat
Sun	71.00	1.00	0.03	32.68	1.09	1.02	30.16	1.01	0.94	Sun
Weekends	70.70	0.93	0.03	32.67	1.09	1.02	30.30	1.01	0.94	Weekends
AllDays	69.10	0.29	0.01	33.01	1.10	1.03	31.02	1.04	0.97	AllDays

Source: NPMRDS 2023

Figure 22 Interstate Travel Time Analysis – I-516 Eastbound

Eastbound segments from I-516 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	50.20	4.26	0.54	12.19	2.08	1.35	7.86	1.34	0.87	Mon
Tue	48.40	4.63	0.57	12.68	2.16	1.41	8.16	1.39	0.91	Tue
Wed	49.90	4.35	0.54	12.40	2.11	1.37	7.91	1.35	0.88	Wed
Thu	48.70	4.84	0.60	12.91	2.20	1.43	8.11	1.38	0.90	Thu
Fri	53.60	2.58	0.33	10.40	1.77	1.15	7.37	1.25	0.82	Fri
Weekdays	50.20	4.09	0.51	12.07	2.06	1.34	7.87	1.34	0.87	Weekdays
Sat	58.70	1.34	0.19	8.39	1.43	0.93	6.73	1.15	0.75	Sat
Sun	57.80	1.44	0.21	8.41	1.43	0.93	6.84	1.16	0.76	Sun
Weekends	58.30	1.38	0.20	8.39	1.43	0.93	6.77	1.15	0.75	Weekends
AllDays	51.80	3.93	0.51	11.69	1.99	1.30	7.62	1.30	0.84	AllDays

Source: NPMRDS 2023

Figure 23 Interstate Travel Time Analysis - I-516 Westbound

Westbound segments from I-516 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	53.60	1.00	0.12	9.07	1.45	1.13	7.43	1.19	0.93	Mon
Tue	51.00	1.79	0.23	9.64	1.54	1.21	7.83	1.25	0.98	Tue
Wed	52.80	1.10	0.14	9.07	1.45	1.13	7.54	1.21	0.94	Wed
Thu	53.10	1.45	0.18	9.27	1.49	1.16	7.51	1.20	0.94	Thu
Fri	53.30	1.76	0.23	9.50	1.52	1.19	7.49	1.20	0.94	Fri
Weekdays	52.80	1.30	0.17	9.18	1.47	1.15	7.55	1.21	0.94	Weekdays
Sat	57.10	1.00	0.14	8.31	1.33	1.04	6.99	1.12	0.87	Sat
Sun	57.10	1.17	0.16	8.37	1.34	1.05	6.98	1.12	0.87	Sun
Weekends	57.10	1.10	0.15	8.36	1.34	1.04	6.98	1.12	0.87	Weekends
AllDays	53.70	1.17	0.15	8.91	1.43	1.11	7.43	1.19	0.93	AllDays

Source: NPMRDS 2023

Figure 24 Interstate Travel Time Analysis - I-16 Eastbound

Eastbound segments from I-16 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	60.80	21.27	0.79	48.15	2.05	1.77	28.14	1.20	1.03	Mon
Tue	60.60	18.02	0.66	45.28	1.93	1.66	28.22	1.20	1.04	Tue
Wed	59.70	22.88	0.84	50.00	2.13	1.84	28.63	1.22	1.05	Wed
Thu	58.50	20.84	0.77	47.99	2.05	1.76	29.24	1.25	1.07	Thu
Fri	64.00	10.29	0.39	36.75	1.57	1.35	26.75	1.14	0.98	Fri
Weekdays	60.70	16.32	0.60	43.28	1.84	1.59	28.19	1.20	1.04	Weekdays
Sat	69.00	2.08	0.08	27.99	1.19	1.03	24.79	1.06	0.91	Sat
Sun	69.30	2.07	0.08	27.82	1.19	1.02	24.67	1.05	0.91	Sun
Weekends	69.20	2.15	0.08	27.98	1.19	1.03	24.73	1.05	0.91	Weekends
AllDays	62.60	13.20	0.49	39.88	1.70	1.47	27.32	1.17	1.00	AllDays

Source: NPMRDS 2023

Figure 25 Interstate Travel Time Analysis - I-16 Westbound

Westbound segments from I-16 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	61.60	14.62	0.54	41.81	1.75	1.54	27.87	1.17	1.03	Mon
Tue	61.50	11.91	0.44	39.19	1.65	1.45	27.88	1.17	1.03	Tue
Wed	61.50	11.42	0.41	38.92	1.63	1.44	27.90	1.17	1.03	Wed
Thu	62.40	9.94	0.36	37.47	1.57	1.38	27.49	1.15	1.01	Thu
Fri	62.20	11.64	0.42	39.04	1.64	1.44	27.59	1.16	1.02	Fri
Weekdays	61.90	10.77	0.39	38.16	1.60	1.41	27.73	1.16	1.02	Weekdays
Sat	67.90	2.18	0.08	28.31	1.19	1.04	25.26	1.06	0.93	Sat
Sun	67.50	2.20	0.09	28.16	1.18	1.04	25.41	1.07	0.94	Sun
Weekends	67.70	2.20	0.08	28.24	1.19	1.04	25.34	1.06	0.93	Weekends
AllDays	63.30	8.69	0.32	35.73	1.50	1.32	27.11	1.14	1.00	AllDays

Source: NPMRDS 2023

Arterial Travel Time Analysis

Travel time data was also collected for principal arterials and higher where data was available from the Regional Integrated Transportation Information System (RITIS) data platform. Arterial Travel time performance measures were derived from the National Performance Management Research Data Set (NPMRDS)[12]. Compared to the interstate system, travel times were a bit more inconsistent on the arterial network. This is possibly due to the data source itself, as well as several contributing factors such as traffic control devices, delivery trucks, school zones, bus stops and driveways. Figures 12-18 contain the arterial travel time analysis measures. The following is a summary of the figures below:

US 17

The northbound segment has higher travel times than the southbound segments, with the highest and lowest travel times both on the northbound segment.

US 80/Victory Drive

Both the eastbound and westbound segments have high travel times in excess of 40min.

DeRenne Avenue/ SR 21

The northbound segment has lower travel times than the southbound segment for all days of the week.

Pooler Parkway

The northbound travel times are lower than the southbound travel times.

Ogeechee Road

The northbound travel times are higher than the southbound travel times.

Brampton Road

The northbound and southbound segment travel times are nearly identical regardless of day of the week, with low times, particularly on the weekends.

Grange Road

Travel times on the eastbound segment are lower than travel times on the westbound segment.

Travel Time Speeds

The following travel time speeds were derived from RITIS data, which provided the travel time reliable information for the arterials. The speed data (see Figures 12-18) give a sense of what the driver is experiencing on the ground by what their speed would be over a commute segment. The travel speeds are intended to supplement the travel time-data previously mentioned.

The travel speed data were produced for March 1, 2023 and March 31, 2023 weekdays and weekends for all time periods.

[12] There are some gaps in segments where there was not enough data for a complete travel time analysis but much of the network included data coverage.

Figure 26 Arterial Travel Time Analysis – US-17 Northbound

Northbound segments from US-17 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	38.90	24.43	0.63	63.19	2.36	1.90	39.65	1.48	1.19	Mon
Tue	37.40	32.91	0.83	72.31	2.71	2.17	41.20	1.54	1.24	Tue
Wed	37.50	29.77	0.75	69.43	2.60	2.09	41.08	1.54	1.24	Wed
Thu	37.80	27.70	0.68	68.36	2.56	2.06	40.81	1.53	1.23	Thu
Fri	36.50	37.68	0.94	77.73	2.91	2.34	42.24	1.58	1.27	Fri
Weekdays	37.60	31.28	0.79	71.05	2.66	2.13	41.06	1.54	1.23	Weekdays
Sat	38.80	36.37	0.95	74.59	2.79	2.24	39.77	1.49	1.20	Sat
Sun	40.60	25.93	0.69	63.37	2.37	1.91	37.94	1.42	1.14	Sun
Weekends	39.60	31.44	0.83	69.31	2.59	2.08	38.93	1.46	1.17	Weekends
AllDays	38.00	30.27	0.77	69.65	2.61	2.09	40.63	1.52	1.22	AllDays

Source: NPMRDS 2023

Figure 27 Arterial Travel Time Analysis – US-17 Southbound

Southbound segments from US-17 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	38.30	28.46	0.70	68.80	2.58	1.98	40.69	1.53	1.17	Mon
Tue	38.10	27.18	0.66	68.17	2.56	1.96	40.84	1.53	1.18	Tue
Wed	38.40	25.09	0.62	65.40	2.45	1.88	40.52	1.52	1.17	Wed
Thu	38.00	24.79	0.57	68.17	2.56	1.96	41.02	1.54	1.18	Thu
Fri	38.20	29.07	0.73	69.08	2.59	1.99	40.80	1.53	1.17	Fri
Weekdays	38.20	26.90	0.66	67.94	2.55	1.96	40.78	1.53	1.17	Weekdays
Sat	39.70	26.30	0.66	65.90	2.47	1.90	39.26	1.47	1.13	Sat
Sun	40.20	27.55	0.70	66.81	2.51	1.92	38.70	1.45	1.11	Sun
Weekends	39.90	25.71	0.65	65.19	2.45	1.88	38.99	1.46	1.12	Weekends
AllDays	38.50	26.54	0.65	67.27	2.52	1.94	40.42	1.52	1.16	AllDays

Source: NPMRDS 2023

Figure 28 Arterial Travel Time Analysis - US 80/Victory Drive Eastbound

Eastbound segments from US-80 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	**37.20**	**23.75**	**0.59**	**64.08**	**2.29**	**2.32**	**41.38**	**1.48**	**1.40**	**Mon**
Tue	**36.90**	**22.59**	**0.56**	**62.83**	**2.25**	**2.21**	**41.70**	**1.49**	**1.41**	**Tue**
Wed	**36.10**	**27.41**	**0.68**	**67.90**	**2.43**	**2.40**	**42.60**	**1.53**	**1.44**	**Wed**
Thu	**36.60**	**23.68**	**0.58**	**64.26**	**2.30**	**2.21**	**42.02**	**1.50**	**1.39**	**Thu**
Fri	**37.30**	**24.29**	**0.60**	**64.70**	**2.32**	**2.24**	**41.25**	**1.48**	**1.38**	**Fri**
Weekdays	**36.80**	**23.88**	**0.59**	**64.30**	**2.30**	**2.27**	**41.82**	**1.50**	**1.40**	**Weekdays**
Sat	**38.60**	**28.64**	**0.74**	**67.22**	**2.41**	**2.33**	**39.92**	**1.43**	**1.30**	**Sat**
Sun	**40.50**	**20.41**	**0.54**	**58.45**	**2.09**	**2.04**	**38.02**	**1.36**	**1.25**	**Sun**
Weekends	**39.30**	**24.13**	**0.63**	**62.49**	**2.24**	**2.24**	**39.19**	**1.40**	**1.28**	**Weekends**
AllDays	**37.20**	**23.75**	**0.59**	**63.88**	**2.29**	**2.26**	**41.41**	**1.48**	**1.38**	**AllDays**

Source: NPMRDS 2023

Figure 29 Arterial Travel Time Analysis - US 80/Victory Drive Westbound

Westbound segments from US-80 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	35.20	34.34	0.84	75.35	2.69	3.13	43.82	1.56	1.60	Mon
Tue	36.00	27.80	0.67	69.40	2.48	3.00	42.88	1.53	1.59	Tue
Wed	36.00	30.68	0.75	71.58	2.56	3.05	42.92	1.53	1.59	Wed
Thu	35.40	35.22	0.86	76.22	2.72	3.31	43.63	1.56	1.61	Thu
Fri	36.60	26.34	0.64	67.71	2.42	2.70	42.15	1.50	1.52	Fri
Weekdays	35.90	30.38	0.74	71.54	2.55	3.02	43.05	1.54	1.58	Weekdays
Sat	38.10	26.39	0.68	65.44	2.34	2.41	40.48	1.45	1.37	Sat
Sun	40.00	20.50	0.52	60.04	2.14	2.16	38.58	1.38	1.32	Sun
Weekends	38.90	23.96	0.61	63.19	2.25	2.31	39.73	1.42	1.35	Weekends
AllDays	36.30	30.55	0.75	71.42	2.55	3.02	42.56	1.52	1.55	AllDays

Source: NPMRDS 2023

Figure 30 Arterial Travel Time Analysis - DeRenne Avenue/SR-21 Northbound

Northbound segments from GA-21 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	31.00	9.44	0.59	25.33	3.54	2.91	13.38	1.87	1.55	Mon
Tue	29.90	10.10	0.62	26.34	3.68	3.05	13.89	1.94	1.61	Tue
Wed	30.40	9.13	0.59	24.64	3.45	2.85	13.66	1.91	1.58	Wed
Thu	30.40	11.33	0.71	27.24	3.81	3.15	13.63	1.91	1.58	Thu
Fri	31.60	7.76	0.49	23.52	3.29	2.71	13.15	1.84	1.52	Fri
Weekdays	30.70	10.10	0.64	25.95	3.63	2.99	13.54	1.89	1.56	Weekdays
Sat	37.20	3.19	0.24	16.59	2.32	1.92	11.15	1.56	1.29	Sat
Sun	39.00	1.75	0.13	15.17	2.12	1.75	10.63	1.49	1.23	Sun
Weekends	38.10	2.75	0.20	16.16	2.26	1.87	10.90	1.52	1.26	Weekends
AllDays	32.10	8.50	0.56	23.79	3.33	2.75	12.93	1.81	1.50	AllDays

Source: NPMRDS 2023

Figure 31 Arterial Travel Time Analysis - DeRenne Avenue/SR-21 Southbound

Southbound segments from GA-21 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	28.90	7.95	0.46	25.38	3.51	2.54	14.42	2.00	1.44	Mon
Tue	27.90	6.45	0.34	25.19	3.48	2.55	14.90	2.06	1.50	Tue
Wed	27.60	6.41	0.35	24.83	3.44	2.54	15.09	2.09	1.52	Wed
Thu	27.10	9.02	0.49	27.45	3.80	2.83	15.36	2.13	1.56	Thu
Fri	29.70	5.33	0.29	23.56	3.26	2.38	14.01	1.94	1.39	Fri
Weekdays	28.20	6.85	0.38	25.11	3.47	2.54	14.77	2.04	1.48	Weekdays
Sat	34.70	5.14	0.36	19.56	2.71	1.95	11.99	1.66	1.18	Sat
Sun	35.80	6.70	0.51	19.96	2.76	1.96	11.64	1.61	1.13	Sun
Weekends	35.20	5.70	0.41	19.57	2.71	1.95	11.83	1.64	1.16	Weekends
AllDays	29.60	7.64	0.44	24.86	3.44	2.54	14.08	1.95	1.40	AllDays

Source: NPMRDS 2023

Figure 32 Arterial Travel Time Analysis - Pooler Parkway Northbound

Northbound segments from POOLER PKWY using HERE data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	35.50	13.51	46.12	13.80	1.67	NA	9.89	1.20	NA	Mon
Tue	35.50	13.63	47.10	13.92	1.69	NA	9.89	1.20	NA	Tue
Wed	35.50	13.51	42.97	13.82	1.67	NA	9.90	1.20	NA	Wed
Thu	34.80	14.19	45.29	14.51	1.76	NA	10.09	1.22	NA	Thu
Fri	33.70	15.21	45.16	15.55	1.88	NA	10.42	1.26	NA	Fri
Weekdays	35.00	14.06	45.23	14.37	1.74	NA	10.05	1.22	NA	Weekdays
Sat	33.20	16.62	49.23	16.96	2.05	NA	10.59	1.28	NA	Sat
Sun	35.70	14.48	47.65	14.79	1.79	NA	9.86	1.19	NA	Sun
Weekends	34.40	15.47	48.23	15.80	1.91	NA	10.23	1.24	NA	Weekends
AllDays	34.80	14.28	45.55	14.59	1.77	NA	10.10	1.22	NA	AllDays

Source: NPMRDS 2023

Figure 33 **Arterial Travel Time Analysis - Pooler Parkway Southbound**

Southbound segments from POOLER PKWY using HERE data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	**33.80**	**15.55**	**Optimal Conditions**	**15.55**	**1.93**	**NA**	**10.17**	**1.26**	**NA**	**Mon**
Tue	**34.40**	**14.84**	**Optimal Conditions**	**14.84**	**1.84**	**NA**	**9.98**	**1.24**	**NA**	**Tue**
Wed	**34.40**	**14.81**	**Optimal Conditions**	**14.81**	**1.84**	**NA**	**9.98**	**1.24**	**NA**	**Wed**
Thu	**33.50**	**15.51**	**Optimal Conditions**	**15.51**	**1.92**	**NA**	**10.26**	**1.27**	**NA**	**Thu**
Fri	**31.10**	**18.23**	**Optimal Conditions**	**18.23**	**2.26**	**NA**	**11.06**	**1.37**	**NA**	**Fri**
Weekdays	**33.30**	**15.75**	**Optimal Conditions**	**15.75**	**1.95**	**NA**	**10.31**	**1.28**	**NA**	**Weekdays**
Sat	**33.50**	**15.43**	**Optimal Conditions**	**15.43**	**1.91**	**NA**	**10.25**	**1.27**	**NA**	**Sat**
Sun	**35.80**	**13.88**	**Optimal Conditions**	**13.88**	**1.72**	**NA**	**9.61**	**1.19**	**NA**	**Sun**
Weekends	**34.60**	**14.88**	**Optimal Conditions**	**14.88**	**1.85**	**NA**	**9.94**	**1.23**	**NA**	**Weekends**
AllDays	**33.70**	**15.57**	**Optimal Conditions**	**15.57**	**1.93**	**NA**	**10.21**	**1.27**	**NA**	**AllDays**

Source: NPMRDS 2023

Figure 34 Arterial Travel Time Analysis - Ogeechee Road Northbound

Northbound segments from US-17 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	38.00	13.24	0.55	37.25	2.27	1.84	24.48	1.49	1.21	Mon
Tue	36.60	17.90	0.73	42.24	2.57	2.08	25.42	1.55	1.25	Tue
Wed	36.60	16.91	0.69	41.40	2.52	2.04	25.42	1.55	1.25	Wed
Thu	36.80	15.18	0.61	40.15	2.44	1.98	25.30	1.54	1.25	Thu
Fri	37.50	12.26	0.51	36.52	2.22	1.80	24.84	1.51	1.22	Fri
Weekdays	37.00	15.42	0.63	39.86	2.43	1.96	25.11	1.53	1.24	Weekdays
Sat	38.40	17.51	0.74	41.12	2.50	2.03	24.24	1.48	1.19	Sat
Sun	39.10	15.91	0.68	39.16	2.38	1.93	23.81	1.45	1.17	Sun
Weekends	38.70	16.38	0.70	39.82	2.42	1.96	24.03	1.46	1.18	Weekends
AllDays	37.40	15.58	0.64	39.83	2.42	1.96	24.90	1.52	1.23	AllDays

Source: NPMRDS 2023

Figure 35 Arterial Travel Time Analysis - Ogeechee Road Southbound

Southbound segments from US-17 using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	**34.70**	**16.46**	**0.92**	**34.37**	**3.04**	**2.39**	**18.65**	**1.65**	**1.30**	**Mon**
Tue	**34.40**	**15.03**	**0.84**	**32.84**	**2.91**	**2.28**	**18.83**	**1.67**	**1.31**	**Tue**
Wed	**34.70**	**14.81**	**0.82**	**32.81**	**2.90**	**2.28**	**18.66**	**1.65**	**1.30**	**Wed**
Thu	**34.00**	**14.68**	**0.76**	**33.91**	**3.00**	**2.35**	**19.05**	**1.69**	**1.32**	**Thu**
Fri	**35.00**	**15.65**	**0.87**	**33.65**	**2.98**	**2.34**	**18.53**	**1.64**	**1.29**	**Fri**
Weekdays	**34.60**	**15.40**	**0.85**	**33.62**	**2.98**	**2.33**	**18.74**	**1.66**	**1.30**	**Weekdays**
Sat	**38.10**	**11.23**	**0.67**	**27.97**	**2.48**	**1.94**	**17.00**	**1.50**	**1.18**	**Sat**
Sun	**38.20**	**12.96**	**0.81**	**29.05**	**2.57**	**2.02**	**16.95**	**1.50**	**1.18**	**Sun**
Weekends	**38.10**	**11.77**	**0.71**	**28.25**	**2.50**	**1.96**	**16.98**	**1.50**	**1.18**	**Weekends**
AllDays	**35.20**	**14.65**	**0.82**	**32.54**	**2.88**	**2.26**	**18.40**	**1.63**	**1.28**	**AllDays**

Source: NPMRDS 2023

Figure 36 Arterial Travel Time Analysis - Brampton Road Northbound

Northbound segments from BRAMPTON RD using HERE data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	20.90	0.32	0.25	1.56	1.57	N/A	1.04	1.05	N/A	Mon
Tue	21.20	0.21	0.17	1.45	1.46	N/A	1.03	1.04	N/A	Tue
Wed	21.80	0.25	0.20	1.51	1.52	N/A	1.00	1.01	N/A	Wed
Thu	21.30	0.20	0.16	1.43	1.45	N/A	1.02	1.03	N/A	Thu
Fri	21.90	0.23	0.20	1.43	1.45	N/A	0.99	1.00	N/A	Fri
Weekdays	21.40	0.27	0.22	1.51	1.52	N/A	1.02	1.03	N/A	Weekdays
Sat	24.20	0.13	0.12	1.21	1.22	N/A	0.90	0.91	N/A	Sat
Sun	25.50	0.03	0.03	1.11	1.12	N/A	0.85	0.86	N/A	Sun
Weekends	24.80	0.13	0.12	1.21	1.22	N/A	0.88	0.89	N/A	Weekends
AllDays	22.20	0.24	0.20	1.43	1.45	N/A	0.98	0.99	N/A	AllDays

Source: NPMRDS 2023

Figure 37 Arterial Travel Time Analysis - Brampton Road Southbound

Southbound segments from BRAMPTON RD using HERE data

March 01, 2023 through March 31, 2023

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	21.20	0.48	0.49	1.45	1.87	NA	1.03	1.32	NA	Mon
Tue	21.60	0.47	0.48	1.45	1.87	NA	1.01	1.30	NA	Tue
Wed	21.90	0.47	0.48	1.45	1.87	NA	0.99	1.28	NA	Wed
Thu	21.30	0.47	0.48	1.45	1.87	NA	1.02	1.31	NA	Thu
Fri	21.40	0.48	0.49	1.45	1.87	NA	1.02	1.31	NA	Fri
Weekdays	21.50	0.47	0.48	1.45	1.87	NA	1.01	1.30	NA	Weekdays
Sat	23.60	0.40	0.45	1.28	1.65	NA	0.93	1.19	NA	Sat
Sun	24.90	0.27	0.30	1.15	1.47	NA	0.88	1.13	NA	Sun
Weekends	24.20	0.33	0.37	1.21	1.56	NA	0.90	1.16	NA	Weekends
AllDays	22.10	0.41	0.43	1.36	1.75	NA	0.98	1.26	NA	AllDays

Source: NPMRDS 2023

Figure 38 Arterial Travel Time Analysis - Grange Road Eastbound

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	19.50	6.54	1.26	11.73	4.62	NA	4.76	1.88	NA	Mon
Tue	17.60	7.88	1.41	13.47	4.97	NA	5.32	1.97	NA	Tue
Wed	19.20	4.78	0.93	9.92	3.66	NA	4.89	1.81	NA	Wed
Thu	21.40	3.92	0.75	9.12	3.59	NA	4.32	1.70	NA	Thu
Fri	17.40	8.46	1.58	13.81	5.10	NA	5.40	2.00	NA	Fri
Weekdays	18.70	6.25	1.19	11.53	4.26	NA	5.03	1.86	NA	Weekdays
Sat	20.30	7.24	1.53	11.96	4.71	NA	4.57	1.80	NA	Sat
Sun	24.30	1.79	0.42	6.04	2.38	NA	3.81	1.50	NA	Sun
Weekends	21.40	5.58	1.22	10.17	4.01	NA	4.33	1.71	NA	Weekends
AllDays	18.80	6.34	1.22	11.53	4.26	NA	4.97	1.84	NA	AllDays

Eastbound segments from GRANGE RD using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

Source: NPMRDS 2023

Figure 39 Arterial Travel Time Analysis - Grange Road Westbound

Westbound segments from GRANGE RD using NPMRDS from INRIX (Trucks and passenger vehicles) data

March 01, 2023 through March 31, 2023

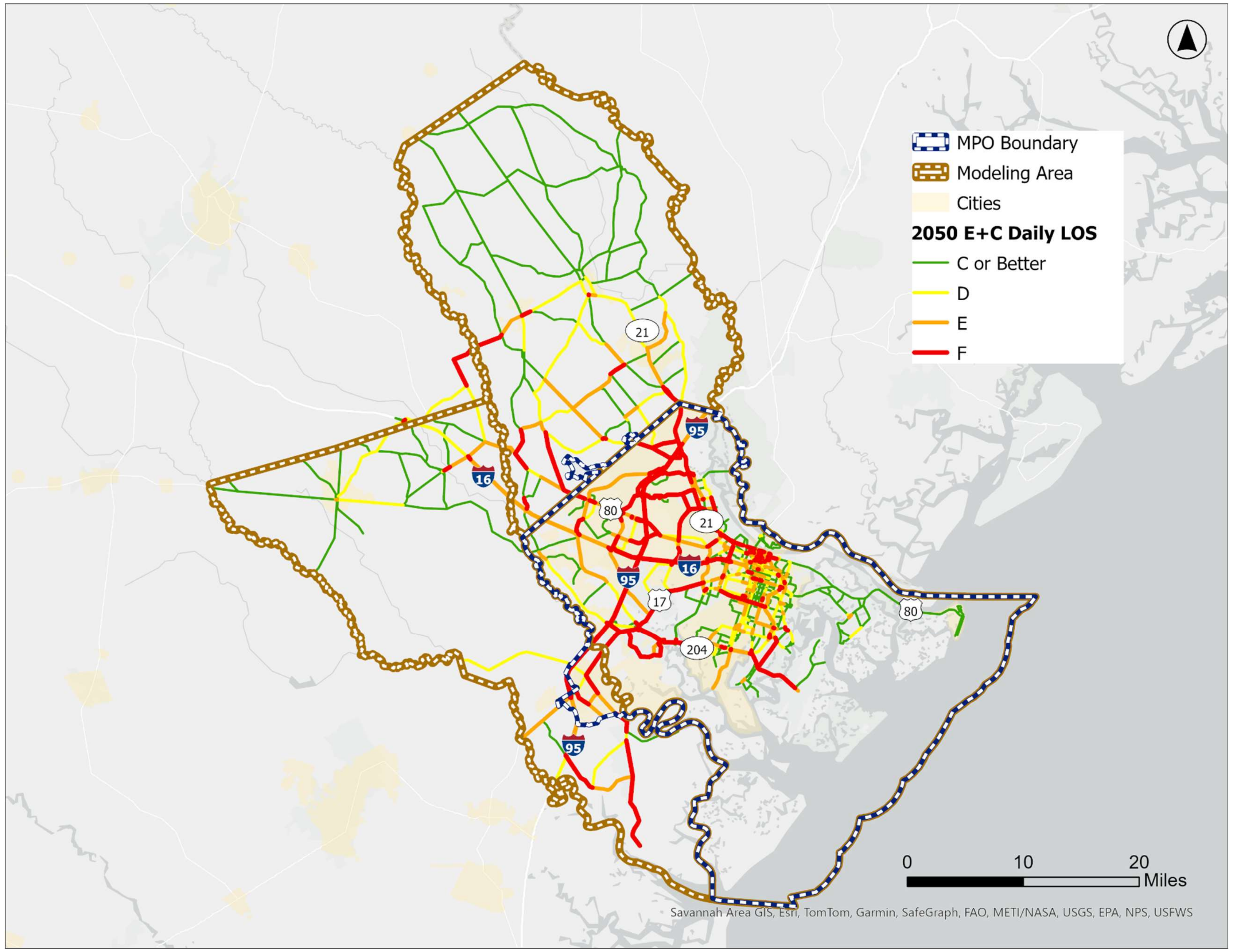
	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	PSL - Planning time index	Travel time (minutes)	Travel time index	PSL - Travel time index	
	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
Mon	15.70	8.19	1.36	14.20	5.19	NA	5.98	2.19	NA	Mon
Tue	16.00	9.71	1.63	15.66	5.73	NA	5.87	2.15	NA	Tue
Wed	16.50	7.89	1.28	14.06	5.14	NA	5.69	2.08	NA	Wed
Thu	17.20	5.83	0.95	11.98	4.38	NA	5.46	2.00	NA	Thu
Fri	18.20	7.02	1.18	12.96	4.74	NA	5.15	1.88	NA	Fri
Weekdays	16.70	8.03	1.30	14.20	5.19	NA	5.62	2.06	NA	Weekdays
Sat	19.90	3.35	0.60	8.93	3.26	NA	4.64	1.70	NA	Sat
Sun	17.40	8.19	1.42	13.97	5.11	NA	5.32	1.95	NA	Sun
Weekends	18.80	4.76	0.84	10.44	3.82	NA	4.93	1.80	NA	Weekends
AllDays	16.90	8.08	1.32	14.20	5.19	NA	5.54	2.03	NA	AllDays

Source: NPMRDS 2023

Level of Service: Existing + Committed (E+C) Year 2050

To identify future congested conditions, a Level of Service (LOS) analysis was conducted depicting year 2050 congestion of existing plus committed projects only. Facilities with LOS A through C were identified as minimally congested; LOS D as acceptable; while LOS E as moderately congested; and LOS F as heavily congested. For CORE MPO MPA purposes, anything below LOS D is unacceptable and needs to be mitigated. These levels of congestion were identified by the MPO and GDOT Travel Demand model. Figure 40 depicts the future levels of congestion in the study area.

