



Mobility 2045

METROPOLITAN TRANSPORTATION PLAN



Adopted August 7, 2019



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COASTAL REGION METROPOLITAN PLANNING ORGANIZATION
METROPOLITAN TRANSPORTATION PLAN
MOBILITY 2045

Coastal Region Metropolitan Planning Organization
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Prepared by the Chatham County - Savannah Metropolitan Planning Commission in cooperation with the Federal Highway Administration, the Federal Transit Administration and the Georgia Department of Transportation

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METROPOLITAN PLANNING ORGANIZATION

RESOLUTION TO ADOPT THE MOBILITY 2045 METROPOLITAN TRANSPORTATION PLAN Coastal Region METROPOLITAN PLANNING ORGANIZATION

WHEREAS, current federal regulations for metropolitan transportation planning, require that the Coastal Region Metropolitan Planning Organization in cooperation with participants in the planning process, develop and update the Metropolitan Transportation Plan (MTP) every five years; and

WHEREAS, the Coastal Region Metropolitan Planning Organization has been designated by the Governor as the Metropolitan Planning Organization (MPO) of the Savannah Urbanized Area; and

WHEREAS, the staff of the Chatham County-Savannah Metropolitan Planning Commission and the Georgia Department of Transportation have reviewed the organization and activities of the planning process and found them to be in conformance with the requirements of law and regulations; and

WHEREAS, the locally developed and adopted process for public participation has been followed in the development of the CORE MPO Mobility 2045 MTP; and

WHEREAS, the Coastal Region Metropolitan Planning Organization, in accordance with federal requirements for a Metropolitan Transportation Plan, has developed a twenty-plus year plan for federally-funded highway, transit and non-motorized projects for the Savannah urbanized area; and

WHEREAS, the CORE MPO Mobility 2045 MTP is consistent with all plans, goals and objectives of the Coastal Region Metropolitan Planning Organization, and shall be updated at least every five years with revisions to reflect changes in program emphasis and anticipated funding availability; and

WHEREAS, the CORE MPO Mobility 2045 MTP includes the plans for motorized transportation, non-motorized transportation and transit projects in the Savannah urbanized area for the next 25 years.

NOW, THEREFORE BE IT RESOLVED, that the Coastal Region Metropolitan Planning Organization Board adopts the attached CORE MPO Mobility 2045 MTP.

CERTIFICATION

I hereby certify that the above is a true and correct copy of a Resolution adopted by the Coastal Region Metropolitan Planning Organization Board at a meeting held on August 7, 2019.



Albert J. Scott, Chairman
Coastal Region Metropolitan Planning Organization

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SECTION ONE: OVERVIEW



Coastal Region Metropolitan Planning Organization



The Coastal Region Metropolitan Planning Organization (CORE MPO) is the designated Metropolitan Planning Organization (MPO) for the Savannah Urbanized Area (UA), a Census-designated area that includes the City of Savannah and all of Chatham County, Richmond Hill in Bryan County and portions of Effingham County.

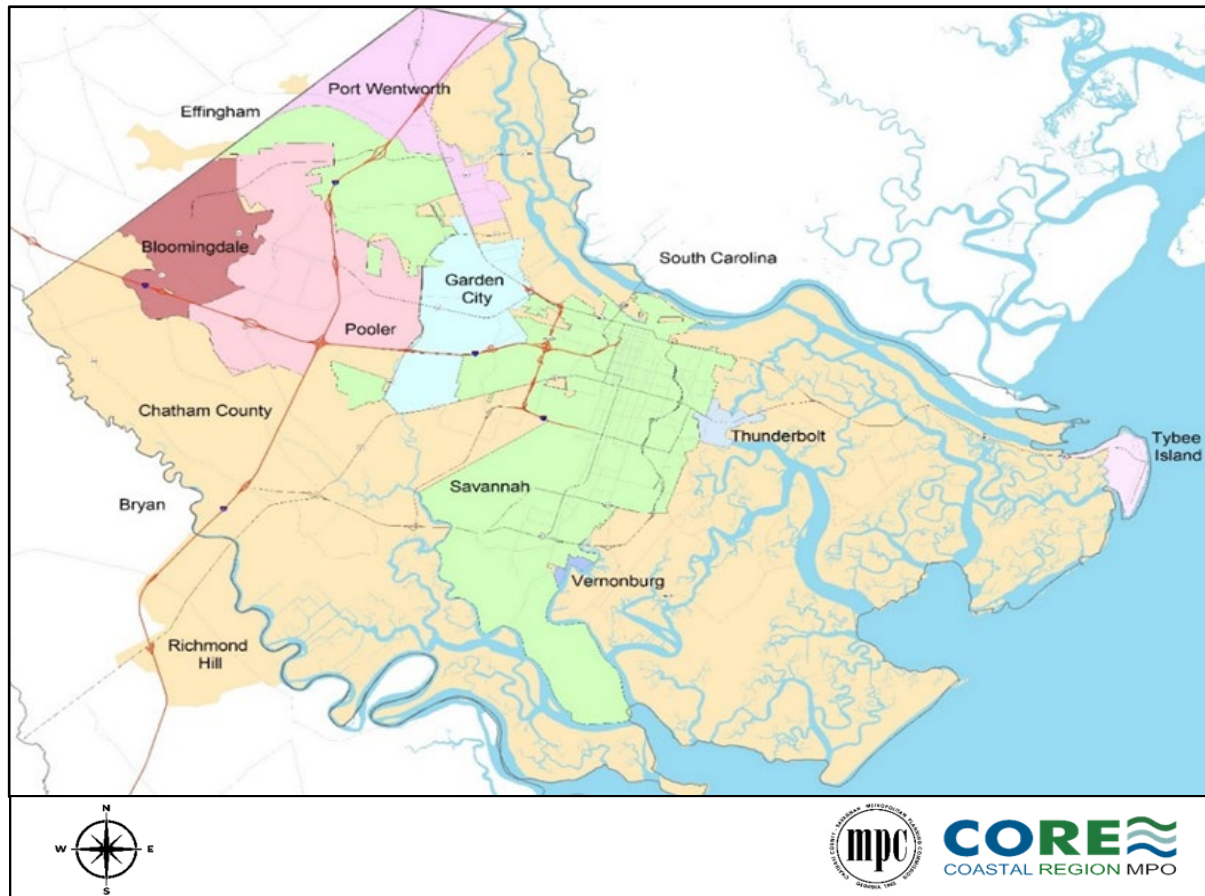
Metropolitan planning processes are governed by federal law (23 USC 134), with regulations included in 23 CFR 450. Since 1962, federal law has mandated that Metropolitan Transportation Plans (MTPs) and programs be developed through a continuing, cooperative and comprehensive (3-C) planning process.

According to law, transportation planning processes must be organized and directed by MPOs for all urbanized areas with a population of at least 50,000 as defined by the US Census Bureau. MPOs oversee the transportation planning processes for the urbanized area, as well as the area expected to become urbanized in the next 20 years. Figure 1 depicts the geographic extent of the CORE MPO planning area and the included jurisdictions.

Since the 2000 U.S. Census, the Savannah Urbanized Area population exceeded 200,000, designating the MPO as a Transportation Management Area (TMA). In addition to the federal requirements of MPOs, TMAs are also responsible for developing Congestion Management Processes (CMP), Transportation Improvement Program (TIP) project selection, and are subject to a joint federal certification review of the planning process at least every four years.

The CORE MPO Board (CORE Board) includes elected and appointed officials from Chatham County and its municipalities, Richmond Hill, Effingham County and executives from local, state and federal agencies. There are four standing committees that advise the CORE Board and help them carry out the 3-C process. These committees include the Technical Coordinating Committee (TCC), the Citizens Advisory Committee (CAC), the Advisory Committee on Accessible Transportation (ACAT) and the Economic Development and Freight Advisory Committee (EDFAC).

Figure 1. CORE MPO Metropolitan Planning Area



Planning Transportation for the Future

Mobility 2045 was prepared in accordance with federal statute (23 CFR Part 450), which requires that each MPO have an MTP to identify proposed major transportation investments over the minimum of a 20 year horizon period and that it must be updated every five years. The MTP identifies the vision, goals and objectives, strategies and projects that promote mobility within and through the region for both people and goods. Updating the plan every five years allows for the MPO to review, revise and recalibrate the travel demand model with updated demographic and socioeconomic characteristics. Updating the plan also allows for the MPO to incorporate results of any new or ongoing studies and any changes to federal regulations and guidance.

The Metropolitan Planning organization (MPO) Metropolitan Transportation Plan (MTP) serves as a guide for comprehensive, cooperative and continuing transportation planning throughout the Coastal Region MPO planning area. The plan identifies existing and anticipated transportation issues and proposes solutions and opportunities that are both financially feasible and supportive of the community priorities. Traditional transportation planning has focused on how quickly and efficiently vehicles can move from point to point. This approach typically has not considered the impacts on and relationships to land use, community character and the quality of life. The CORE MPO and its members are committed to wisely investing in the transportation network to address the growth of the area while

enhancing mobility for people and goods and ensuring a sustainable future. This commitment is incorporated in this plan update through a diverse and wide-ranging process, including an assessment of transportation needs in coordination with the future regional growth and anticipated future trends.

Because transportation projects are typically funded with a combination of federal, state and local dollars, there are specific requirements for transportation planning set forth in the federal transportation legislation known as Fixing America's Surface Transportation Act, or FAST Act. The Coastal Region Metropolitan Planning Organization, or CORE MPO, is the federally designated organization responsible for cooperatively planning for transportation in the region. Comprised of the local governments in the metropolitan area, the MPO plans for the expenditure of federal transportation funds through a coordinated, cooperative and continuing process.

The Mobility 2045 Plan continues the framework of the previous plans and emphasizes a multimodal performance based planning approach to transportation planning to meet the travel demands over the next 26 years while taking into consideration the regions goals and financial capacity. Mobility 2045 will serve as the defining vision for transportation systems and services in the region. The overall goal of the Mobility 2045 Plan is to continue moving the planning process beyond a singular focus on moving motor vehicles and consider transportation issues from a comprehensive perspective that incorporates community values, needs, land use and modal alternatives.

Transportation Performance Management

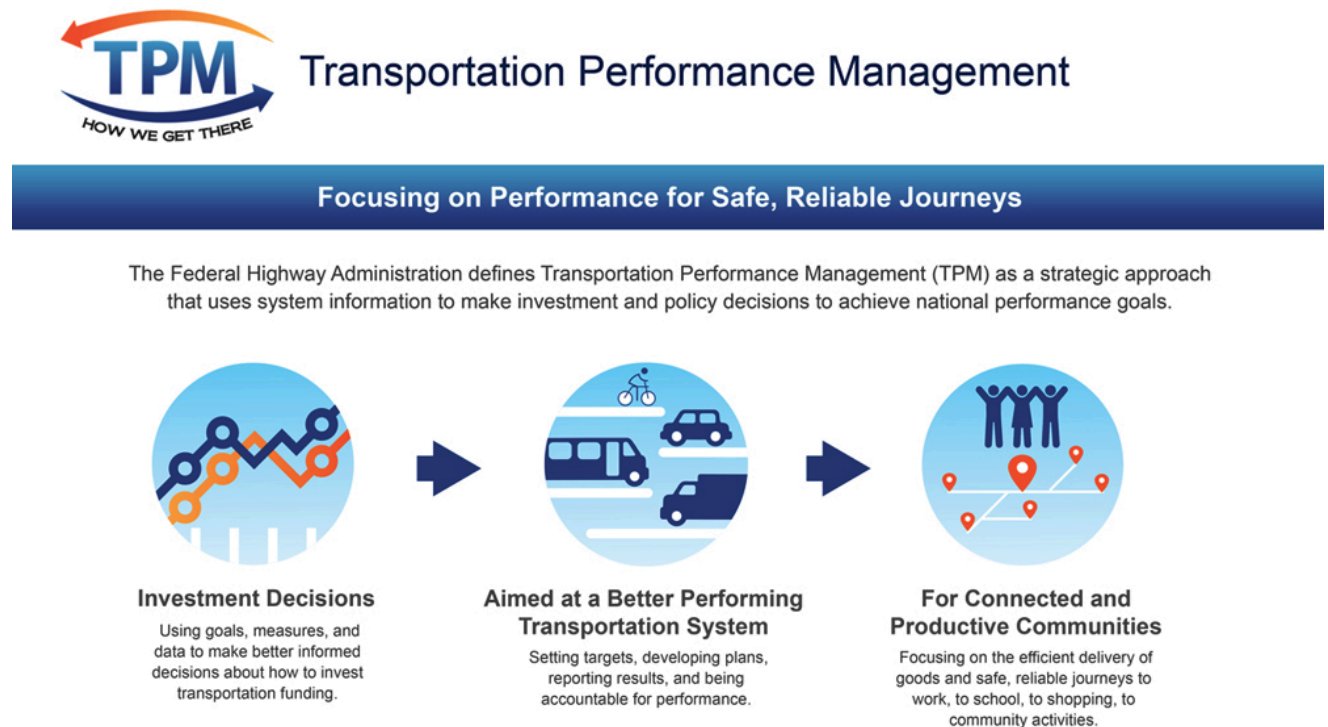
The Moving Ahead for Progress in the 21st Century Act (MAP-21) signed into law in 2012 and the Fixing American's Surface Transportation Act (FAST ACT) signed into law in 2015 requires that all state departments of transportation and metropolitan planning organizations use a performance based planning and programming approach as part of a Transportation Performance Management (TPM) program transforming transportation decision making into a performance-driven and outcome based process.

The Federal Highway Administration (FHWA) defines TPM as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals (see Figure 2). Performance management has been increasingly utilized over the past two decades. This process provides key information to decision makers allowing them to understand the consequences of investment decisions across transportation assets and modes. It is also credited with improving project and program delivery and providing greater transparency and accountability to the public.

Transportation Performance Management:

- Is systematically applied on a regular ongoing basis;
- Provides key information to help decision makers, allowing them to understand the consequences of investment decisions across transportation assets or modes;
- Improves communications between decision makers, stakeholders and the traveling public; and
- Ensures targets and measures are developed in cooperative partnerships and based on data and objective information.

Figure 2: Transportation Performance Management



Source: FHWA

Performance Based Planning and Programming

Performance-based planning and programming (PBPP) refers to transportation agencies' application of TPM as a standard state of the practice in the planning and programming processes. The goal of PBPP is to ensure that transportation investment decisions, both long-term planning and short-term programming, are based on performance and the ability to meet established goals.

The process for MPOs includes incorporating PBPP into the Metropolitan Transportation Plan (MTP) which evaluates transportation system performance and is the MPO's long-range investment document, as well as the Transportation Improvement Program (TIP) which is the subset of the MTP and the MPO's short-term programming document outlining the anticipated projects the MPO intends to implement with federal funding in the next four fiscal years.

PBPP requires the following elements (see Figure 3) be incorporated into the metropolitan planning process:

- measurable goals and objectives for the transportation system;
- performance measures and targets for desired performance outcomes;
- data collection to monitor and analyze trends;
- performance measures and data collection to inform investment decisions; and
- monitoring, analyzing, and reporting decision outputs and performance outcomes.

Figure 3: Performance Based Planning and Programming Process



Source: FHWA

PBPP will assist the CORE MPO's decision-makers to make both policy and project decisions. Transportation needs continue to outweigh resources available for transportation improvements. Implementing PBPP assists decision makers with these difficult decisions by utilizing tradeoff analysis and focusing on data specific performance outcomes. The results will be the enhanced accountability and transparency of the MPO planning process. The PBPP process requires states and MPOs to set targets related to the national goals and to report on progress toward meeting those targets.

National Goal Areas

A key feature of MAP-21 and the FAST ACT is the establishment of a performance and outcome-based program. The objective of this performance- and outcome-based program is for States to invest resources in projects that collectively will make progress toward the achievement of the national goals (see Table 1) established by Congress.

Highway Performance Goals

Through the federal rulemaking process, FHWA is requiring state DOTs and MPOs to monitor the transportation system using specific performance measures. These measures are associated with the national goal areas prescribed in MAP-21 and the FAST Act. The goals address three areas of concern which include safety, state of good repair and system efficiency. The following table describes these national goal areas, rulemakings, performance areas, and prescribed measures.

Table 1: Federal Highway Program Performance Goals

National Goal	Performance Area	Performance Measures
Safety - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	Injuries & Fatalities	1. Number of Fatalities 2. Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT) 3. Number of Serious Injuries 4. Rate of Serious Injuries per 100 million VMT 5. Number of Non-motorized Fatalities and Non-motorized Serious Injuries
Infrastructure Condition - To maintain the highway infrastructure asset system in a state of good repair	Pavement	1. Percentage of pavement on the Interstate System in Good condition 2. Percentage of pavements on the Interstate System in Poor condition 3. Percentage of pavements on the non-interstate national Highway System (NHS) in Good condition 4. Percentage of pavements on the non-Interstate NHS in Poor Condition
	Bridge Condition	1. Percentage of NHS bridged classified as in Good condition 2. Percentage of NHS bridges classified as in Poor condition
Congestion Reduction - To achieve a significant reduction in congestion on the National Highway System	Performance of the National Highway System	1. Percent of person miles traveled on the Interstate System that are reliable 2. Percent of the person miles traveled on the non-Interstate NHS that are reliable
System Reliability - To improve the efficiency of the surface transportation system	Freight Movement of the Interstate System	1. Truck Travel Time Reliability
Freight Movement and Economic Vitality - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.	Traffic Congestion	1. Annual hours of peak-hour excessive delay per capita 2. Percent of non-single occupant vehicle travel
Environmental Sustainability - To enhance the performance of the transportation system while protecting and enhancing the natural environment.	On-Road Mobile Source Emissions*	1. Total emissions reduction*

*Only applies in non-attainment or maintenance area and does not apply to the CORE MPO at this time.

Source: 23USC §150(b)

Transit Performance Goals

Recipients of public transit funds, which can include states, local authorities, and public transportation operators are also required to establish performance targets based on the national goals (see Table 2) for safety and state of good repair; to develop transit asset management and transit safety plans; and to report on their progress toward achieving targets. Public transportation operators are directed to share information with the CORE MPO and states so that all plans and performance reports are coordinated. Table 2 identifies performance measures outlined in the National Public Safety Transportation Plan released by the Federal Transit Administration (FTA), and in the final rule for transit asset management. The CORE MPO is required to coordinate with public transit providers to set targets for these measures.