Figure 40 **Future Conditions Congestion Levels – 2050 E+C Daily LOS Travel Demand Model Data**



Source: CORE MPO

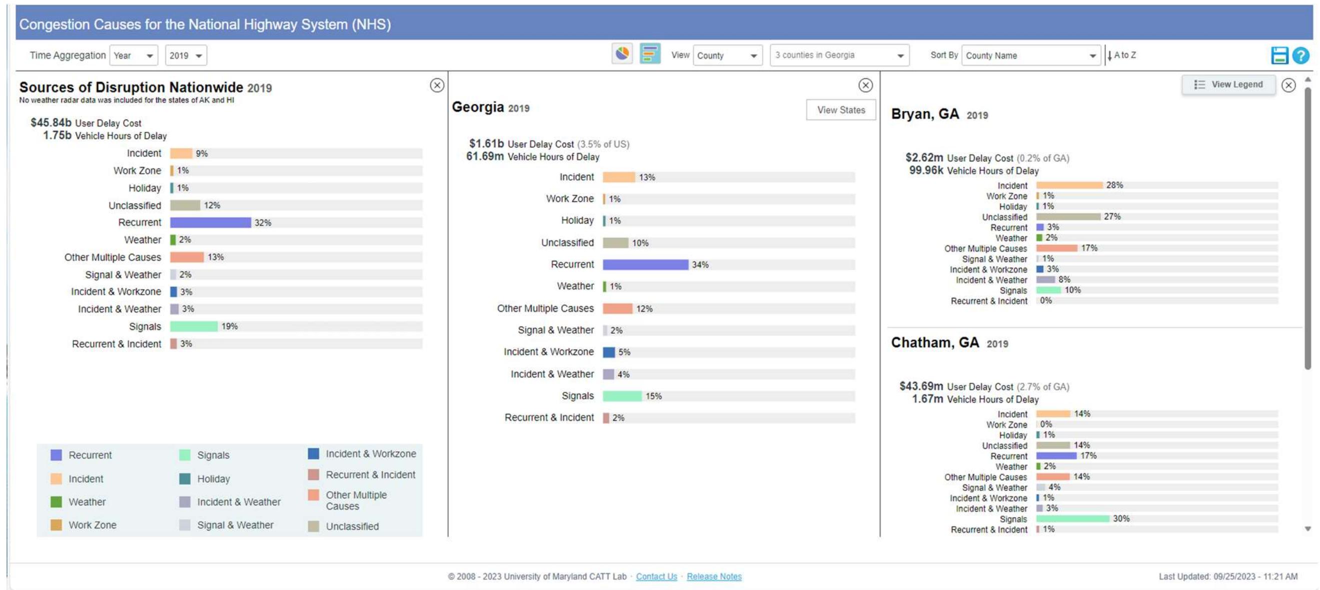
The identification of future congested conditions was accomplished using traditional Level of Service (LOS) measures. These LOS measures were calculated from the Regional Travel Demand Model. The travel demand model utilizes socio-economic data, in addition to geographic and roadway network data and produces estimated (forecasted) traffic volumes for the transportation network. The 2050 congestion levels were determined using the MTP (Plan System) network, which contains the MPO's planned short and long-range transportation improvement projects.

Major and minor roadways in CORE MPO that have LOS below 'D' include most of those roadways going to and from Savannah. Likewise, roadways circumnavigating the City of Savannah. Those roadways include US 17, SR 21, US 80, Jimmy DeLoach Parkway, SR 204, I-16, I-95, I-516, and other roadways. All of these roadways, except for Jimmy DeLoach Parkway, are featured on the most congested roadways list which is in a latter section of this report.

Costs of Congestion

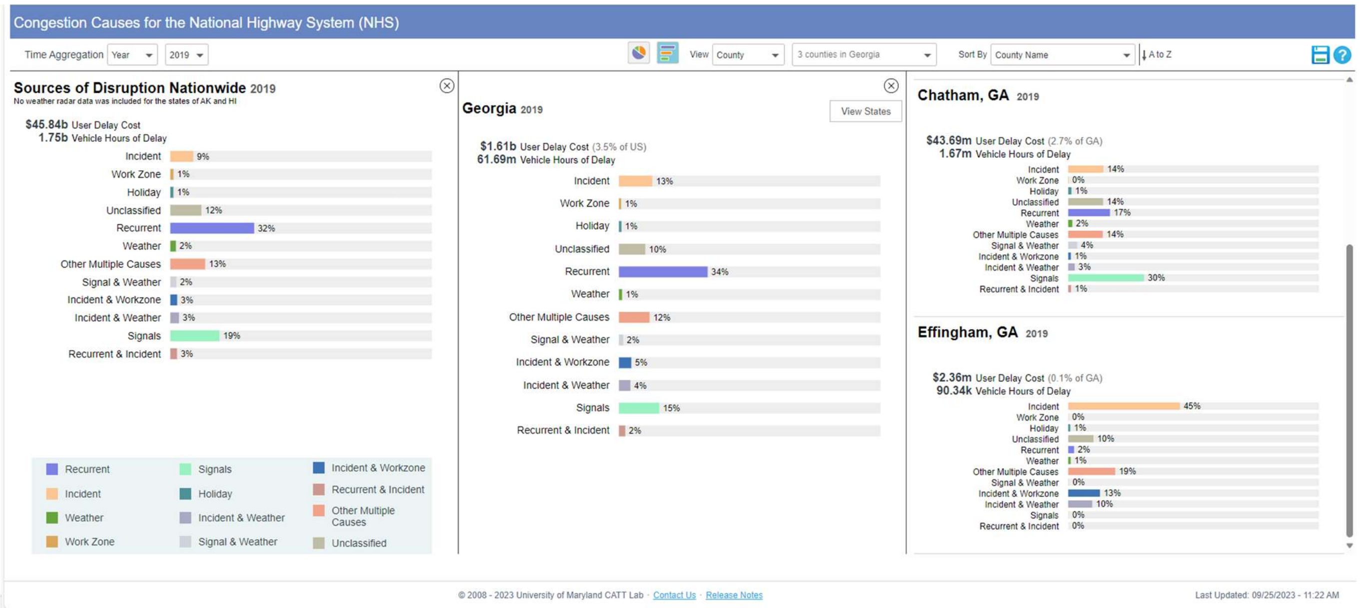
The National Highway System data was gathered from the RITIS database and analyzed for the CMP 2024 Update. Figures 41-42 depict the costs of congestion for each county in the Savannah region. Chatham county has the highest cost of user delay at $43.69 million, with 1.67 million hours of delay. The total cost of delay to the entire state of Georgia $1.61 billion, with 61.69 million hours of delay.

Figure 41 Costs of Congestion Bryan County



Source: RITIS

Figure 42 Costs of Congestion Chatham County and Effingham County



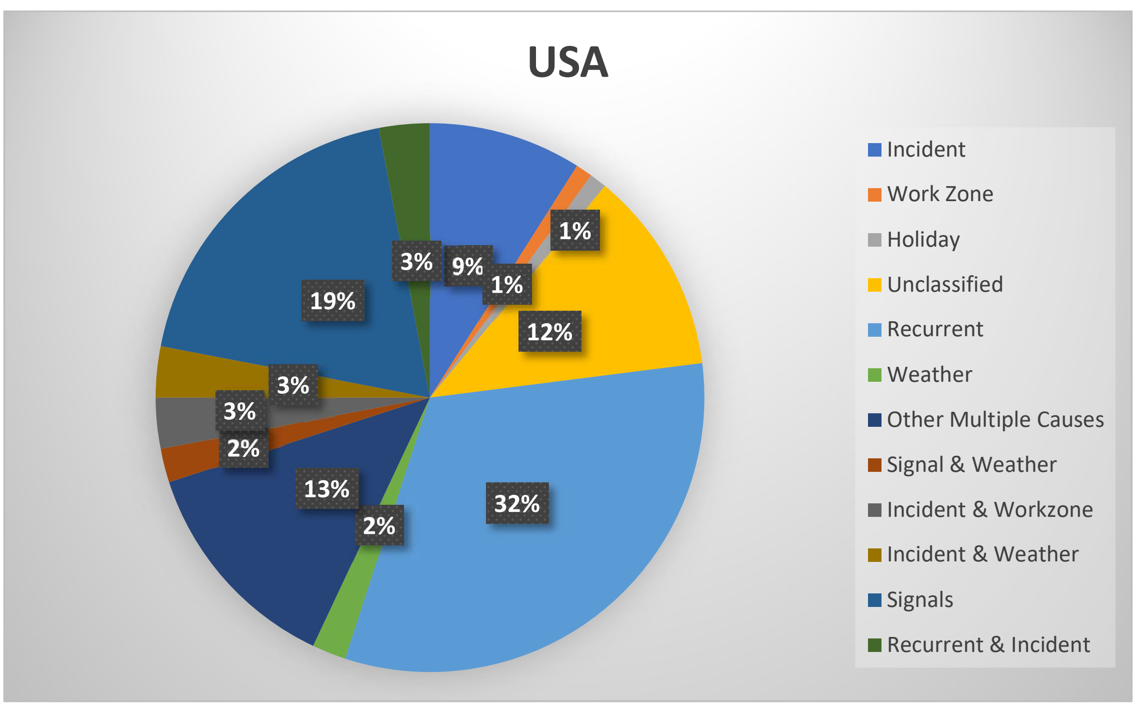
Source: RITIS

Congestion Causes

The CORE MPO metropolitan planning area is experiencing unprecedented growth. This growth is reflected in increased traffic congestion. A goal of the CMP is to track congestion and understand the underlying causes of congestion in the region. The MPC and CORE MPO has obtained a wealth of data from sources around the country to understand causes of congestion in the area. This section of the CMP utilizes data from Regional Integrated Transportation Information System (RITIS). RITIS retrieves information from various sources, including the National Performance Management Research Data Set (NPMRDS) and INRIX. Using the RITIS data archive, the 'Congestion Causes' tab searches and displays congestion data on a nationwide, statewide, and county level. Those causes of congestion are displayed below in Figure 43**-47**.

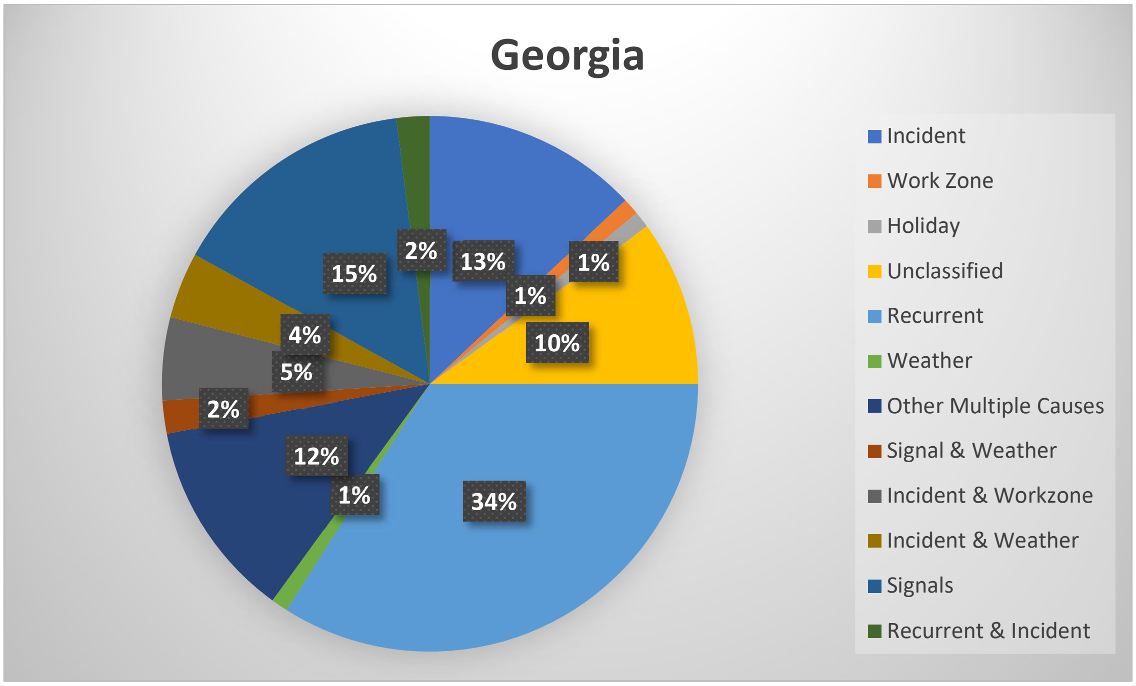
Congestion data gathered from RITIS shows the causes of congestion for the USA, the state of Georgia, and the counties of Bryan, Chatham, and Effingham. Analyzing this data tells a story of how congestion arises in the CORE MPO region. The number one cause of congestion nationwide and statewide is recurrent congestion. Recurrent congestion is congestion due to constant demand for each roadway facility; whether interstate, arterial, or lesser roadways. This makes sense as most nationwide roadways, and state roadways have less signals and are more likely to have more free-flowing facilities under their jurisdiction (interstates, highways, and major roadways). The counties of Bryan, Chatham, and Effingham, on the other hand, serve more local traffic and have more signals and more conflict points (conditions where accidents occur more frequently due to greater access points like driveways and development); therefore, congestion due to incidents and signals are most prevalent. For Bryan county, incidents are the highest causes of congestion while 'unclassified' reasons are the second highest ('unclassified' are reasons that are not listed as categories). For Chatham county, 'signals' are the most prevalent reason for traffic congestion on area roadways. Finally, for Effingham county, 'incidents' (traffic accidents) are the most prevalent reason for traffic congestion on area roadways.

Figure 43 Causes for Congestion Nationwide



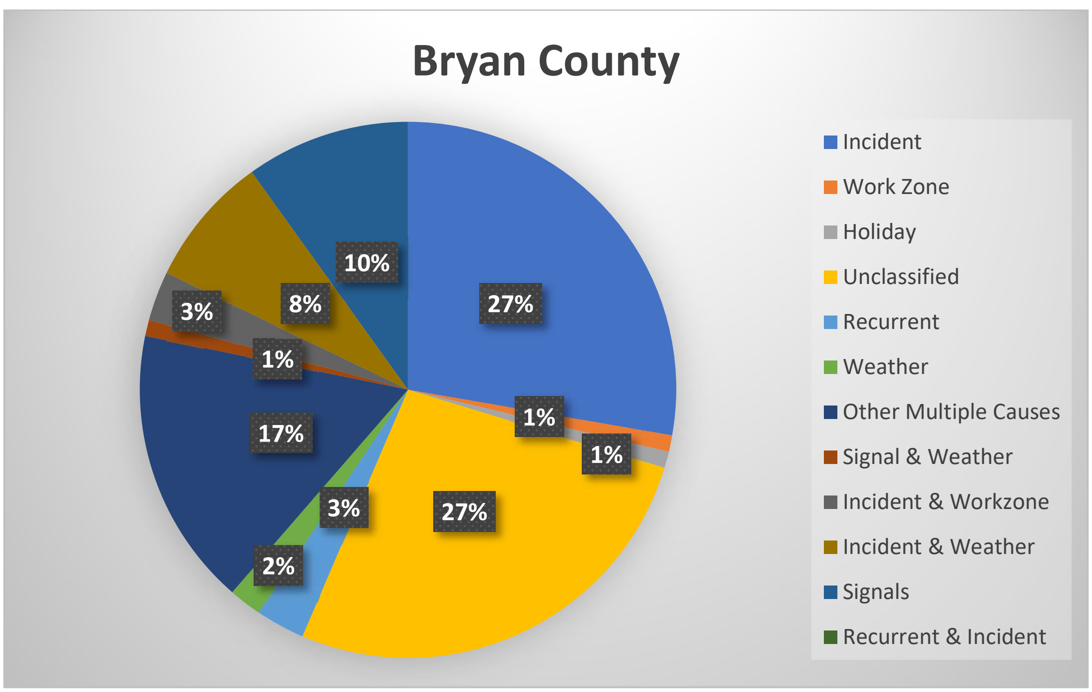
***Source**:* RITIS.org

Figure 44 Causes for Congestion Georgia-wide



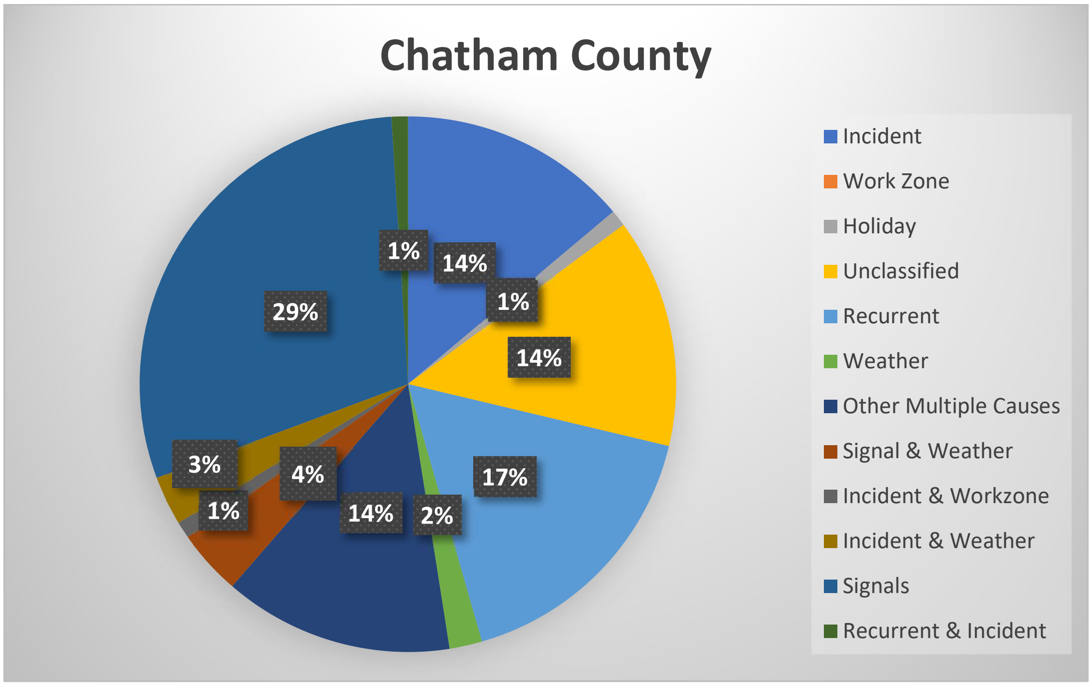
***Source**:* RITIS.org

Figure 45 Causes for Congestion in Bryan County



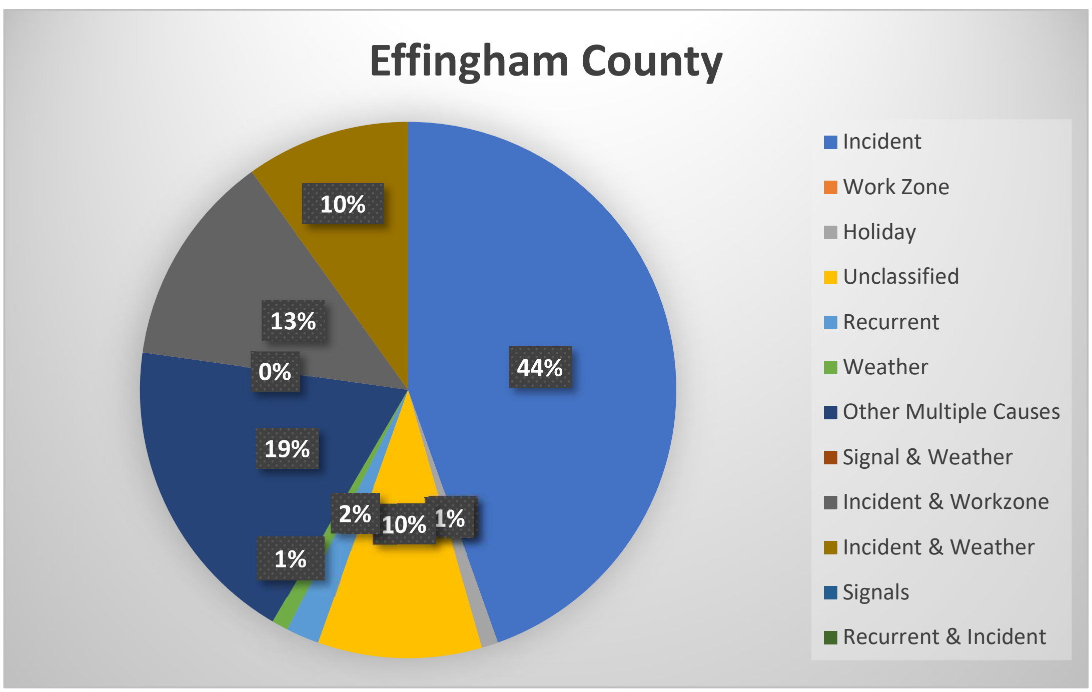
***Source**:* RITIS.org

Figure 46 Causes for Congestion in Chatham County



Source: RITIS.org

Figure 47 Causes for Congestion in Effingham County



Source: RITIS.org

Most Congested Corridors

The top 10 major roadways with the most congestion were obtained from the RITIS data source. These roadways were analyzed in the RITIS dashboard. The roadways with the most congestion, and with the fewest projects to treat congestion are US 17, SR 307, and Pooler Parkway. To determine these roadways, congested roadway data was gathered for Bryan, Chatham, and Effingham counties. The roadways from the

2017 CMP '10.0 Congested Corridors', Table 18: Most Congested Corridors section were also analyzed using the 'Congestion Scan' section of the Probe Data Analytics Suite. These roadways were analyzed by the software for a period of time. The time period of March 1, 2023 - March 31, 2023; all times of the day, and all days of the week, was gathered for in-school season to avoid spring break and summer vacation seasons.

The roadways were then reviewed on official agency websites in the region and state of Georgia for current projects and TIP projects for congestion management projects. Congested roadways with the most projects that treat congestion were relegated to the bottom of the list, since congestion on those roadways is currently being ameliorated. The roadways at the top of the congested roadway list need projects to curb congestion and are the most congested given they have not had projects to relieve congestion compared to the roadways at the bottom of the list. Figure 48 depicts the most congested roadways. The project ID numbers for the roadways that have projects that are currently under construction, or, have recently been constructed, are in the far-right column and can be referenced in region and state project repositories (statewide transportation improvement program, regional transportation plan, and so on).

Figure 48 Most Congested Corridors

Roadway	Segment	Current Projects
US 17	Between SR 204 and SR 307	SR 25 Corridor Study
	Between SR 307 and I-516 (NB not available)	
	Between SR 144 (Bryan County) and SR 204	
	Between I-95 and SR 144	
	Bryan County boundary (or SR 196) to I-95 (Partially outside of CORE MPO MPA)	
SR 307	Between I-16 and SR 25	PI#: 0017906
Pooler Parkway	Between I-95 and I-16	
Victory Drive/US 80	Between I-516 and Bee Road	
	Between Bee Road and Wilmington River	
	Wilmington River to Islands Expressway	

Brampton Road	Between SR 21/SR 25 to SR 21 Spur	
SR 204/Abercorn	Between DeRenne Avenue and I-16	PI#: 532950
	Between Veteran's Parkway and Harry S. Truman Parkway	PI#: 0015151
	Between Harry S. Truman Parkway and DeRenne Avenue	
SR 21	Between I-95 and I-516	PI#: 0017427
	Between I-516 and SR 204	
DeRenne Avenue	East of SR 204 (WB not available)	PI#: 0008359; PI# 008358
SR 144	Between US 17 and I-95	
I-95	Between Pooler Parkway and SR 21 (includes SR 21/I-95 interchange)	PI#: 0017955
	At GA—SC State Border (State line is outside of MPA)	
I-16	Between Exit 148/Old River Road and I-95	PI#: 0012757; I-16 @ SR 17/Jimmy DeLoach Pkwy.
	I-95 to I-516 (includes I-16 at I-95, I-16 at SR 307/Exit 160 and I-16 at Chatham Pkwy/Exit 162)	PI#: 0013727; PI#: 0015528
Grange Road	Between SR 21 to East of SR 25	
SR 26 (Ogeechee Road)	I-516 to Victory Drive	PI#: 521855
I-516	At SR 204/Abercorn	
	At Mildred Street	
	At Veterans Parkway/Exit 3	
SR 25 Connector	Between I-516 to the Bay Street Viaduct	PI#: 0008361; PI#: 0002923

Source: 2024 Congestion Management Process

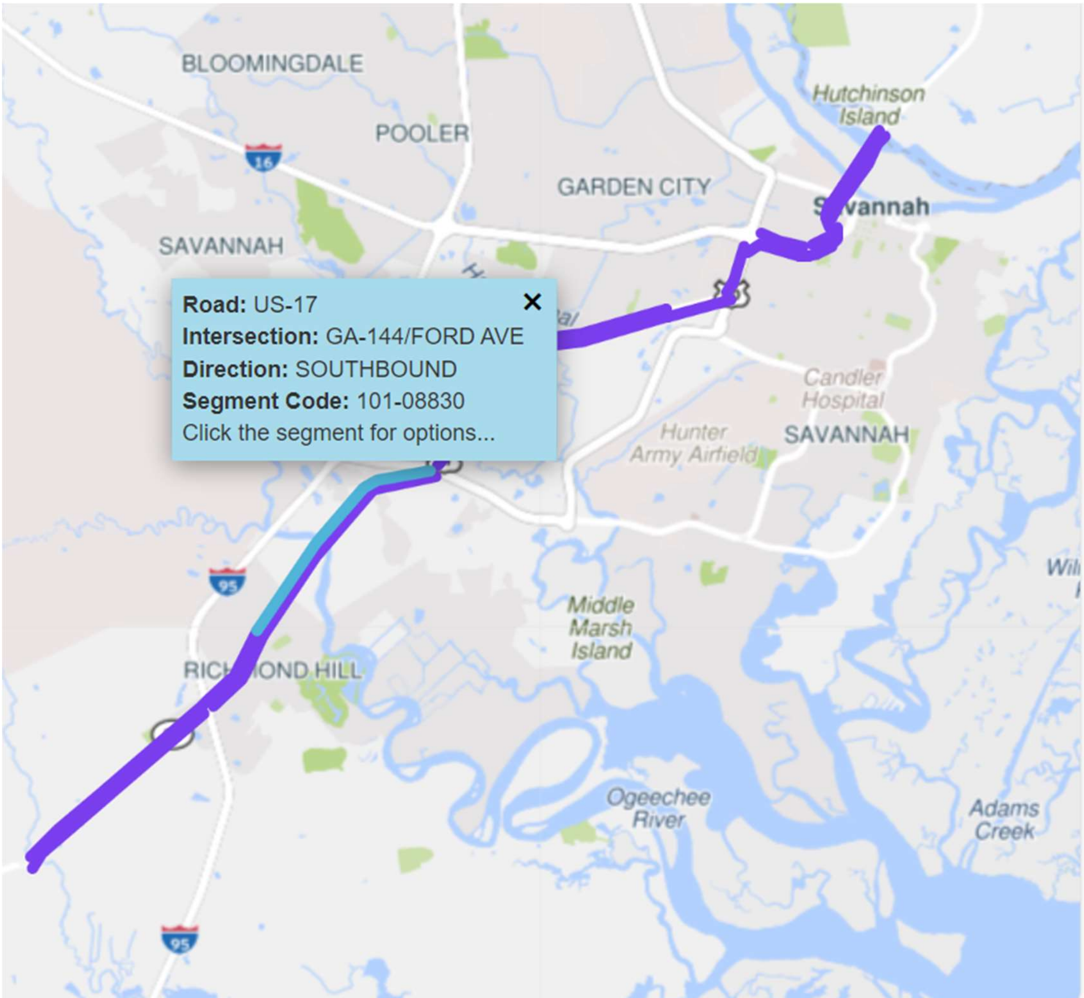
The roadways listed in Figure 48 at the top of the list could benefit from a variety of congestion management treatments, including road widenings (if they are not constrained), signal re-timings, and operational improvements.

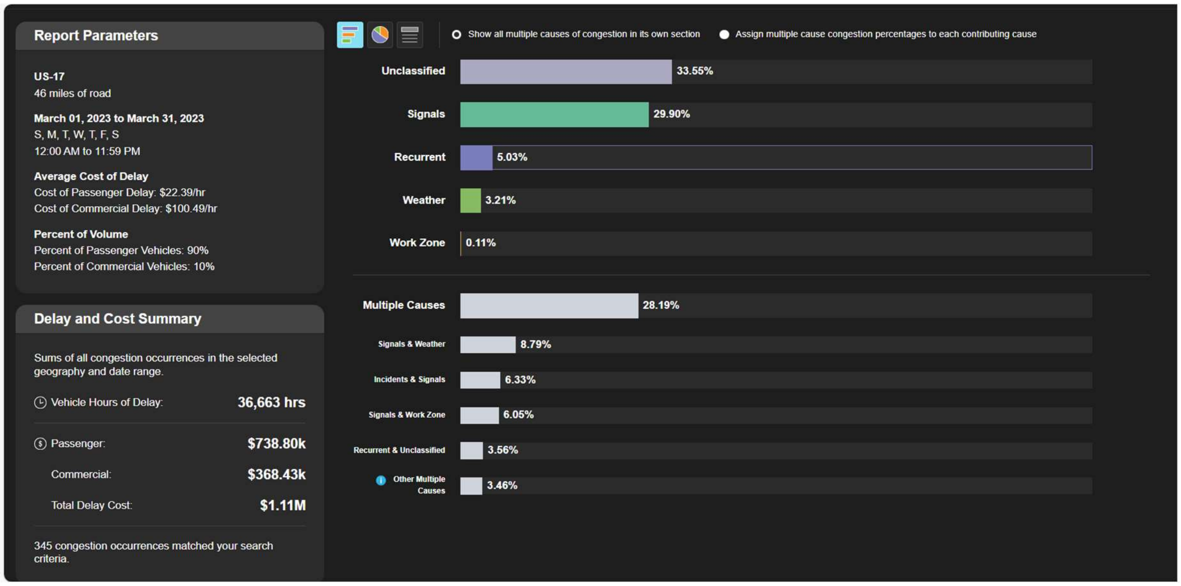
Congestion Causes in the Most Congested Corridors

The most congested corridors from the previous section were further analyzed for causes of congestion using the same data source, RITIS. The data was collected for the time period of March, 2023. Not all of the corridors were located in the database, therefore, this section could not analyze SR

307, Pooler Parkway, and Brampton Road. The figures below contain maps of each corridor, causes of congestion for each corridor, as well as costs of congestion for each corridor. The corridors are listed from most congested to least congested.