Table 2: Federal Transit Program Performance Goals

Safety - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	Fatalities, Injuries and Safety Events	1. Total number of fatalities and rate per total vehicle revenue miles by mode 2. Total number of injuries and rate per total vehicle revenue miles by mode 3. Total number of events and rate per total vehicle revenue miles by mode 4. Mean distance between major mechanical failures by mode
Infrastructure Condition (State of Good Repair: Transit Asset Management)	Equipment	Percentage of vehicles that have met or exceeded their Useful Life Benchmark (ULB)
	Rolling Stock	Percentage of revenue vehicles within a particular asset class that have met or exceeded their ULB
	Facilities	Percentage of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirements Model scale

Targets

As part of the TPM, each state DOT and MPO must adopt targets to strive for within the planning and programming process. State DOTs and MPOs are required to set targets for a variety of performance measures related to safety, state of good repair and system performance. The process for setting targets will be taking place through 2019. The state DOT will set their targets first and the MPO has 180 days from that time to adopt their own targets. The MPO has two options in terms of setting targets. The MPO can state that it supports the state DOT targets, or it can create its own unique targets. By supporting the state's targets, GDOT will do the quantitative work and the CORE MPO will reflect the support of the target through its planning and programming activities.

GDOT, CORE MPO, and the Chatham Area Transit Authority (CAT) must coordinate throughout the target setting process to ensure consistency to the maximum extent practicable. For each performance measure, the CORE MPO Board will decide to either support statewide target(s), or to establish a quantifiable target(s) specific to the CORE MPO's planning area.

Reporting

The CORE MPO's MTP must describe the performance measures and targets, evaluate the performance of the transportation system and report on progress made towards achieving the targets. The TIP must link investment priorities to the targets in the MTP and describe the anticipated effect of the program toward achieving established targets. CORE MPO must also produce a system performance report showing progress toward the achievement of targets to GDOT.

Assessments

FHWA and FTA will not directly evaluate the CORE MPO progress towards meeting targets for required performance measures but rather the performance will be assessed as part of regular cyclical certification review. FHWA will determine if GDOT has met or made significant progress towards attaining the selected targets for the highway system on an annual basis.

Demographics and Future Trends

Savannah and Chatham County have long served as the regional center for Coastal Georgia and the Lowcountry of South Carolina for employment, shopping and recreation. In addition to serving as the regional center for residents, Savannah, with its Historic Landmark District, is host to over 14.1 million visitors each year spending \$2.91 billion and has become one of the top tourist destinations, both nationally and internationally.

Chatham County is also home to the Port of Savannah, which is the largest single container terminal in North America and the second busiest container exporter in the United States, next to Los Angeles, moving 4.35 million twenty-foot container units in FY 2018. The port is a major economic engine for the region, as well as the State of Georgia. The CORE MPO region is also home to a number of other regional employment centers, including medical, military and educational institutions, port-related industries and manufacturing centers.

Population

The population of Chatham County and Savannah has continued its upward growth over the years. Before the economic downturn, the population for the six-county coastal region of Georgia was anticipated to be close to 1,000,000 people, with Chatham County projected to remain the largest population center in the region. With the recession, the pace of growth along the coast slowed. Since the recovery, however, growth has resumed within the MPO area, but at a slower pace than earlier projections.

According to the US Census, the population grew almost 8% in Chatham County from 265,128 in 2010 to an estimated 285,506 in 2017 (see Figure 4). The City of Savannah is the largest municipality in the County and its population also grew from 136,286 in 2010 to an estimated 145,094 in 2017, about a 6.5% increase.

The major growth centers in Chatham County are located in the western portion of the County and are concentrated in the cities of Pooler and Port Wentworth. From 2010 to 2017, Port Wentworth has experienced an almost 41% increase in population. At the same time, the City of Pooler grew approximately 17%, from a population of 19,140 to a

THE REGION IN A SNAPSHOT:

Region's Population (2018 Est)

❖ 310,047

Land Area (Square miles)

❖ 542

Planning Area

- ❖ Chatham County and all jurisdictions
- ❖ Richmond Hill
- ❖ Portions of Effingham County

The City of Savannah's Historic District is the largest national landmark district in the United States

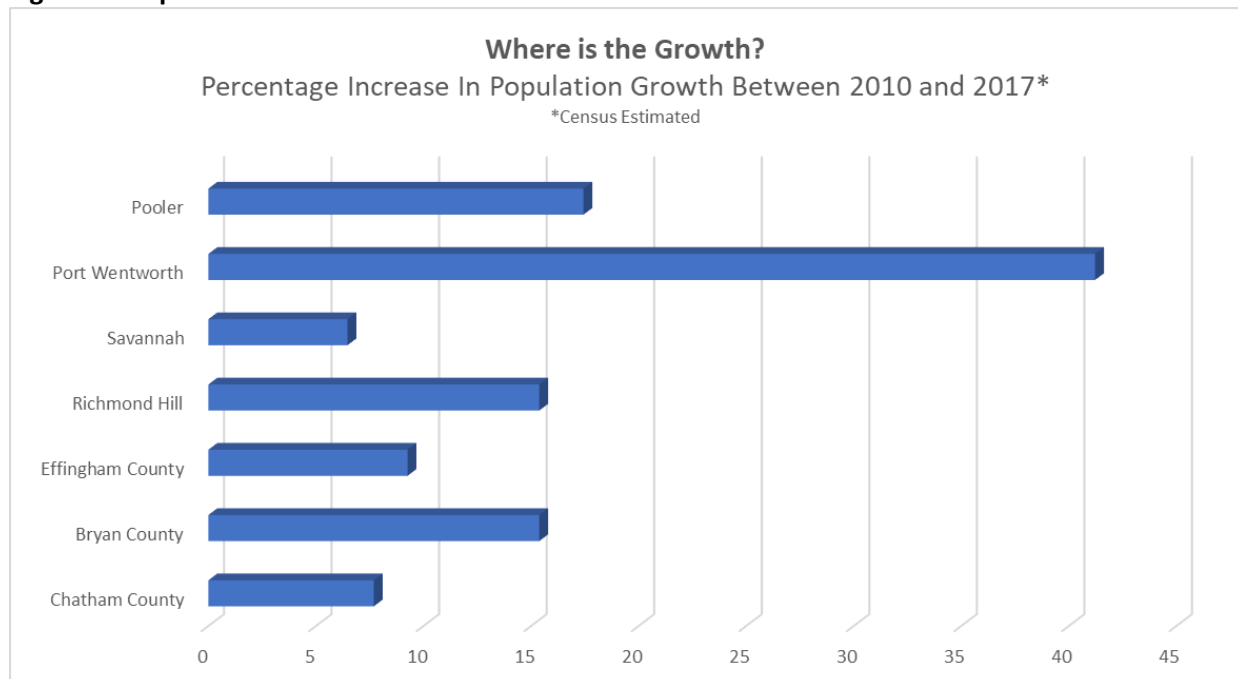
Over 14.1 million tourists visit the region annually and spend almost \$3 billion.

The Port of Savannah is the largest single container terminal in North America

The CORE MPO coordinates transportation planning activities with its regional partners: The Hinesville Area MPO in Liberty County and the Lowcountry Council of Governments in South Carolina.

population of 22,477. During the same period, Richmond Hill in Bryan County has grown about 15% from 30,233 to an estimated 57,087 for 2017.

Figure 4: Population Growth Between 2010 and 2017



Demographics

One of the considerations for transportation planning is Environmental Justice (EJ), which is directly related to minority populations and low-income households or populations. Title VI also impacts transportation planning, as the planning practice should not discriminate against persons on the grounds of race, color, or national origin. Thus, it is important to understand the regional demographic profile and trend for the Savannah region in the 2045 MTP development process. This information is useful in helping the MPO to design inclusive public involvement procedures, evaluate possible disproportionate impacts and develop mitigation measures, and assess benefits distributions.

The CORE MPO Metropolitan Planning Area (MPA) is located within the Savannah Metropolitan Statistical Area (MSA) which composes of Bryan, Chatham and Effingham Counties in Georgia. The Savannah MSA is home to a diverse population, particularly Chatham County. Based on the 2010 census data, non-Hispanic white composes the largest percentage of the regional population (around 57%). County wide, however, Bryan County and Effingham County are dominated by non-Hispanic white population, with a percentage of 77.55% and 80.98% respectively. Chatham County has a non-Hispanic white percentage of 50.35%.

The 2010 census data also indicate that the African Americans compose most of the minority populations in the Savannah MSA (33.87%). County wise, the percentage of African Americans to the county population is 40.13% for Chatham County, 14.18% for Bryan County, and 13.49% for Effingham County. Other minority groups - American Indians and Alaska natives, Asians, Native Hawaiian and Other Pacific natives, some other races, and two or more races - compose only a small combined percentage.

The demographics of the Savannah region have remained relatively constant with African American population being the largest minority group. The latest 2018 census estimates indicate that the non-Hispanic white population percentage is 48.4% for Chatham County, 73.4 for Bryan County, and 78.8% for Effingham County. The African American population percentage is 40.7% for Chatham County, 14.9% for Bryan County, and 13.9% for Effingham County. Though the percentage changes remain small, it is apparent that the population composition is diversifying in the Savannah region.

The biggest change comes from Hispanic population. In 2000, the Hispanic population was only a small segment of the Savannah region's total population. The 2010 census data show that Persons of Hispanic or Latino Origin almost 7% for Chatham County, 4.5% for Bryan County and nearly 3% for Effingham County. Because of this change the CORE MPO developed a Limited English Proficiency (LEP) Plan and translate some documents to Spanish. The 2018 census estimates indicate the following percentages for the Hispanic population – 6.6% for Chatham County, 7.2% for Bryan County, and 4.4% for Effingham County. The percentage increases might seem small, but the actual number of Hispanic population is significant considering the regional total population growth.

Another segment of underserved population to consider for transportation planning is related to poverty. According to the 2008 – 2013 American Community Survey (ACS) data, the percentage of Persons Below Poverty Level is 17% in the Savannah MSA. By county, the percentage is 19% for Chatham County, 12% for Bryan County, and 10.5% for Effingham County. The 2013 – 2017 ACS data show the poverty rate at a level of 17.3% for Chatham County, 14% for Bryan County, and 9.6% for Effingham County.

As part of the federal requirements for developing a transportation plan, the CORE MPO identified where these traditionally underserved population groups, or environmental justice communities, are located to ensure that there are no disproportionate or adverse impacts from the planned transportation projects. The location of the environmental justice communities were mapped to fully understand the locations and to correlate with the planned improvements. This is discussed further in the Section 7: Impact Analysis and Mitigation.

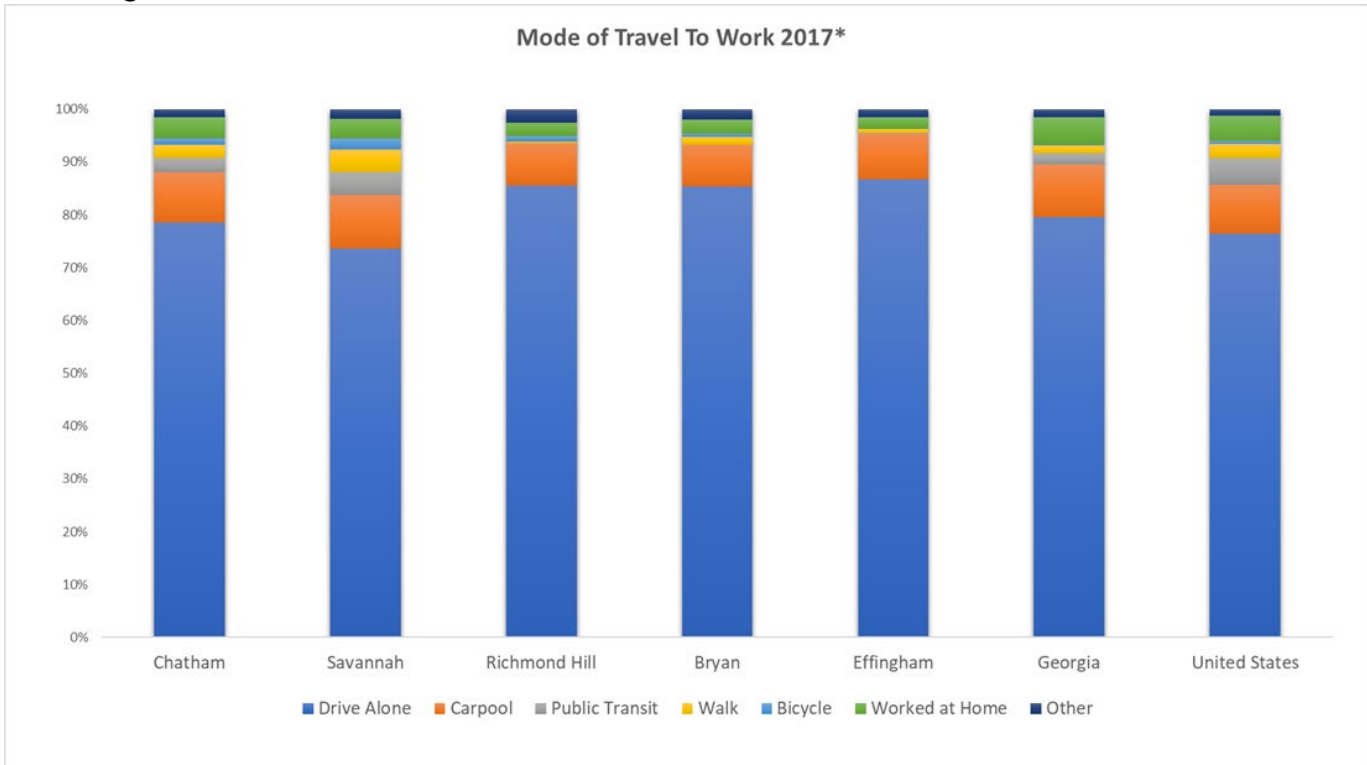
Travel Characteristics

In order to appropriately plan transportation improvements that will serve the existing and future needs, the travel characteristics and mobility patterns within the area must be understood. In addition, the plan update must also consider all modes of transportation. The warm climate, flat terrain, and strong grid pattern within the City of Savannah, particularly north of DeRenne Avenue, is conducive to workers utilizing a variety of modes in traveling to their places of employment, although driving alone is still the mode choice of the majority of workers. The City and Chatham County are continuing to invest in bicycle and pedestrian infrastructure to ensure the safety of the users and to provide network connectivity.

According to the American Community Survey estimates shown in Figure 5 for 2017, the City of Savannah is estimated to have had 73.6% of its workers driving to work alone and 78.5% of the workers in Chatham County drove alone to work, as compared to 79.5% in the state and 76.4% in the US. Effingham and Richmond Hill have about 85% of their workers driving alone. Those carpooling in both Chatham County and the City of Savannah was higher than both the state and the US, as well as transit usage. The City of Savannah also exhibits a high percentage of walking (4.2%) and biking (2.1%). With

the 2017 estimates, the percentage of those driving alone increased, which could be attributed to the growth in the suburban western areas of the County. However, the transit, walking and biking percentage remained relatively stable.

Figure 5: Travel To Work



Regional Commuting Patterns

Chatham County and the City of Savannah are regional hubs for employment, shopping, recreation, medical and educational institutions, and other economic generators. Many residents of neighboring counties commute into Chatham County for work each day, greatly impacting the traffic patterns and overall efficiency of the transportation network. Within Chatham County, over 92% of the Chatham County residents work in Chatham County (see Table 3).

Table 3: Commuting Patterns

Location	Work In County of residence	Work <u>Outside</u> County of residence
Chatham	92.2%	4.9%
Savannah	94.1%	3.6%
Richmond Hill	26.2%	72.1%
Bryan	27.5%	69.7%
Effingham	31.1%	64.4%
Bulloch	74.5%	23.9%
Liberty	79.9%	18.6%
Hinesville City	82.4%	15.8%
Beaufort SC	90.2%	4.6%

**Commuting Characteristics 2013-2017 ACS 5-year estimates (2017)*

The neighboring counties of Bryan and Effingham both have over 64% of their residents commuting outside the County for work each day and 72% of Richmond Hill residents travel outside Bryan County for work. Other nearby counties also experience a significant out-commuting pattern. Liberty 18.6% and Bulloch County has 24% of their population working outside their county and those workers have a typical commute time of about one hour each way.

Trends for the Future

It is anticipated that over the planning horizon years, the Savannah region will continue to grow in population. Chatham, Bryan and Effingham Counties are expected to grow to almost 470,000 by 2045 with Chatham County/Savannah continuing to serve as the major regional center. In conjunction with this expected population growth, the components needed to serve this growth, such as retail, medical and educational, will also continue to grow.

Savannah and Chatham County also continue to gain national and international prominence as a tourist destination hosting 14 million tourists a year. The tourism industry is already a major part of the economy contributing \$3 billion and is anticipated to continue as an important economic driver. There are approximately 27,000 people employed serving the tourism industry and the record number of visitors allows residents to hold these jobs year-round rather than just seasonally. Savannah has been named by several organizations as one of the top destinations and an increasing number of international tourists are enjoying the area. With a strong economy nationwide, tourism numbers are expected to grow.

The Port of Savannah is also expected to continue its upward trend. As a major economic driver for the entire state, the importance of the port and access to its facilities will continue to be of vital importance. Currently, port related jobs account for over 9% of the state's employment and almost 8% of the total

state GDP. With the expected harbor deepening in conjunction with the Panama Canal expansion, the port will continue to be one of the busiest in the country.



The movement of freight and goods will continue to have a great impact on the transportation facilities. Over the last decades, more and more goods have been imported, as the manufacturing in the US has moved overseas. This trend has already led to an increased focus on addressing the needs of freight and this focus will continue.

Demographic factors will also have an impact on planning for our mobility. The Baby Boomers, the generation born between 1946 and 1964, are aging. This generation has had a tremendous impact as it has moved through its different ages, and the same will be true for their retirement years. Addressing the need to for mobility for seniors and for the ability to age in place with adequate transportation facilities will be a focus.

The Millennial generation, those born between 1980 and 1999, are also having a significant impact as they age. Members of the Millennial generation are more focused on urban living rather than the long-held suburban, “picket fence” model. In addition, this technology focused generation is no longer tied to the standard 9 to 5 job and have a much stronger focus on work and life balance. With this lifestyle, the provision of safe, pleasant, connected and accessible multimodal options, including bicycle, pedestrian and transit, will be a key element of transportation planning for the future.



SECTION TWO: REGIONAL GOALS AND PERFORMANCE MEASURES



Transportation Policy and Regional Goals

Development of Mobility 2045 was guided by a set of adopted goals and objectives (see figure 6). The goals and objectives identified for the Mobility 2045 Plan meet each of the planning factors and provide the framework for the development of the plan (see Table 4). In addition to the FAST Act planning factors the development of goals also heavily considered the national goals, the Georgia State Transportation Plan and local planning goals and priorities along with local public comment and feedback.

Figure 6: Mobility 2045 Goals




Along with the development of the goals and objectives developed for the Mobility 2045, performance measures for each goal were also identified by stakeholders and members of the general public. These goals and objectives are targeted to ensure that the transportation system helps the region attain their overall vision for the future. Stakeholders and citizens worked together to identify these goals and objectives, which provide the framework for the provision of a safe, secure, efficient, multimodal transportation network that meets the mobility needs of both people and freight.

The performance measures were originally identified in the Framework Mobility Plan (2035) and, with the consensus of the stakeholders, public, and decision-makers, were modified and updated for the

Mobility 2045 Plan to incorporate changes in local and national priorities particularly the performance based planning and programming process.

With the existing and future considerations and the planning framework provided by the identified goals and objectives, the transportation planning efforts for addressing the anticipated needs for the 2045 planning horizon incorporated a focus on economic vitality and sustaining and growing the existing economic engines; the accommodation of freight movement; addressing the needs of the aging population; the provision of a safe and secure, connected, accessible and multimodal network, and the preservation and maintenance of the existing transportation infrastructure.

Table 4: Mobility 2045 Goals Alignment with National Goals and Planning Factors

	National Goals							Planning Factors									
	Safety	State of Good Repair	Congestion Reduction	System Reliability	Freight Reliability	Environment Sustainability	Project Delivery	Economic Vitality	Safety	Security	Accessibility	Environment & Quality of Life	Connectivity	System Management	Preservation	Resiliency Including Stormwater	Tourism
System performance: An efficient, reliable, multi-modal transportation system that supports economic competitiveness and enhances tourism.			✓	✓	✓			✓						✓			✓
Safety and Security: A safe, secure, and resilient transportation system for all types of users and for freight.	✓								✓	✓						✓	✓
Accessibility, Mobility and Connectivity: Access and mobility, equitably and reliably available, for people and for freight, through a range of travel options and an integrated, connected transportation system.								✓			✓		✓				✓
Environment and Quality of Life: A healthy sustainable environment through the compatible integration of land use and transportation while taking into consideration the impact of transportation including that of stormwater.						✓						✓				✓	✓
State of Good Repair: Maintain a state of good repair.		✓													✓		
Intergovernmental Coordination: Wise use of public funds through coordination and a performance-based planning process.							✓										

Safety and Security

Mobility 2045 strives for a safe, secure, and resilient transportation system for all types of users and for freight. The goals adopted for the Mobility 2045 Plan explicitly include a focus on ensuring and increasing the safety and security of the transportation system for all users, including motorized vehicles, bicyclists and pedestrians.

Mobility 2045 Goal
A safe, secure and resilient transportation system for all users



The CORE MPO also strives to coordinate with local jurisdictions to ensure the safety of all modes, including the bicycle and pedestrian users. Safety for these modal users is of critical importance, and the CORE MPO has developed a non-motorized transportation plan to address the provision of a safe, connected network.

There are several factors to roadway safety. Many are attributed to human behaviors that are personal decisions that could only be swayed by public education and enforcement campaigns. However, there are targeted safety improvements that can be tailored to individual corridors that can provide a driver with a more forgiving roadway. These design considerations work to keep a vehicle on the road and/or allow the driver to safely recover the vehicle should it depart the roadway.

Safety Objectives and Performance Measures

Mobility 2045 establishes several performance measures to evaluate the effectiveness of safety strategies implemented in the region. Measures identified with an asterisk are also required to have an adopted target as required by the FAST Act.

Safety and Security: A safe, secure, and resilient transportation system for all types of users and for freight.

Objectives:

- Eliminate at-grade railroad crossings
- Minimize frequency and severity of vehicular accidents
- Minimize conflicts and increase safety for non-motorized users
- Promote projects which aid in hurricane evacuation
- Adequately prepare for coordinated responses to incidents
- Monitor vulnerable infrastructure through visual and other inspection methods
- Enhance tourism offering a safe multi modal options to visit the region

Performance Measures:
<ul style="list-style-type: none"> • Reduce number of fatalities*
<ul style="list-style-type: none"> • Reduce number of serious injuries*
<ul style="list-style-type: none"> • Increased implementation of safety projects
<ul style="list-style-type: none"> • Number of at-grade crossings reduced
<ul style="list-style-type: none"> • Reduce rate of serious injuries per 100 million VMT*
<ul style="list-style-type: none"> • Reduce rate of fatalities per 100 million VMT*
<ul style="list-style-type: none"> • Reduce number of non-motorized fatalities and serious injuries*
<ul style="list-style-type: none"> • Hurricane evacuation route status (The project enhances or improve reliability on a hurricane evacuation route)
<ul style="list-style-type: none"> • Improved emergency responses (e.g., ambulance travel times to hospitals, emergency signal preemption)
<ul style="list-style-type: none"> • Minimize clearance times during disruptive events to avoid secondary crashes (such as reductions in time to clear major crashes from through lanes, CHAMP clearance times)
<ul style="list-style-type: none"> • Reduction in vulnerability of the transportation system (such as implementation of actively monitoring infrastructure, shoulder stabilization, battery backup for signals etc.)

Performance Based Planning and Programming Measure and Targets

As part of the Performance Based Planning and Programming process the Safety Performance Management (PM) Final Rule establishes the following five performance measures:

1. **Number of Fatalities¹:** The total number of persons suffering fatal injuries in a motor vehicle crash during a calendar year.
2. **Rate of Fatalities²:** The ratio of total number of fatalities to the number of vehicle miles travelled (VMT, in 100 million VMT) in a calendar year.
3. **Number of Serious Injuries³:** The total number of persons suffering at least one serious injury in a motor vehicle crash during a calendar year.
4. **Rate of Serious Injuries:** The ratio of total number of serious injuries to the number of VMT (in 100 million VMT) in a calendar year.

¹ Final FARS data is to be used if it is available, otherwise FARS Annual Report File (ARF) data may be used, which is generally available one year before Final FARS data.

² Volume Data: State VMT data is derived from the Highway Performance Monitoring System (HPMS). Metropolitan Planning Organization (MPO) VMT, if applicable, is estimated by the MPO.

³ Serious Injury Data: State motor vehicle crash database. Agencies must use the definition for "Suspected Serious Injury (A)" from the MMUCC, 4th edition by April 14, 2019. Prior to April 14, 2019 agencies may use injuries classified as "A" on the KABCO scale through use of NHTSA conversion tables. However, agencies are encouraged to begin using the MMUCC, 4th edition definition and attributes at the beginning of 2019 for a complete and consistent data file for the calendar year.

5. **Number of Non-motorized Fatalities and Non-motorized Serious Injuries⁴:** The combined total number of non-motorized fatalities and non-motorized serious injuries involving a motor vehicle during a calendar year.

Each of these performance measures must have an associated target. Each target is based on a 5-year rolling average, which is the average of five individual, consecutive points of data. The 5-year rolling average provides a better understanding of the overall data over time without eliminating years with significant increases or decreases; and provides a mechanism for accounting for regression to the mean. If a particularly high or low number of fatalities and/or serious injuries occur in one year, a return to a level consistent with the average in the previous year may occur.

For the 2018 and 2019 performance periods, CORE has elected to accept and support the State of Georgia's safety targets detailed in Appendix A. CORE MPO will maintain the PBPP process by:

- Address areas of concern for fatalities or serious injuries within the metropolitan planning area through coordination with GDOT and incorporation of safety considerations on all projects;
- Update safety targets or the support of GDOT safety targets annually;
- Integrate safety goals, objectives, performance measures, and targets into the planning process; and
- Describe the anticipated effect toward achieving the targets noted above within the TIP, effectively linking investment priorities to safety target achievement.

Georgia Safety Data

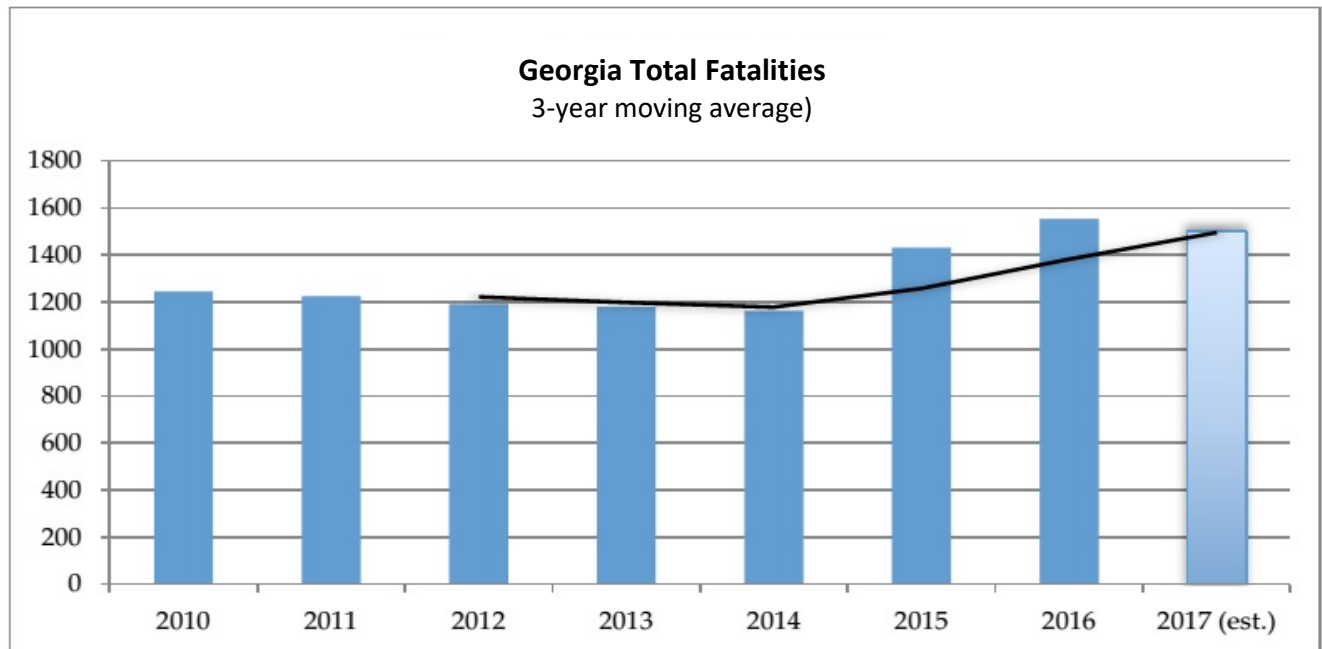
By focusing scarce resources on engineering solutions, Georgia is striving to reduce fatalities and serious injuries. After several years of trending downward, 2015 was the first year in which Georgia saw a rise in fatalities (see Figure 7). Georgia's total number of fatalities increased 22% from the previous year to 1.21 fatalities per 100 million vehicles miles traveled. There was a minor rise in statewide travel (6%) and Georgia's statewide fatality rate rose for the first time in 10 years⁵. In 2016 the rate again rose to 1.29. The fatality rate for Georgia is higher than the National average of 1.16⁶. These trends are closely monitored by all highway safety professionals in Georgia and remain the focus of the state's Strategic Highway Safety Plan (SHSP). The Strategic Highway Safety Plan (SHSP) is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. A SHSP identifies a State's key safety needs and guides investment decisions toward strategies and countermeasures with the most potential to save lives and prevent injuries.

⁴ The number of non-motorized fatalities is the total number of fatalities with the FARS person attribute codes: (5) Pedestrian, (6) Bicyclist, (7) Other Cyclist, and (8) Person on Personal Conveyance. The number of nonmotorized serious injuries is the total number of serious injuries where the injured person is, or is equivalent to, a pedestrian (2.2.36) or a pedalcyclist (2.2.39) as defined in ANSI D16.1-2007.

⁵ <https://www.gahighwaysafety.org/highway-safety/shsp/>

⁶ <http://www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/state-by-state-overview>

Figure 7: Georgia Total Fatalities 2010-2017



Source: <https://www.gahighwaysafety.org/research>

Georgia utilizes safety data to identify safety emphasis areas and establish strategic goals, objectives, and set performance measures. The emphasis areas for the State include: aggressive driving, impaired driving, occupant protection, serious crash type, age related and non-motorized users, vehicle type, trauma systems, crash records and traffic incident management⁷. Georgia's 2015 SHSP, can be found at <https://www.gahighwaysafety.org/highway-safety/shsp/>

⁷ <https://www.gahighwaysafety.org/highway-safety/shsp/>

Regional Safety Data

CORE regularly collects crash data utilizing the Georgia Electronic Accident Reporting System (GEARS). Traffic crashes in Chatham, Bryan Effingham Counties increased from 2012-2018, with the number of crashes and severity peaking in 2016. Crash data from 2017 and 2018 show a slight decrease in the number of crashes. The number of injury crashes, fatal crashes and total number of crashes for the CORE MPO area⁸ are shown Table 5.

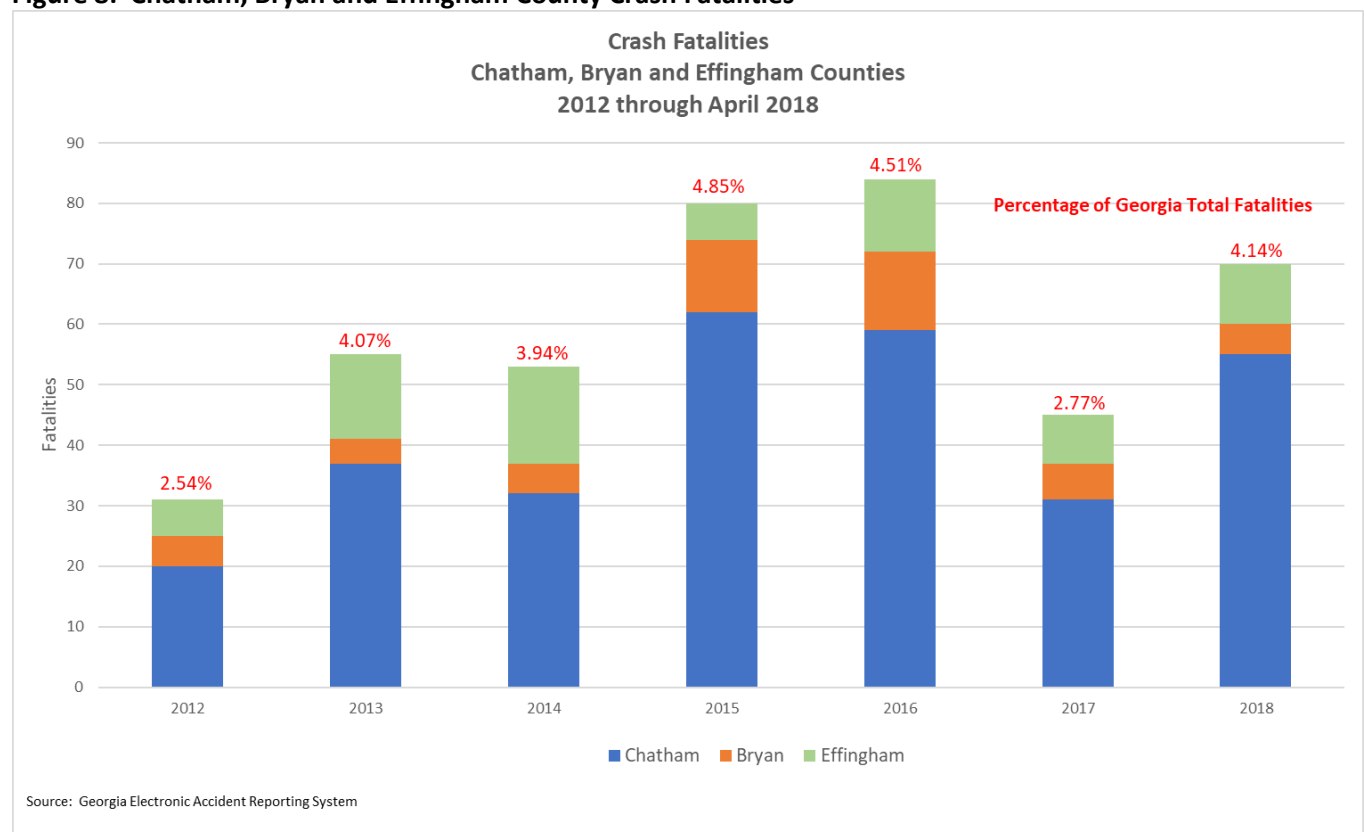
Table 5: Chatham, Bryan and Effingham County Total Crashes

	2012	2013	2014	2015	2016	2017	2018
Total Cashes							
Chatham County	13,065	15,921	16,703	19,497	20,525	19,583	18,031
Bryan County	588	430	807	987	977	1,054	1,372
Effingham County	691	1,036	1,335	1,515	1,650	1,532	1,717
Total	14,344	17,387	18,845	21,999	23,152	22,169	21,120
Crashes Involving Injuries							
Chatham County	2,696	2,894	3,001	3,676	3,925	3,556	2,651
Bryan County	139	116	186	243	280	322	276
Effingham County	181	228	243	279	311	368	191
Total	3,016	3,238	3,430	4,198	4,516	4,246	3,118
Crashes Involving a Fatality							
Chatham County	20	33	30	51	40	28	50
Bryan County	5	4	4	8	10	6	5
Effingham County	6	11	14	6	12	8	9
Total	31	48	48	65	62	42	64
Source: Georgia Electronic Accident Reporting System							

Crashes involving a fatality in the region had begun to decrease, similar to the statewide trend in 2017 (see Figure 8) with a jump in 2018. The regional percentage of statewide fatalities also dropped significantly down to 2.77% from a high of 4.85% in 2015 but rose again in 2018 to 4.14%. Of the three counties that make up the region Chatham with the largest population also has the largest share of fatal crashes.

⁸ The CORE MPO area currently consist of Chatham County, Richmond Hill in Bryan County and a small portion of unincorporated Effingham County. For the purposes this report the data collected included all three counties rather than just the MPO boundary.

Figure 8: Chatham, Bryan and Effingham County Crash Fatalities



Safety Strategies

The 2045 Mobility Plan assesses existing safety and security conditions, explores planning considerations for safety and security, and provides recommendations for future improvements. The roadway recommendations presented in this plan represent a series of engineering enhancements that should improve traffic flow while increasing safety for all users.

General engineering strategies to maximize safety include: improving highway and road design guidelines; implementing corridor-based ITS and access management strategies; identifying appropriate intersection improvements to mitigate crashes; constructing a coordinated network of on-street bicycle facilities and off-street trails; designing streets to be pedestrian-friendly; designating appropriately designed streets for truck freight; and maintaining adequate standards for railroad crossings.