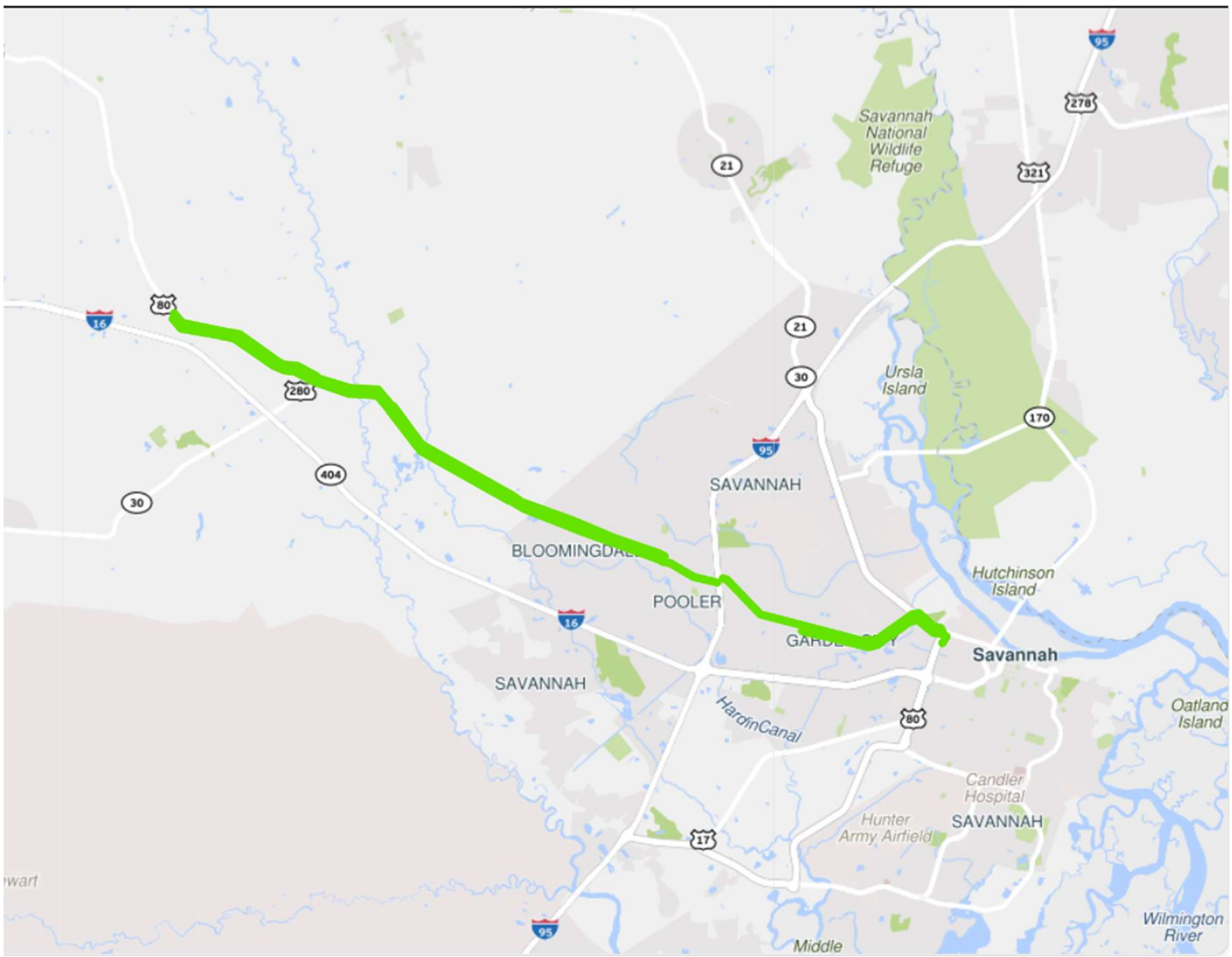
Figure 49 US 17

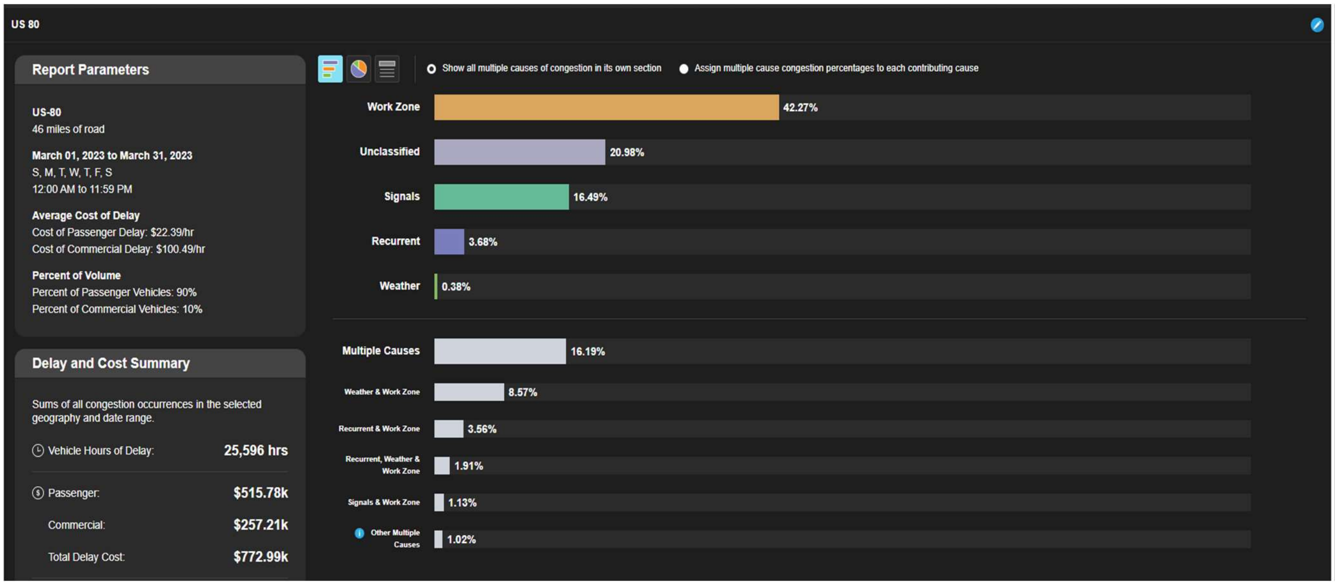




Source: RITIS.org

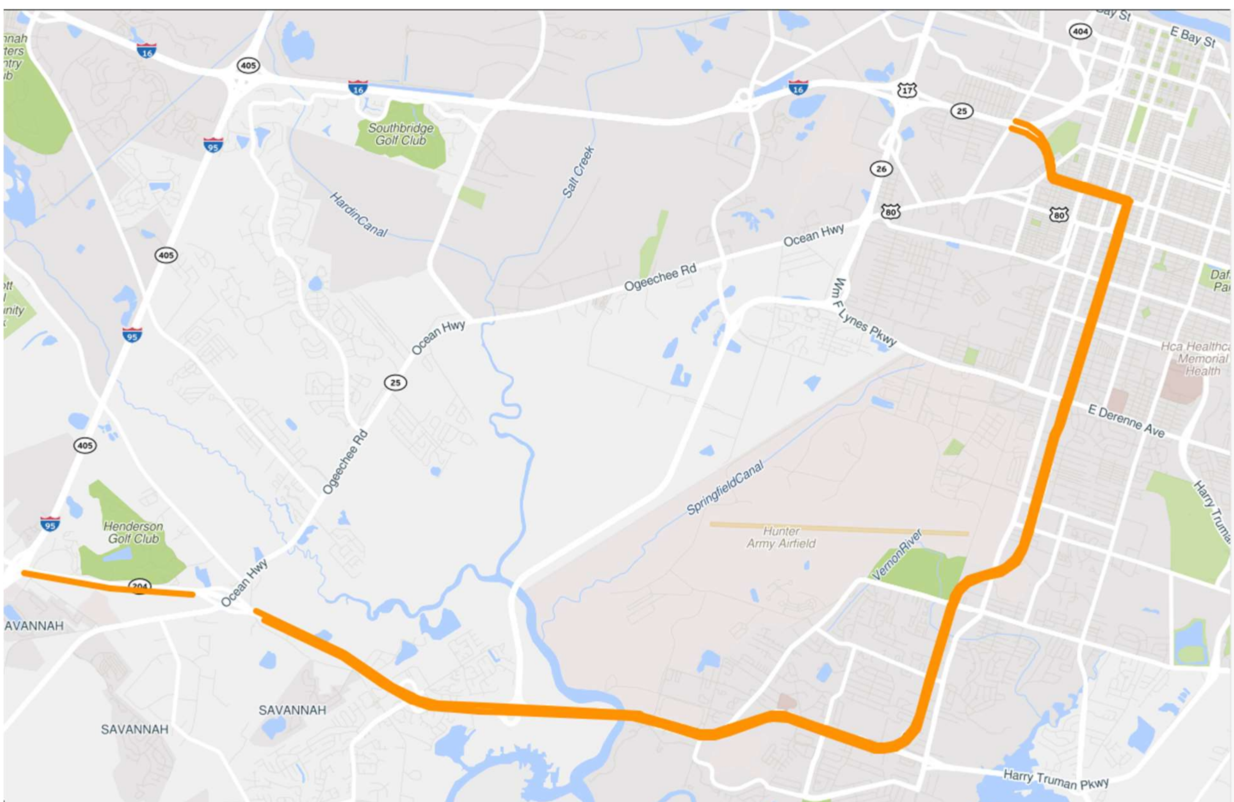
Figure 50 Victory Drive/US80

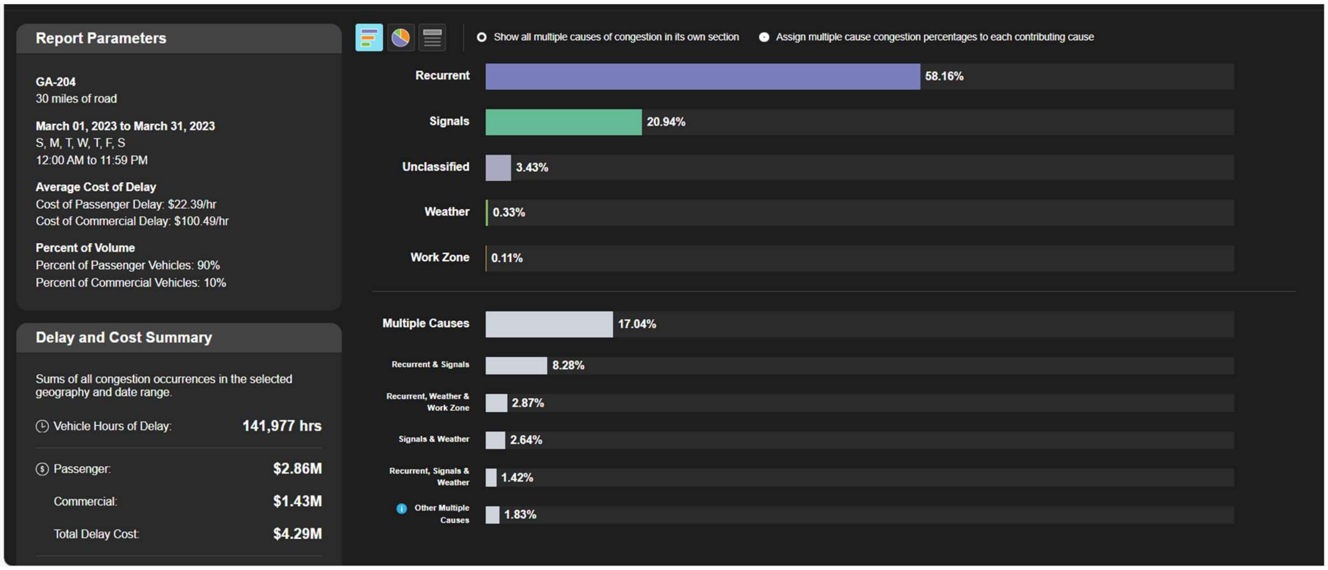




Source: RITIS.org

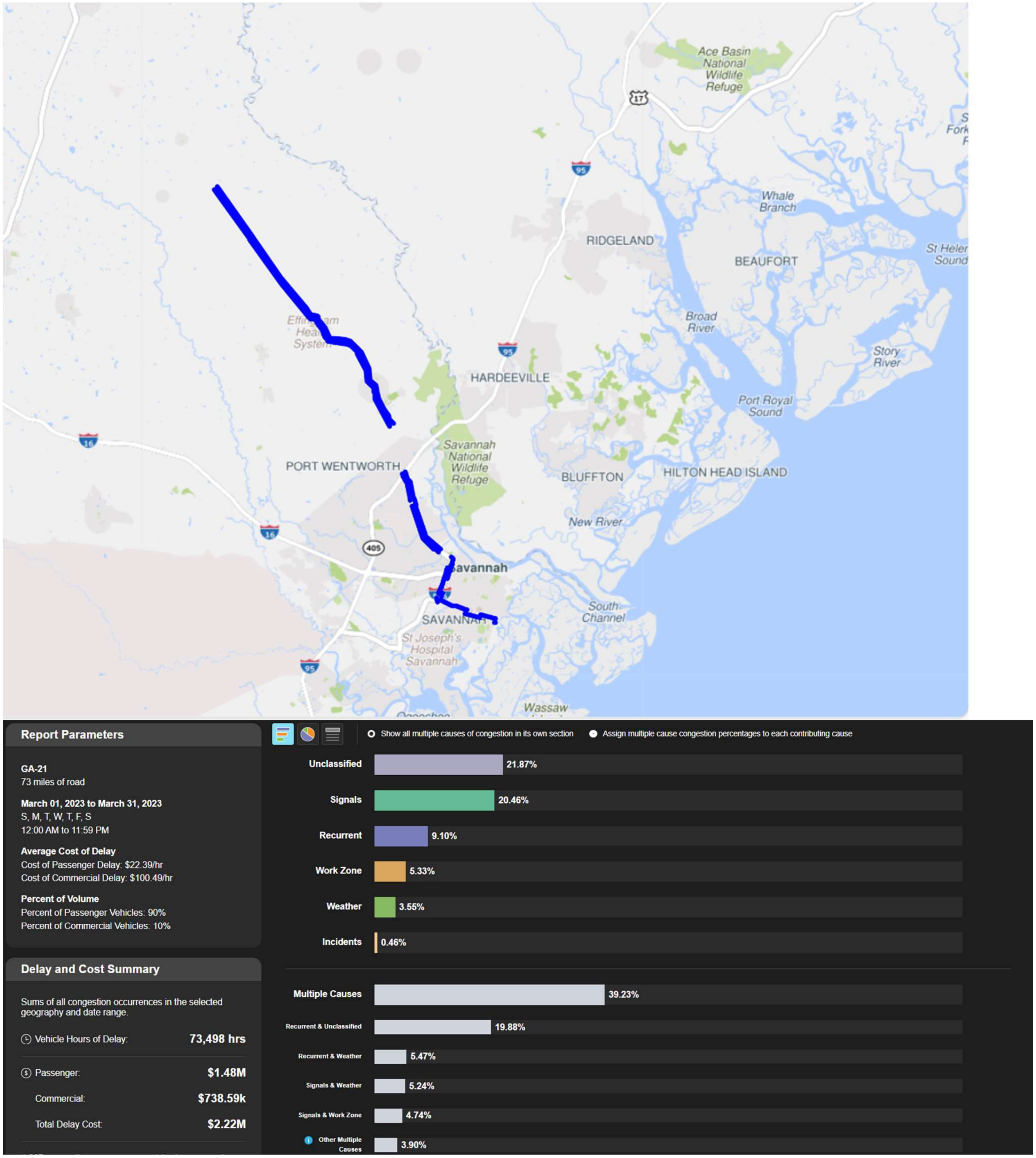
Figure 51 SR 204/Abercorn





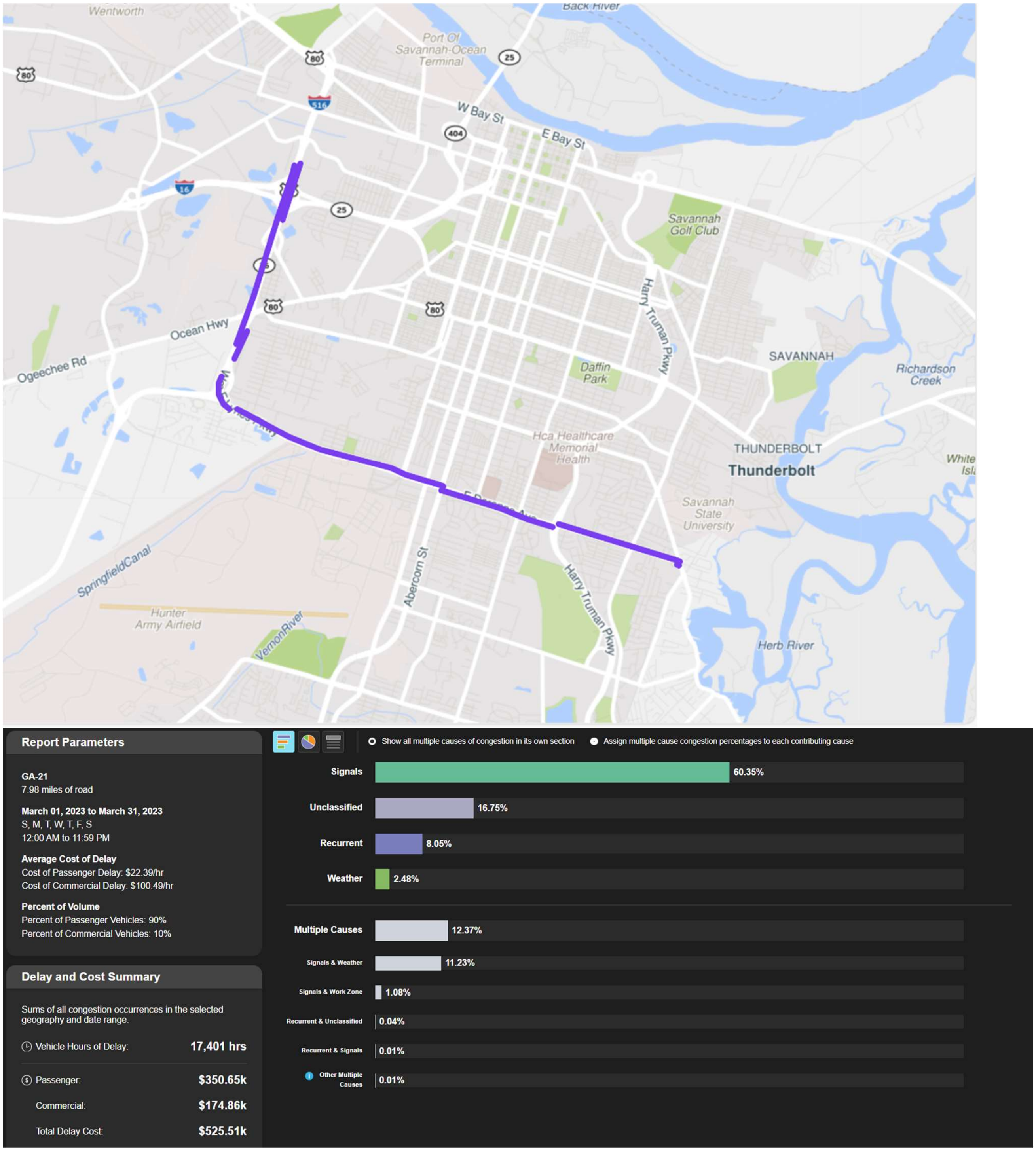
Source: RITIS.org

Figure 52 SR 21



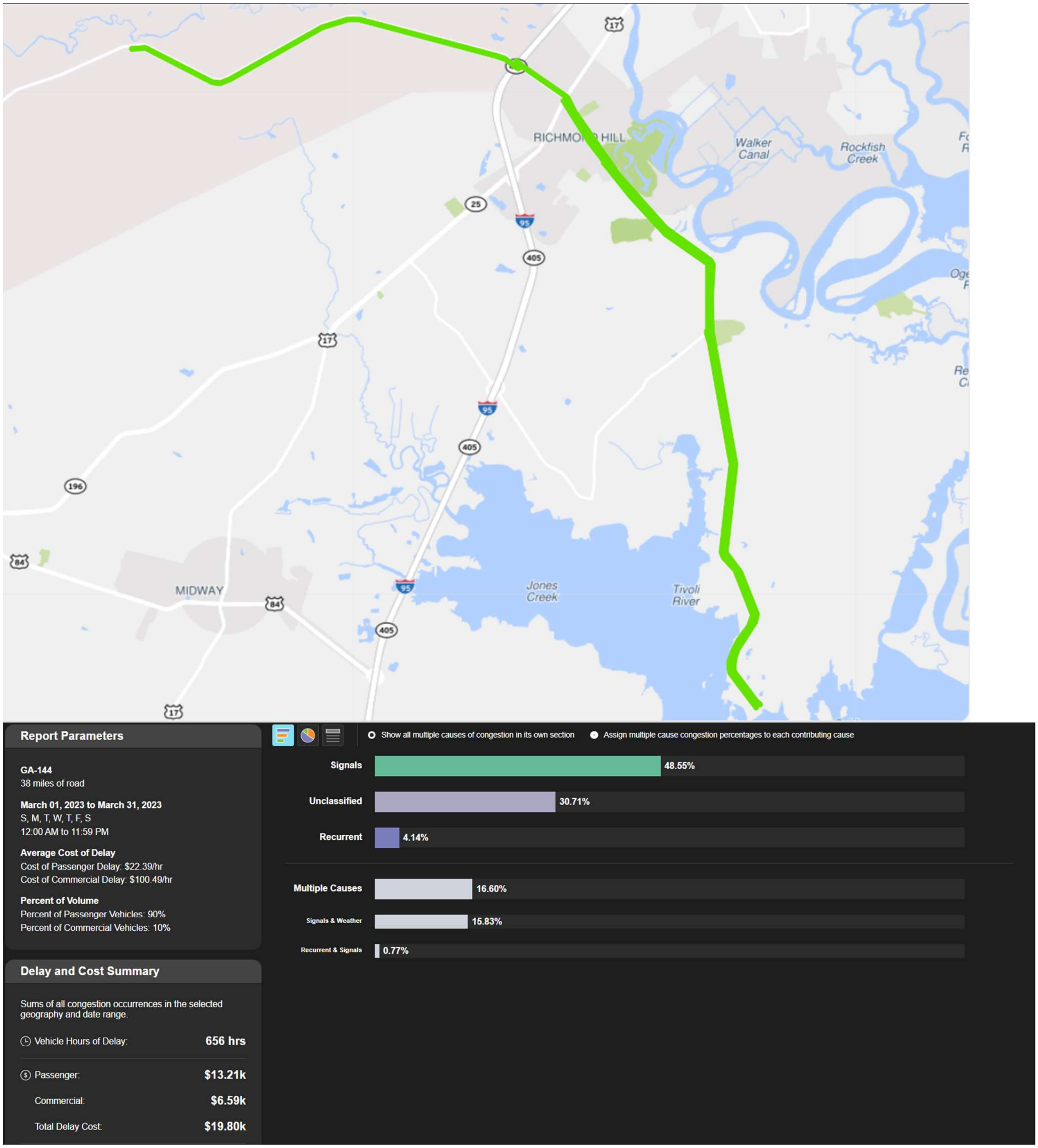
Source: RITIS.org

Figure 53 DeRenne Avenue



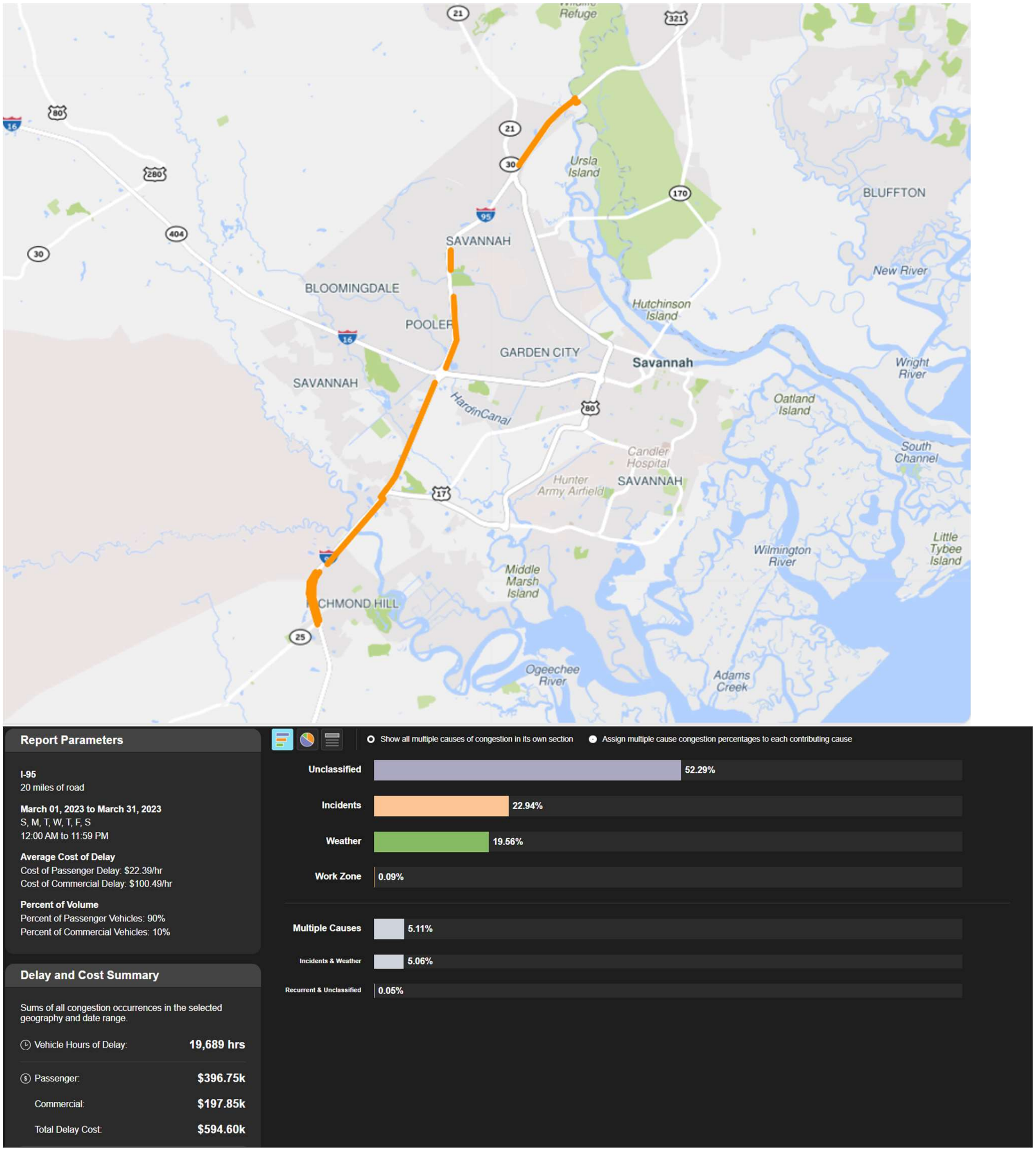
Source: RiTIS.org

Figure 54 SR 144



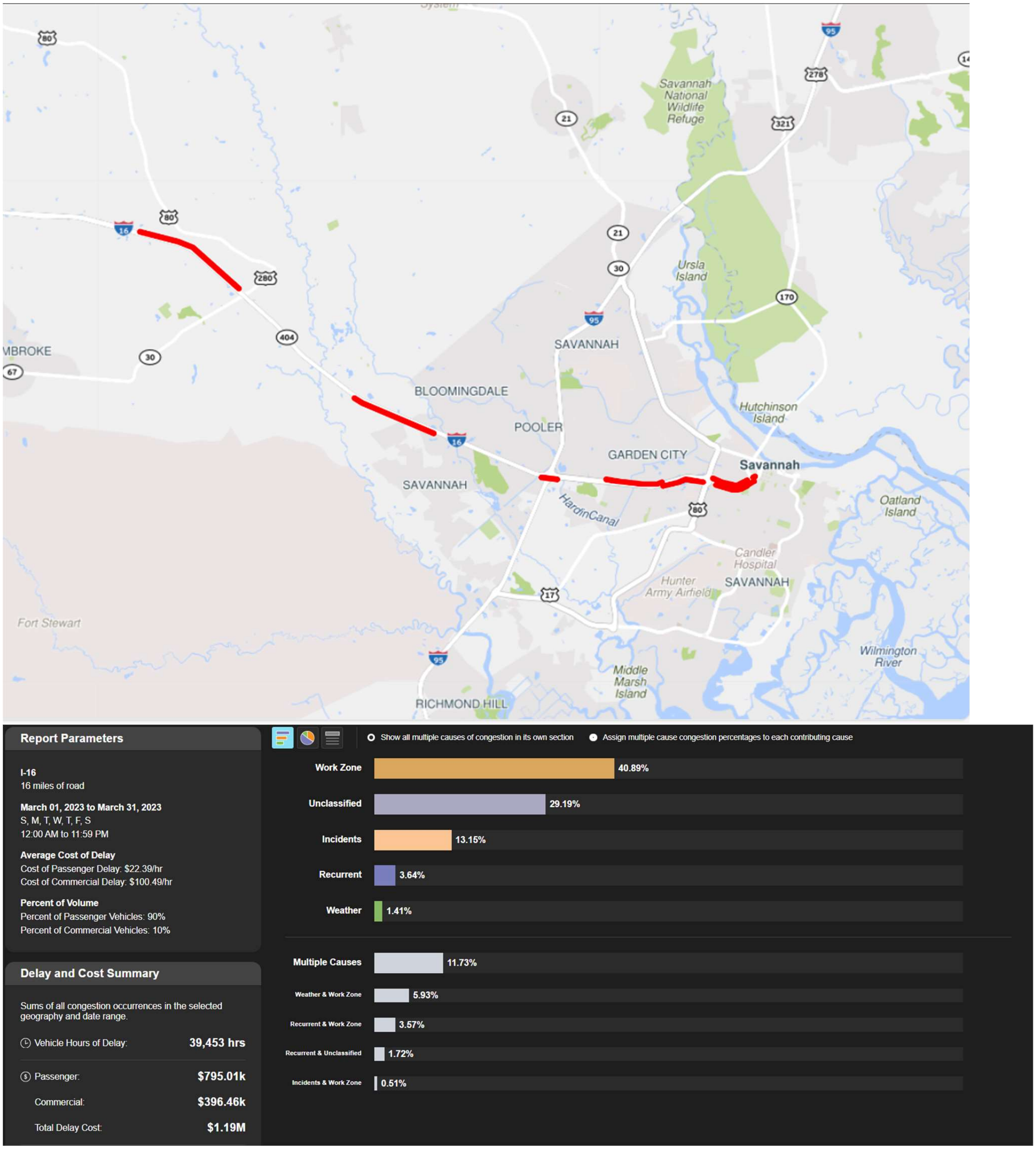
Source: RITIS.org

Figure 55 I-95



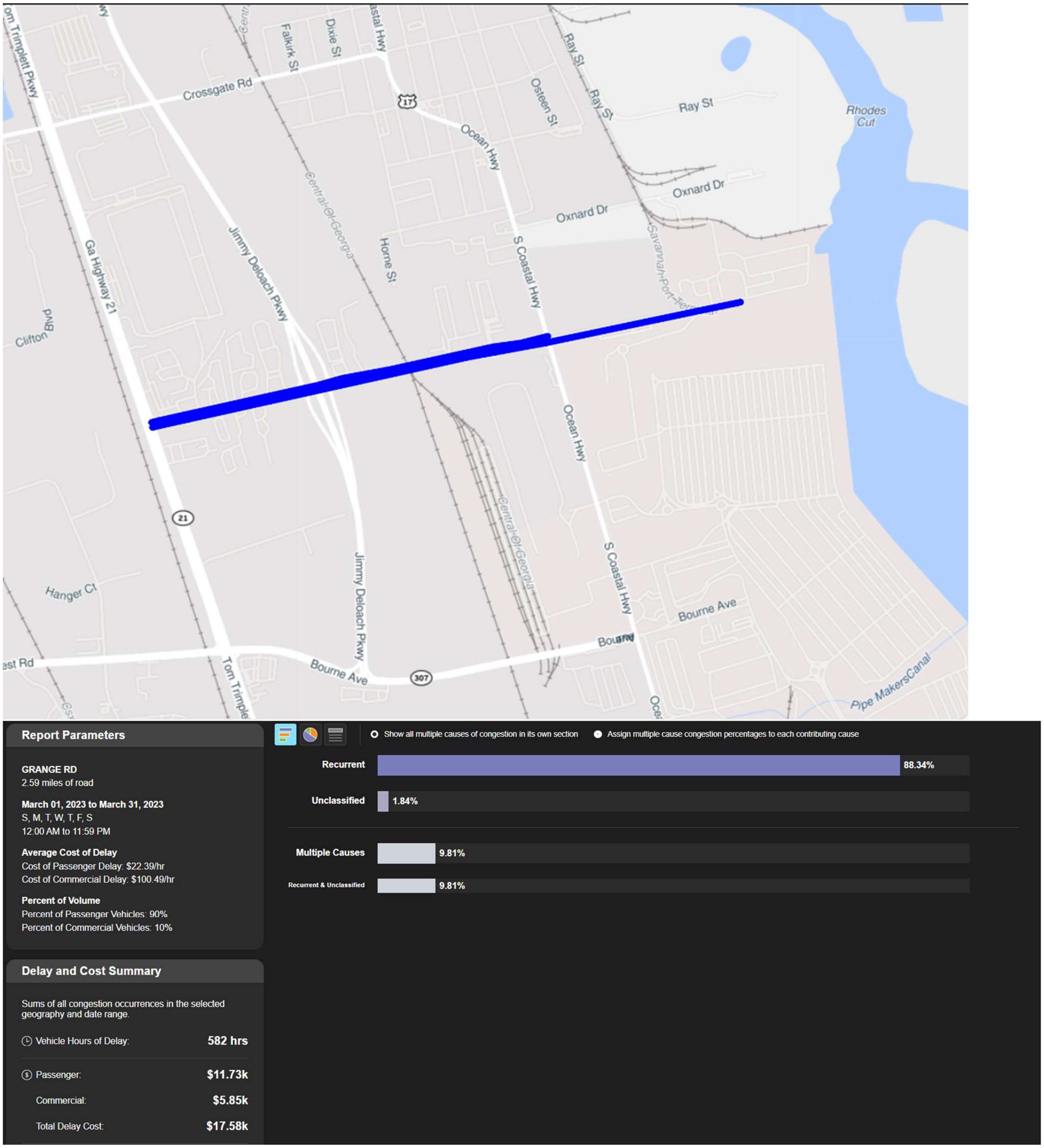
Source: RITIS.org

Figure 56 I-16



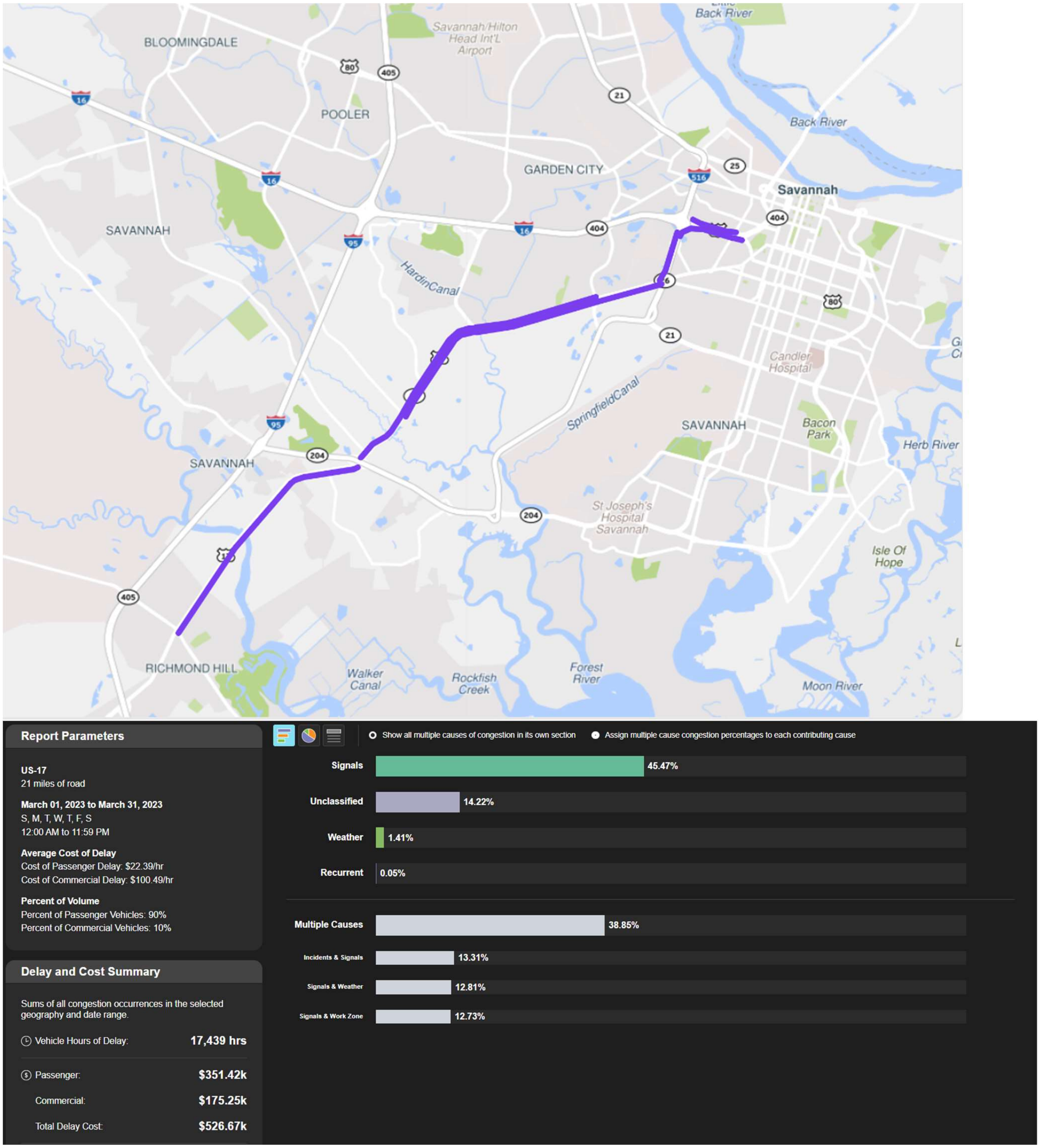
Source: RITIS.org

Figure 57 Grange Rd.



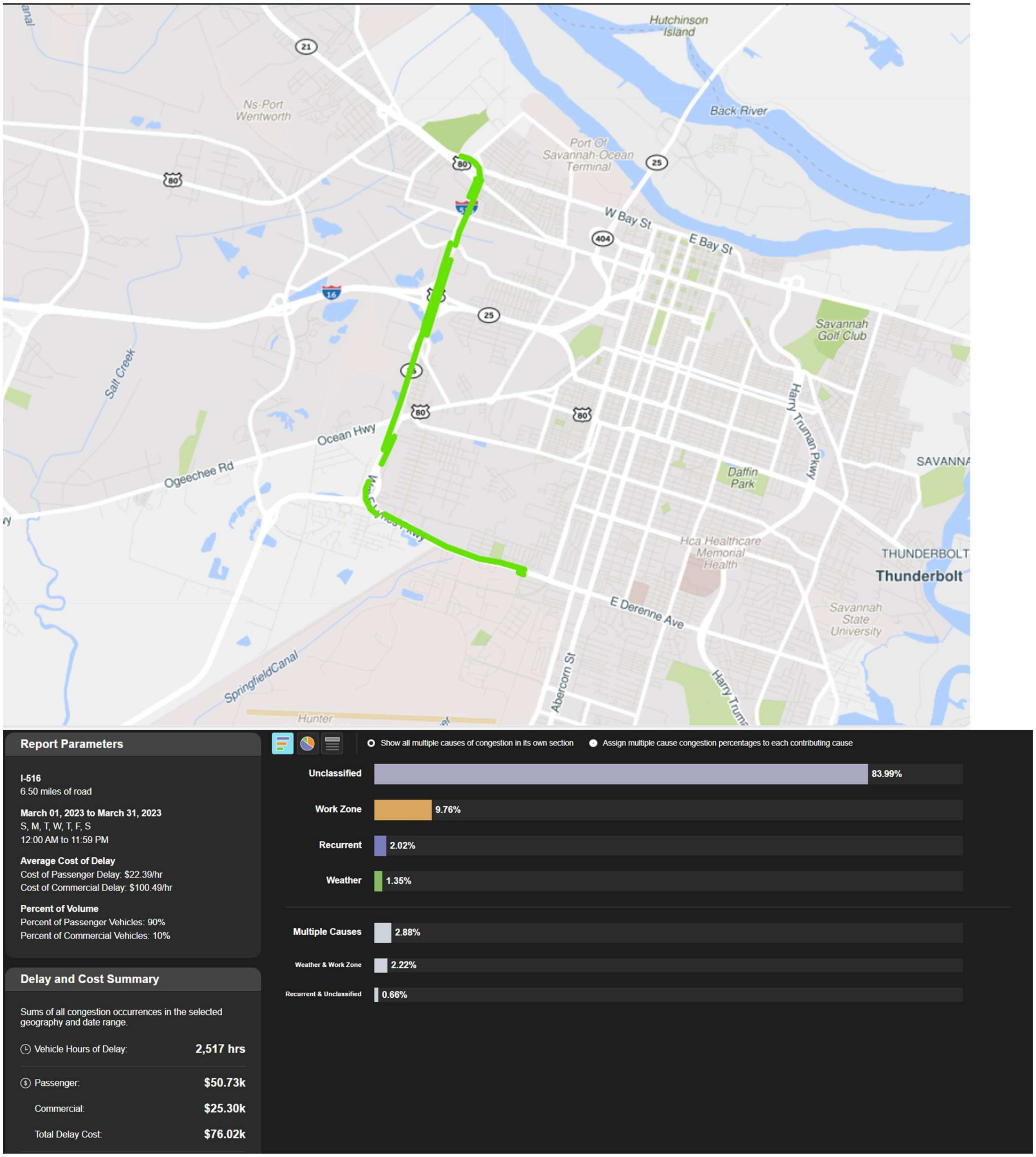
Source: RITIS.org

Figure 58 SR 26/Ogeechee Rd.



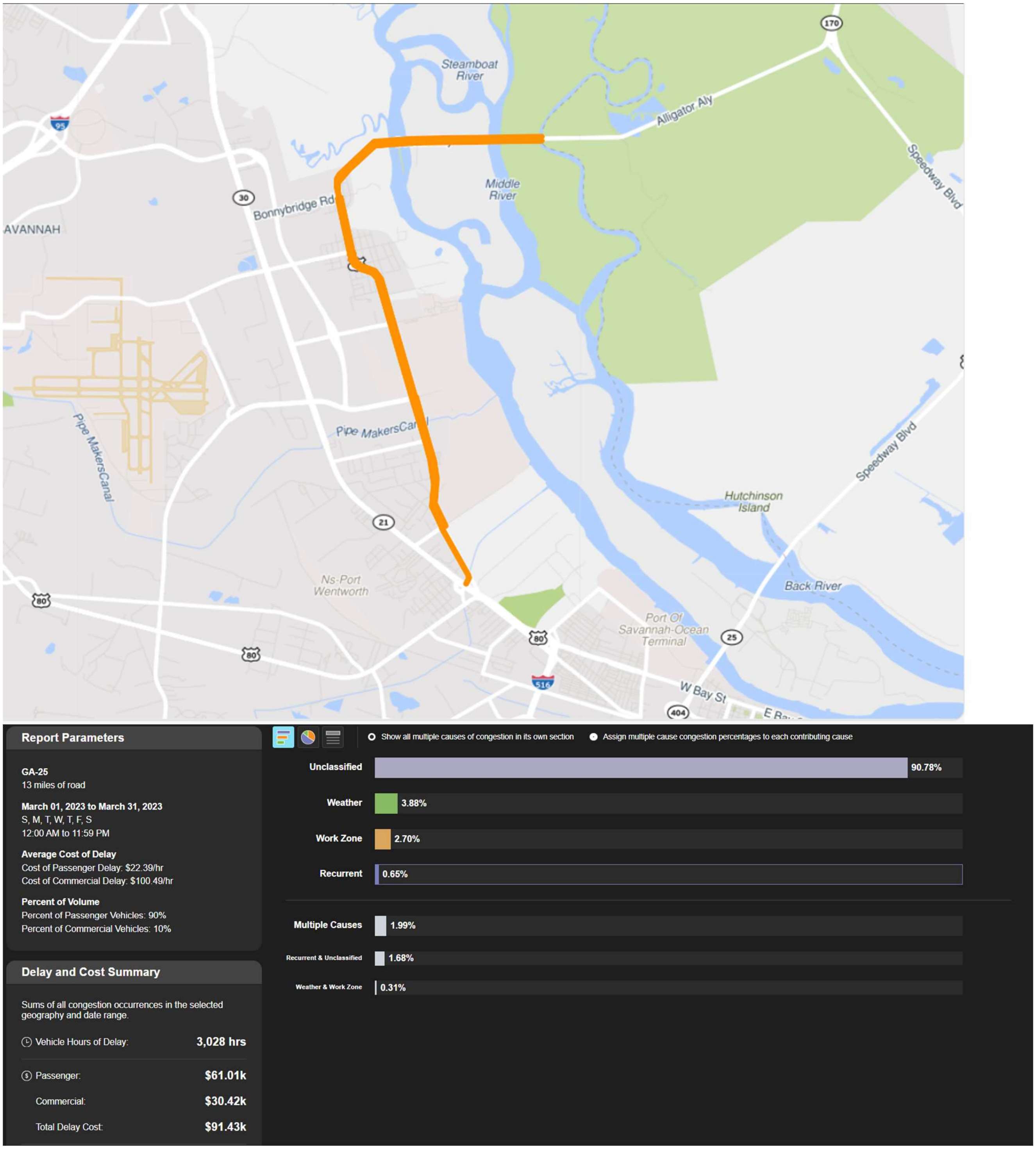
Source: RITIS.org

Figure 59 I-516



Source: RITIS.org

Figure 60 SR 25 Connector



Source: RITIS.org

The most congested corridors with the highest vehicle-hours of delay, with upward of 25,000 hours, include US 17, SR 204, SR 21, I-95, and I-16. These corridors are not listed in order of most vehicle-hours delay, rather, they indicate the number of hours delay that detract from the economy and the cost of the vehicle-hour delay to the economy.

Level of Service of Most Congested Corridors

The most congested corridors from the previous section were further analyzed for level of service for each segment of each roadway. The 2050 Level of Service with Existing Plus Committed projects travel demand analysis was utilized to determine level of service for each segment. The majority of each segment of each roadway have level of service ‘F’, with a few level of service ‘E’ and ‘D’. Only one segment has level of service ‘C’, which is a segment of Victory Drive/US 80 between Wilmington River and Islands Expressway. The entirety of US 17 has level of service ‘F’, save for the portion partially outside of the CORE MPO MPA boundary (from Bryan County boundary on SR 196 to I-95).

Figure 61 Level of Service of the Most Congested Corridors

Roadway	Segment	LOS
US 17	Between SR 204 and SR 307	F
	Between SR 307 and I-516 (NB not available)	F
	Between SR 144 (Bryan County) and SR 204	F
	Between I-95 and SR 144	F
	Bryan County boundary (or SR 196) to I-95 (Partially outside of CORE MPO MPA)	E
SR 307	Between I-16 and SR 25	F
Pooler Parkway	Between I-95 and I-16	E/F
Victory Drive/US 80	Between I-516 and Bee Road	E/F
	Between Bee Road and Wilmington River	D/E
	Wilmington River to Islands Expressway	C
Brampton Road	Between SR 21/SR 25 to SR 21 Spur	D
	Between DeRenne Avenue and I-16	F

SR 204/Abercorn	Between Veteran's Parkway and Harry S. Truman Parkway	E/F
	Between Harry S. Truman Parkway and DeRenne Avenue	D/E
SR 21	Between I-95 and I-516	F
	Between I-516 and SR 204	F
DeRenne Avenue	East of SR 204 (WB not available)	F
SR 144	Between US 17 and I-95	D
I-95	Between Pooler Parkway and SR 21 (includes SR 21/I-95 interchange)	F
	At GA—SC State Border (State line is outside of MPA)	F
	Between Exit 148/Old River Road and I-95	E
I-16	I-95 to I-516 (includes I-16 at I-95, I-16 at SR 307/Exit 160 and I-16 at Chatham Pkwy/Exit 162)	F
Grange Road	Between SR 21 to East of SR 25	D
SR 26 (Ogeechee Road)	I-516 to Victory Drive	D
I-516	At SR 204/Abercorn	F
	At Mildred Street	F
	At Veterans Parkway/Exit 3	E
SR 25 Connector	Between I-516 to the Bay Street Viaduct	F

Source: CORE MPO

Constrained Corridors

Constrained corridors are corridors that are prohibited from adding additional lanes due to environmental, physical, or policy reasons or constraints. The Savannah region has many roadways that are designated as 'constrained'. Those roadways can be found in Figure 62. Figure 62 contains only major arterials, as there are substantially more constrained roadways of lesser functional classification that are not listed in the table. The CORE MPO's Transportation Amenities Plan identified such corridors as part of the effort to preserve and support the unique characteristics of the region and ensure that future roadways are developed with full consideration of context sensitive design principles and complete streets concepts. Methods to mitigate congestion on constrained corridors typically include having alternate routes and parallel roadways, because preserving the landscaping and character of the constrained roadways is integral. For example, canopy roadways, palm lined causeways, historic road segments, community gateways, as well as scenic vistas provide natural character. Preserving this character is accomplished through the conservation and management of existing scenic and historic roadways and the integration of enhancement activities, such as sidewalks, landscaping, tree preservation and bikeways into future roadway construction projects. Since the Transportation Amenities Plan was adopted by resolution in 2004, many roadways have had landscaping and tree canopy preserved.

Figure 62 Major Arterial Constrained Corridors

Constrained Corridors: Major Arterials			
		Constraints	
Corridors	**Segments**	**Canopy/Replanting/Palm-lined**	**Historic Road/Scenic Vista**
37th Street	Ogeechee Road to west of Waters Avenue	X	X
Abercorn Street	Victory to 67th Street	X	
Anderson Street	Habersham to Cedar Road	X	
Bay Street	MLK Boulevard to Presidents Street	X	X
Bull Street	Most sections	X	X
Henry Street	Habersham to Bee Road	X	
Johnny Mercer Boulevard	Most sections	X	X
Liberty Street	MLK Boulevard to East Broad Street	X	
MLK Boulevard	River Street to 52nd Street	X	X (portions)
Montgomery Street	South of Victory Drive to south of Staley Street	X	
Ogelthorpe Avenue	MLK Boulevard to East Broad Street	X	X
Victory Drive (US 80)	Ogeechee Road to Wilmington River	X	X
Washington Avenue	Bull Street to Bee Road	X	
Waters Avenue	South of DeRenne Avenue to north of Stephenson Avenue and 52nd Street to Victory Drive	X	
White Bluff Road	DeRenne Avenue to Truman Parkway and	X	X

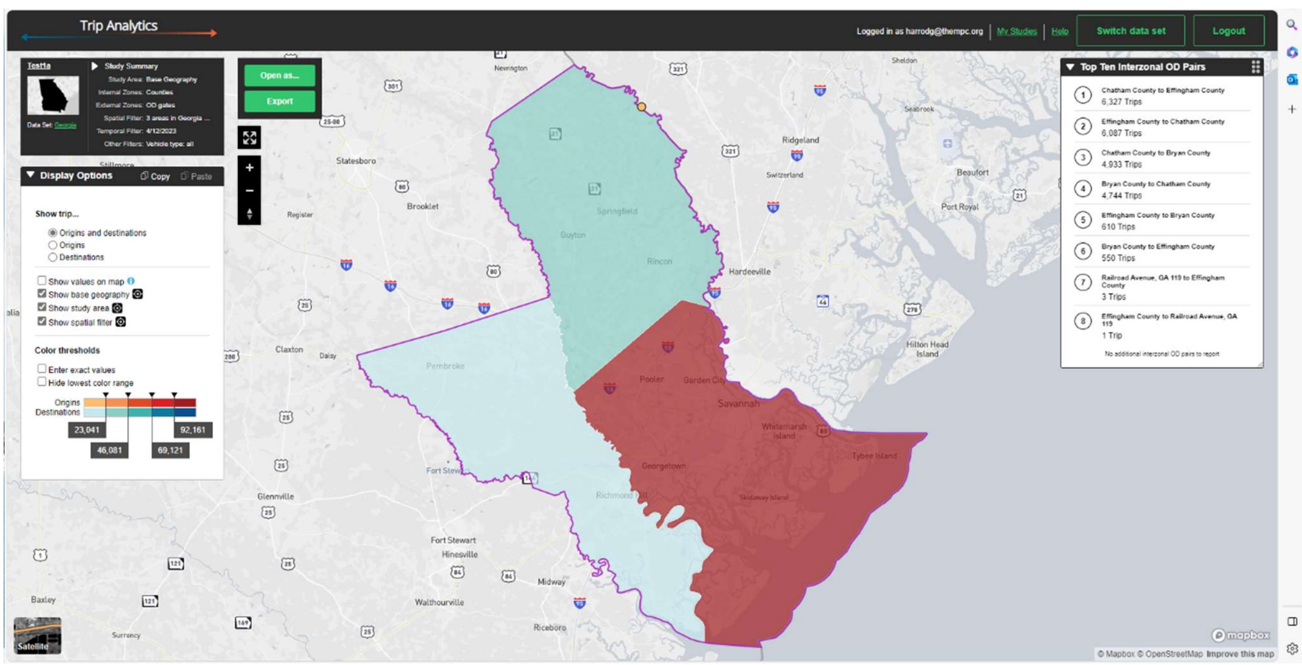
	Vernonburg Avenue to Olf Coffee Bluff Road		

Source: CORE MPO

Origin and Destination Data

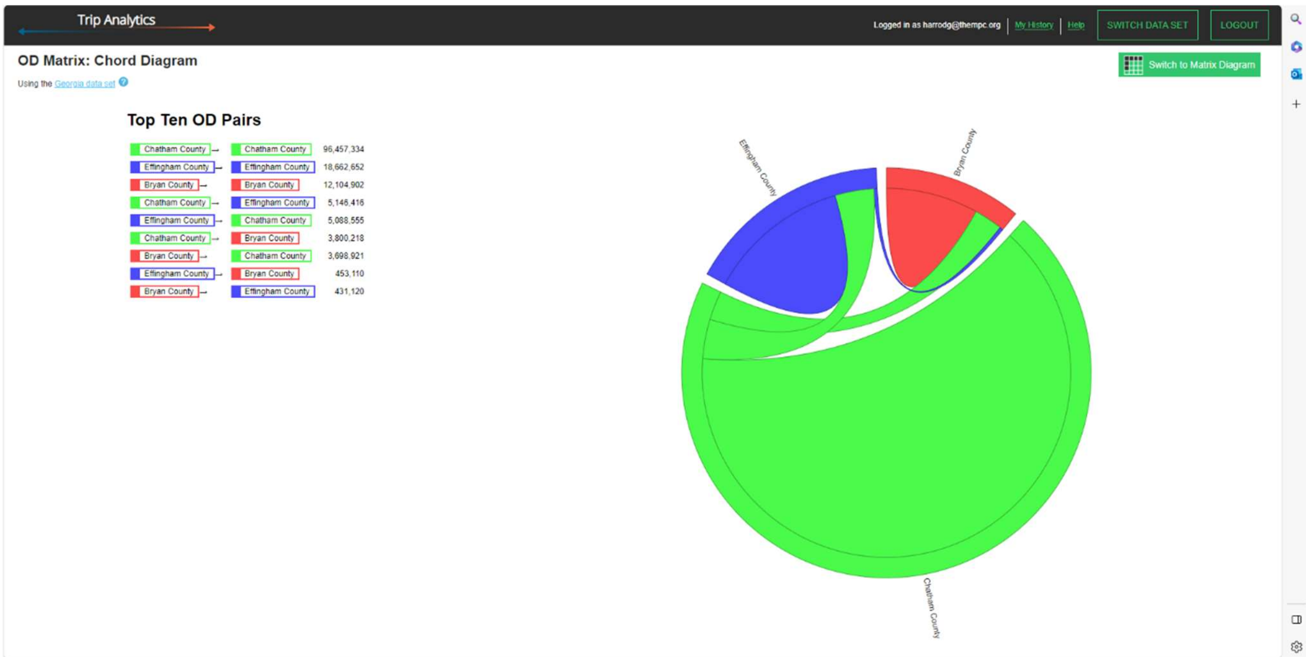
The MPO also obtained, in coordination with RITIS, origin-destination data for the entire tri-county area. Data was gathered for April 12, 2023, to determine trips for one entire day. Data was also gathered for the top ten origin-destination county pairs, as well as from zip-code to zip-code. In every figure, and all data sets, the largest trip attractor and pairs featured Chatham County. ‘Trip attractors’ are known as activity centers in urban planning and are destinations that attract traffic (e.g. shopping plazas, retail stores, and civic centers). ‘Trip pairs’ are places that are paired in trips. For example, a home-based work trip is a trip that originates from home and goes directly to work. Chatham County remains the preeminent trip attractor and base of trips.

Figure 63 Origin-Destination by Counties



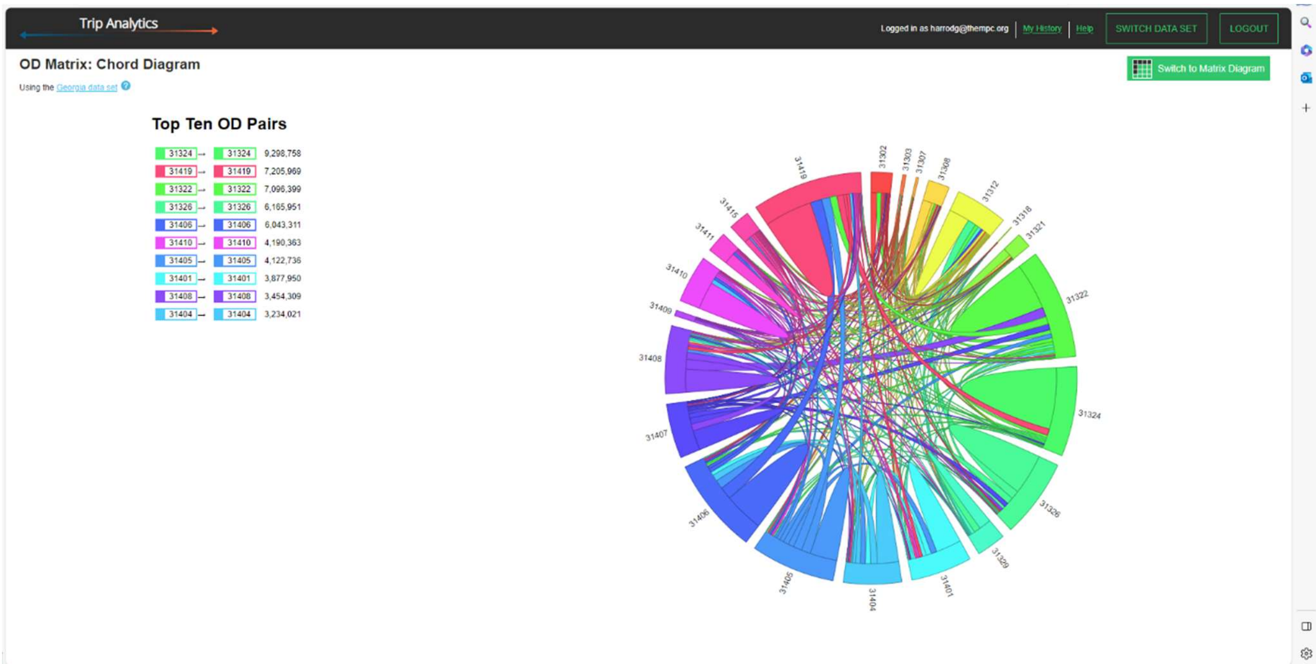
Source: Ritis.org

Figure 64 Origin-Destination by Counties



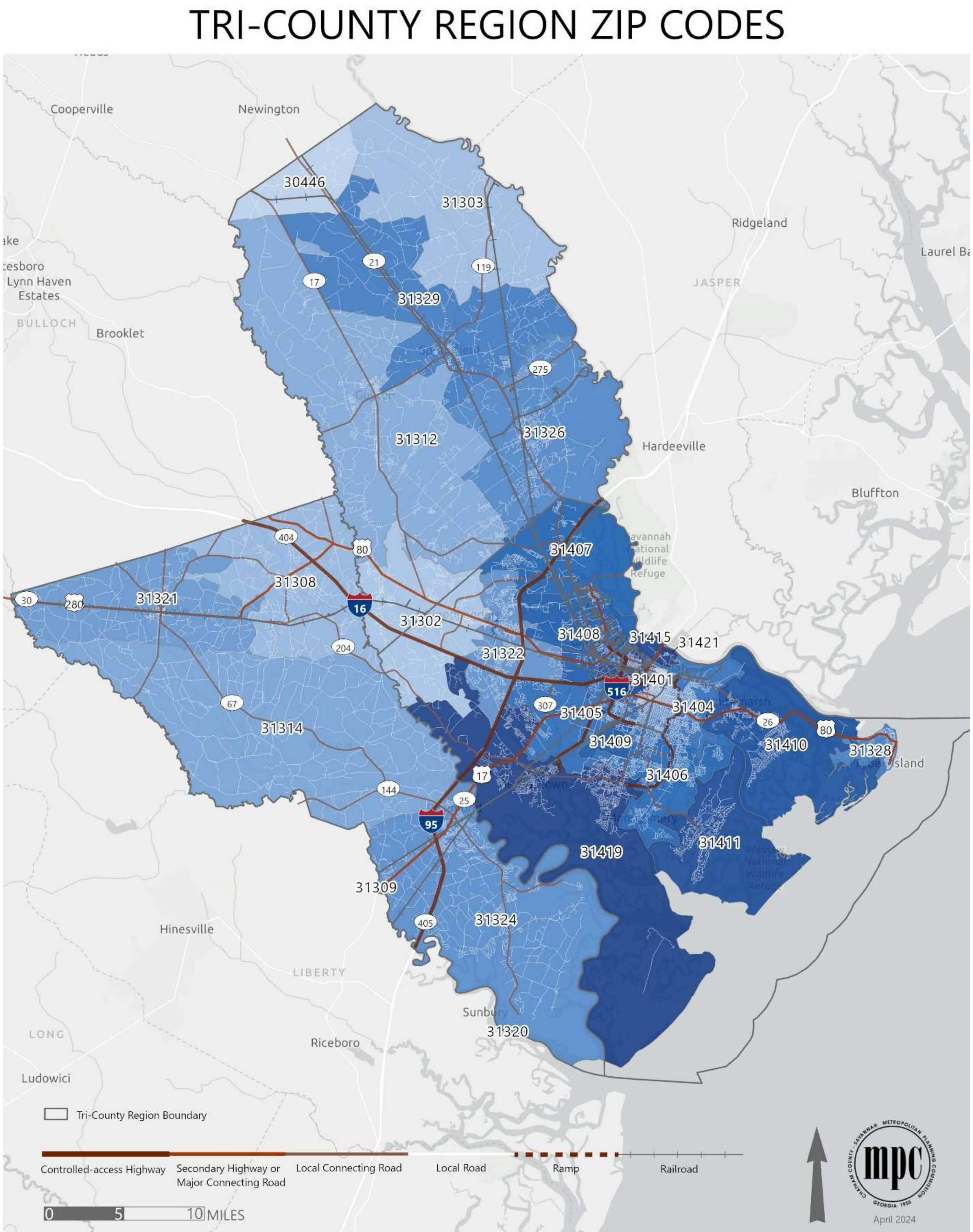
Source: Ritis.org

Figure 65 Origin-Destination by Zip-codes (OD Pairs)