Many safety concerns can potentially be addressed through some of the projects incorporated in the financially constrain plan. Others may qualify for and be addressed through GDOT's Quick Response program, which implements small scale projects using available safety funding. Qualifying projects are typically those ranging from intersection improvements to operational improvements, such as signal timing, and are generally less than \$750,000 for all project phases. Projects for Quick Response funding can be submitted by local governments, GDOT or the Federal Highway Administration. Submittals for eligible projects must also include information that summarizes the operational issues, supporting data, the proposed improvement, and cost estimates.

Coordinated Highway Assistance & Maintenance Program (CHAMP)

Safety is Georgia DOT's number one priority. CHAMP is critical to enhancing safety for the traveling public and responders. CHAMP is Georgia DOT's roadside assistance and maintenance program covering interstates outside of Metro Atlanta. This program is an integral part of our goal to provide safe and maintained roadways, support emergency responders and assist motorists outside of the HERO covered area in Metro Atlanta. CHAMP is operating on I-95 and I-16 interstates in the Savannah area.

Resiliency and Emergency Management



To meet the goal of ensuring and enhancing the resiliency and security of the transportation system and users, the CORE MPO, although not the lead agency, coordinates closely with, and supports the local and state agencies that are responsible. Through this coordination and the incorporation of the agencies in the planning process, the CORE MPO can address the overall security goal.

Local and state agencies that are responsible for the emergency management, disaster preparation, and homeland security include the Chatham Emergency Management Agency (CEMA), the Georgia Emergency Management Agency (GEMA), the Georgia Office of Homeland Security, the local fire departments, and the local police departments. These agencies are responsible for the preparation of the disaster preparedness plans, the coordination for emergency responses, and working to educate the public on their responses to emergency situations.

With the CORE MPO's coastal location and potential for hurricane evacuation, in addition to the local agencies, GDOT also has a role in evacuation planning. The east-west interstate, I-16 from Chatham County is equipped to utilize all four lanes for evacuation purposes when needed. Drop gate barriers at exit and entrance ramps along the interstate prevent vehicles from traveling in the wrong direction during the lane reversal evacuation process. Various state routes along the coast, such as US 80 leading from Tybee Island, may also be utilized as one-way routes towards inland areas of Georgia.

Chatham Area Transit Authority (CAT), is responsible for the provision of public transit services in the area. CAT must also address security in their planning efforts and coordinates through the emergency management agencies. The Federal Transit Administration (FTA) has a number of requirements in place to address security for transit agencies. Examples of these requirements include a written security plan and employee training. In addition to the procedures CAT has in place to meet these requirements, the agency also coordinates with CEMA during an evacuation. CAT buses will be utilized in the case of an emergency to assist in the evacuation process.

State of Good Repair and System Preservation

Over the last decade, state and local transportation agencies have faced tremendous funding shortfalls. Agencies have struggled to keep up with their expanding transportation needs with continually shrinking budget.

In addition to the transportation funding shortfalls, many major transportation improvement projects such as additional capacity or new facilities are met with strong opposition from members of the general public, as well as from interest groups focused on elements such as the environment. Within this context, it is critical for the MPO to preserve and maintain the existing system and infrastructure and to maximize the benefits of any transportation investments.

Mobility 2045 Goal Maintain a state of good repair for all transportation systems



State of Good Repair Objectives and Performance Measures

Mobility 2045 establishes the following objectives and performance measures to evaluate system preservation in the region. Measures identified with an asterisk are also required to have an adopted target as required by the FAST Act.

State of Good Repair: Maintain a state of good repair.

Objectives:

- Maintain a state of good repair for bridges
- Maintain a state of good repair for pavement
- Maintain a state of good repair for non-motorized facilities
- Maintain a state of good repair for transit vehicles and facilities

Performance Measures:

- Bicycle and pedestrian facility surface conditions
- Percent of NHS Bridges in Poor condition as a percentage of total NHS bridge deck area*
- Percent of NHS Bridges in Good condition as a percentage of total NHS bridge deck area*
- Percent of interstate NHS pavements in POOR condition*
- Percent of interstate NHS pavement in GOOD condition*
- Percent of NHS pavements in POOR condition*
- Transit assets considered in a state of good repair*
- Percent of NHS pavements in GOOD condition*

Transportation Asset Management: Bridge and Pavement Conditions

Transportation Asset Management is a strategic approach to cost-effectively and efficiently manage the physical assets of the transportation system. Preserving assets before they deteriorate extends their useful lives and saves money in the long run. This reduces the financial burden on taxpayers, as well as inconveniences to the traveling public that result from unanticipated asset failure and replacement.



The Moving Ahead for Progress in the 21st Century Act (MAP-21) and Fixing America's Surface Transportation Act (FAST ACT)

requires states to develop an asset management plan and both states and MPOs are required to adopt

targets related to Bridge and Pavement Conditions to better maintain and preserve our infrastructure.

The federal legislation focuses on the National Highway System (NHS). The National Highway System (NHS) is a network of strategic highways within the United States, including the Interstate Highway System and other roads serving major airports, ports, rail or truck terminals, railway stations, pipeline terminals and other strategic transport facilities. As part of the federal legislation the Bridge and Pavement Targets are based on the following performance measures.

Bridge Condition Measures

- Percent of NHS Bridges in Poor condition - Bridges rated *poor* are safe to drive on; however, they are nearing a point where it is necessary to either replace the bridge or extend its service life through substantial rehabilitation investments
- Percent of NHS Bridges in Good condition - Bridges rated as *good* will be evaluated by cost to maintain *good* condition. Bridges rated as FAIR will be evaluated by the cost of replacement vs. rehabilitation to bring the structure back to a condition rating of *good*.

Pavement Condition Measures

- Percent of interstate pavement in Poor condition - Interstate pavements in poor condition need work due to either the ride quality or due to a structural deficiency.
- Percent of interstate pavement in Good condition: Interstate pavements rated as good will be considered for potential pavement preservation treatments to maintain the good rating
- Percent of pavements in Poor condition - Non-interstate NHS pavements in poor condition need major maintenance. These will be evaluated for potential projects
- Percent of pavements in Good condition - Non-interstate NHS pavements in good condition will be evaluated for potential preservation treatments.

GDOT adopted Bridge and Pavement Condition targets on May 16th, 2018 and the CORE MPO adopted to support the state's targets through planning and programming projects on August 24, 2018.

GDOT will be collecting and analyzing the data statewide. The MPOs will be reporting on efforts to make progress towards the state's targets through planning and programming projects. Bridge and Pavement Condition Targets are required to be adopted every 4 years thereafter, with a revision possible at the 2-year mark. Information related to adopted targets and progress towards meeting those targets can be found in Appendix A.

Information GDOTs Transportation Asset Management Plan can be found on their website at www.dot.ga.gov/IS/TAM

Transit Asset Management



Fixing America's Surface Transportation Act (FAST ACT) develops a framework for transit agencies to monitor and manage public transportation assets, improve safety, increase reliability and performance, and establish performance measures in order to help keep their systems operating smoothly and efficiently. The Mobility 2045 Plan shows the importance of a system in a state of good repair by having an adopted goal for system maintenance.

TAM helps to prioritize projects and optimize funding allocations based on the condition of transit assets to achieve and maintain a State of Good Repair (SGR) for the nation's public transportation assets. Transit agencies are required to develop TAM plans and submit their targets to the Federal Transit Administration's (FTA's) National Transit Database (NTD).

Currently, there is an estimated \$85.9 billion transit SGR backlog. The regulations apply to all transit providers that are recipients or subrecipients of federal financial assistance under 49 U.S.C. Chapter 53 and own, operate, or manage transit capital assets used in the provision of public transportation.

There are two transit agencies operating within the CORE MPO's metropolitan planning boundary - the Chatham Area Transit Authority (CAT) and the Coastal Regional Commission (CRC). CAT is a direct recipient of FTA funds and developed its own TAM Plan. CRC is a participant in the GDOT group TAM plan.

In addition to TAM performance targets the plans are required to include an inventory of capital assets, conditions assessment, decision support tools and investment prioritization. The TAM plans must be updated every four years while the targets are to be updated annually. The transit agencies are responsible for collecting data and reporting their progress towards meeting their targets to the NTD annually. The transit agency submission to the NTD should include: projected targets for the next fiscal year, condition assessments and performance results, and a narrative report on changes in transit system conditions and the progress toward achieving previous performance targets. Asset performance

is measured by asset class. There are three categories of assets being measured: rolling stock, equipment and facilities. The targets are set within these categories by asset class such as buses, vans, ferryboat etc.

As a part of the TAM framework the CORE MPO is required to also set a TAM target. The MPO has adopted Regional TAM Targets which encompass both CAT and CRC needs (see Appendix A). The MPO will reflect the support of the targets through its planning and programming activities.

The CORE MPO will continue to support the regional transit agency targets through planning and programming activities. More information on specific targets and progress towards meeting targets can be found in Appendix A. For more detail on CAT's and CRC's other initiatives please visit CAT's web page at www.catchacat.org and CRCs web page at www.crc.ga.gov.

System Performance

One of the goals identified for the Mobility 2045 is the support an efficient, reliable, multi-modal transportation system that supports economic competitiveness and enhances tourism. As discussed, there are a number of critical economic drivers in the region, including the Port of Savannah and the tourism industry, primarily focused in the Historic District and Tybee Island. The transportation network efficient system performance supporting these drivers is a key component in their sustainability and success.

Mobility 2045 Goal

An efficient, reliable, multi-modal transportation system that supports economic competitiveness and enhances tourism.



As noted above, good access to the port facilities is key in continuing its growth in the future. The Savannah Hilton Head Airport is another of the modal economic engines for the region. The CORE MPO, in recognition of their impacts on both the transportation system and mobility, as well as the economic vitality of the region, coordinates closely with both entities to ensure that their needs are incorporated into the short and long term transportation assessments.

System Performance Objectives and Performance Measures

Mobility 2045 establishes the following objectives and performance measures to evaluate the systems performance in the region. Measures identified with an asterisk are also required to have an adopted target as required by the FAST Act.

System performance: An efficient, reliable, multi-modal transportation system that supports economic competitiveness and enhances tourism.

Objectives:

- Minimize work and freight trip congestion
- Promote projects which provide the maximum travel benefit per cost
- Improve efficient access to job centers
- Enhance tourism offering efficient multi modal options to visit the region
- Maximize efficiency of signalized intersections

Performance Measures:

- Project cost/vehicle miles of travel (VMT)
- Reductions in VMT
- Reductions in work trip vehicle hours of travel (VHT)
- Increased Sustainable development incorporating mixed-use, pedestrian-oriented design
- Level of Service (LOS)
- Percent of person-miles traveled on the interstate system that are reliable*
- Percent of person-miles traveled on the non-interstate NHS that are reliable*
- Reductions in travel times
- Truck Travel Time Reliability (TTTR) Index*
- Percent of jobs within 1/2 miles access to frequent transit service
- Percent of the system actively managed with ITS
- Increase access to alternative transportation options to job centers (transit, bike facilities, sidewalks)
- Maximize transportation system mobility during disruptive events (such as reductions in time to clear major crashes from through lanes, CHAMP clearance times)
- Increased modal options and amenities assisting tourist travel (for examples wayfinding, sidewalks, bike sharing, airport bus express route, car sharing, shuttles, ferry etc.)

Reliability for People and Freight

Fixing America's Surface Transportation Act (FAST ACT) requires states and MPOs to adopt System Performance Targets focused on reducing traffic congestion, improving efficiency of the system and freight movement and protecting the environment. The Mobility 2045 Plan shows the importance of a system performance by having adopted several goals which support these targets such as quality of life and protecting the environment, supporting economic vitality through system performance and accessibility, mobility and connectivity.

GDOT adopted System Performance Targets on May 16th, 2018 and the CORE MPO adopted to support the state's targets on August 24, 2018. GDOT will be collecting and analyzing the data at a statewide level and the CORE MPO will be reporting on our efforts to make progress towards the state's targets through planning and programming projects. System Performance Targets are required to be adopted every 4 years thereafter, with a revision possible at the 2-year mark.

System Performance Measures

- Level of Travel Time Reliability (LOTTTR) – The LOTTTR is the ratio of the longer travel times (80th percentile) to a “normal” travel time (50th percentile). The measure is intended to capture person-miles traveled that are reliable. Person-miles take into account the users of the roadway including bus, auto, and truck occupancy levels.
- Freight movement will be assessed by the Truck Travel Time Reliability (TTTR) Index - The TTTR ratio will be generated by dividing the 95th percentile time by the normal time (50th percentile) for each segment. The TTTR Index will be generated by multiplying each segment's largest ratio of the five periods by its length, then dividing the sum of all length-weighted segments by the total length of Interstate.

Implementation differs for the Interstate and non-Interstate National Highway System (NHS) measures for the first performance period. State DOTs must establish 2- and 4- year targets for the Interstate, but only a 4-year target for the non-Interstate NHS, by May 20, 2018. Those targets will be reported in the State's baseline performance period report. The State DOTs have the option to adjust 4-year targets in their mid-performance period progress report, due October 1, 2020. For the first performance period only, there is no requirement for States to report baseline condition performance or 2-year targets for the non-Interstate NHS before the mid performance period progress report. This will allow State DOTs to consider more complete data. The process will align for both Interstate and non-Interstate measures with the beginning of the second performance period on January 1, 2022.

Accessibility and Connectivity

Accessibility refers to people's ability to reach goods, services and activities, which is typically the ultimate goal of the transportation system. Many factors affect accessibility, including mobility (physical movement), the quality and affordability of transportation options, system connectivity and land use patterns. A number of projects in the cost constrained plan have been targeted at addressing accessibility and connectivity issues by reducing delay and offering better opportunities for people and goods to travel. Mobility 2045 strives to increase accessibility, mobility and connectivity of the system for people and freight by offering strategies that improve network connectivity and integrate modes.



Mobility 2045 Goal

Ensure and increase the accessibility, mobility and connectivity options available to people and freight, and ensure the integration of modes, where appropriate.

Accessibility, Mobility and Connectivity Objectives and Performance Measures

Mobility 2045 establishes the following objectives and performance measures to evaluate accessibility, connectivity and mobility in the region.

Accessibility, Mobility and Connectivity: Ensure and increase the accessibility, mobility and connectivity options available to people and freight, and ensure the integration of modes, where appropriate.

Objectives:

- Minimize congestion delays
- Maximize regional population and employment accessibility
- Provide efficient and reliable freight corridors
- Minimize delays in corridors served by transit
- Encourage use of transit and non-motorized modes, focusing on areas with low rates of automobile ownership or high population of elderly and/or disabled populations
- Expand transit service area and increase service frequency
- Ensure access to essential services
- Expand use of Traveler information to accommodate people, freight and tourism

Performance Measures:

- Base year vs. future year volume/capacity ratios for various modes
- Percent of population within ½ mile of a multimodal (transit or bicycle) route or facility connecting to regional activity center(s)
- Percent of last mile and other freight strategies identified in the Freight Plan completed
- On time performance of the transit and paratransit system
- Increase in transit ridership
- Expanded coverage of ITS to share traveler information (On time bus arrival, way finding, commercial vehicle systems)
- Fewer transit user complaints
- Increase access and connectivity to alternative transportation options to job centers (transit, bike facilities, sidewalks)

Healthy Environment and Quality of Life

The goals of the Mobility 2045 Plan also include a focus on a healthy sustainable environment through the compatible integration of land use and transportation while taking into consideration the impact of transportation.

Healthy Environment and Quality of Life Objectives and Performance Measures

Mobility 2045 establishes the following objectives and performance measures to evaluate accessibility, connectivity and mobility in the region.

Mobility 2045 Goal
A healthy sustainable environment through the compatible integration of land use and transportation while taking into consideration the impact of transportation including that of stormwater.



Environment and Quality of Life: A healthy sustainable environment through the compatible integration of land use and transportation while taking into consideration the impact of transportation including that of stormwater.

Objectives:

- Protect wetlands, historic resources, neighborhoods, recreational facilities and other important resources
- Support infill development
- Implement green infrastructure to reduce region's impact on stormwater pollution and address potential impacts from a changing climate.
- Reduce negative impacts of transportation on stormwater
- Reduce emissions and maintain a healthy air quality
- Reduce energy consumption

Performance Measures:

- Less impacts to natural environment (such as rate of development of greenspace compared to the rate of greenspace preservation).
- Less impacts to historic and cultural and natural resources (tree canopies, waterways and historic roadways)
- Increase in promoting infill and brownfield development
- Flood zone risk status
- Decreased vehicle miles of travel through increased use of alternative modes to single occupancy vehicles
- Project exceeds local and or state storm water management plan requirements
- Increased percent of green infrastructure (GI) and/or Low Impact Development (LID) installation (swales (GI), permeable pavements (LID), green streets (LID) etc.)
- Increased percent of low emission projects (such as electric buses, bike share etc.)
- Total emissions*

Non-Motorized Transportation



The CORE MPO has had a long standing commitment to the provision of safe, connected bicycle and pedestrian facilities. The CORE MPO has developed a non-motorized transportation plan specifically for identifying and prioritizing the pedestrian and bicycle needs. As in the last plan a substantial amount of funding was set-aside for the completion of these types of projects. This set aside of funding is continued and incorporated into this financially feasible plan.

Non-motorized transportation includes walking or using a wheelchair, bicycling, skating, and using pedicabs. The Non-motorized Transportation Plan, as part of Mobility 2045, provides a plan to address the needs of pedestrians, and other self-powered travelers. The Plan:

- Identifies needed improvements for the non-motorized modes;
- Identifies areas for amenities to help create a human-scaled environment that encourages use of physically active modes;
- Prioritizes improvements and identifying funding opportunities

The resulting prioritized lists will guide the MPO in programming the approximately \$22 million that is set aside for non-motorized transportation over 25 years in the Mobility 2045 Plan. The lists can also guide local governments in the development of Capital Improvement Programs, and guide organizations applying for grants in the future, under such programs as Transportation Alternatives.

Tide to Town

Following the lead of many communities across Georgia, a coalition of citizens in Savannah is coordinating the effort to create a branded urban trails system: Tide To Town. Tide To Town, like Atlanta's Beltline and Carrollton's Greenbelt, will be a network of protected walking and bicycling facilities connecting all of Savannah's neighborhoods. Tide To Town will link together existing and planned projects, including the Truman Linear Trail and the Springfield Canal Trail. The core of the system is a 30-mile route that encircles the City. Additional miles of connector paths will connect to priority neighborhoods as the system grows. Spur trails to popular destinations will also be added as the system expands outside of the City of Savannah.

The system maximizes existing public rights-of-way along streets and canals, which significantly reduces the cost of implementation. The Friends of Tide to Town coalition formed in 2017 to lead the development of Tide to Town.