Source: Ritis.org

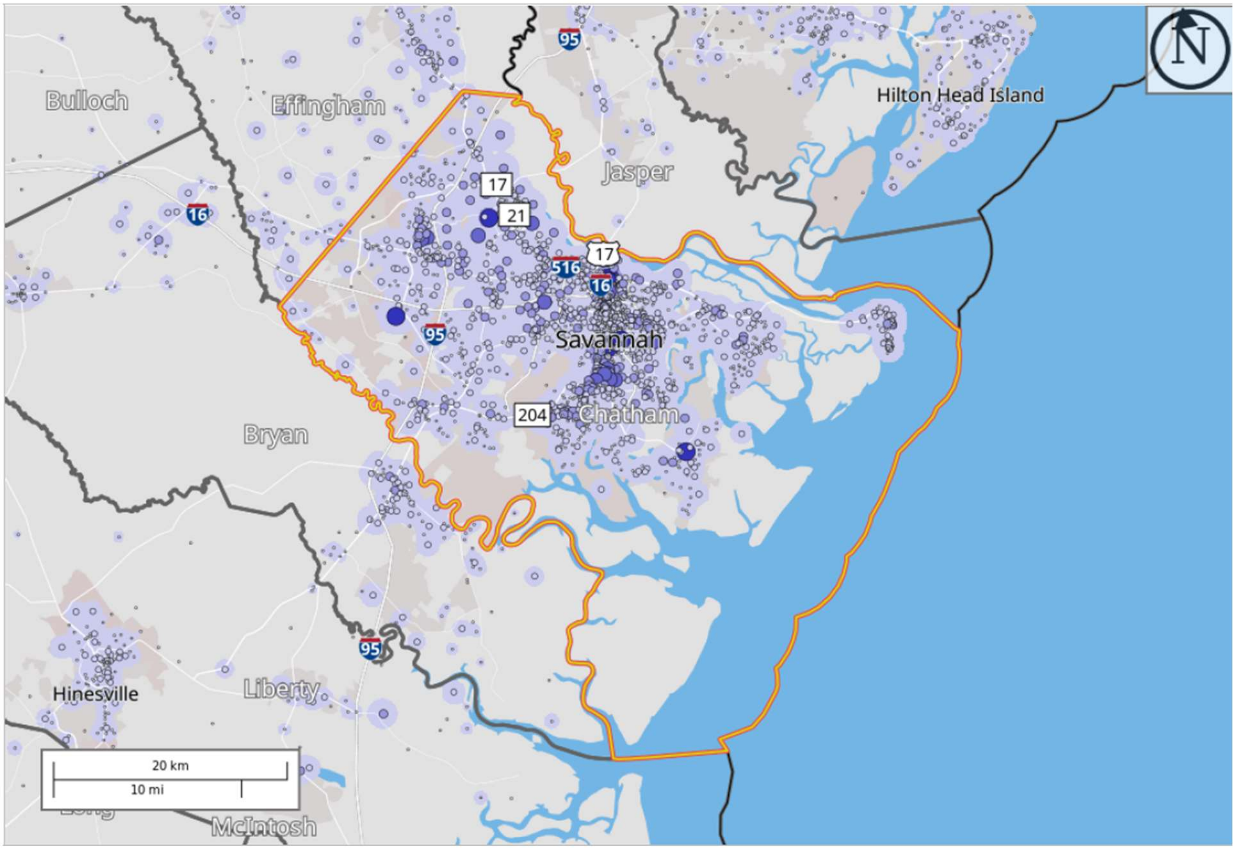
Figure 66 Zip-codes in the CORE MPO Area



Source: CORE MPO

Origin and Destination Data: On the Map Census Data

Figure 67 Morning Home Based Work Trips for a Resident Worker (Chatham County)



All Jobs for All Workers in 2021

Distance from Home Census Block to Work Census Block, Unk: _verb in Selection Area

	2021	
Distance	Count	Share
Total All Jobs	118,471	100.0\%
Less than 10 miles	69,967	59.1\%
10 to 24 miles	23,119	19.5\%
25 to 50 miles	3,814	3.2\%
Greater than 50 miles	21,571	18.2\%

Map Legend

Job Density [Jobs/Sq. Mile]
- 5 - 1,075
- 1,076 - 4,286
- 4,287 - 9,638
- 9,639 - 17,130
- 17,131 - 26,764

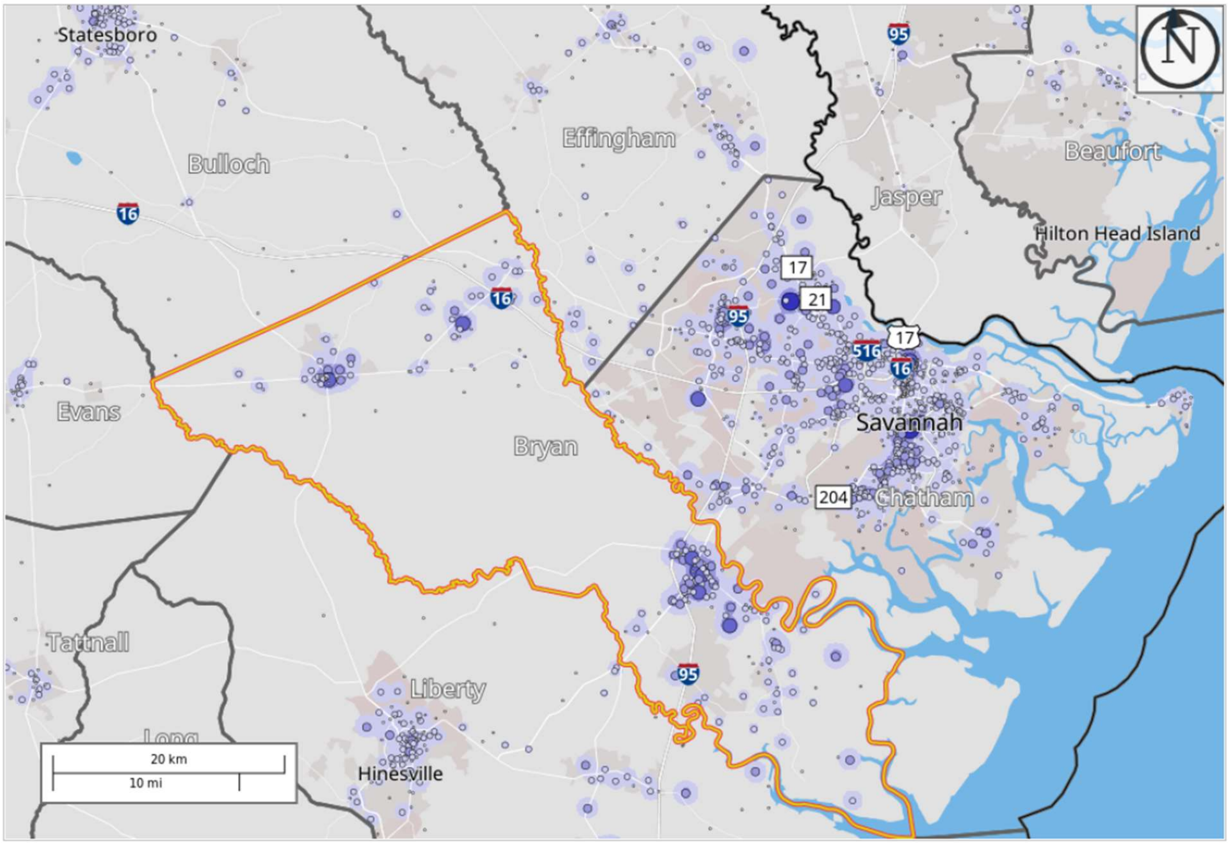
Job Count [Jobs/Census Block]
- 1 - 7
- 8 - 99
- 100 - 499
- 500 - 1,576
- 1,577 - 3,847

Selection Areas
- Home Area

***Source*:** 2021 Census

For the home-based work trip of the resident worker of Chatham County (shown in the following figures), the largest attractor is the City of Savannah municipality jurisdiction. Furthermore, the vast majority of jobs traveled to are within the Chatham County jurisdictional boundary.

Figure 68 Morning Home Based Work Trips for a Resident Worker (Bryan County)



Map Legend

Job Density [Jobs/Sq. Mile]
- 5 - 80
- 81 - 305
- 306 - 680
- 681 - 1,206
- 1,207 - 1,882

Job Count [Jobs/Census Block]
- 1 - 2
- 3 - 21
- 22 - 103
- 104 - 326
- 327 - 795

Selection Areas
- Home Area

All Jobs for All Workers in 2021

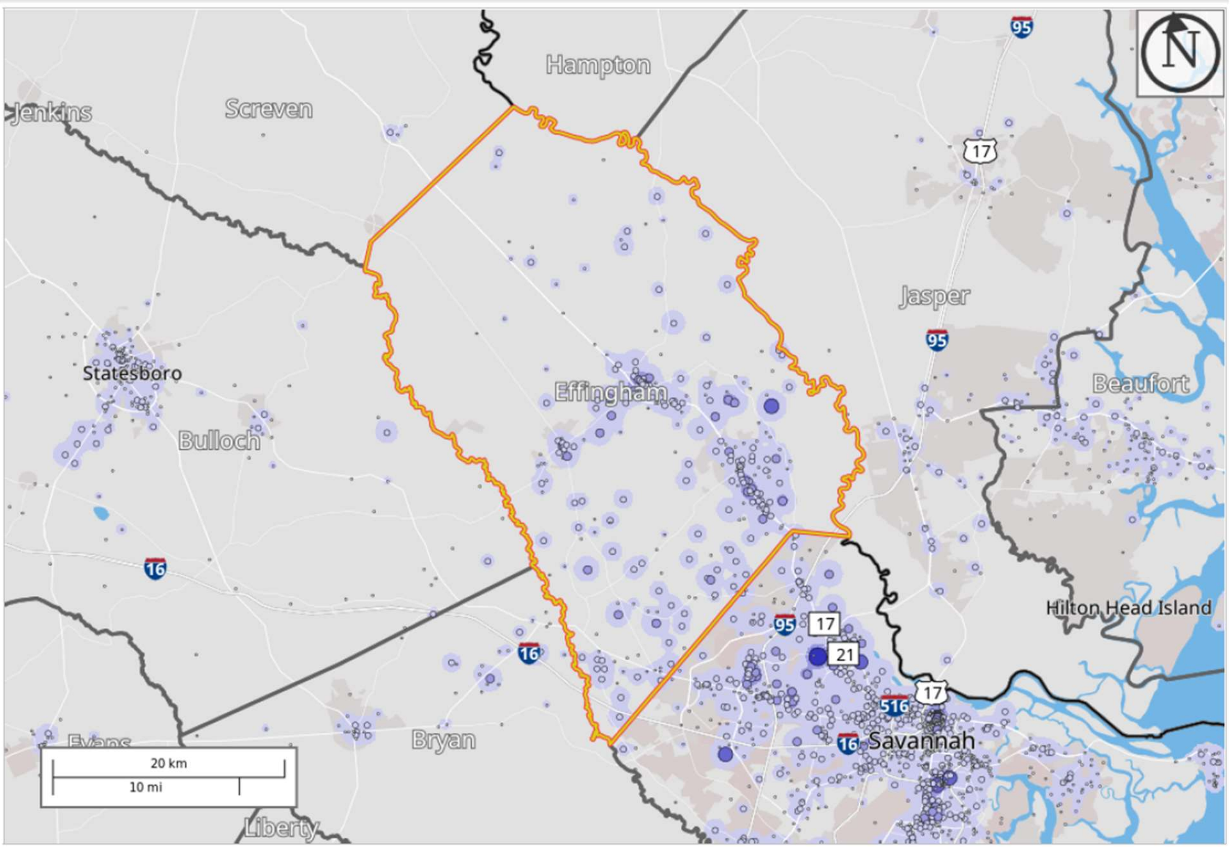
Distance from Home Census Block to Work Census Block, Unk: _verb in Selection Area

Distance	2021 Count	2021 Share
Total All Jobs	17,555	100.0\%
Less than 10 miles	3,306	18.8\%
10 to 24 miles	8,791	50.1\%
25 to 50 miles	1,944	11.1\%
Greater than 50 miles	3,514	20.0\%

Source**:** 2021 Census

For the home-based work trip of the resident worker of Bryan County, the largest attractor is the City of Savannah municipality jurisdiction. Furthermore, the vast majority of jobs traveled to are also within the Chatham County jurisdictional boundary, followed by the home county of Bryan County.

Figure 69 Morning Home Based Work Trips for a Resident Worker (Effingham County)



Map Legend

Job Density [Jobs/Sq. Mile]

- 5 - 225
- 226 - 885
- 886 - 1,987
- 1,988 - 3,528
- 3,529 - 5,511

Job Count [Jobs/Census Block]

- 1 - 4
- 5 - 61
- 62 - 304
- 305 - 961
- 962 - 2,345

Selection Areas

Home Area

All Jobs for All Workers in 2021

Distance from Home Census Block to Work Census Block, Unk: _verb in Selection Area

	2021	
Distance	**Count**	**Share**
Total All Jobs	28,557	100.0\%
Less than 10 miles	6,714	23.5\%
10 to 24 miles	12,970	45.4\%
25 to 50 miles	3,686	12.9\%
Greater than 50 miles	5,187	18.2\%

Source: 2021 Census

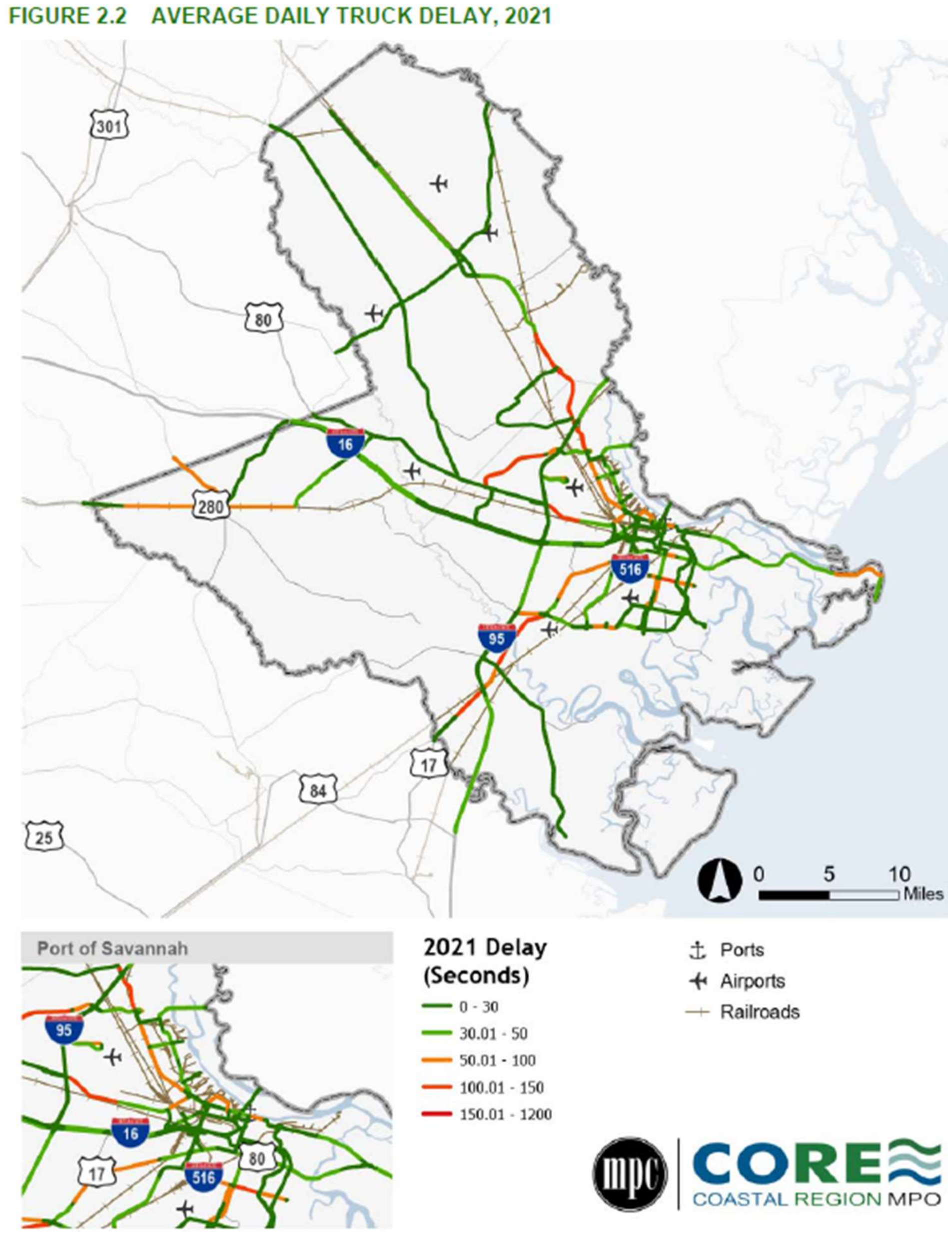
For the home-based work trip of the resident worker of Effingham County, the largest attractor is the City of Savannah municipality jurisdiction. Furthermore, the vast majority of jobs traveled to are also within the Chatham County jurisdictional boundary, followed by the home county of Effingham County.

Freight Network Delays Identified in the CORE MPO Regional Freight Transportation Plan

Freight delays in the CORE MPO area were collected from NPMRDS and INRIX and analyzed for the CORE MPO Freight Plan Update. Congestion, or the queuing/delay of freight movements, reduces the performance and dependability of the freight network in terms of serving freight traffic flows to determine the potential to disturb efficient operation of the network in the CORE MPO Freight Transportation Plan.

The average daily truck delay in Figure 70 depicts truck delays primarily in the Savannah central area, and along major roadways including US 280, US 17 and I-516.

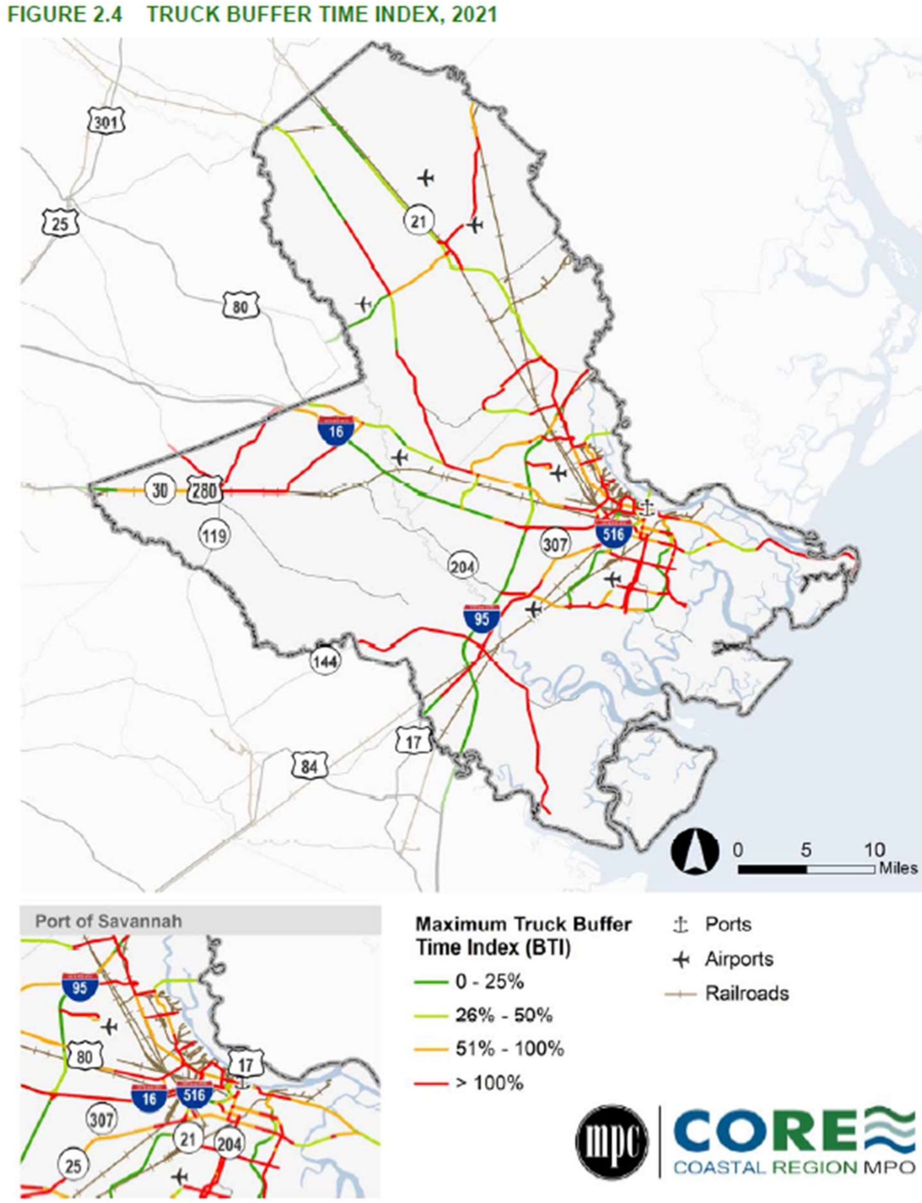
Figure 70 Average Daily Truck Delay, 2021



Source: CORE MPO

The truck buffer time index in Figure 71 depicts truck buffer times over 100 percent throughout the City of Savannah and along major roadways and interstates including US 280, US 17 and I-516.

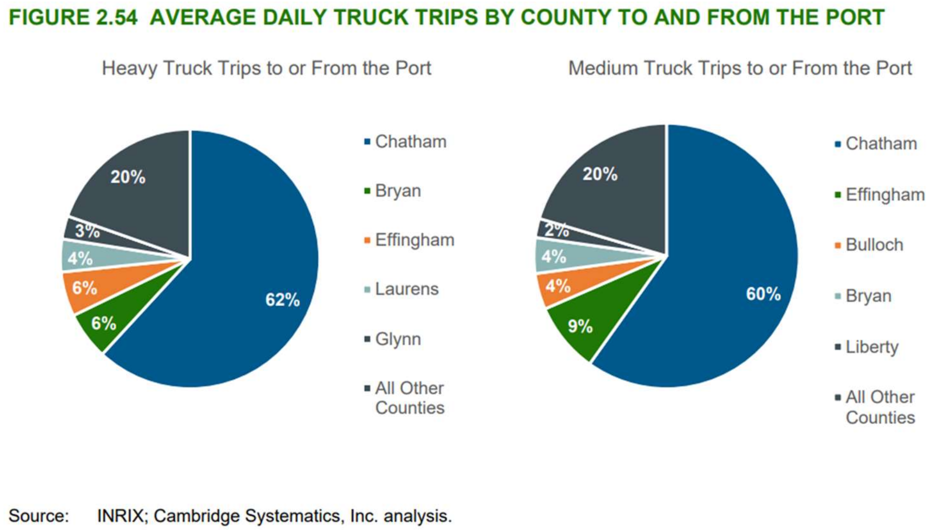
Figure 71 Truck Buffer Time Index, 2021



Source: CORE MPO

The vast majority of truck trips to and from the Georgia Ports Authority are from Chatham County for both heavy and medium truck trips. This data is shown in Figure 72.

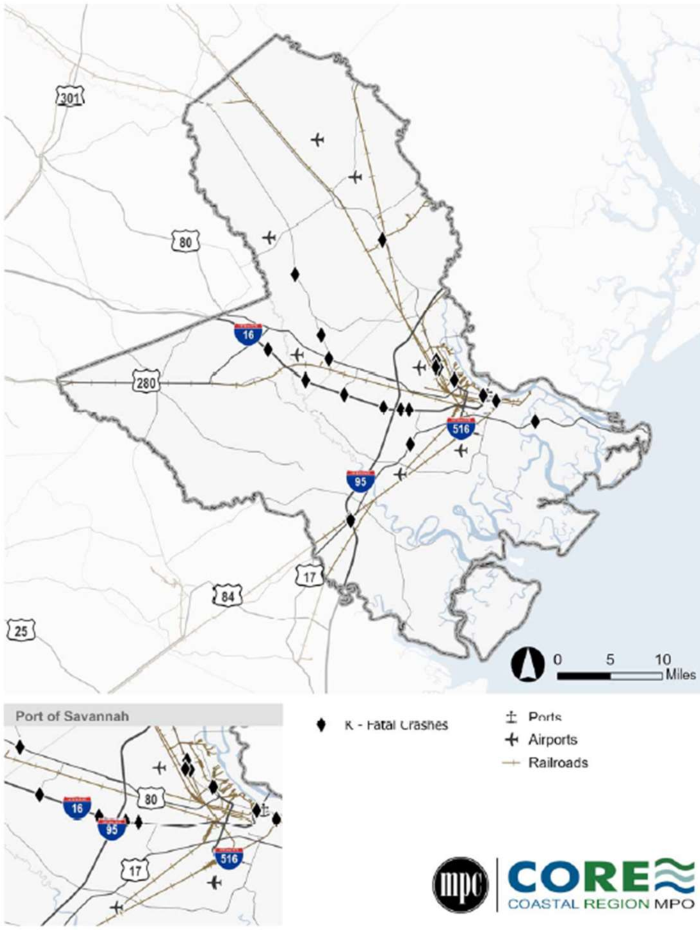
Figure 72 Average Daily Truck Trips by County to and from the Port



Freight crashes in the CORE MPO study area were gathered and depicted in Figure 73. The vast majority of fatal crashes occur on major roadways and on interstates throughout the entire study area.

Figure 73 **Truck Crashes, 2016-2020**

FIGURE 3.3 FATAL INJURY TRUCK-INVOLVED CRASHES, 2016 - 2020

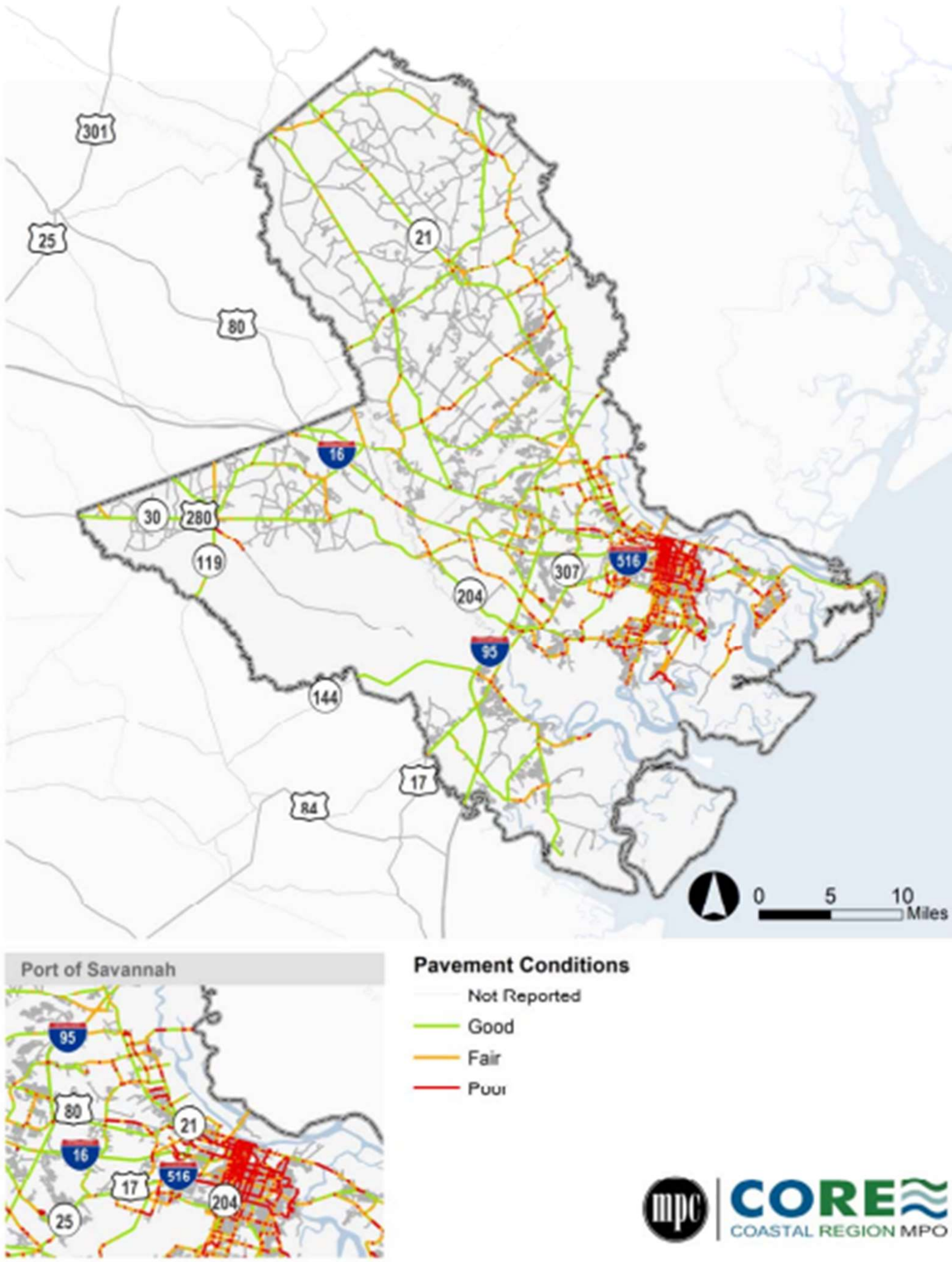


Source: CORE MPO

Pavement conditions were collected for the CORE MPO Freight Plan Update and the vast majority of the ‘poor’ pavement conditions are found in the downtown Savannah area, with some conditions ‘fair’. Better pavement conditions are found outside the urban core.

Figure 74 Pavement Conditions on Study Area Roadways, 2020

FIGURE 5.19 PAVEMENT CONDITIONS ON STUDY AREA ROADWAYS, 2020



Source: Federal Highway Administration, Highway Performance Monitoring System, 2020; Cambridge Systematics, Inc.