Community Health

Community and public health as it relates to transportation policy and infrastructure has come to the forefront of planning. The approach to community health spans a number of disciplines including

transportation planning. The considerations when planning for transportation projects should include the promotion of active transportation and ensuring that the necessary facilities are in place, developing strategies and projects to enhance the safety of pedestrians and bicyclists, and reducing the negative impacts on the environment by increasing the number of active transportation users.

The CORE MPO recognizes and has implemented strategies to promote a healthy community and health equity. The development of the non-motorized and thoroughfare plans, the long standing commitment to complete streets and context sensitive design principles, and the focus on accessible transportation for all populations provides the policy framework for the promotion of health considerations in transportation planning.

The region is cognizant of the interconnectedness between land use and public health. As such, they have instituted programs and policy changes to improve the public health and are committed to continue these efforts into the future.

Climate Change, Sea Level Rise, and Resiliency

One of the more discussed topics on a national level is climate change and its effects, which include sea level rise and nuisance flooding, and how to become more resilient. There has been an increased focus on the federal level, with the FHWA completing research and providing the findings on best practices for MPOs to develop policies and strategies to deal with the impacts from the changing climate.

With its coastal location, the CORE MPO recognized the need for understanding any potential impacts on the existing and future transportation infrastructure and developing an approach to address and/or mitigate these impacts. An example of the impacts is the higher than normal tides that are occurring more frequently and causing nuisance flooding. These exceptionally high tide events impact access to the islands, particularly Tybee Island as US 80, the only facility connecting the islands to the mainland, floods and must be closed during these tide events.

Increasing public awareness of the issues and understanding the impacts on infrastructure and mobility is an important focus for the MPO.

Stormwater

Stormwater has long been a concern in the region due to its negative impacts on water quality in area waterbodies partially in area such as Savannah surrounded by water. Efforts to deal with stormwater impacts as they relate to the transportation system mainly focused on protecting water quality and highway runoff. Streets, roads, and highways are the primary mode for moving goods, people, and services but also can carry stormwater runoff pollutants from the adjacent land and from cars, trucks, and buses, including heavy metals from tires, brakes, and engine wear, and hydrocarbons from lubricating fluids.

If the pollutants are not properly controlled, they can impair waters causing them to no longer support the water's designated uses and biotic communities. In the construction process of roads this has been done through the utilization of temporary sediment control devices to prevent sediment from leaving the construction site via stormwater runoff. Designs of roads include the use of detention ponds or swales to allow stormwater to be naturally filtered of oils and other pollutants it carries from road surfaces prior to the stormwater reaching area waterbodies.

In recent years, due to more frequent extreme weather events resulting in impassible roadways, stormwater efforts have expanded to also include the design and construction of roads in order to protect the transportation system from the negative impacts of stormwater and to improve the resiliency and reliability of the transportation system.

Intergovernmental Coordination

Mobility 2045 serves as a guide for comprehensive, cooperative and continuing transportation planning throughout the Coastal Region MPO planning area. Through intergovernmental coordination efforts and a performance based planning process, Mobility 2045 ensures a wise use of public funds.

Intergovernmental Coordination Objectives and Performance Measures

The development of Mobility 2045 strives to meet the following objectives and performance measures.

Mobility 2045 Goal
Wise use of public funds through coordination and a performance based planning process.



Intergovernmental Coordination: Wise use of public funds through coordination and a performance-based planning process.

Objectives:

- Enhance coordination between CORE MPO, Georgia Department of Transportation, County departments, City governments, Georgia Ports Authority, modal agencies (CAT and airport) and advocacy groups (Savannah Bicycle Campaign)
- Implement transportation performance management utilizing a performance based planning and programming process

Performance Measures:

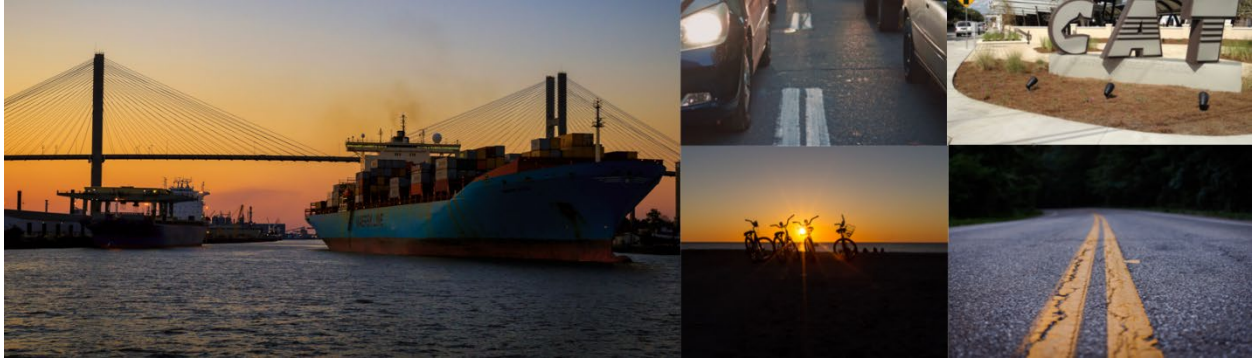
- CORE MPO represented at project development meetings (concept meetings and public information meetings)
- Establishment of coordination policies to promote communications between various agencies
- Establishment of a prioritization process based on cooperatively developed objectives and performance measures.



SECTION THREE: REGIONAL TRANSPORTATION NETWORK



Transportation Network



The transportation network in the Savannah region is made up of all modes which support the movement of freight and people. Although multimodal, Savannah's transportation network is still primarily focused on the highway network. The following section describes the various modes of transportation serving freight and people throughout the region as well as emerging trends in transportation.

Road Network

Roadways in the region serve multiple purpose and accommodate different types of travel. Roadway range from local streets that are designed for direct access to homes and businesses to interstate highways that are primarily for mobility and long distance travel. The Savannah Statistical Metropolitan Area (MSA) comprises of Bryan, Chatham and Effingham Counties and has a total of more than 2,490 miles of roadways. These roadways are categorized by their use and the amount of traffic that is carried. These categories, as defined by the Federal Highway Administration (FHWA), are described below.

Interstate/Freeway (around 132 miles)

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

Arterials (around 376 miles)

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 Islands Expressway, SR 204 and US 80.

Collectors (around 372 miles)

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 the access to arterials. Examples of collectors include Habersham Street, LaRoche Avenue; and Old Louisville Road.

Local Roadways (around 2,060 miles)

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

Figure 9 depicts the functional classification of the roadway network in the Savannah MSA while Table 6 table shows the roadway miles by functional class. Local roads make up almost 70% of the total miles in the area. Collectors make up about 12.65% of the total roadway miles. The interstates, freeway and arterials, though comprising only 17.28% of the total roadway mileage, carry most of the traffic. The interstates, freeways and principal arterials (about 9.49% of the total roadway mileage) also carry most of the freight traffic in the area.

Table 6: Federally Functional Classified Roadway Mileage

Functional Classification	Miles	Percentage
Interstate	97.52	3.32%
Freeway/Expressway	34.06	1.16%
Principal Arterial	147.27	5.01%
Minor Arterial	229.14	7.79%
Major Collector	263.29	8.95%
Minor Collector	108.83	3.70%
Local Roads	2060.44	70.07%
Total	2940.55	100.00%

Bridges

Due to the geography of the Savannah region, it is important to have a good understanding of the bridge conditions. This consideration will be necessary for safety, congestion and freight movements performance measures. The map below shows an inventory of the bridges in the area.

A bridge with fatigue damage may restrict what vehicle types and weights may cross it safely. A bridge is “load posted” when its capacity to carry heavy loads is diminished. The status of these bridges are described as structurally deficient (SD) or functionally obsolete (FO). A bridge with a “posted for load” posting has a weight limit capacity. All SD bridges are posted, but not all posted structures are SD (see Figure 10)

Figure 9: Federally Functional Classified Roadways

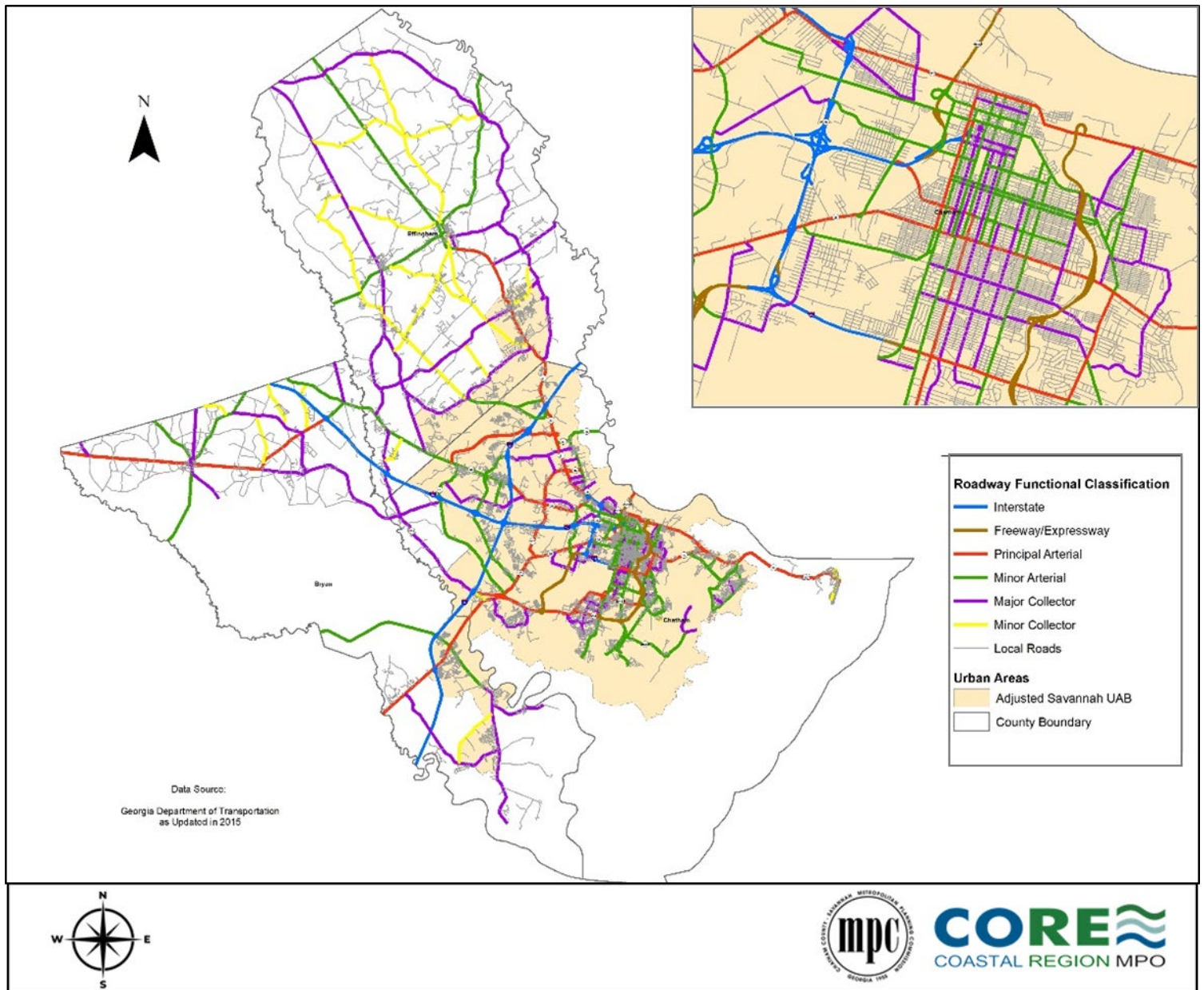
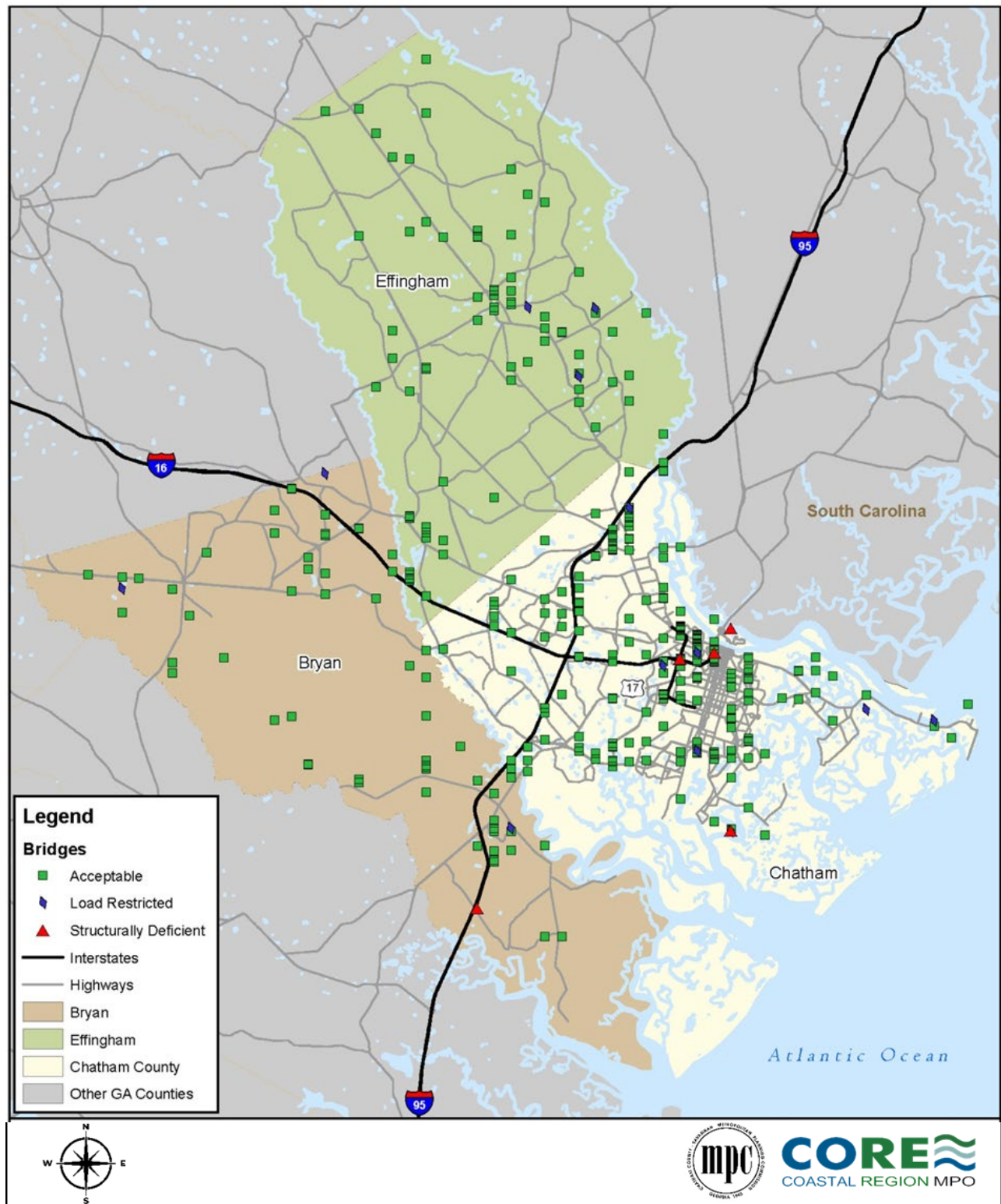


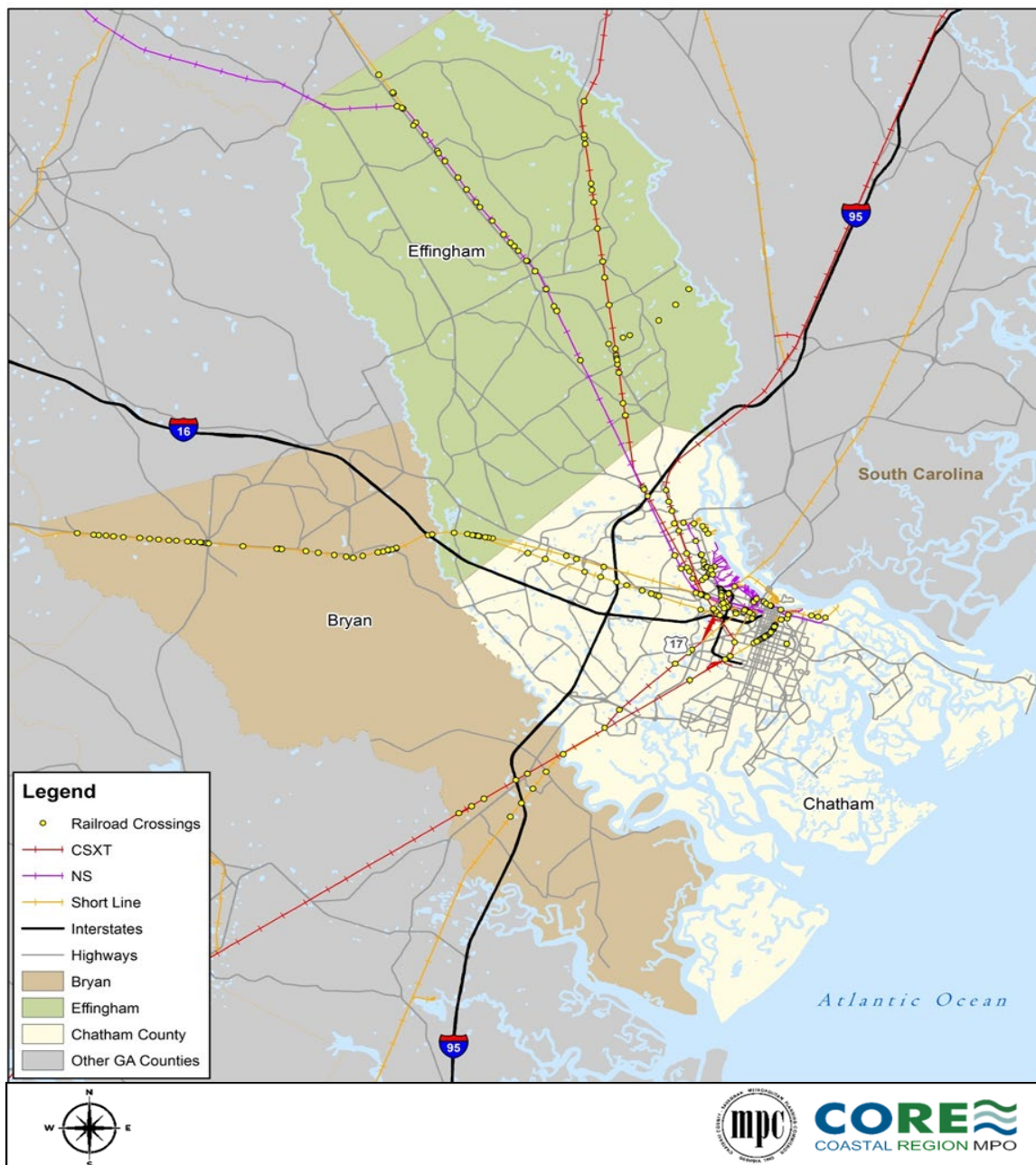
Figure 10: Bridge Locations and Conditions



Railroad Crossings

The presence of railroad crossings (i.e., at-grade) on roadways presents potential safety and/or operational concerns to motor vehicles utilizing such roadways. Grade separation refers to a crossing in which the roadway and rail are at different elevations. Figure 11 shows the railroad crossings in the Savannah area. There are a total of 317 at-grade crossings. According to the Federal Railroad Association (FRA) and National Transportation Atlas Database (NTAD) there are 49 at-grade crossings in Bryan County, 199 in Chatham County and 69 in Effingham County. These crossings occur for both Class I and Class III railroads.

Figure 11: Railway Crossings

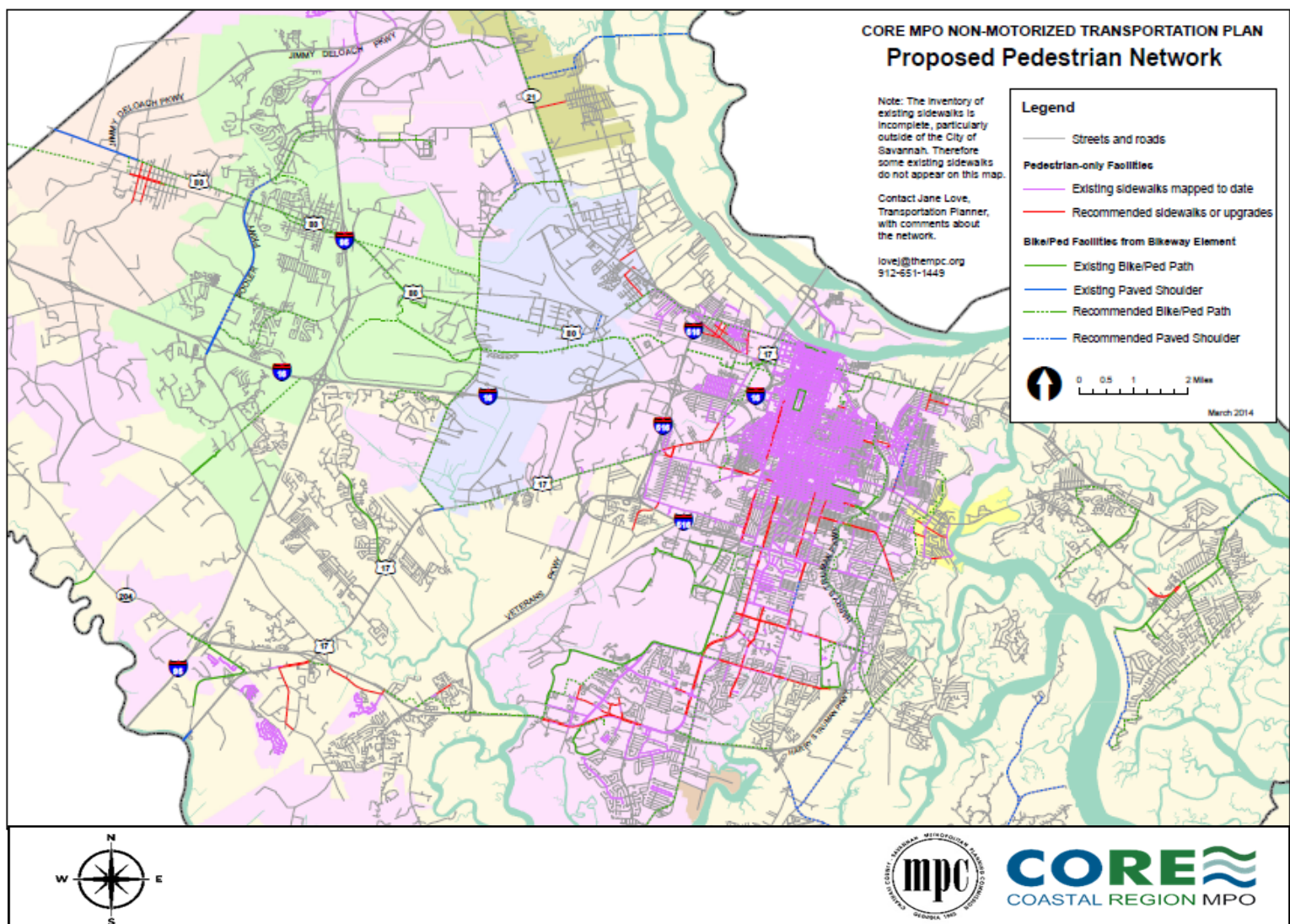


Pedestrian and Shared Use Path Network

While the automobile is the primary mode of transportation in the area, bicycling and walking are important modes. The MPO and the local jurisdictions all have a strong commitment to the provision of safe, connected facilities for pedestrians and bicyclists. There are a number of bicycle facilities, both lanes and trails that have been recently completed or are underway. In addition, there is a robust sidewalk network, particularly in the City of Savannah.

Figure 12 from the non-motorized transportation plan, depicts the existing and proposed pedestrian and shared use path network. The highest concentration of pedestrian facilities is located within the City of Savannah and the recommendations include connections from this network to the south. The existing and proposed bicycle network includes multi-use paths, designated bike lanes and paved shoulders.

Figure 12: Proposed Pedestrian and Shared Use Path Network



Chatham Area Transit Authority

Chatham Area Transit (CAT) is the agency responsible for the provision of transit services to the Savannah area, including fixed route and paratransit. CAT currently operates 65 fixed route buses 6 of which are electric and 42 paratransit vehicles. The CAT service area includes unincorporated Chatham County, the City of Savannah and portions of Garden City.

A Transit Development Plan (TDP), provides a 5-year capital and operating program and a longer term 10-year guide and planning tool for the transit agency to provide consumers with the most effective and efficient transit service. CAT is currently in the process of updating the TDP as part of a full system redesign. The components of a TDP update include public involvement, coordination with other state and local transportation plans, an

assessment of the existing and future conditions, agency goals and objectives, the development and evaluation of alternative strategies and action steps, a financial analysis, a 5-year operating plan and a 10-year implementation plan for the identified longer term strategies.



CAT is in the process of a full system redesigned. Since the origins of the CAT bus network in 1987, the cities it serves, and the surrounding county have changed a great deal. While individual transit routes have been added or changed over the years, the overall design of the network has not been revisited. In an effort to provide more efficient and accommodating service CAT has launched a full system redesign starting with a "blank slate" plan, to see what would be possible if the network were re-imagined for the people and places of today.

Redesigning a bus network forces, us to make some hard choices. In this project, the community will help us make those choices.

Ridership

One measure of transit performance is the sheer amount of ridership it attracts. Looking for those patterns (see Table 7) we can observe that the highest ridership occurs on:

- North-south routes between downtown, the Oglethorpe Mall area, and GSU
- Near hospitals, universities and malls, in general.

- Augusta Road as far as Brampton.
- Skidaway Road and Pennsylvania Ave., from DeRenne to E. President Street.
- Savannah's DOT Forsyth Shuttle.

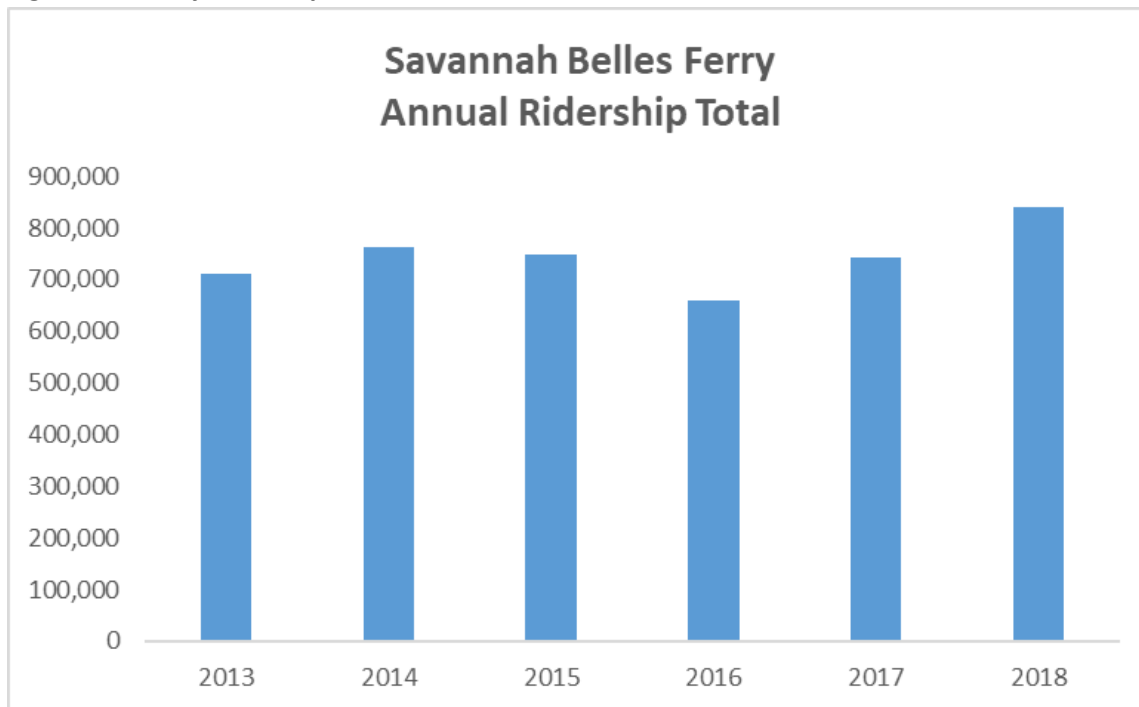
As part of the route system redesign CAT will be evaluating system coverage concepts along with concepts which support high ridership and more reliable service.

Table 7: Average Annual Passengers Per Hour Per Route

Average Annual Passengers Per Hour by Route					
Route/Year	2014	2015	2016	2017	2018
3: W.Chatham	18.1	18.3	16.4	16.1	15.1
3B: Augusta	22.6	24.6	25.6	24.3	24.1
4: Barnard	13.2	13.5	12.2	12.1	11.6
6: Xtown	11.5	12.5	11.6	11.2	10.2
10: E. Savannah	20.2	19.4	19.7	17.9	17.8
11: Candler	10.6	11.8	9.2	7.0	7.0
12: Henry	13.8	12.9	11.6	10.4	11.0
14: Abercorn	27.1	28.8	27.4	25.0	24.1
17: Silk Hope	18.0	19.2	17.6	17.1	17.2
20: Skidaway/Coffee Bluff	3.9	4.7	5.2	4.1	3.9
25: Westlake	19.3	19.6	18.6	17.6	17.1
27: Waters	21.2	22.4	21.8	20.6	20.0
28: Waters	22.5	23.1	22.8	22.2	21.4
29: W. Gwinnett	16.4	16.7	15.0	14.4	14.4
31: Skidaway/Sandfly	26.1	24.6	24.0	22.6	21.4
100X: Airport Express	3.8	3.0	3.0	2.7	2.7

The Savannah Belles Ferry which provides a water crossing over the Savannah River from downtown to the Savannah international Trade and Convention Center on Hutchinson Island is also operated by CAT. The ferry service is funded by the Savannah Trade Center. The system includes 2 ferries and three docks with a 4th dock planned for construction. Ferry ridership as shown in Figure 13 is heavily based on Convention Center events and tourism. Ridership typically begins to pick up in March with the St. Patrick's Day events and continues strong until August. Ridership peaks in June and July before slowing down a bit during months of less tourism for the exception of November when there is a jump in ridership for the Rock and Roll Marathon.

Figure 13: Ferry Ridership



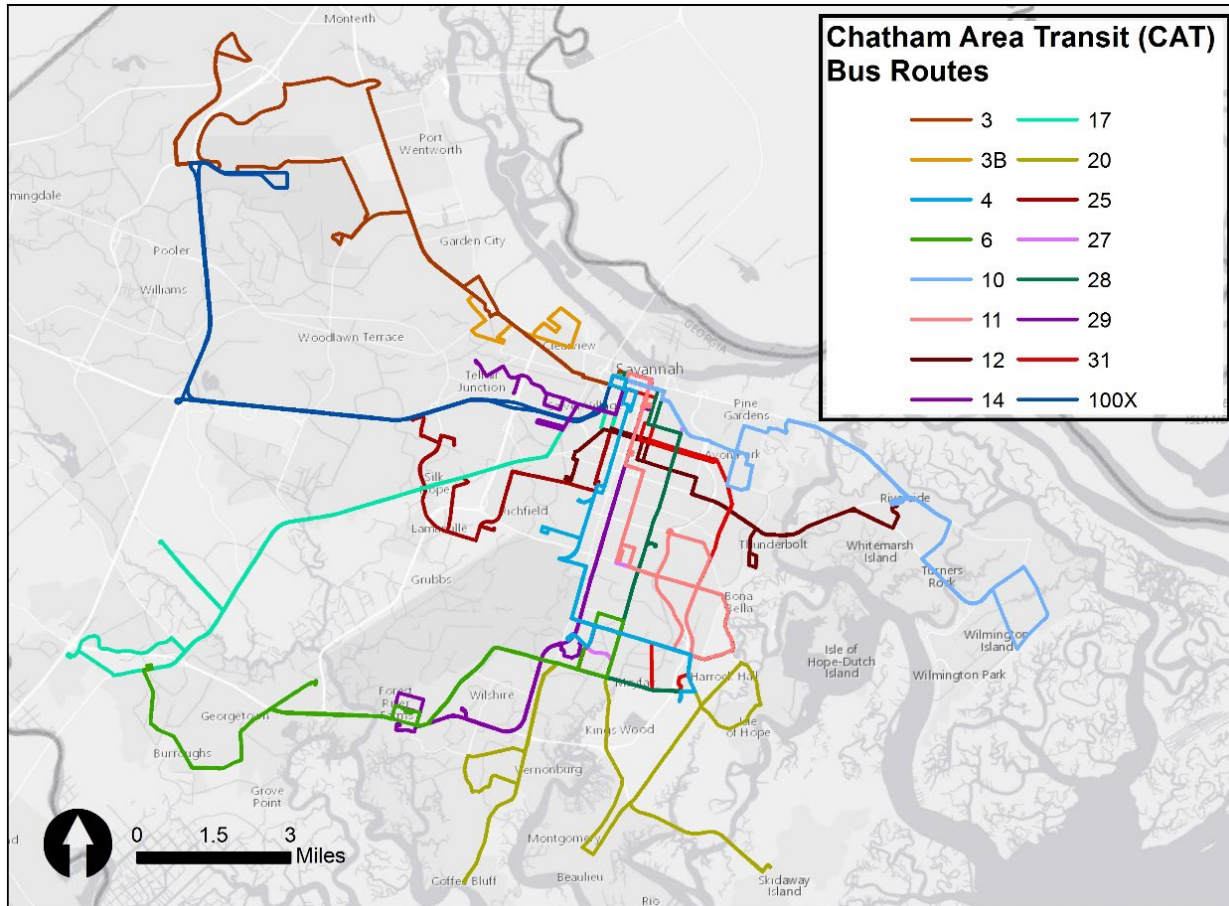
Routes and Facilities

CAT currently operates 16 routes, which includes one express route as shown in Figure 14. The express route provides service from the Savannah Hilton Head International Airport to the transit center in downtown Savannah. CAT also operates three free shuttles services. The Downtown Loop and the Forsyth Loop are funded by the City of Savannah and are free for passengers. The third shuttle is the Senior Circulator and is free to seniors CAT also operates the Savannah Belles Ferry, a free ferry service across the Savannah River between the Savannah Convention and Trade Center to downtown Savannah.

Coastal Regional Commission

The Coastal Regional Commission (CRC) operates the Coastal Regional Coaches which is part of the regional rural public transit program that provides general public transit service in the ten coastal Georgia counties including Bryan, Chatham and Effingham. This demand-response, advance reservation service is available to anyone, for any purpose, and to any destination in the coastal region. The CRC service must have either origin or destination outside of the Savannah Urbanized Area and it supplements the CAT service which is mostly within the Savannah UZA. CRC also operates a trail shuttle service from downtown Savannah to Tybee Island. The service operates twice a day six days a week.

Figure 14: CAT Transit Routes

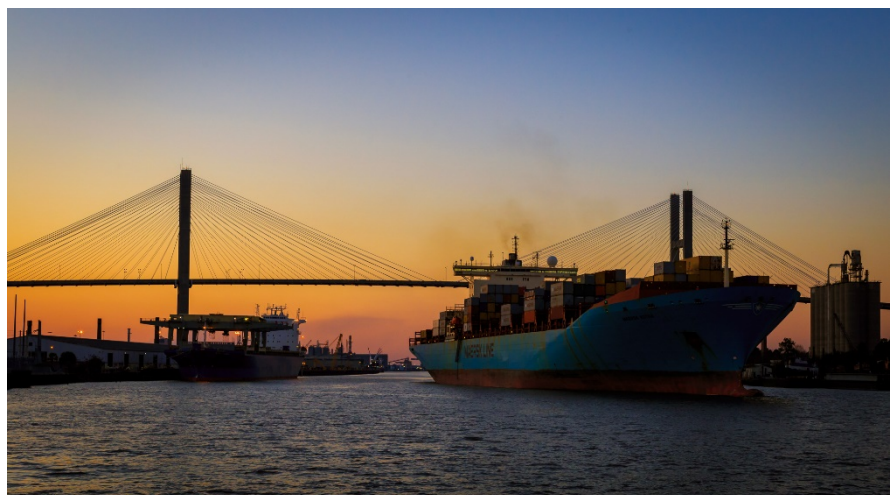


Port of Savannah

The Port of Savannah and the Georgia Ports Authority (GPA) continue to be a major transportation hub and economic engine for Chatham County. The Port of Savannah is the largest single container terminal in North America and the second busiest container exporter in the United State next to Los Angeles moving 4.35 million twenty foot container units in FY 2018. The port is a major economic engine for the region, as well as the State of Georgia. The Port is comprised of two deep water terminals: Garden City Terminal and Ocean Terminal.

The Savannah Harbor Expansion Project expected to be complete in 2020

supports jobs and commerce throughout the nation. The project will allow newer larger freighters to



navigate the river with greater flexibility. The total economic impact of Georgia's deep water ports on Georgia's economy is \$84 billion. The Georgia Ports Authority supports more than 369,000 jobs and approximately \$20.4 billion in personal income annually.