Freight Bottleneck Strategies

In conjunction with the freight infrastructure improvement recommendations from the 2024 Freight Transportation Plan, the freight policy recommendations provide guidance in the maintenance and investment of the freight infrastructure and movement of freight and goods in the Savannah area. As the Savannah region and the state continue to invest in the Port of Savannah, improving connections to the port is crucial. To ensure the efficient movement of freight and goods, any freight project should be recognized and given a higher priority due to its benefits to the economy and the continued investment of technological and innovative improvement in the national, state, and regional freight transportation system. A series of freight policy and infrastructure recommendations are listed below which relate to freight bottlenecks and congestion. A complete list of freight related strategies and recommendations can be found in the CORE MPO Freight Plan Update.[13]

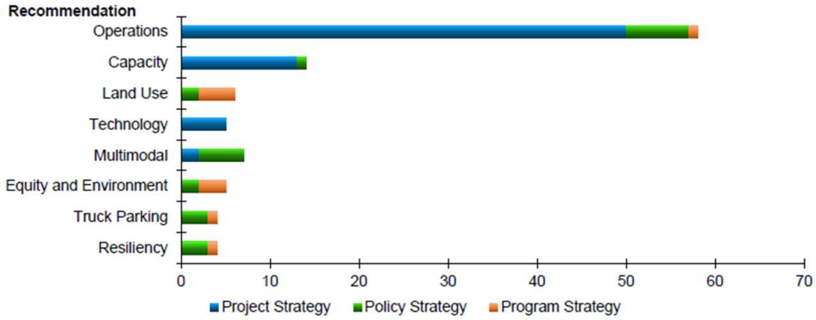
Figure 75 Regional Freight Transportation Plan Strategies

Advance Strategic Capacity Expansions, Proactively Increase Network Connectivity	• Provide relief to existing bottlenecks and get ahead of new demand by expanding the physical footprint of the network.
Implement Operational Strategies to Enhance Freight Mobility and Safety	• Improve the ease, efficiency, and safety of freight operations with minimal impacts to the footprint of the network.
Support Increased Capacity, Enhanced Operations, and Safety on the Multimodal Freight Network	• Ensure that shippers have an alternative to trucking and support economic competitiveness.
Implement Technology Strategies to Enhance Freight Operations and Safety	• Use technology and information to ease freight-related congestion and improve the mobility and efficiency of freight operations.
Increase Access to Safe Truck Parking	• Improve safety for truck drivers and provide relief for areas that experience unauthorized truck parking.
Improve Freight Network Resiliency	• Improve the freight network's ability to withstand and recover from disruptions.
Mitigate Freight Impacts on Communities and the Environment	• Avoid where possible and limit the negative impacts of freight to communities and the environment.
Integrate Freight Considerations into Land Use Planning	• Guide where and how freight-generating land uses are developed to limit negative environmental impacts, community impacts, and freight-related congestion.

Source: Cambridge Systematics.

[13] https://www.thempc.org/Core/Fp#gsc.tab=0

Figure 76 Summary of Recommendations by Category



Source: Cambridge Systematics.

Figure 77 Summary of Recommendations by Type

Type	No. of Recommendations	Percent of Total
Project	79	68.0%
Policy	23	22.3%
Program	10	9.7%
Total	**103**	**100%**

Source: CORE MPO; Cambridge Systematics; AECOM; Symbioscity.

Non-motorized Traffic

CORE MPO's bicycle and pedestrian data was gathered from Strava Metro. Strava Metro is an outside data source which provides biking, walking, and running data transportation organizations. Strava Metro was analyzed by CORE MPO staff. This section describes this data for bicycle modes and pedestrian modes of transportation.

Bicycle Trips

Bicycle trip trends, from the MPO's data collected from Strava Metro, are shown in Figures 78 through 81. These locations include some that have bicycle lanes (Lincoln, Price, and Washington Street corridors), some that have a shared use path (Johnny Mercer and Berwick Boulevards), and many that have only standard travel lanes shared with motor vehicles. Bicyclists using sidewalks were counted also, even though the behavior is illegal in most locations.

Given the vast network of bicycle usage, the downtown Savannah area features the highest crash density.

Pedestrian Trips

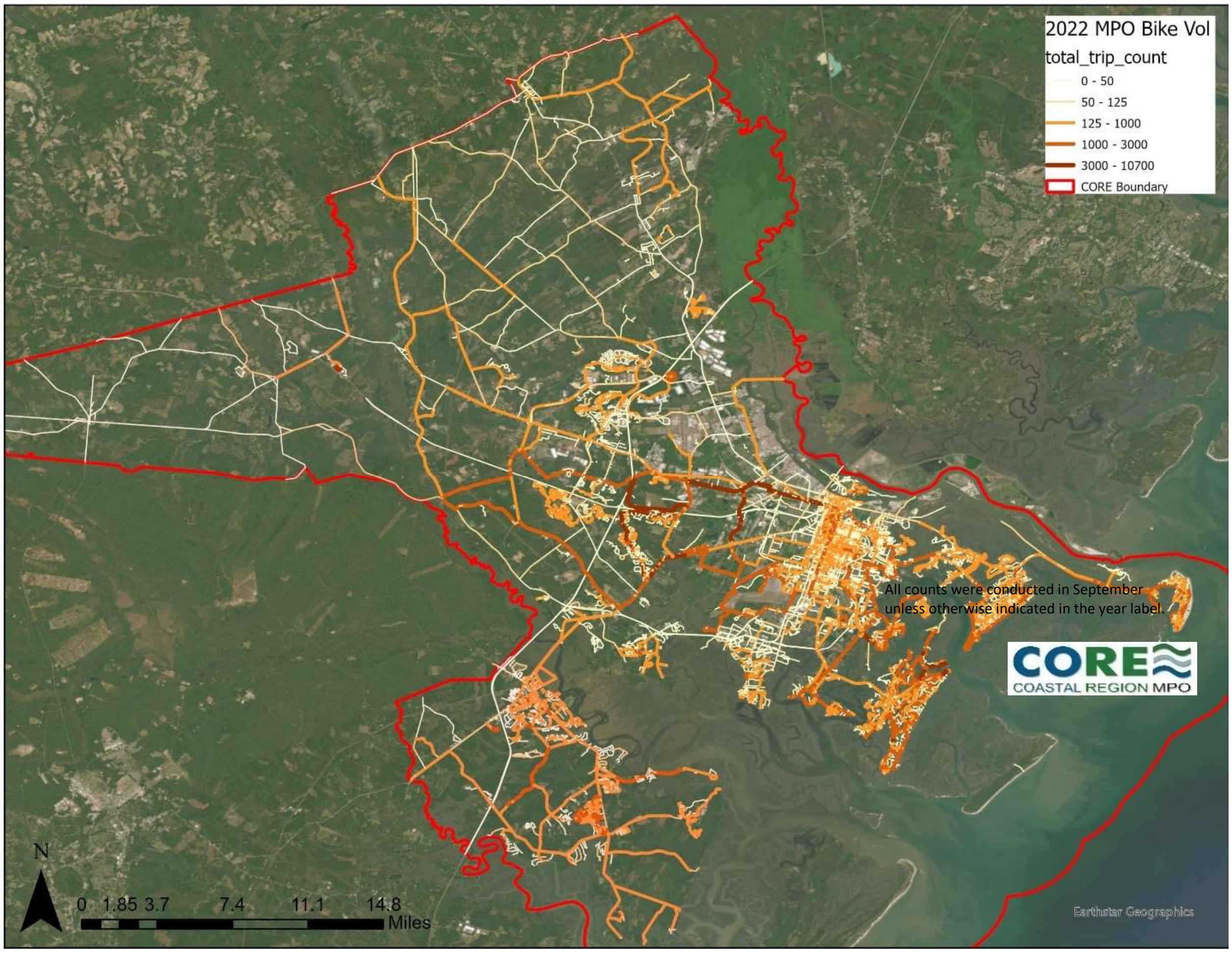
Pedestrian trip trends, from the MPO's data collected from Strava Metro, are shown in Figures 82 through 84. Among all the pedestrian count locations, the vast majority of trips end and begin in downtown Savannah. Downtown Savannah features the most thoroughly connected facilities; including sidewalks, wide roadways, and other pedestrian amenities. Other areas include greenways and trails.

More suburban and rural areas of the CORE MPO planning area feature less pedestrian volumes given the lower amount of facilities in these areas for pedestrians to utilize.

Tybee Island and surrounding communities also feature higher pedestrian volumes given their walkability, wide roadways, and lower posted speed limits.

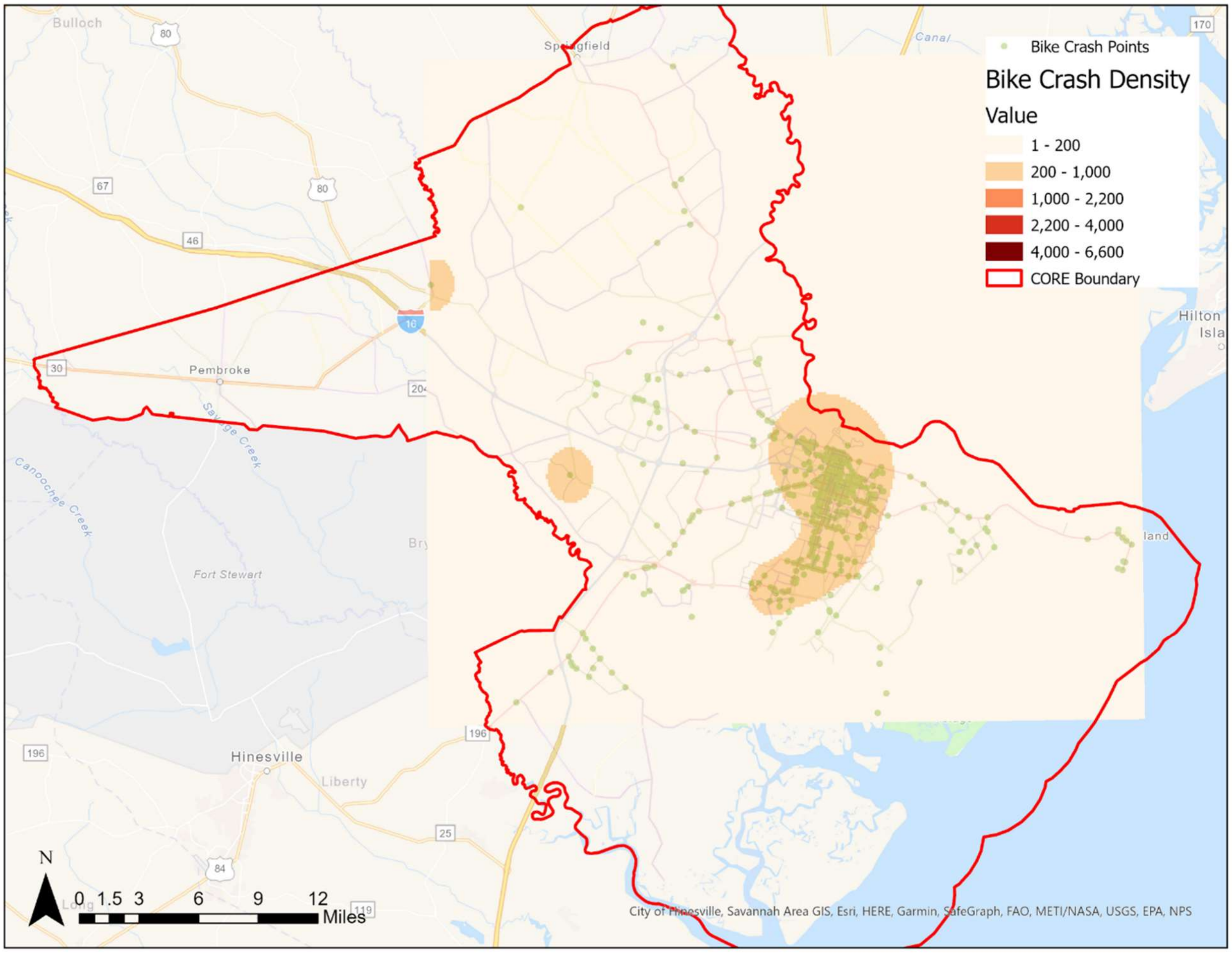
Given the higher volumes of pedestrian counts throughout the greater Savannah area, it is also the locale with the highest pedestrian crash densities.

Figure 78 2022 MPO Bike Volumes



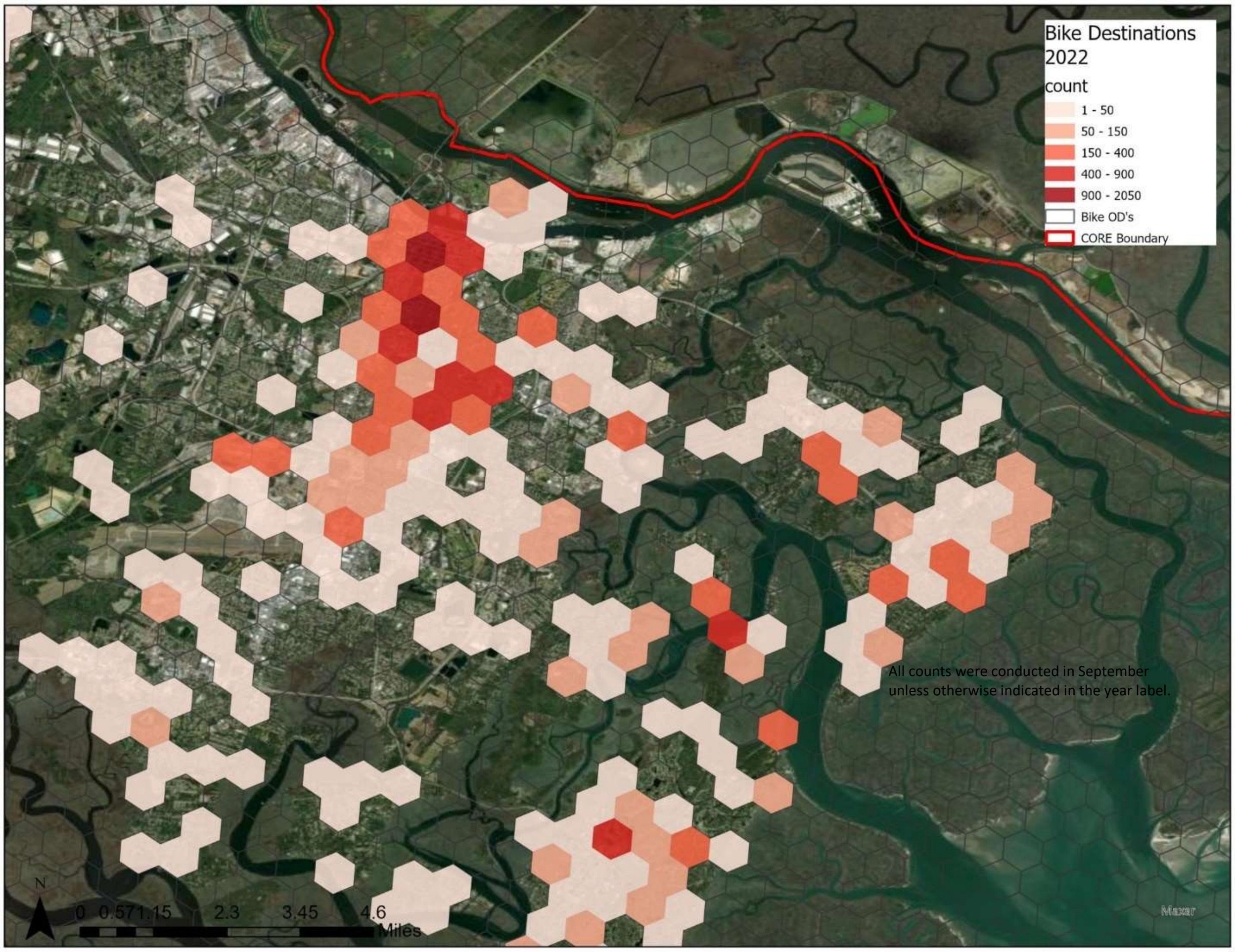
Source: CORE MPO

Figure 79 Bike Crash Density



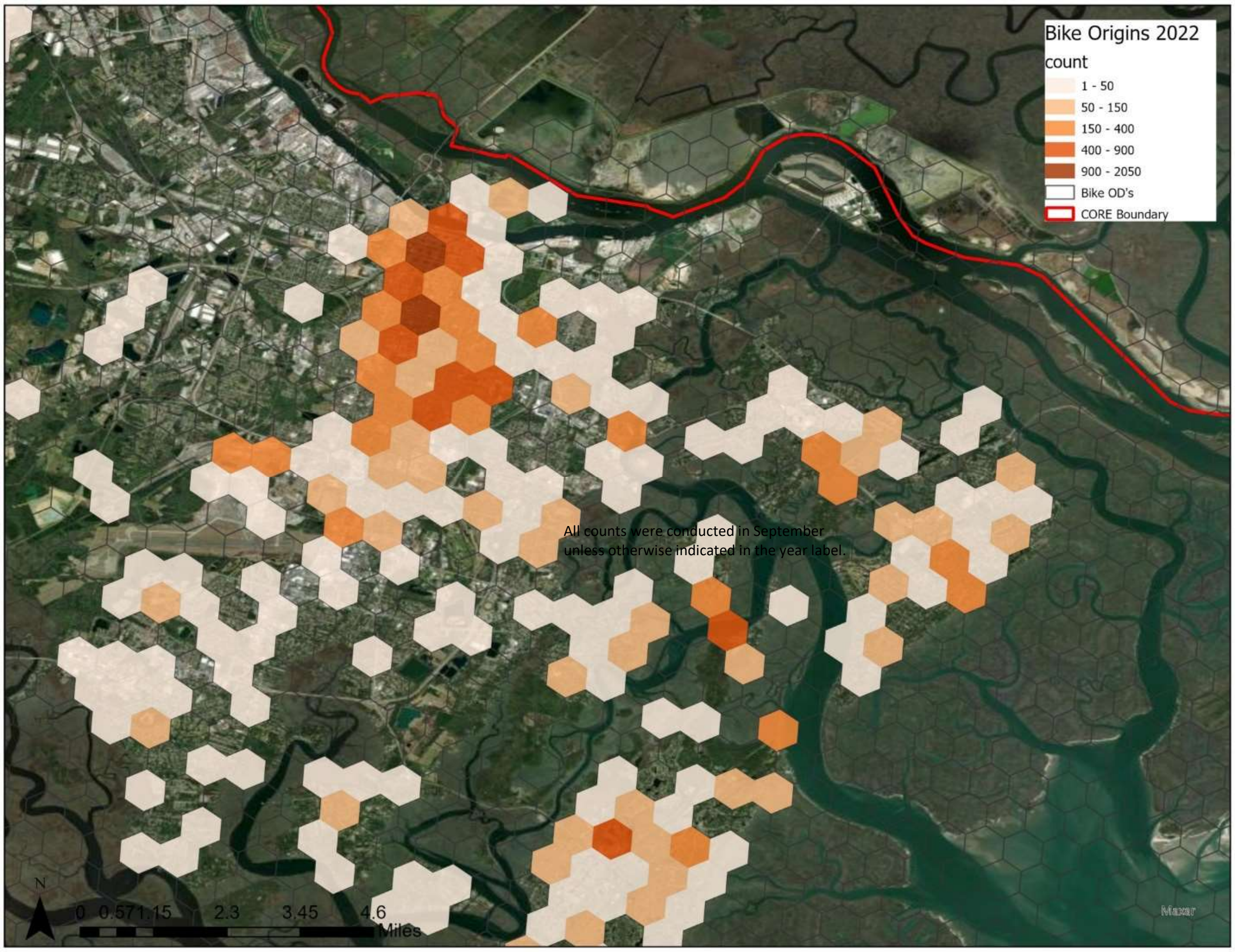
Source: CORE MPO

Figure 80 Bike Trip Destinations 2022



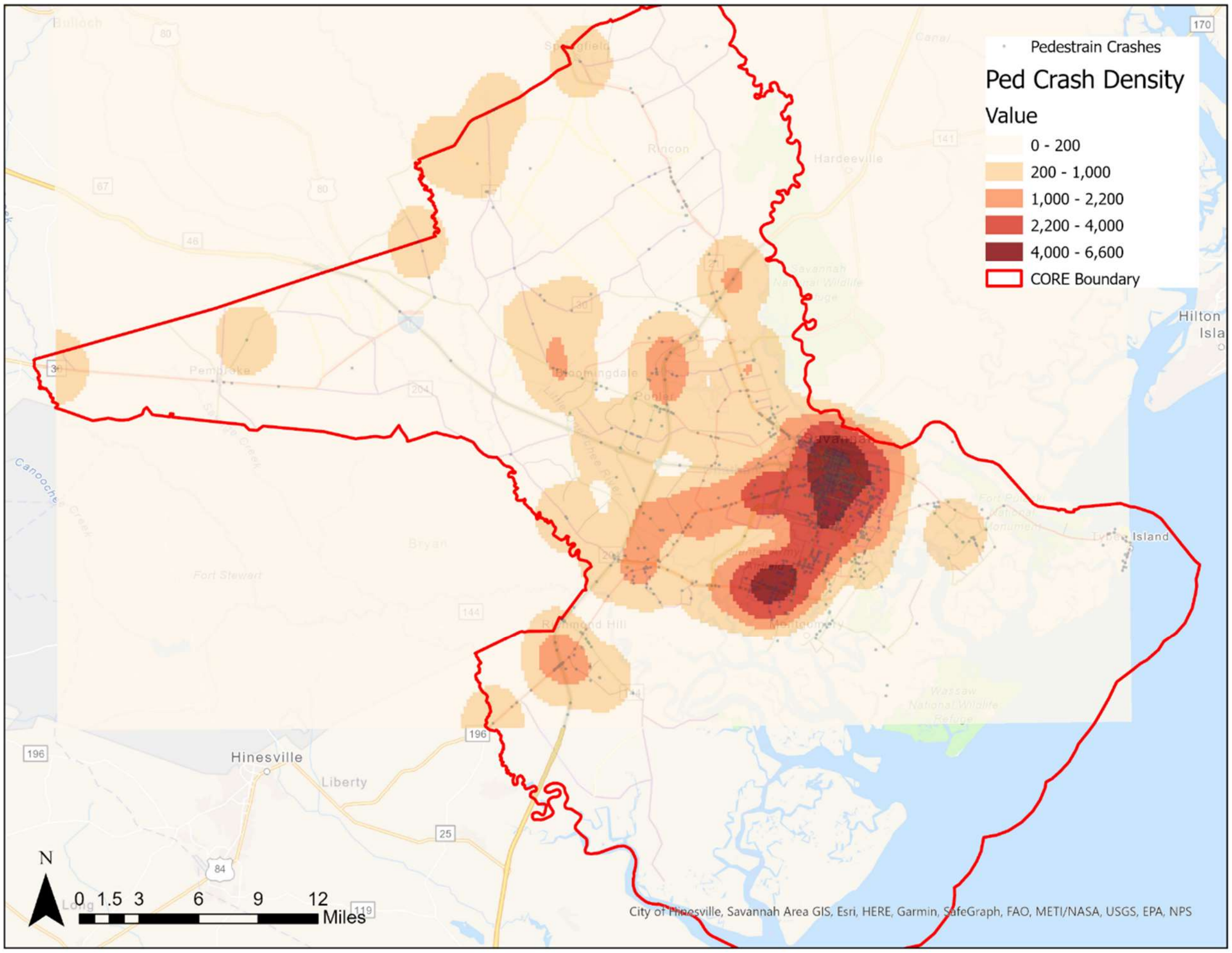
Source: CORE MPO

Figure 81 Bike Trip Originations 2022



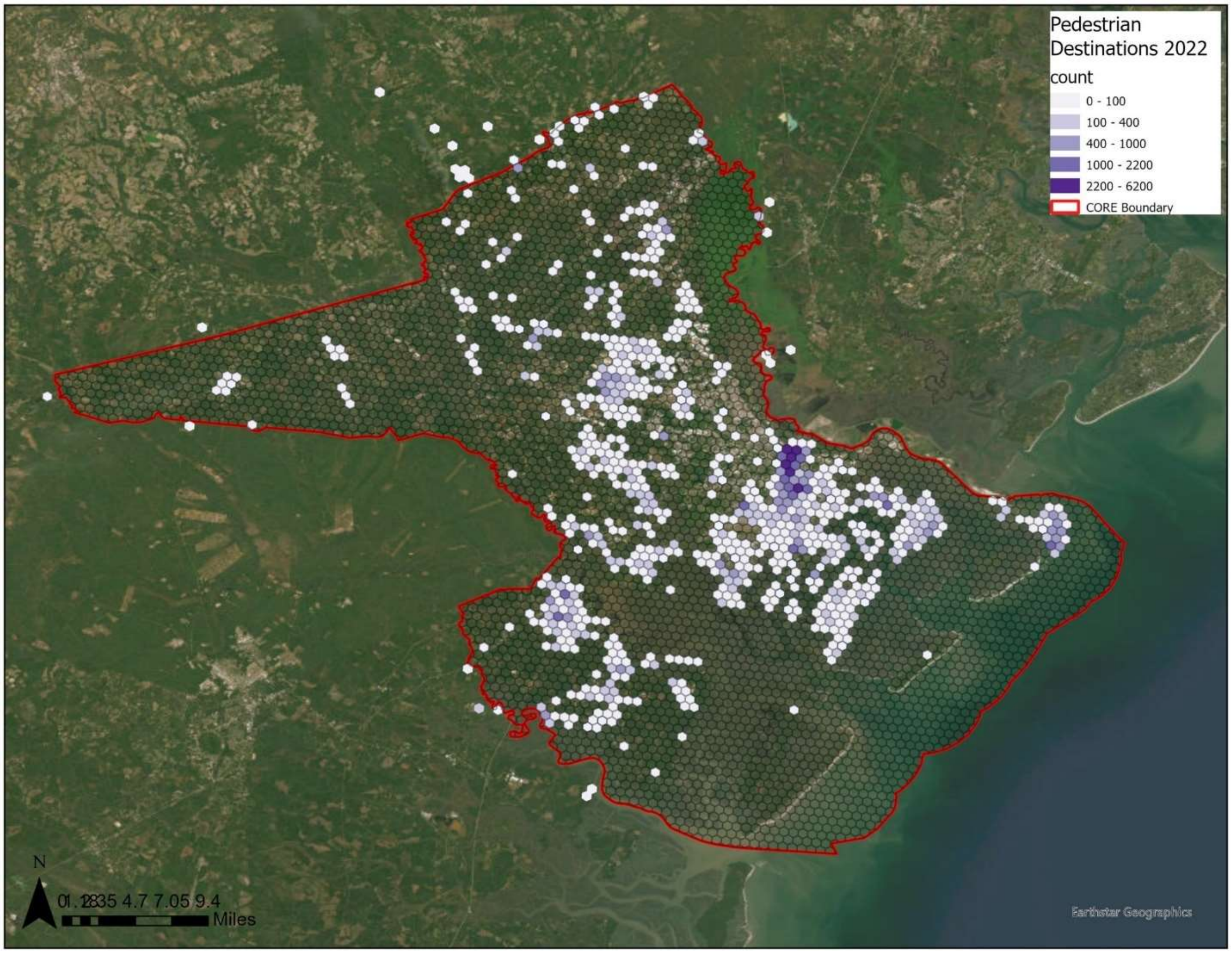
Source: CORE MPO

Figure 82 Pedestrian Crash Density 2022



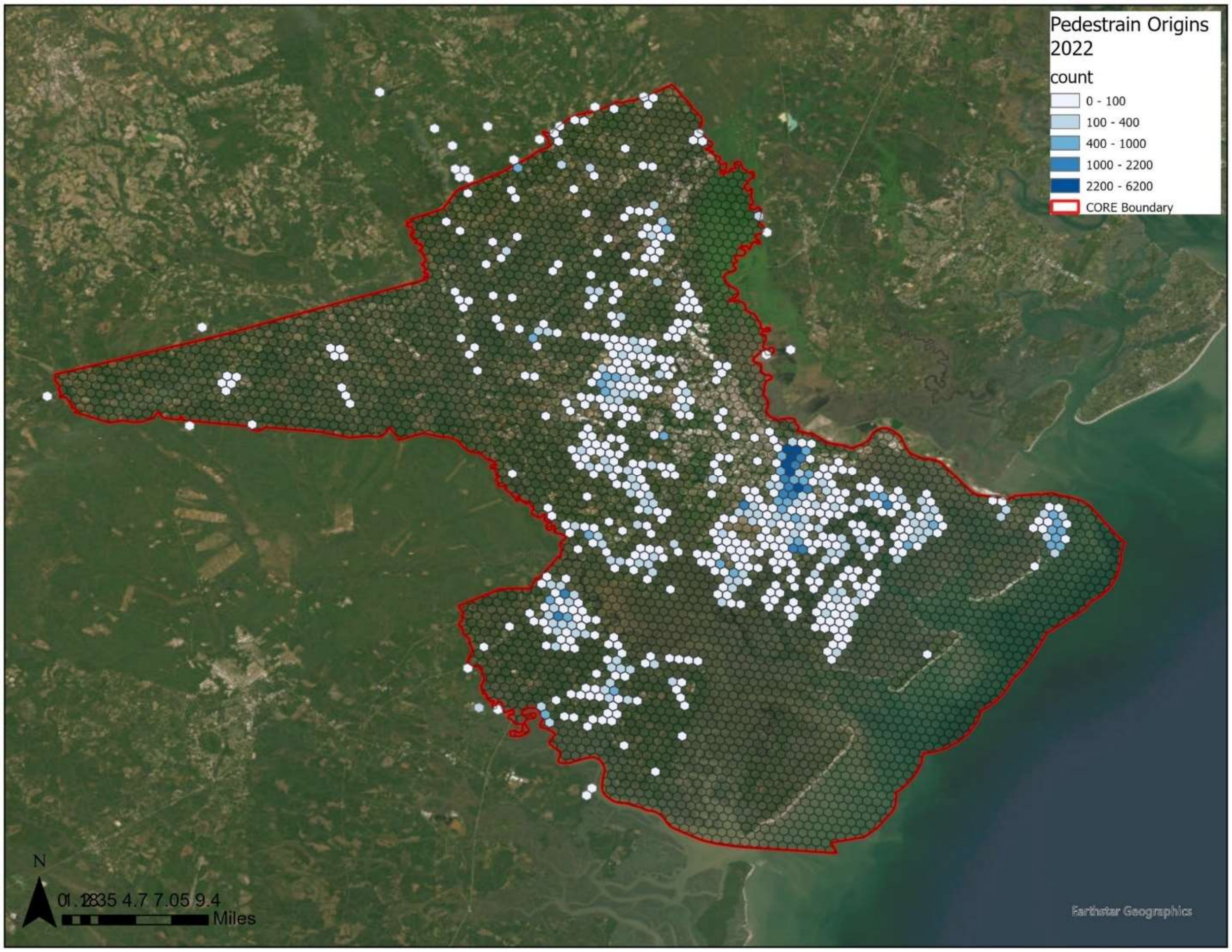
Source: CORE MPO

Figure 83 Pedestrian Trip Destinations 2022



Source: CORE MPO

Figure 84 Pedestrian Trip Originations 2022



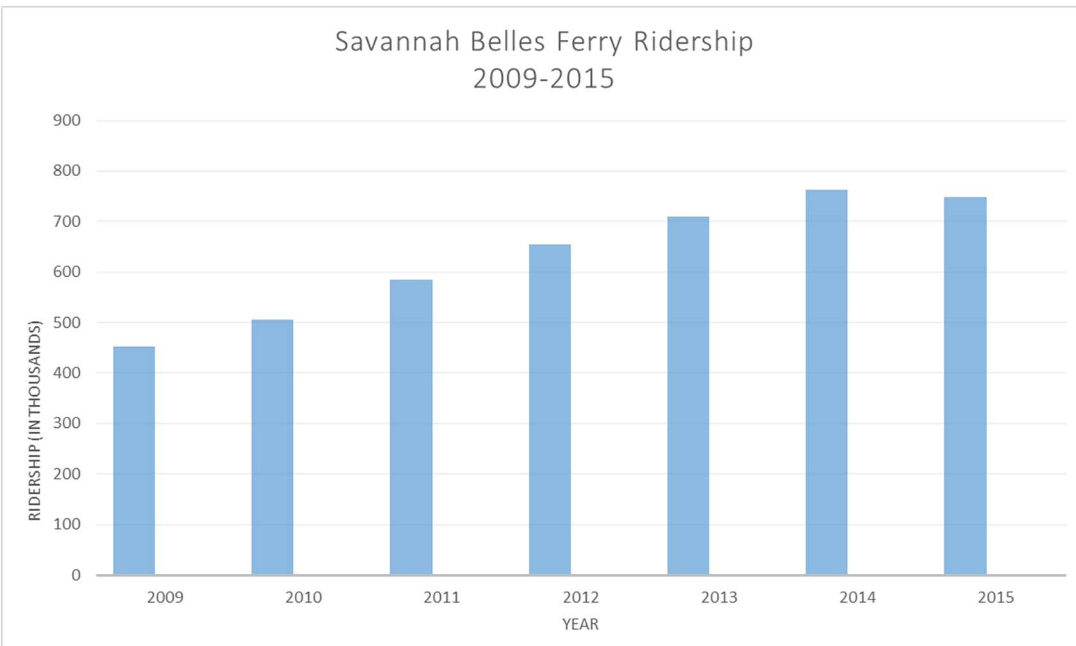
Source: CORE MPO

Savannah Belles Ferry

The Savannah Belles Ferry is operated through a partnership between the Savannah Convention Center and CAT. The ferry system serves to transport passengers between River Street and the Convection Center and Westin Hotel on Hutchinson Island. The ferry system has been well utilized for events taking place at the Convention Center such as the Rock and Roll Marathon. This allows passengers to park on Hutchinson Island and be ferried across the river. By having passengers park on Hutchinson Island and ride the ferry, many potential parking and congestion issues have been alleviated.

The annual average ridership is 631,332 passengers with approximately 1,743 per day (see Figure 85). The system supported over 1,095 events in Savannah with over one million attendees between 2009 and 2015.

Figure 85 Savannah Belles Ferry Ridership



Source: Chatham Area Transit

10.0 Identify and Assess CMP Strategies

The identification and assessment of appropriate congestion mitigation strategies is a key component of the CMP. A set of recommended solutions to effectively manage congestion and achieve congestion management objectives is identified. The strategies that are selected should support the congestion management objectives that have been agreed-upon for the region noted in previous sections.

To help the CORE MPO achieve its goal of managing congestion, a comprehensive "toolbox" of CMP strategies has been identified and summarized in Tables XX-XX. Using USDOT[14] guidance, a full range of potential congestion management strategies were identified for freeways (Table XX), non-freeways (Table XX) and the overall region (Table XX). The strategies are grouped into four major categories: demand management; alternative mode promotion; traffic operations; and land use.

Additionally, these techniques are summarized as related to:

- term effectiveness (short, mid, long);
- congestion type (recurring, non-recurring or both);
- and public acceptance (low, medium, high)

Several of the techniques are already in place in the region yet there is room to consider incorporating more. These strategies and others that evolve will continue to be evaluated as part of the CMP and MTP process. Many of the non-capacity adding strategies identified in the tables would be most appropriate for the constrained corridors where added capacity is not a favorable option.

The Thoroughfare Plan

To achieve the goals of the CMP and the Total Mobility Plan, as well as those of the updated Comprehensive Plan, the CORE MPO, together with local jurisdictions, developed a Thoroughfare Plan for the region. This Thoroughfare Plan, coordinated with the Non-motorized Transportation Plan, is intended to:

- Ensure and increase accessibility, mobility, and connectivity for people and freight.
- Promote safe and efficient travel for all users and create a framework for common sense tradeoffs between automobile capacity and multimodal design elements.
- Support community development and land use goals, and promote a sense of place with on-street parking, bike travel, land access, and pedestrian friendly intersections.
- Establish transparent expectations for transportation infrastructure and create consistency in code references to the road network, which provides predictable and consistent information to develop the community. Thoroughfare types are defined by their function in the road network as well as the character of the area they serve.

The duality of transportation function and the relationship with the character, or context, of each facility informs each thoroughfare type's recommended design parameters. Thoroughfare planning is promoted as part of a larger movement called context sensitive design or context sensitive solutions. The Institute of Transportation Engineers (ITE) defines context sensitive solutions (CSS) as follows: CSS is a different way to approach the planning and design of transportation projects. It is a process of balancing the competing needs of many stakeholders starting in the earliest stages of project

[14] Congestion Management Process: A Guidebook, USDOT, FHWA, April 2011

development. It is also flexibility in the application of design controls, guidelines and standards to design a facility that is safe for all users regardless of the mode of travel they choose.

The Thoroughfare Plan can help address localized congestion and mobility needs in the region. The CMP network focuses on the principal arterial or higher roadway classification. The typical sections identified for the Thoroughfare Plan include Major Arterials, Minor Arterials and Collectors. Each of these classifications is then further categorized as Urban or Suburban and the typical sections include the design elements that appropriately serve the transportation need, as well as the adjacent land uses and community character. Each of the identified projects in the MTP has been correlated with the Thoroughfare Plan to incorporate the appropriate design elements based on the roadway typology. In addition, the Vision Plan, or unfunded projects, includes the complete list of projects identified through the Thoroughfare Plan. The Thoroughfare Plan was also coordinated with the Non-motorized Transportation Plan to ensure consistency throughout the planning efforts.

Constrained Corridors

Traditional capacity adding projects such as road widening would not be favorable options for mitigating congestion on most of the constrained corridors. These roadways often have extensive tree canopy or significant historic features. Some examples of strategies can be found in Tables 87 and 88 such as traffic signal optimizing and alternative mode options, transit access, ridesharing and telecommuting.

Figure 86 Congestion Management Strategies – Freeways

Techniques for Fully Controlled Access Facilities (Freeways)	Currently In Use	Term Effectiveness	Congestion Type	Public Acceptance
Demand Management				
HOV Lanes	No	L	R	L
Variable Priced Lanes	No	L	R	L
Congestion Pricing High Occupancy Toll (HOT) Lanes	No	M	R	L
Bridge Tolling	N/A	L	R	L
Electronic Payment Systems	No	M	R	H
Alternative Mode Promotion				
Park-and-Ride Lot Improvements	No	S	R	H
Use of shoulders for Transit Vehicles During Peak Periods	No	M	R	H
Traffic Operations				
Imaging for Surveillance and Detection	Yes	S	N	H
Work Zone Management	No	S	N	H
Reversible Lanes or Movable Medians	Yes (Evacuation routes only)	M	RN	M
Spot Safety Improvements	No	S	N	H
Freeway Ramp Metering	No	M	RN	L
Variable Speed Limits	No	M	RN	M
Variable Message Signs (VMS)	Yes	S	RN	H

Land Use				
Transportation-Land Use Plans with Local Governments	No	M	R	H

Source: CORE MPO

Symbol Legend:

Term Effectiveness: (**S**)hort, (**M**)id, (**L**)ong

Congestion Type: (**R**)ecurring, (**N**)on-Recurring, or Both (**RN**)

Public Acceptance: (**L**)ow, (**M**)edium, (**H**)igh

Figure 87 Congestion Management Strategies – Non-Freeways

Techniques for No/Partially Controlled Access Facilities (Non-Freeways)	Currently In Use	Term Effectiveness	Congestion Type	Public Acceptance
Demand Management				
Access Management Program	No	M	RN	M
High Occupancy Vehicle (HOV) Lanes	No	L	R	L
Congestion Pricing	No	M	R	L
Bridge Tolling	N/A	L	R	L
Alternative Mode Promotion				
Transit Signal Priority Systems	No but Possible	M	R	H
Park-and-Ride Lot Improvements	No	S	R	H
Addition of Bicycle Racks at Public Transit Stations / Stops	Yes	S	R	H
Bicycles and Pedestrian Access to Transit Improvement	Yes	S	R	H
Sidewalk Gap Closure Program	Yes	M	R	M
Improve Pedestrian Facilities at Intersections	No	S	R	H
Creation of New Bicycle and Pedestrian Facilities	Yes	M	R	H
Bike Sharing Programs	Yes	M	R	M
Enhance Transit Amenities	No	S	R	H
Use of Shoulders for Transit Vehicles During Peak Periods	No	M	R	H
Safe Routes to School Initiatives	Yes	M	R	H
Bicycle / Pedestrian Education Program	Yes	M	R	H
Bicycle and/or Pedestrian Corridor Safety Studies and Implementation	Yes	M	RN	H

Source: CORE MPO

Figure 88 Congestion Management Strategies – Non-Freeways (Continued)

Techniques for No/Partially Controlled Access Facilities (Non-Freeways)	Currently In Use	Term Effectiveness	Congestion Type	Public Acceptance
Traffic Operations				
Imaging for Surveillance and Detection	Yes	S	N	H
Traffic Signal Timing	Yes	S	R	M
Red-Light Camera Enforcement	No	S	N	M
Dynamic Traffic Signal Systems	Yes (Pooler)	M	R	M
Service Patrols (e.g. IMAP)	No	M	N	H
Emergency Management Systems (EMS)	Yes	S	N	H
Work Zone Management	No	S	N	H
Turn Lane Construction and Extension	Yes	S	R	H
Roundabout Constructions	Yes	S	RN	M
Reversible Lanes or Movable Medians	No	M	RN	M
Safety Improvements	Yes	S	N	H
Variable Speed Limits	No	S	RN	H
Variable Message Signs (VMS)	Yes	S	RN	H
Land Use				
Transportation-Land Use Plans with Locals Governments	Yes	M	R	H
Develop Overlay Districts to Manage Development Densities and Form	Yes	M	R	M
Use best practices in school siting decisions	No	L	RN	M

Symbol Legend:

Term Effectiveness: (**S**)hort, (**M**)id, (**L**)ong

Congestion Type: (**R**)ecurring, (**N**)on-Recurring, or Both (**RN**)

Public Acceptance: (**L**)ow, (**M**)edium, (**H**)igh

Source: CORE MPO

Figure 89 Congestion Management Strategies – Regional

Techniques for Strategies Applied on a Regional Level (Regional)	Currently In Use	Term Effectiveness	Congestion Type	Public Acceptance
Demand Management				
Ride-matching services	Yes (Employer Based)	S	R	L
Vanpooling	No	S	R	L
Parking Cash-out or Carpool Parking Incentives	No	M	R	M
Alternative Commute Subsidy Program	No	M	R	M
Telecommuting Promotion	Yes (Employer Based)	S	R	M
Compressed/Flexible Workweeks	Yes (Employer Based)	S	R	M
Employer Outreach/Mass Marketing	No	M	R	M
Alternative Mode Promotion				
Improvements/Added Capacity to Transit	Yes	ML	R	H
Service Coordination	No	M	RN	H
Traffic Operations				
Traffic Management Centers (TMCs)	Yes	M	N	H
Parking Management and Information Systems	No	S	R	H
511 Traveler Information	Yes	S	RN	H
Highway Advisory Radio (HAR)	No	S	RN	H
Transit Information Systems	No	S	R	H
Land Use				
Encourage Activity Centers	No	M	R	M
Live-Work Proximity Incentives	No	L	R	M
Require MPO Review for Regional Scale Developments	Yes	L	R	M
Growth Management Restrictions	No	L	R	M

Source: CORE MPO
Symbol Legend:
Term Effectiveness: (**S**)hort, (**M**)id, (**L**)ong
Congestion Type: (**R**)ecurring, (**N**)on-Recurring, or Both (**RN**)
Public Acceptance: (**L**)ow, (**M**)edium, (**H**)igh

Non-Motorized Transportation

The true expectations from a transportation system are to allow the movement of people and freight. The movement of people is not only the movement of cars. A physical environment designed mainly for motorized vehicle travel contributes to modern day congestion. Figure 90 shows the design-based strategies from the Non-motorized Transportation Plan which would promote walking and bicycling as trip-making options. It is not only the design of roads, but also the design of cities overall, that determines the feasibility of these modes.

Figure 90 Non-motorized Transportation Strategies

STRATEGIES
Road Design
Adopt road design policies and standards that address all users and incorporate context. (This will be facilitated by the Thoroughfare Plan, discussed above.)
Recognize current flexibility to use narrower lanes to allow bike/pedestrian retrofit projects.
Adopt policy that critical-link bridge projects that provide bicycle and pedestrian accommodations of appropriate. types, regardless of land use context.
Zoning and Development
Encourage and allow densities for some areas in excess of 7 du/acre and 25 employees /acre.
Allow mixed uses within some districts.
Specify pedestrian-friendly setbacks and parking requirements for the denser commercial, residential, and mixed-use districts.
Require sidewalks in commercial development and office parks, as well as in residential developments.
Development of Schools
Remove minimum acreage requirements for schools.
Add "Non-motorized Access to Site" to the Miscellaneous Site Information section on the Georgia DOE Preliminary School Site Evaluation and Facility Site Approval Form.
Within the decision-making process for siting new schools, consider the costs of constructing off-site bicycle and pedestrian connections (which will later fall to local governments).
Adopt LEED-ND (Leadership in Energy and Environmental Design - Neighborhood Development) standards for siting new schools.
Eliminate policy that, when school refurbishment cost exceeds 50% of new construction cost, State funds are not available for refurbishment of existing schools.

Source: CORE MPO

Transit

Chatham Area Transit has several initiatives they will be exploring implementing over the next several years to improve efficiency, service and increase ridership. Some of these initiatives include:

- Implementation of mobile fare collection technologies - This would improve collection rates as well and allow greater ease to customers and operators for handling payments.
- Development of alternative transit services including - microtransit, first and last mile coordination with Transportation Network Companies (TNCs), vanpools, & flex services
- Development of park & ride lots in outlying areas – This could help provide service to outlying areas and still allow service routes to be efficient.
- Initiation of better data collection strategies – Improving data collection will provide more accurate ridership data that can assist in improved service route planning & optimization. Chatham Area transit has recently purchased an origin and destination dataset to help better

understand the needs of the transit user and potential users. This could potentially lead to service modifications to better serve the needs of the customers.

- Implementation of traffic signal priority (TSP) or preemption –TSP techniques detect transit vehicles as they approach an intersection and adjusting the signal timing dynamically to improve service for the transit vehicle. TSP technology can also open the door for future Bus Rapid Transit (BRT) type service. BRT is a bus-based public transport system designed to improve capacity and reliability relative to a conventional bus system. Typically, a BRT system includes roadway that is dedicated to buses, and gives priority to buses at intersections where buses may interact with other traffic; alongside design features to reduce delays caused by passengers boarding or leaving buses, or purchasing fares. BRT aims to combine the capacity and speed of a light rail with the flexibility, lower cost and simplicity of a bus system.

Savannah Belles Ferry

The Savannah Belles ferry system will continue to be a useful service especially helping to alleviate event traffic and parking congestion issues. Future projects to enhance the system include:

- A dock replacement and shelter at City Hall landing,
- Major maintenance and rehabilitation,
- Signage improvements for better wayfinding and
- Hutchinson Dock replacement.

Total Emissions Reduction

The *Fifth National Climate Assessment* describes the changing climate conditions as “rapid and unprecedented.” The present-day levels of GHGs in the atmosphere are higher than at any time in the past 800,000 years, with most emissions occurring since 1970, and global temperature has increased faster in the last 50 years than at any time in the past 2,000 years.[15] Working to decrease emissions needs to become a top priority in the transportation sector.

The greenhouse effect is caused by GHGs such as water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and fluorinated gases absorbing radiation leaving the earth and trapping heat in the atmosphere. Carbon dioxide is the primary GHG emitted from human activities and the transportation sector, primarily due to fossil fuel combustion.[16] Many factors influence CO_2 emissions from fossil fuel combustion, such as changes in population growth, energy prices, technology, and behavior.[17] In 2021, CO_2 accounted for 35% of all transportation emissions. Light-duty vehicles, including passenger cars, SUVs, pickup trucks, and motorcycles, were the largest contributors to U.S. transportation GHG emissions, and medium- and heavy-duty vehicles (MHDVs) were the second-largest contributor.[18]

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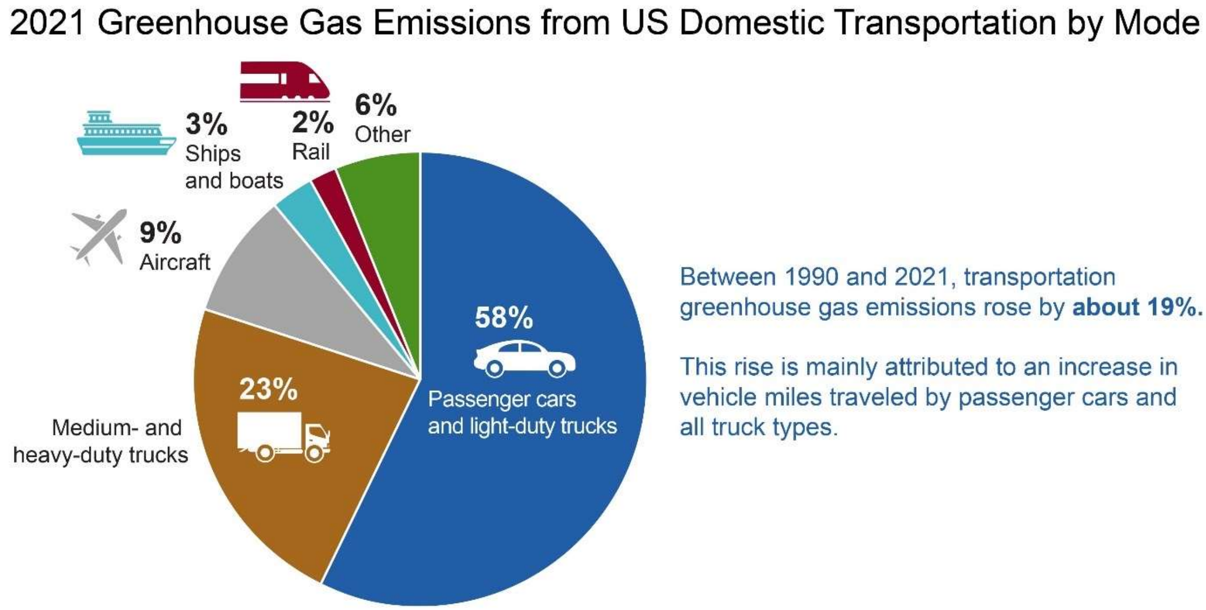
[15] https://nca2023.globalchange.gov/#overview
[16] https://www.epa.gov/ghgemissions/overview-greenhouse-gases
[17] https://www.dot.ga.gov/GDOT/Pages/CarbonReduction.aspx
[18] https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization

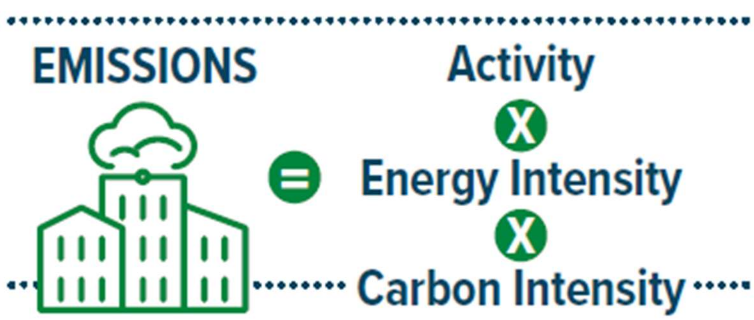
Figure 91 2021 Greenhouse Gas Emissions by Mode



Source: https://nca2023.globalchange.gov/chapter/13#section-1

The *US National Blueprint for Transportation Decarbonization* describes transportation use-phase emissions as, "the result of three main drivers or categories: the total amount of activity, (i.e., the distance and volume of passenger and goods travel); the energy intensity of the transportation options used to meet the activity demand, (i.e., the energy used per mile traveled); and the carbon intensity of the fuels used to provide that energy, specifically the amount of GHG emitted per unit of energy consumed."[19]

Figure 92 Emissions and Activity

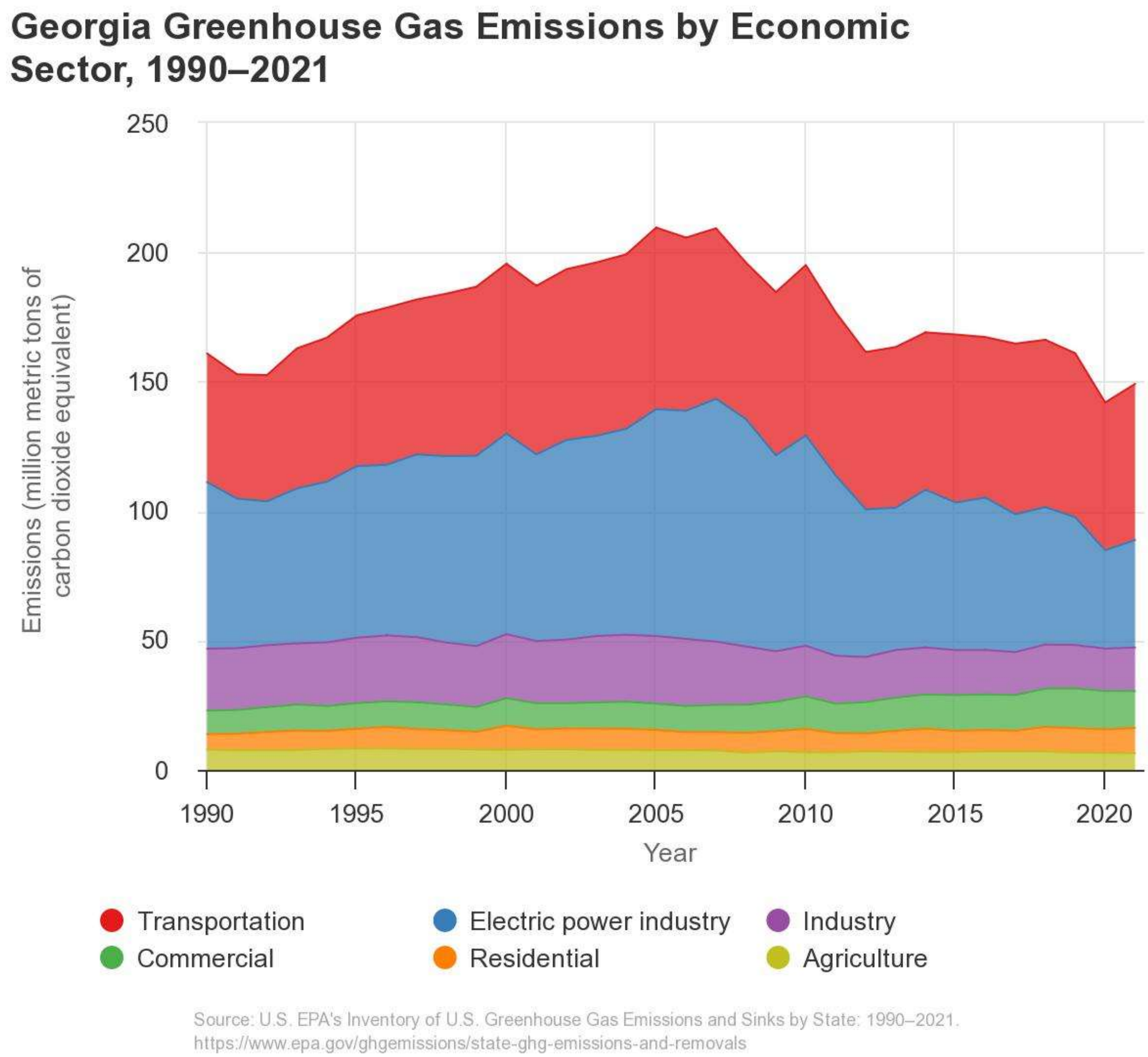


Source: https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization

[19] https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization

In Georgia, the transportation sector was the highest emitter of GHGs, primarily CO_2, in 2021.[20] Georgia reduced overall statewide emissions by 12.2% between 1990 and 2020 due to reductions in electricity-generating and industrial sectors.[21]

Figure 93 Georgia Greenhouse Gas Emissions by Economic Sector



Source: https://cfpub.epa.gov/ghgdata/inventoryexplorer/#allsectors/allsectors/allgas/econsect/all

Within the CORE MPO region, transportation contributed to the most emissions in Bryan County, and the second most emissions in Chatham and Effingham counties behind the industrial sector for the years 2005-2022.[22] The year 2020 is considered an anomaly due to the COVID-19 Pandemic when

[20] https://cfpub.epa.gov/ghgdata/inventoryexplorer/#allsectors/allsectors/allgas/econsect/all
[21] https://www.dot.ga.gov/GDOT/Pages/CarbonReduction.aspx
[22] https://www.drawdownga.org/ghg-emissions-tracker/

fewer people were driving. By 2022, transportation emissions were at or above pre-pandemic levels in each county.

Figure 94 Bryan County Emissions

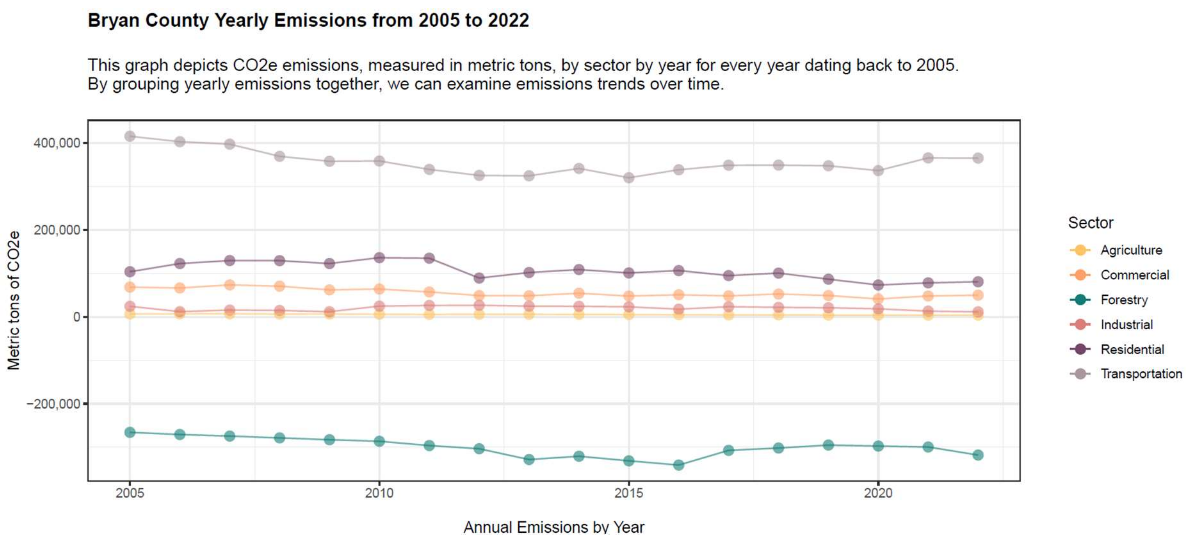


Figure 95 Chatham County Emissions

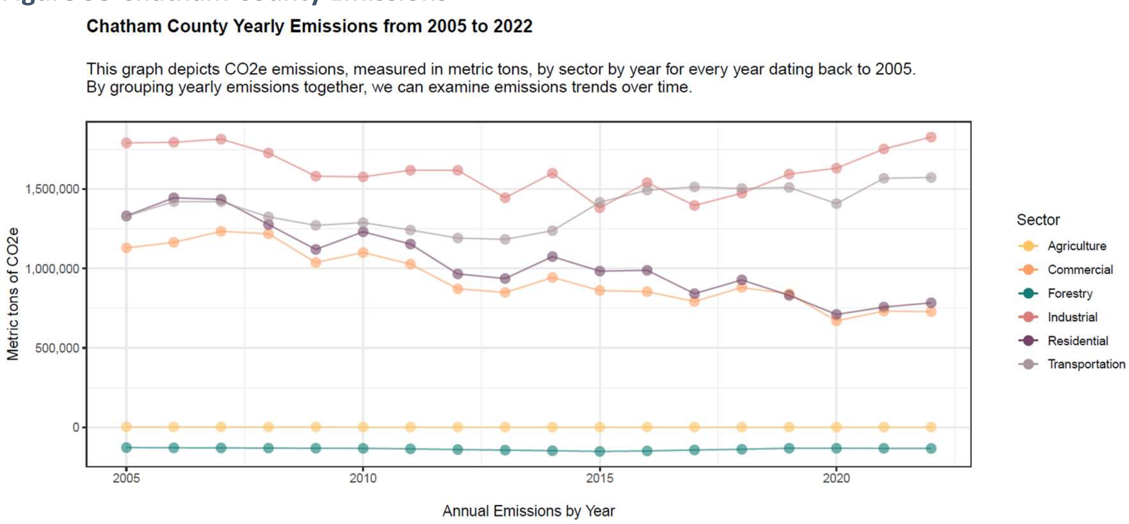
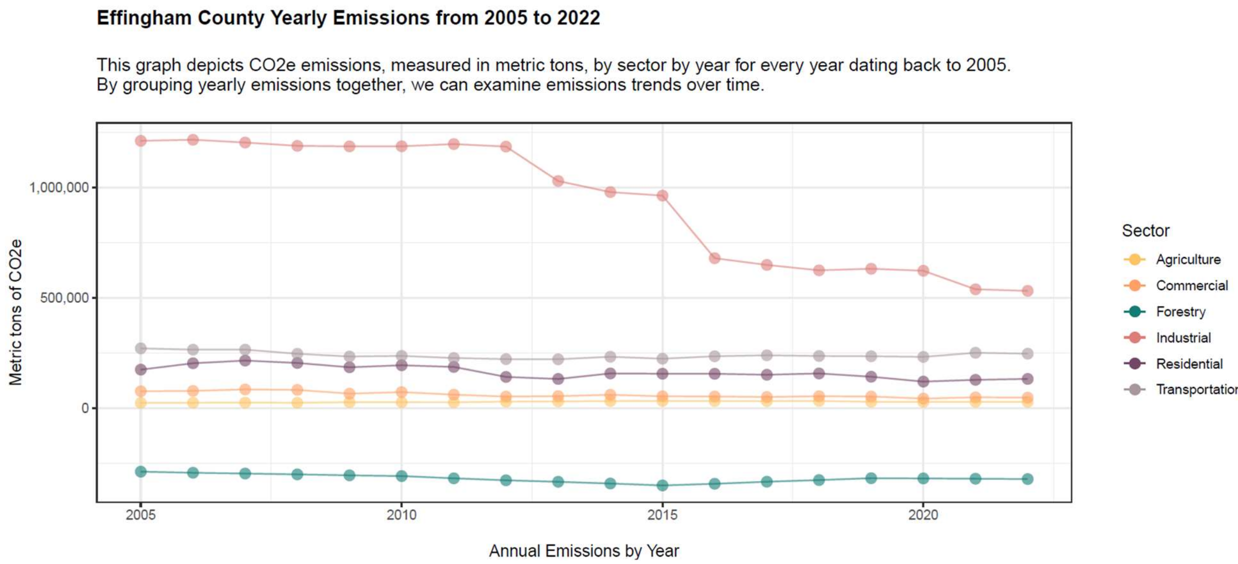


Figure 96 Effingham County Emissions



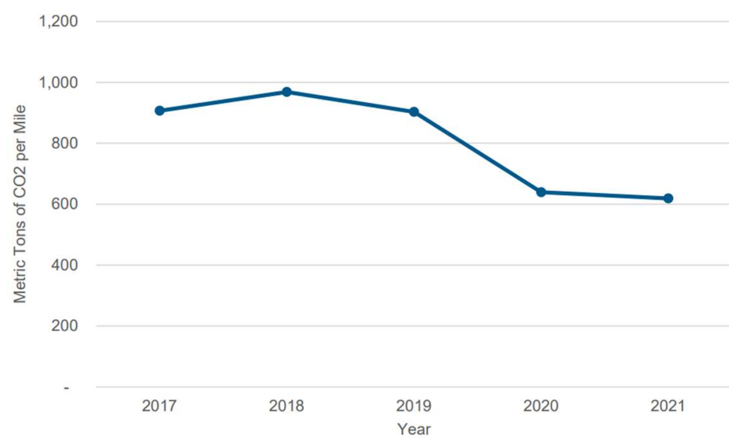
Source: https://www.drawdownga.org/ghg-emissions-tracker/

The *CORE MPO Regional Freight Transportation Plan (RFTP) Update* provided the following analysis of freight emissions for the 2022 CORE MPO area.