Savannah/Hilton head International Airport

Savannah/Hilton Head International Airport is a commercial and military-use airport in Savannah, Georgia, United States. Owned by the City of Savannah and managed by the Savannah Airport Commission. The airport is located about eight miles northwest of the Savannah Historic District. The airport's passenger terminal is directly accessible to Interstate 95 between Savannah and the suburban city of Pooler. Savannah/Hilton Head International is the chief commercial airport for Savannah, the Coastal Empire region of southeast Georgia and the Lowcountry of South Carolina, where the resort town of Hilton Head accounts for some 40 percent of total airport passenger traffic.

It is second only to Hartsfield–Jackson Atlanta International Airport as Georgia's busiest commercial airport. The airport is currently served by Delta (and Delta Connection carrier Shuttle America), JetBlue, United Airlines, American Airlines, American Eagle, Air Canada, Allegiant Air and Sun Country Airlines. In 2017 the first regularly scheduled international flight by a major air carrier when Air Canada began service to Toronto. The airport also serves as world headquarters for Gulfstream Aerospace. The Georgia Air National Guard's 165th Airlift Wing is also based at Savannah/Hilton Head International.

In 2018, Savannah/Hilton Head International handled a record 2,799,526 commercial airline passengers (1,395,040 enplanements and 1,404,486 deplanements), a 13.4 percent increase over 2017. the airport began a comprehensive capital expansion program with the construction of a new Federal Inspection Station, a terminal apron expansion and the southeast quadrant redevelopment project and began design on a new air cargo complex.

Intercity Passenger and Freight Services

There are two primary passenger intercity transportation services offered to and from Savannah; Amtrak Rail service and Greyhound Bus Service. Freight rail service primarily servicing the Port of Savannah area.

Passenger Rail

Amtrak Silver Service provides intercity passenger rail service to Savannah at its train station location at 2611 Seaboard Coastline Drive in Savannah. The trains provide direct service between Miami and New York as well as daily connections to the national Amtrak network and connecting bus service to other destinations in the region. It is the southern terminus of the Palmetto route and is along the Silver Star and Silver Meteor routes. North of Savannah, the Palmetto and Silver Meteor route diverge from the Silver Star line. While the Silver Star turns inland to serve Columbia, South Carolina and Cary and Raleigh, North Carolina, the Palmetto and Silver Meteor stay closer to the coast to serve Florence and Charleston, South Carolina. The trains do not converge again until Selma, North Carolina.

Passenger Bus

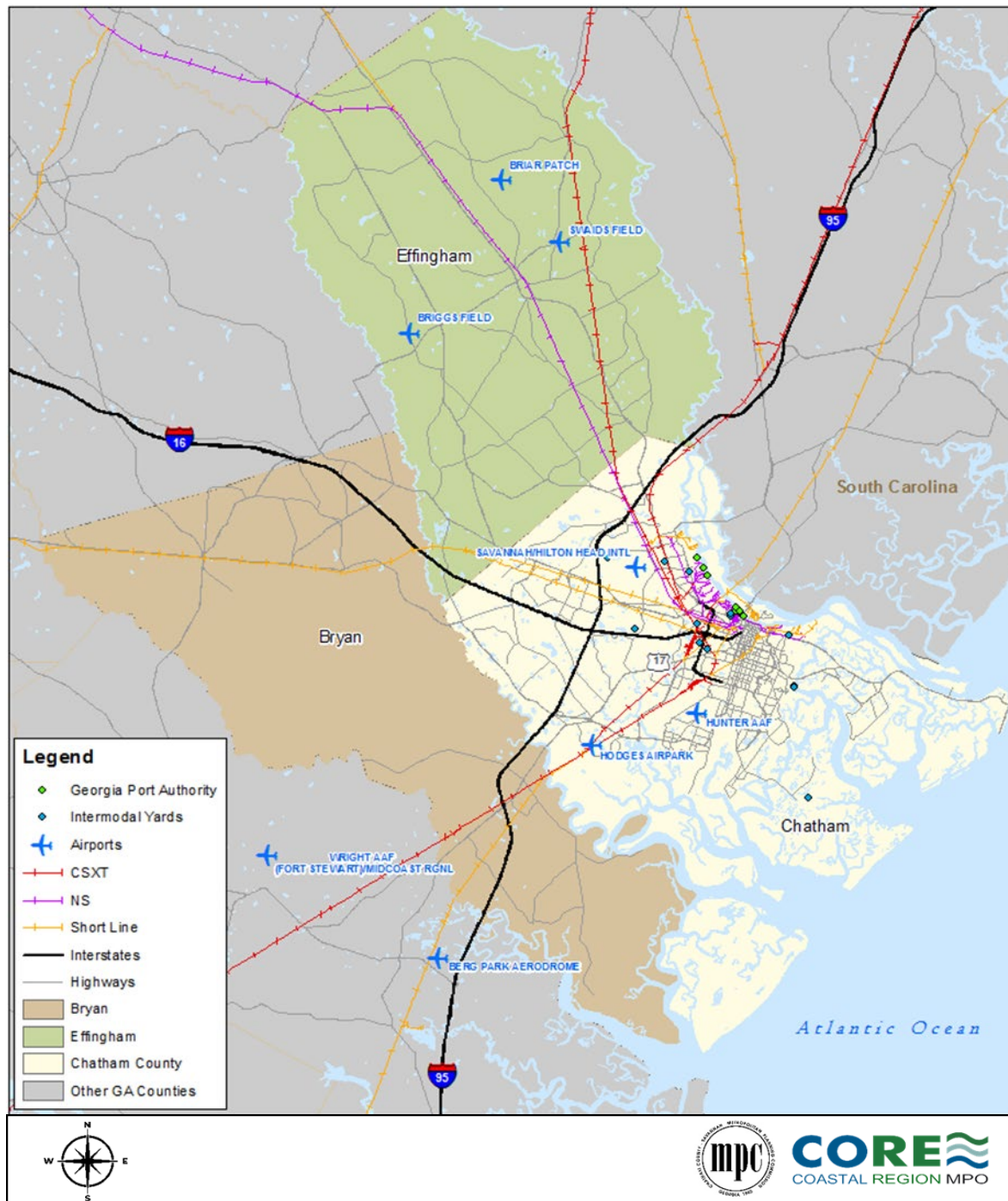
Greyhound Bus Line offer intercity bus service between Savannah and other cities within the United States. The terminal is in Savannah located at the Intermodal Transit Center at 610 Oglethorpe Avenue. There are over 30 departures daily at this station. This station also serves as a transit center for CAT.

Rail Freight Service

Although the roadway network is the primary backbone of the freight movement, the region is also served by about 170 miles of rail freight facilities, of which CSX Transportation and Norfolk Southern provide the major intermodal services (see Figure 15). The CSX Terminal is located in Savannah of Tremont Avenue which I Norfolk Southern is located in Garden City off Charlie Gay Drive. Other freight rail service providers primarily located in western Chatham County and around the Port of Savannah include Atlantic Coast Line, Central Georgia railroad and Savannah and Atlanta Railroad. The map below shows a map of the freight related facilities in the Savannah area.

The major commodities that are transported by rail are pulp and paper, furniture or fixtures, tobaccos products, rubber and plastics, leather, clay, concrete, glass or stone products, fabricated metals products, non-electrical and electrical machinery and scarp metals.

Figure 15: Freight Rail System



Traffic Operations and Emerging Technology

Transportation improvements that focus operations and technology can maintain and even restore the performance of the existing transportation system before extra capacity is needed. The goal here is to get the most performance out of the transportation facilities we already have. Operations projects may enable transportation agencies to “stretch” their funding to benefit more areas and customers.

The benefits of operations projects can include:

- Improved quality of life
- Smoother and more reliable traffic flow
- Improved safety
- Reduced congestion
- Less wasted fuel
- Cleaner air
- Increased economic vitality
- More efficient use of resources (facilities, funding)

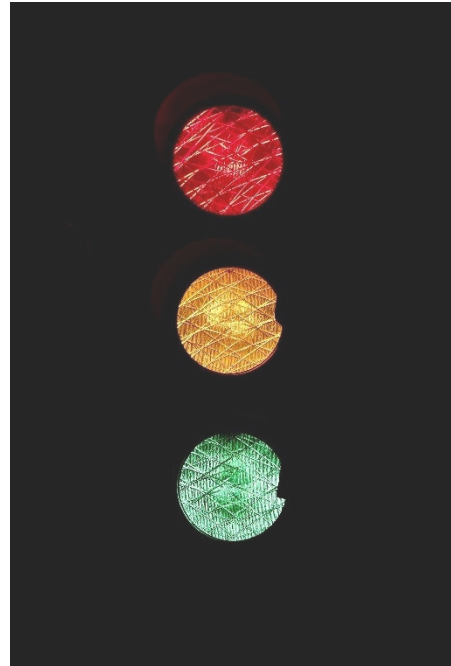
Traditionally, congestion issues were primarily addressed by funding major capital projects, such as adding lanes or building new interchanges and roads, to address physical constraints, such as bottlenecks. Today, transportation agencies are facing trends, such as increased urbanization, that create a growing demand for travel with less funding and space to work with. As a result, we can no longer build our way out of congestion. Trends we see today include:

- Limited funds – The primary source of federal funding for the U.S. highway system is the federal gas tax, which has not changed since 1993. Since that time, the financial constraints for public agencies have increased:
- Inflation – The cost to build roads and bridges has increased.
- Fuel efficiency – Vehicles today can travel farther with less trips to the gas pump, decreasing revenue. The growing use of electric and plug-in hybrid cars has also reduced the purchase of fuel.
- Advances in Technology – Transportation agencies can leverage technology to develop solutions to address congestion issues. However, given the advancement in consumer technologies (smart phones, apps, GPS, etc.), privately owned mobility services (Uber, Lyft, etc.), and the availability of more information, the traveling public expects that the products they use and the technologies they encounter will be "smart" and will ultimately improve their travel experience. They also expect that the information received will be accurate and reliable. This creates an added responsibility for the transportation community to provide the best customer service. Technology will likely have an even greater impact on the transportation network in the future with automation, connectivity, and big data.

Operational projects provide agencies with the tools to manage and operate what they already own more efficiently and effectively before making additional infrastructure investments. The City of Savannah has an operations center that is active primarily during commuting and daylight hours from 7:30am to 6pm. During major events such as the St. Patrick's Day Parade the center is manned 24 hours. The city currently has access to 109 cameras that can be monitored and also provide recording to review incidents.

The City of Savannah and Chatham County also benefit from a regional traffic operations program sponsored by GDOT. GDOT has expanded the Regional Traffic Operations program to the Savannah area. This was their first expansion outside the Atlanta area. The Savannah Regional Traffic Operations Program (SRTOP) is managed by GDOT and is a regional effort including the City of Savannah, Chatham County and local jurisdictions. The program provides:

- Weekly AM, Midday, and PM drive throughs of the corridors to monitor signal timing adjustment needs, congestion, and any other traffic operation deficiencies.
- Routine preventative maintenance (PM) activities to ensure all equipment and communications are operational.
- Upgraded traffic signal software to current statewide platform. The new software provides more functionality, as well as, remote monitoring capabilities.
- Assisted managing traffic operations during St. Patrick's Day festivities.
- Responded to emergency situations that required signal timing adjustments to accommodate shift in traffic patterns.
- Monitor operations after storms to ensure signals are operational.
- Repaired items, such as, malfunctioning detection (vehicle, pedestrian), pull boxes, replaced cabinets, etc.



Currently the Savannah Regional Traffic Operations Program (SRTOP) has been implemented on the following corridors:

- SR 25/Ogeechee between Canebreak Road to Stiles Ave
- Chatham Parkway between Police Memorial Drive and I-16/SR 404 and Carl Griffin Drive
- SR 26/Victory Drive between Hopkins Street and River Drive
- Johnny Mercer Boulevard between Whitmarsh Island Drive and Penn Waller Road
- SR 26/US 80/1st Street/Butler Ave between Johnny Mercer Boulevard and 14th Street

There are plans to expand SRTOP to include the intersections in Pooler on the following corridors:

- SR 26 between Pooler Parkway and Jimmy DeLoach
- Pooler Parkway between Durham Park and Lowes and I-16 ramps
- SR 307 at Jimmy DeLoach and Commerce
- SR 21 between Rice Hope and Fort Howard

The long range expansion of the SRTOP program may include addition locations on Island Expressway, Bay Street to west City limits, and the SR 21 corridor to the Chatham County line at Effingham County. The City of Pooler has also installed and adaptive signal program on Pooler Parkway at I-95 which interconnects signals along the corridor with “smart” signal technology by Rhythm Engineering allowing the signals to adapt to changes in traffic patterns rather than remain on fixed timing sequence.

Autonomous Vehicles/Driverless Cars

Autonomous Vehicles (AV) or Driverless cars are still, an emerging technology and it is still difficult to determine how they will affect the transportation system and when. The state of Georgia has passed legislation allowing driverless cars to operate in the state. At this time there are only test AV programs operating in the Atlanta Georgia area. The potential could eventually reach the Savannah area particularly related to AVs in the trucking industry such as *Waymo* to support the growing Georgia Port of Savannah. Another area that is often discussed as potential is driverless cars is with private companies such as *Uber* or *Lyft* offering rideshare services.

Transportation Network Companies (TNCs) or Ride-hailing/Ride Share

Ride-hailing services use apps and websites to connect passengers with drivers who provide rides in their personal vehicles. Companies such as Uber and Lyft currently service the Savannah area. These types of services offer the potential to expand transportation choices, increase carpooling and reduce vehicle mile travels as well as car ownership. There are signs that ride shares can also compete with public transit and provide inequitable service. Ridesharing services are already exploring the use of driverless cars.

Bike and Scooter Share

Bike and scooter share systems offer fleets of bicycles and scooters for short term rental within a defined service area. Currently the only service in the region is only offered to SCAD students. CAT used to operate a station based bicycle system but has discontinued the service. The technology has changed rapidly for bike share systems and the industry is now favoring private companies to own or operate systems. There are companies exploring the Savannah area particularly the historic downtown area as well as some of the college campuses.

In 2018 the Savannah City Council approved an ordinance that prohibits any shared mobility device from being placed in the public right-of-way, on public property or offered for use anywhere in the City. Other cities have found that without docking stations, scooters and other shared-use electric devices are often abandoned by users on streets, sidewalks and other public places. The scooters can become hazards for motorists and pedestrians.

After seeing some of the challenges stemming from the introduction of these devices in other cities, the City of Savannah chose to get in front of the issue so that we could establish appropriate guidance and regulation for their use. The ordinance is intended to be a short-term response, allowing City Staff and the community to work together to develop a long-term solution.

SCAD

The Savannah College of Art and Design (SCAD) is located in Savannah and enrolls approximately 11,300 students locally. The college currently operates its own separate transit system for only SCAD students, the Bee Line. In addition to the Bee Line transit service SCAD also operates its own bike share and car share programs for students.





SECTION FOUR: PUBLIC ENGAGEMENT



Public Engagement



Citizen engagement is one of the most important elements in the development of the plan and the CORE MPO has a long standing history of successfully incorporating citizen and stakeholder input into the planning process. Numerous opportunities for citizen and stakeholder input occurred throughout the development of Mobility 2045. Meetings and workshops occurred at critical project milestones and meeting locations were identified to ensure convenient accessibility by all populations, with proximity to transit and environmental justice communities.

In addition to the close coordination with the local jurisdictions, the CORE MPO has also included extensive coordination with its other planning partners in the development of Mobility 2045 and its components. These efforts have included working closely with state agencies, the Coastal Regional Commission, Chatham Area Transit, the Georgia Ports Authority, Savannah-Hilton Head International Airport, Bike, Walk Savannah, Healthy Savannah, and the Chamber of Commerce. The CORE MPO also works closely and coordinates with its regional partners. The MPO also has a close working relationship with its neighboring MPOs which include the Hinesville Area MPO in Liberty County and the Lowcountry Area Transportation Study (LATS) MPO in South Carolina. Staff from both neighboring MPOs have a standing invitation to participate in the MPO Policy Committee meetings and CORE staff regularly attend the Hinesville Policy Committee and LATS meetings. Coordination on specific planning efforts that may have more wide-ranging impacts, such as a freight assessment, also regularly occurs.

Mobility 2045 Public Involvement

Under the guidance of existing legislation, the MPO has developed and maintained a Public Involvement Plan which outlines public involvement strategies that meet or exceed the federal requirements:

- The Citizens Advisory Committee (CAC) will facilitate the participation process during the development of the MTP.
- The MPO will host at least one public meeting on the MTP early in the development process at a centralized, accessible location.
- A legal notice will be published in the Savannah Morning News at least 10 days prior to any public meeting.
- In addition to the Savannah Morning News, all other local media and the neighborhood associations as identified in Appendix H of the Public Participation Plan, and the consultation agencies as identified in Appendix I of the Public Participation Plan, will be notified of all public meetings. The meeting notice will also be posted on the MPO website.
- Upon completion of a draft MTP, the MPO will hold a 30-day public review and comment period.

- A legal notice will be published in the Savannah Morning News on the Sunday prior to the beginning of the public review and comment period. All the other contacts listed above will be notified as well.
- During the public review and comment period, copies of the draft MTP will be made available for review at the public agencies identified in Appendix J of the Public Participation Plan and will be posted on the MPO website.
- The MPO will host at least one public meeting during the public review and comment period at a centralized, accessible location. The public meeting will be in advance of or in conjunction with the anticipated MPO meeting when the MTP will be adopted.
- Public comments on the draft MTP must be provided in writing and will be included as an appendix to the final MTP.
- Public comments shall be accepted no later than three working days after the public review and comment period ends.
- At the close of the public review and comment period, the MPO staff will review comments and identify any significant comments.
- Significant comments will be reviewed by the MPO Committees at their meetings and incorporated into the final MTP.
- If the final MTP differs significantly from the version that was made available for public comment by the MPO and raises new material issues which interested parties could not reasonably have foreseen from the public involvement efforts, the MPO will re-start a 30-day public review period, whether during or after the initial 30-day public review period.
- A legal notice will be published in the Savannah Morning News on the Sunday prior to the beginning of the public review and comment period. All the other contacts listed above will be notified as well.

Public Review and Feedback Opportunities

The 2045 MTP update process is organized around three rounds of public meetings to facilitate public involvement at critical stages. While public meetings will be held during the plan update process, public meetings are only one part of a broader outreach effort that included print media, radio and television, direct mailings and the internet.

Media Contacts

All local newspapers, radio and television stations will be provided with notification of all public meetings on Mobility 2045. In addition, legal notices were published in the Savannah Morning News, in accordance with the Public Involvement Plan. See Appendix D for a copy of the legal notice.

Brochures

A brochure highlighting the activities of the plan update and the public participation process was developed for distribution at public meetings. Informational brochures were distributed in various churches, information booths etc. A copy of the brochure is in Appendix D

Publications

The MPC newsletter will be used to disseminate Mobility 2045 information. A copy of the article is located in Appendix D.