"As part of its Freight Mobility Trends Report, the Federal Highway Administration (FHWA) estimates the amount of CO2 generated per mile of National Highway System (NHS) roadways for states and urbanized areas. For the Savannah urbanized area, truck traffic on NHS roadways was estimated to generate approximately 619 metric tons of CO2 per mile in 2021 as shown in Figure 3.6. The substantial decrease in CO2 emissions per mile for 2020-2021, from a peak of 968 metric tons per mile in 2018, is likely due to the nationwide decrease in traffic volumes that resulted from the COVID-19 pandemic. Though truck volumes largely remained consistent with pre-pandemic levels, they were operating on less congested roadways due to reduced commuter traffic. As a result, the improvement in efficiency for trucks reduced their emissions."

Figure 97 Truck Emissions

FIGURE 3.6 TRUCK CO2 EMISSIONS IN THE CORE MPO REGION, 2017-2021



Source: *CORE MPO Regional Freight Transportation Plan (RFTP) Update*

"There are multiple regional trends indicating that truck CO2 emissions will increase over the long term unless action is taken by regional leaders and their state and federal partners. The CORE MPO region is projected to experience substantial population growth over the next 20 years and will grow at a rate that exceeds statewide and national averages. In addition, freight-related land uses throughout the region are becoming more prevalent. The region's various economic development agencies are currently developing over 15,000 acres of land for heavy industrial and logistics uses. This is in addition to privately held properties being developed by the private sector for industrial uses. Underlying both the population growth and freight land use trends is the trend of accelerated growth at the Port of Savannah. The Port of Savannah's annual containerized throughput is forecast to grow from 5.5 million twenty-foot equivalent units (TEU) in 2021 to 9 million TEU in 2025. All of these trends point to higher levels of truck CO2 emissions over the long term.[23]"

Co-Benefits of Emissions Reduction

The *US National Blueprint for Transportation Decarbonization* listed co-benefits of decarbonization[24]:

Safety and Quality of Life – Investments in active transportation infrastructure can ensure that those walking, biking, and rolling can travel safely and improve access to public transportation. In addition to reducing air pollution, these investments will generate health benefits by encouraging people to exercise in the course of their daily lives and avoid the stress of driving in traffic. Transportation systems that rely more on walking, biking, and transit require a smaller physical footprint, which reduces impacts on the natural and human environment. This can also free up space used for parking, and lower noise and pollution in communities, greatly improving quality of life in our neighborhoods.

Equity – Today's transportation system does not serve all communities equitably. For example, 20% of American families below the poverty line do not have access to a car, with a disproportionate percentage of those families being Black (33%) and Latino (25%). Limited transportation options mean limited access to jobs, culture, recreation, and even friends and family. Investments in reliable,

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[23] https://www.thempc.org/Core/Fp#gsc.tab=0

[24] https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization

frequent, and affordable transit service, along with safe sidewalks and bike lanes, provide much-needed mobility for households without access to personal vehicles and offer outsized benefit for people of color, residents of low-income communities, and Americans with limited mobility. Increasing access to low-carbon travel infrastructure by improving bicycle and pedestrian safety will benefit all roadway users and bring significant benefits to vulnerable roadway users, including seniors, people with disabilities, and people in lower income communities. In addition, investments in infrastructure can increase wealth creation opportunities for underserved communities. DOT's Disadvantaged Business Enterprise program is helping ensure that small businesses owned by people of color and women get a fair chance to compete for infrastructure contracts.

Air Quality – Decarbonizing the transportation sector will reduce air pollutants that are harmful to the environment and to public health, such as NOx, volatile organic compounds, particulate matter, sulfur dioxide, and others.

Economic Growth – Investment in public transportation, rail, and active transportation infrastructure generates large economic returns. Every $1 invested in public transportation generates an estimated $5 in long-term annual economic returns, and every $1 billion invested in public transportation supports about 20,000 jobs. Fuel savings from walking and biking instead of driving are estimated to be $3.3 billion annually in the U.S. A study on Georgia's Silver Comet Trail expansion found that people gain an estimated $4.64 in direct and indirect economic benefits from every $1 invested in the expansion. In 2017, Class I railroads alone generated $219 billion in economic activity and yielded around $26 billion in tax revenues, while supporting 1.1 million jobs across the nation. Additionally, the compact, mixed-use development patterns that support a cleaner transportation system also generate greater revenue per acre of land, spur more economic productivity, and support job creation.

Energy Security – Transportation is currently heavily dependent on petroleum fuels, and the sector accounts for over 70% of all petroleum used in the United States. Improving mobility options and the efficiency of the transportation sector will reduce our dependence on petroleum, limit the impacts of petroleum price volatility and inflation, and lower our total energy use. Lower and more diversified energy demand—when accompanied by enhanced domestic supply chains or clean technologies—will improve the nation's security, decrease vulnerability to supply interruptions or price changes, and increase the reliability and affordability of mobility for all Americans. Incentives in the BIL and IRA combined with other federal investments and the National Blueprint for Lithium-Batteries REF are actively expanding sources of battery components, increasing diversification and energy security.

Solutions

In December 2023 FHWA issued the final rule, "National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure," which requires State DOTs and MPOs to establish declining CO2 targets for the GHG measure and report progress. States and MPOs will have the flexibility to set their own targets if emissions decline over time.[25] The CORE MPO can begin to incorporate strategies from decarbonization plans at the federal, state, and local level.

[25] https://www.federalregister.gov/documents/2023/12/07/2023-26019/national-performance-management-measures-assessing-performance-of-the-national-highway-system

The *US National Blueprint for Transportation Decarbonization* listed tools and technologies that are expected to change future mobility:

Sharing Rides – including car/vanpooling and ride hailing—impacts emissions per passenger mile traveled. Transportation systems become more efficient when passengers and cargo can move to their destinations with fewer or no vehicle miles, which can also lower transportation costs. When passengers traveling in the same direction share a ride, they are helping to reduce energy use and emissions.

Connected Mobility Solutions enable unprecedented system-level improvements— better communication among vehicles and with infrastructure can smooth traffic flow and reduce congestion. Connectivity and automation, such as eco-approach and departure at traffic lights and platooning, enable reductions in energy consumption.

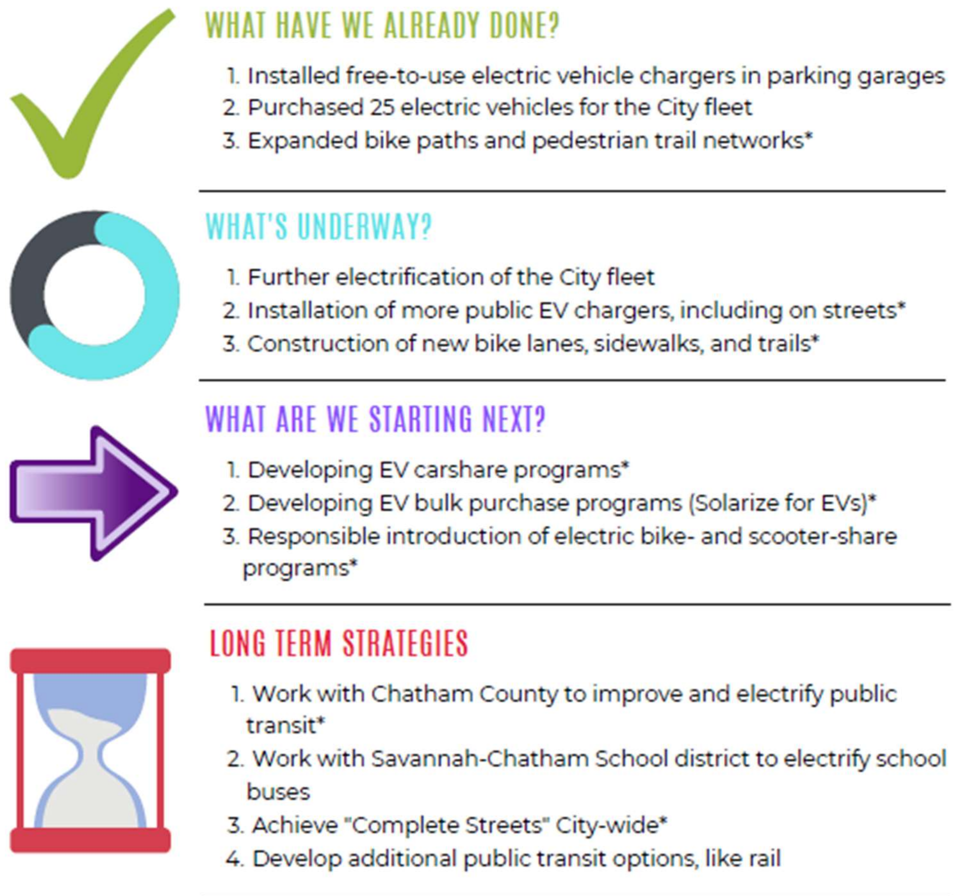
Automated Driving Systems could offer convenient and safe travel options, enhancing efficiency, accessibility, and productivity. These systems are becoming increasingly available. Nine out of 10 currently available new cars are equipped with adaptive cruise control, for example, and 50% of those can control both speed and steering (e.g., lane assist).

Remote Work and Virtual Interactions can provide a viable alternative to daily commute requirements for some people, as the COVID-19 pandemic demonstrated. An increase in remote work and virtual engagements has the potential to change travel patterns, including shifting peak commute times, reducing commuting miles, and/ or increasing off-peak miles. However, overall passenger car travel has already returned to pre-pandemic levels.

100% Savannah Plan

Within the MPO, the City of Savannah has clean energy goals. 100% Savannah is a commitment to 100% safe, clean, and renewable electricity by 2035 and 100% safe, clean, and renewable energy for all other uses (e.g. transportation, heating, and industry) by 2050. The city is committed to using the clean energy transition as an opportunity to redress historical inequities through investments in workforce training, renewable energy installations, energy efficiency, and clean transportation.

Figure 98 100% Savannah Transportation and Mobility Report Card



Source: https://www.savannahga.gov/2931/100-Savannah

100% Savannah lists several strategies for decarbonization of the transportation sector:

Improve and expand pedestrian transportation options: For residents who can't afford a car, pedestrian transportation options like sidewalks and bike lanes are crucial for getting to work, getting groceries, and visiting loved ones. These modes of transportation are also beneficial for human health and the environment.

Improve and expand public transit options: Compared to individual vehicles, public transit is environmentally preferable because it can move a large number of people with less fuel. However, these benefits cannot be realized if public transit is perceived to be slow or difficult to use.

Electrify City vehicles: As with energy efficiency and solar, the City has an important role to play in leading the way on electric vehicles (EVs). If trusted local leaders drive electric vehicles, residents may feel more comfortable driving EVs themselves.

Electrify community transit options: Though public transit provides climate benefits in any form, the benefit is far greater when that transit is electric. We plan to work with the Chatham Area Transit Authority (CAT) to encourage the transition to electric. We also plan to explore ways to shift the Downtowner program and other rideshares toward EVs.

Introduce new mobility options: To increase familiarity with electrification, it would be beneficial to introduce new electric mobility options.

Carbon Reduction Strategy (CRS) and Program (CRP)

The Carbon Reduction Program was established by the Bipartisan Infrastructure Law (BIL) in 2021 and will provide an estimated $211 million to Georgia for the 5-year period, 2022–2026. The purpose is to "reduce transportation emissions through the development of state carbon reduction strategies and by funding projects designed to reduce transportation emissions," where, "transportation emissions means carbon dioxide emissions from on-road highway sources of those emissions within a State." Funds will be distributed throughout the state and Metropolitan Planning Organization (MPO) partners. The Georgia Department of Transportation (GDOT) developed the Carbon Reduction Strategy to highlight available funding and provide information on strategies consistent with the goals of the CRP.

The GDOT Carbon Reduction Strategy lists several strategies for congestion pricing and freight management eligible for funding[26]:

> All congestion pricing strategies use a fee system to shift traffic to off-peak periods or other transportation modes to reduce traffic congestion. As such, these projects may be eligible for CRP funding under Section (G)(3)(H) of FHWA's CRP guidance memorandum so long as they are implemented in a way that does not add new capacity and show emissions reductions over the project lifetime. For example, construction of a new toll lane is likely not eligible although the toll collection technology for conversion of existing lanes may be. FHWA claims that congestion pricing "represents the single most viable and sustainable approach to reducing traffic congestion."
>
> **Express Lane Tolling:** Express lane tolling provides a choice for users to bypass congestion when desired. Express Lanes are intended to provide a mobility choice and more reliable travel times in peak periods for motorists and bus patrons. The result is a network of lanes that provide more reliable and predictable trip times. Drivers pay a fee to access the facility that has relatively lower congestion and proportionally higher speeds. This can be used to redistribute travel times, relieve congestion, and thus lower emissions. However, toll projects that rely on the construction of a new lane are not eligible under this strategy. This strategy is only intended for projects implementing toll technology.
>
> **Pay as You Drive:** This is also not a toll strategy but, as with the previous strategies, can be used to reduce vehicle travel or change periods of driving, thus affecting congestion. This suite of strategies making vehicle use costs, such as insurance, variable to provide drivers direct financial savings for reducing their driving. Some projects may use real-time data to price based on time and location of travel. The magnitude of air quality or carbon emission benefits would depend on the amount of vehicle miles traveled reduced.
>
> **Real-Time Truck Routing/Parking Information (Freight-Specific Dynamic Travel Planning):** Truck routing and parking information (freight-specific dynamic travel planning) supports both pre-trip and en-route travel planning, routing, and commercial vehicle travel information, including information on truck parking locations and parking space availability.74 This strategy

[26] https://www.dot.ga.gov/GDOT/Pages/CarbonReduction.aspx

is important given limited truck parking availability and Hours of Service regulations that require rest breaks. Information management systems can be used to facilitate finding freight parking locations.

Freight Signal Priority: Freight signal priority, also called truck signal priority, involves modifying traffic signals to extend the timing of a green light “to allow an approaching truck to make it through an intersection without stopping.” This strategy increases “safety by reducing the potential for the truck to run a red light and cause a collision.” It also helps reduce delays and congestion caused by trucks taking a longer time to accelerate to the speed limit. Priority is given to heavy trucks that would have difficulty stopping at a yellow light. To implement this strategy, traffic signal controller software and detection equipment are needed. This strategy is a specific application of Traffic Signal Improvements in Category 2. Similarly, V2X technology can be implemented to advance this strategy.

This strategy is likely to be most applicable in urban areas where signals impede freight flow and provide safety improvements. Depending on the specifics of the project, it is unlikely to have significant carbon emissions benefits but may have air quality co-benefits when freight congestion is improved.

Truck Lane Management/Restrictions: This strategy is one of a series of managed lane strategies to reduce congestion. In this strategy, special use lanes are created with lane restrictions that allow trucks to exclusive or privileged use of certain lanes. Truck-only managed lanes separate heavy freight-carrying trucks from passenger vehicles on level-graded facilities, improving safety and congestion by eliminating mixing of the different vehicles. In one case, two or more designated lanes of a highway may be set aside to ensure at least one of the highway lanes is used only by passenger vehicles.

Interstate and Principal Arterial Strategies

Capitalizing upon the results of the analysis of CORE MPO area roadways, the most congested roadways were further analyzed to determine projects and actions that can be taken to ameliorate congestion. Figure X identifies the strategies that could or already are being applied to relieve congestion. The table identifies the roadway segment with a brief description and recommended CMP action. Roadway segments with projects that are currently being implemented are indicated, as well any timeframe or status of the project. Section 11 explains how to reevaluate these roadway segments after these projects and strategies have been implemented, to determine their effectiveness at relieving congestion.

Figure 99 Congestion Strategies

Roadway	Segment	Current Projects	Description: Congestion Issues and Ongoing Projects	CMP Actions	Timeframe for Action
US 17	Between SR 204 and SR 307	SR 25 Corridor Study	Capacity and operational improvements needed. The SR 25 Corridor Study will evaulate existing and future capacity, operation and safety of U.S. 17/ State Route 25/ Ogeechee Road between the Ogeechee River (County line) and I-516. This study will produce short term and long term improvements.	Revisit the segement at the end of the study to determine which recommended projects could alleviate congestion.	Short term and long term after the study concludes July 2025.
	Between SR 307 and I-516 (NB not available)				
	Between SR 144 (Bryan County) and SR 204				
	Between I-95 and SR 144				
	Bryan County boundary (or SR 196) to I-95 (Partially outside of CORE MPO MPA)				
SR 307	Between I-16 and SR 25	PI#: 0017906	Corridor Study (CORE MPO)- Completed. The study examined short term and long term projects needed to maintain and enhance traffic safety and operations. Capacity, operation, and safety were evaluated.	Intersecting road signalization improvements suggested, SR 26 interchange improvements, SR 25 interchange improvements. Raised median improvements. SR 307 Corridor Transit Expansion Study. Pedestrian improvements.	Short term and long term improvements.
Pooler Parkway	Between I-95 and I-16		Capacity and operational improvements needed.	Consider signal optimization along the corridor and a corridor study for recommendations.	Medium term timeframe suggested.
Victory Drive/US 80	Between I-516 and Bee Road		Capacity and operational improvements needed.	Consider signal optimization along the corridor and a corridor study for recommendations.	Short term and long term improvements.
	Between Bee Road and Wilmington River				
	Wilmington River to Islands Expressway				
Brampton Road	Between SR 21/SR 25 to SR 21 Spur		Capacity and operational improvements needed.	Consider signal optimization along the corridor and a corridor study for recommendations.	Short term and long term improvements.
SR 204/Abercorn	Between DeRenne Avenue and I-16	PI#: 532950	Maintenance. Capacity and operational improvements needed.	Consider signal optimization along the corridor and a study for recommendations.	Short term and long term improvements.
	Between Veteran's Parkway and Harry S. Truman Parkway	PI#: 0015151	Safety study throughout corridor to reduce crash frequency and severity while increasing safety.	Twenty-three (23) intersections will be upgraded to current ADA standards including crosswalk striping and pedestrian islands. A Reduced-Conflict U-Turn (RCUT) will be installed at the intersection of Mohawk St/ Dutchtown Rd and SR 204/Abercorn St	Short term improvements.
	Between Harry S. Truman Parkway and DeRenne Avenue		Capacity and operational improvements needed.	Consider signal optimization along the corridor and a corridor study for recommendations.	Short term and long term improvements.
SR 21	Between I-95 and I-516	PI#: 0017427	SR 21 Access Management Study along the corridor.	Recommended intersection improvements, pedestrian and bicyclist improvements, transit improvements, and raised median treatments.	Short term and logn term improvements.
	Between I-516 and SR 204				
DeRenne Avenue	East of SR 204 (WB not available)	PI#: 0008359; PI# 008358	Signals and intersection improvements down the corridor.	Projects to update signalization along corridor, improve pedestrian infrastructure, and remove ineffective deceleration/acceleration lanes. Add a divided median 4 lane update. The projects also include rerouting approximately 50% of traffic from Whitebluff and Abercorn (SR 204) streets. Construction of interchange and limited access connection to I-516.	Short term and long term improvements.
SR 144	Between US 17 and I-95		Capacity and operational improvements needed.	Consider signal optimization along the corridor and a corridor study for recommendations.	
I-95	Between Pooler Parkway and SR 21 (includes SR 21/I-95 interchange)	PI#: 0017955	Safety- Cable barrier installation. Capacity and operational impprovements needed.	The project installs a cable barrier along the median of I-95 between Pooler Parkway and Jimmy Deloach Parkway.	Short term improvement.
	At GA—SC State Border (State line is outside of MPA)		Capacity and operational improvements needed.	Consider HOT lanes, express toll lanes, and congestion pricing.	Short term and long term improvements.
I-16	Between Exit 148/Old River Road and I-95	PI#: 0012757; I-16 @ SR 17/Jimmy DeLoach Pkwy.	This project, along with 0012758 are part of the Major Mobility Investment Program (MMIP) and they will be lumped together in one Design-Build contract to be Let together. Operational and capacity improvements recommended.	I-16 improvements will include the addition of one general-purpose lane along both I-16 eastbound and I-16 westbound between I-95 and I-516. Widening for the new lanes is proposed towards the inside grassed median. Also include is jacking of the Chatham Parkway bridge, and widening of the I-16 bridge over I-516. The two existing emergency crossovers will be replaced by a two-lane emergency crossover located just east of the I-16/I-95 interchange. The I-16 mainline bridges over CSX railroad tracks will be replaced.	Long range improvements.
	I-95 to I-516 (includes I-16 at I-95, I-16 at SR 307/Exit 160 and I-16 at Chatham Pkwy/Exit 162)	PI#: 0013727; PI#: 0015528	This project proposes to widen and relocate the ramps, restripe the bridge to show two receiving lanes and left turning lanes in each direction and upgrade the existing signals.	Upgrades will be made to the interchange at I-16 and State Route 17 through a partnership between Chatham County and the Georgia Department of Transportation (GDOT). Chatham County will sponser the preliminary engineering and GDOT will manage construction. The project will widen or replace the existing bridge over I-16 and ramps to accommodate additional traffic volumes to keep the interchange functioning at an acceptable level through 2050.	Long range: rehabilitation/reconstruction
Grange Road	Between SR 21 to East of SR 25		Capacity and operational improvements needed.	Consider signal optimization along the corridor and a corridor study for recommendations.	Short term and long term improvements.
SR 26 (Ogeechee Road)	I-516 to Victory Drive	PI#: 521855	Capacty and multimodal improvements (bicycle lane) and raised median.	Widening just east of Lynes Parkway to just east of the Springfield Canal and the SR 26/US 80/Ogeechee Road Intersection with Victory Drive. Approximately 1400 feet of Victory Drive would also be reconstructed to tie the proposed widening of SR 26/US 80/Ogeechee Road into the existing Victory Drive roadway.	Short term and long term improvements.
I-516	At SR 204/Abercorn		Capacity and operational improvements needed.	Consider HOT lanes, express toll lanes, and congestion pricing.	Short term and long term improvements.
	At Mildred Street				
	At Veterans Parkway/Exit 3				
SR 25 Connector	Between I-516 to the Bay Street Viaduct	PI#: 0008361; PI#: 0002923	Signals and intersection improvements down the corridor and roadway safety improvements.	The proposed improvements will connect the existing four-lane divided section at the west end	Short term and long term improvements.

Source: CORE MPO

Program and Implement CMP Strategies

As noted earlier in the strategy section above some projects are already underway. Projects that are yet to be programmed will need to go through the planning process ensuring incorporation into the MTP and TIP as funding allows. Implementation of CMP strategies occurs on three levels: system or regional, corridor, and project.

Regional-level implementation of congestion management strategies occurs through inclusion of strategies in the fiscally-constrained MTP and the TIP. At the corridor level, more specific strategies such as bicycle and pedestrian improvements and operational improvements can be assessed in studies and implemented using a variety of funding sources, including federal funding streams such as the Surface Transportation Block Grant Program (STBG) as well as through state or local funding or other discretionary funding sources.

Use the CMP in criteria for prioritizing projects in the MTP and/or TIP - The process of prioritizing projects for inclusion in the MTP and TIP include a scoring element that gives weight to the relative congestion on that corridor based on the CMP data. In a formal scoring process, points are allotted based on several factors, including the potential for the project to address and manage congestion.

11.0 Evaluate Strategy Effectiveness

Evaluation of strategy effectiveness is an on-going process. The primary goal of this is to ensure that implemented strategies are effective at addressing congestion as intended, and to make changes based on the findings as necessary. Two general approaches are used for this type of analysis[27]:

1. System-level performance evaluation - Regional analysis of historical trends to identify improvement or degradation in system performance, in relation to objectives
2. Strategy effectiveness evaluation - Project-level or program-level analysis of conditions before and after the implementation of a congestion mitigation effort.

Improvement in congested conditions due to implemented strategies can be used to encourage further implementation of these strategies, while negative findings may be useful for discouraging the implementation of similar strategies in similar situations. The information learned from evaluation should be used to inform the TIP and MTP, as well future updates to the CMP.

The CORE MPO developed a CMP report card which revisited the original CMP congested corridors and strategies identified in 2004. The MPO documented which recommendations were implemented and any resulting level of service improvements. The report card lists the original LOS data collected in 2004 and compares it to LOS data collected in 2015. The report card showed that several of the CMP recommendations were implemented or underway. Improvements in level of service were seen across many of the congested corridors where the strategies were implemented. A few projects are still under way and will be revisited in future CMP updates. A summary of the strategy effectiveness can be found in Table XX. The complete report card is located Appendix X. The full version of the report card in the Appendix also contains model data to show anticipated results of the CMP actions and future traffic conditions.

[27] https://www.fhwa.dot.gov/planning/congestion_management_process/cmp_guidebook/chap02.cfm#sec2.8

12.0 Next Steps

CORE MPO began the process of updating the 2050 MTP in 2022 and will complete this update in 2024. The update will be focused on the horizon year 2050. This CMP effort will help inform the MTP 2050 update and will offer an opportunity for CMP identified congested corridors not already included in the plan to be considered for inclusion.

The CMP corridors will continue to be monitored as strategies are implemented. The next CMP should include a report card of the most congested roadways in the 2024 CMP, as those roadways and segments have been updated from the previous 2016 CMP. That report card should include travel time speeds and congestion costs, as data allows. The 2024 CMP is a reset, as more data than ever before has been collected.

Future CMP Updates

The CMP is a dynamic process that can include updates and improvements as more data set and improved technology allow. Throughout the CMP process several items have been identified for future consideration in the next CMP update. Some items to consider include:

- Expanded CMP network to include some minor arterials
- Expand the CMP network to explore traffic coming in from outside the region both in Georgia and South Carolina.
- Revisit any locations with ongoing projects to assess strategy effectiveness in a future CMP cycle.
- Include the Performance Based Planning Approach targets and measures as part of the CMP process.
- Ensure that the next Surface Transportation Block Grant call for projects includes scoring criteria considering the analysis in the CMP.
- Periodically complete CMP report cards as strategies are implemented.

CORE MPO 2024 CMP Report Card 2016 Most Congested Segments							
Roadway	**Segment**	**2015 LOS**	**2024 LOS**	**Congestion Mitigation Process Actions 2004-2016**	**CMP Recommended Action Fulfilled?**	**CMP Actions**	**CMP Recommendations Fulfilled? (At time of 2050 MTP)**
US 17	Between SR 204 and SR 307	B	F	Was under construction and widened. That widening was completed and relieved some congestion. A corridor study was recommended.	Yes	A study is underway and should be revisited to determine which recommended projects could alleviate congestion.	Yes
	Between SR 307 and I-516 (NB not available)	B	F				
	Between SR 144 (Bryan County) and SR 204	B	F				
	Between I-95 and SR 144	B	F				
	Bryan County boundary (or SR 196) to I-95 (Partially outside of CORE MPO MPA)	B	E				
SR 204/Abercorn	Between DeRenne Avenue and I-16	B	F	Widening and an interchange was under construction. Use modeling analysis to model the roadway.	Yes	Consider signal optimization along the corridor and a study for recommendations.	No
	Between Veteran's Parkway and Harry S. Truman Parkway	F	E/F	A corridor study was completed and signals were retimed, relieving some congestion.	Yes	Twenty-three (23) intersections will be upgraded to current ADA standards including crosswalk striping and pedestrian islands. A Reduced-Conflict U-Turn (RCUT) will be installed at the intersection of Mohawk St/ Dutchtown Rd and SR 204/Abercorn St	Yes
	Between Harry S. Truman Parkway and DeRenne Avenue	F	D/E			Consider signal optimization along the corridor and a corridor study for recommendations.	No
SR 21	Between I-95 and I-516	C	F	Adjacent construction on SR 25 was completed and relieved some congestion. A corridor study was recommended.	Yes	Recommended intersection improvements, pedestrian and bicyclist improvements, transit improvements, and raised median treatments.	Yes
	Between I-516 and SR 204	C	F				
DeRenne Avenue	East of SR 204 (WB not available)	F	F	Signals and intersection improvements down the corridor. A corridor study was recommended.	Yes	Projects to update signalization along corridor, improve pedestrian infrastructure, and remove ineffective deceleration/acceleration lanes. Add a divided median 4 lane update. The projects also include rerouting approximately 50% of traffic from Whitebluff and Abercorn (SR 204) streets. Construction of interchange and limited access connection to I-516.	Yes