The Chatham Connection insert of the Savannah Morning News included an article on Mobility 2045 in February 2019. A copy of the article is located in Appendix D.

Open comment period

Although a formal comment period was established for various phases of the plan update, the MPO will accept comments at any time during the plan update.

Mailings

A contact list was developed, comprised of MPO contacts, all neighborhood associations, and all individuals and organizations who attended a meeting, provided comments, or otherwise expressed an interest in the plan update. This contact list is continually updated and expanded. Members of the contact list receive all meeting notices as well as an informational flyer summarizing the recommendations of the draft plan.

Internet

The MPC website will be used to disseminate up-to-date information on Mobility 2045. All drafts of Mobility 2045 will be made available for download at www.thempc.org, where the public will be invited to review preliminary plan documents and submit comment forms online.

Online Survey

In an effort to reach a wider audience staff has developed a short survey to capture the regions' thoughts on transportation. The online survey was distributed via email distribution lists and social media and a press release to major media outlets. The survey was in both Spanish and English and will be available for the public to respond to until July 31st, 2018. The survey had several opportunities for the public to respond in an open ended manner. Results from the survey were used to help confirm and modify the goals and objectives of the long range plan. The survey was designed with input from TCC.

The survey was distributed to a variety of groups (see Table 8). There were 645 responses to the survey and approximately 496 comments. A copy of the survey can be found in Appendix D.

Table 8: MTP Survey Distribution

Groups	Social Media	Email	Newsletter	Webpage	Other
MPC members and staff		X		X	
TCC		X			
ACAT		X			
CAC		X			
MPO		X		X	
Heathy Savannah	X		X		
Savannah Bicycle Campaign	X				
Savannah Morning News	X			X	
Garden City	X	X		X	
MPC Natural Resources	X				
Water Sprout			X		
Coastal Georgia Indicators and Community Teams	X		X		
Step Up Savannah	X				
Working Families Network	X				
Emmaus House	X				

Family Connections Partnership (Bryan, Effingham)		X			
Georgia Bikes	X				
Smart Growth Savannah	X				
Thomas Square Neighborhood Assoc.	X				
Effingham TAB		X			X
SAGIS TAC		X			X
Baldwin Park Neighborhood Association				X	
YMCA Coastal Georgia	X	X			
Slack	X				
Coastal Georgia Greenway	X				
CAT	X	X			
Savannah Council of the Blind		X			
Life Inc		X			

Social Media

In addition to using social media to distribute the MTP survey it will also be utilized when available to advertise public meetings.

Public Meetings

All meetings as part of the MPO meeting cycle were an opportunity for the public to learn about the 2045 MTP update (see Table 9). MPO staff also sought out additional regularly scheduled agency meetings outside of the MPO to provide briefings on the plan update. There were two rounds of community public meetings involving the 2045 MTP update which were held at central locations. At all meetings, attendees were given the opportunity to ask questions and discuss the 2045 MTP update directly with staff members, and to submit written comments. Mobility 2045 and its components had over 80 opportunities for public and stakeholder participation and input. These opportunities were supplemented with stakeholder interviews, stakeholder surveys, and on-line surveys and exercises. All meeting advertisements and notifications were conducted in compliance with, or exceeded the requirements found in the adopted CORE MPO Public Participation Plan. The table below includes the specific engagement activities incorporated in the development of the Mobility 2045 Plan.

The first-round of public meetings was held in fall 2018. The meetings focused on the development of the goals and objectives of the plan and allowed the public to review existing transportation planning documents, learn about the plan update process and schedule, and provide MPO staff with feedback on community needs and desires for the new 2045 MTP. In addition to the formal public meetings staff will also provide briefings and or handout materials at other local meeting such as neighborhood groups, TAB, CGIC etc. A second set of public meetings was held in June 2019 and focused on the draft plan project list.

Table 9: Public Input Opportunities

PLAN DEVELOPMENT INPUT OPPORTUNITIES	
Public MPO/MPC Meetings	49
MPC Meetings	1
SAGIS	1
Community Open Houses and Meetings	7
MTP Working Group Meetings	4
CAT Board	1
Garden City – City Council Meeting	2
Richmond Hill – City Council Meeting	3
Pooler City Council	1
Effingham Transportation Advisory Board	4
Coastal Georgia Indicators Coalition	7
Total Mobility Plan Final Public Hearing	1
TOTAL MEETING/WORKSHOP INPUT OPPORTUNITIES	81

ADDITIONAL INPUT OPPORTUNITIES
Stakeholder Interviews & Special Meetings
I-95 & Airways Avenue Study
I-16 & Little Neck Study
Let's Go CAT" transit System Redesign
ADDITIONAL SPECIFIC PARTNER COORDINATION
City of Savannah
Chatham County Engineering
Effingham TAB
Richmond Hill
Town of Pooler
City of Garden City
City of Tybee Island
Metropolitan Planning Commission
Chatham Area Transit
Savannah Hilton Head International Airport
Georgia Ports Authority
Savannah Area Chamber of Commerce
Coastal Regional Commission
Hinesville Area Metropolitan Planning Organization
Lowcountry Area Transportation Study Metropolitan Planning Organization
Georgia Department of Transportation
Federal Highway Administration
Federal Transit Administration
Bike Walk Savannah
Healthy Savannah

Public Outreach Environmental Justice Analysis

Staff conducted an environmental justice analysis (see table 10) to ensure we were reaching areas of diverse populations; in addition, including locations with access to transit. The main comment we heard regarding our meeting locations was to include a west side location during the second round of meetings which did include two west side locations.

Table 10: Environmental Justice Analysis

Venue	% Minority	% Elderly	% Children	% Persons Below Poverty Level	% of Hispanic LEP	Transit within 0.25 Mile
First Presbyterian Church (Chatham Crescent)	15.52	10.42	9.89	14	N	N
St. Luke Baptist Church	50.49	17.53	5.58	36.91	N	Y
City Hall of Garden City	55.79	5.38	9.68	31.03	N	N
City Hall of Richmond Hill	20.36	8.05	15.35	5.95	N	N
Live Oak Public Library at Savannah Mall	61.46	14.03	15.15	20.15	Y	Y
Armstrong Center	42.49	13.25	7.83	10.51	N	Y
Pooler Recreation Center	35.15	10.07	14.39	10.38	N	N
Moses Jackson Center	79.11	10.25	10	30.33	N	Y
Chatham County Commission Chamber	27.89	7.05	3.98	31.87	N	Y
Environmental Justice Thresholds: Minority 42.68% (i.e., 42.68% of Savannah MSA population are minority); Persons Below Poverty Level 17.01%; Elderly 11.61% (i.e. 11.61 % of Savannah MSA population are 65 years and above); Children 13.67% (persons under Age 10); Limited English Proficiency (LEP) - Persons of Hispanic or Latino Origin (4.95% of total regional population) is the only group that meets the Safe Harbor Rule for LEP consideration.						
Source: US Census Bureau 2010 Decennial Census and 2012 ACS 5-year Estimates						



SECTION FIVE: PROJECT SELECTION PROCESS



Project Selection Process and Plan Development

The Mobility 2045 Plan is based upon the performance based planning and programming process (PBPP). The goals and visions identified in Mobility 2045 support performance based planning by supporting a multimodal transportation system that provides a safe, connected, accessible for all users that enhances the mobility for people and goods. The plan incorporates an approach that integrates land use with transportation, complete streets/context sensitive design approach, and is focused on mobility, sustainability, and quality of life for residents and visitors. This transcendent approach is structured to ensure compliance with all federal and state requirements. With the continuing funding shortfalls for transportation, the FAST Act includes an emphasis on performance based planning and programming and achieving the maximum benefits from expenditures of transportation projects.

There are several elements which went into the project selection process:

- Formation of a technical advisory group, the Mobility 2045 Working Group
- Travel Demand Model analysis
- Project prioritization process with performance measures supporting regional goals and the PBPP
- Congestion Management Process
- Incorporation of contributing studies and plans

Public Engagement

The following section describes the process carried out to identify and select projects for Mobility 2045.

Mobility 2045 Working Group

Throughout the planning process a sub set of the CORE MPO Technical Coordinating Committee (TCC), the Mobility 2045 Working Group met several times to help make key recommendations to the TCC and the Policy Board. The Working Group was instrumental in weighing technical information and making key decisions on financial assumptions, project input for model and analyzing model and prioritization results. A complete list of Mobility 2045 Working Group meetings is identified in Appendix D.

Travel Demand Model

The travel demand model is one of the analysis tools used to more fully understand the existing and future traffic patterns and to measure the impacts of any planned improvements. The travel demand model is one tool that provides information on how the network is functioning, such as the depiction of Level of Service. Level of Service (LOS), which measures how well a facility is functioning, is presented in letter grades from LOS "A" which means the free flow of traffic, to LOS "F" which indicates gridlock. As part of the Mobility 2045 analysis the regional travel demand model was updated to reflect updated census, socioeconomic and transportation data. The Georgia Department of Transportation updated the model and provided LOS information throughout the plan development to the CORE MPO staff and committees to assess various transportation project scenarios.

Model results were provided to technical committee members for review and used as an aid in determining issues and strategies to resolve poor level of service. The committees reviewed the results for six model runs:

1. 2015 Base year
2. 2045 level of service with no new project implemented
3. 2045 level of service with existing and committed projects

4. 2045 level of service results with all current Transportation Improvement Projects completed
5. 2045 level of service results for non-financially constrained projects
6. 2045 level of service results for financially constrained projects

Information on the model and level of service maps are located in Appendix F.

Project Prioritization

Mobility 2045 utilizes a defined process for determining what projects are included in the plan, as well as developing performance measures to determine how well a plan is addressing the region's transportation needs. The CORE MPO developed the prioritization process within the framework of the identified goals and planning factors encompassing performance based planning. The process also follows the Federal Highway Administration's guidance using the "SMART" principle which focuses on using existing data and avoids placing an unrealistic burden on staff.

The project prioritization process consists of two screening tiers. The first screen is based on need and the second screen is based on sustainability. These screens are structured around the CORE MPO goals for their long range planning efforts. Specific metrics were identified based on available data and tools. The table below details the Needs Screen, with associated goals, prioritization factors and data source.

Screen 1:

Goal	Factor	Data Source
System Performance	<ul style="list-style-type: none"> Level of service Truck Traffic Freight connections to strategic infrastructure 	<ul style="list-style-type: none"> Travel Demand Model GIS
Safety and Security	<ul style="list-style-type: none"> Crash rate Designated evacuation route 	<ul style="list-style-type: none"> Georgia Department of Transportation Chatham Emergency Management Agency
Accessibility, Mobility and Connectivity	<ul style="list-style-type: none"> Connecting population and employment Freight last mile Transit ridership Non-motorized Plan priorities 	<ul style="list-style-type: none"> Travel Demand Model Freight Plan CAT Non-motorized Plan
State of Good Repair	<ul style="list-style-type: none"> Bridge rating Bridge Conditions Pavement Conditions Benefit/Cost 	<ul style="list-style-type: none"> Georgia Department of Transportation Cost Estimates Travel Demand Model

Screen 2:

The second screen incorporates those goals more focused on a sustainable mobility system. The table below details the goals, prioritization factors and data sources encompassed in the Sustainability Screen.

Goal	Factor	Data Source
Environment and Quality of Life	<ul style="list-style-type: none">• Impacts to environmental, cultural and social resources	<ul style="list-style-type: none">• GIS
Intergovernmental Coordination	<ul style="list-style-type: none">• Project Status• Local Priority• Consistency with other local, regional and state plans• Financial feasibility	<ul style="list-style-type: none">• Local Governments• Georgia Department of Transportation• Financial analysis

Each factor accomplishing the identified goal is awarded five points; if not, no points are awarded. Projects are then prioritized by the score, with the highest score ranking first. However, there are a number of other factors that must be incorporated into the prioritization process. These additional filters are applied to projects, resulting in the final prioritization. These additional filters include:

- Project Benefits/Costs
- Existing Project Status
- Local Priority
- Consistency with Other Local, Regional and State Plans
- Financial Feasibility

The results of the prioritization scoring can be found in the Appendix F. The prioritization scoring is a tool to aid decision makers in selecting projects. The prioritization process alone is not intended to determine the final list of projects in the plan. Decision makers also take into consideration the results from the travel demand model, the Congestion Management Process and local priorities.



Analysis of Performance Based Planning and Programming

Mobility 2045 goals and performance measures shown in Table 11 serves as a visualization tool to show how the 2045 MTP projects relate to federal performance measures. This underscores the strong alignment between CORE MPO's planning and federal transportation planning priorities of performance based planning.

Table 11: 2045 Mobility Plan Roadway Projects and PBPP

GDOT PI Number	Project Name	From	To	Federal Performance Measures						
				Safety	Pavement and Bridge	Congestion	Freight	Air Quality	Transit Safety	Transit Asset Management
0008358	I-516 @ CS/1503/DeRenne Avenue (DeRenne Blvd. Option)	I-516	White Bluff Road	✓		✓	✓			
0008359	East DeRenne from SR 204 to Harry S Truman Parkway (East DeRenne Avenue Improvements)	Abercorn St	Truman Pkwy	✓		✓	✓			
0010236	SR 21 from CS 346/Mildred Street to SR 204 (West DeRenne Avenue Improvements)	Mildred Street	Abercorn St	✓	✓	✓	✓			
0013741	SR 25/US 17 @ SAVANNAH RIVER IN PORT WENTWORTH	Savannah River		✓	✓		✓			
0013742	SR 25/US 17 @ MIDDLE RIVER IN PORT WENTWORTH	Middle River		✓	✓		✓			
0015704	SR 404 SPUR/US 17 @ BACK RIVER	Back River		✓	✓		✓			
0015705	SR 404 SPUR/US 17 FM NE OF SAVANNAH HARBOR PKWY TO BACK RIVER	NE of Savannah Harbor Pkwy	Back River	✓	✓		✓			
0006700	Effingham Parkway from SR 119/Effingham to SR 30/Chatham	Effingham County	Meinhard Road			✓				
0006328	Brampton Road Connector	SR 25	Georgia Ports Authority			✓	✓			
0012757	I-16 FROM I-95 TO I-516	I-95	I-516	✓	✓	✓	✓			
0012758	I-16 at I-95 Interchange Reconstruction	---	---	✓	✓	✓	✓			
0013727	I-16 @ SR 307			✓	✓	✓	✓			
521855	SR 26 From I-516 to CS 188/Victory Drive (US 80 / Ogeechee Rd Widening)	4 Ln E Lynes Pkwy	Victory Dr	✓	✓	✓	✓			
0010560	SR 26/US 80 @ Bull River and @ Lazaretto Creek	West of Bull River	East of Lazaretto Creek	✓	✓	✓				
None	I-16 Interchange at Little Neck Road	Little Neck Road		✓	✓	✓	✓			
None	I-95 at Airways Avenue	Airways Avenue		✓		✓	✓			

GDOT PI Number	Project Name	From	To	Federal Performance Measures						
				Safety	Pavement and Bridge	Congestion	Freight	Air Quality	Transit Safety	Transit Asset Management
None	I-516 / Lynes Parkway at I-16 Interchange Reconstruction	At I-16		✓	✓	✓	✓			
0013160	I-516 / Lynes Parkway Widening	I-16	Veterans Parkway	✓	✓	✓	✓			
None	I-516 / Lynes Parkway Widening	Veterans Parkway	Mildred St	✓	✓	✓	✓			
None	I-95 at SR 21 / Augusta Rd Interchange Reconstruction			✓	✓	✓	✓			
None	President Street / Truman Parkway Interchange Bridge and Ramp Reconstruction	HST Parkway		✓	✓	✓	✓			
0015528	I-16 Widening	Pooler Pkwy	I-95	✓	✓	✓	✓			
None	Old River Road Widening	SR 204	Effingham County / Chatham County line	✓	✓		✓			
None	Gulfstream Widening	SR 21	Airways Avenue	✓		✓	✓			
None	Harris Trail Road Widening	Timber Trail	Port Royal Road	✓		✓	✓			
None	Port Royal Road Widening	SR 144	Harris Trail	✓		✓	✓			

Congestion Management Process

In addition to the prioritization process the CORE MPO is also responsible for the development of a Congestion Management Process which can serve a tool to help decision makers prioritize projects.

In 2017 the CMP was updated 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 all of Chatham County, Richmond Hill in Bryan County, and portions of Effingham County and Bryan County within the 2010 census-defined Savannah Urbanized Area. This information was used by the MPO primarily to identify congestion and mobility problems and target these areas for improvement. The study approach was 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 CORE MPO followed the following steps as depicted in Figure 16 for CMP development as published in the FHWA's Congestion Management Process Guidebook⁹.

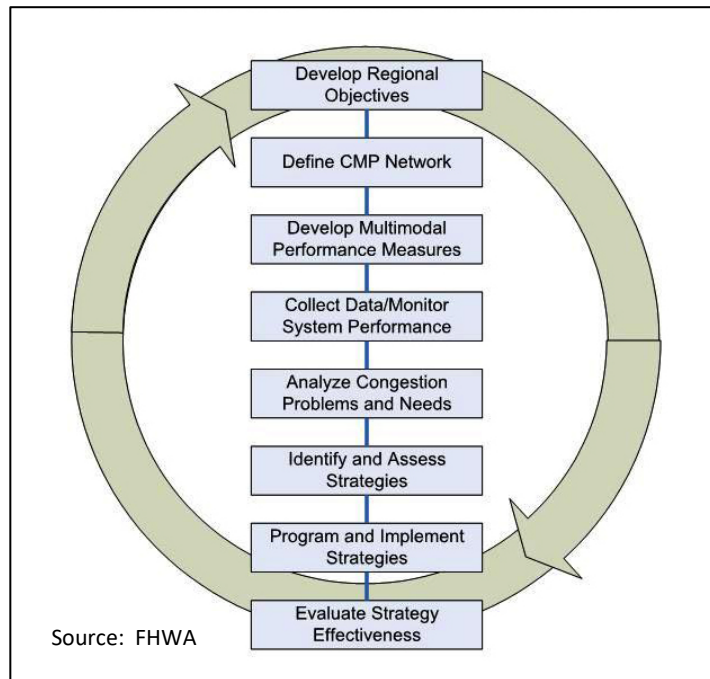
The CMP serves several key functions:

- Ensures consistency with the CORE MPO's 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.

The results of this study were used as factors in prioritizing needed improvements and helping define projects for Mobility 2045. To view the complete CMP report, visit <https://www.thempc.org/Core/Cmp>. The CMP will be updated again during the next planning cycle.

⁹ http://www.fhwa.dot.gov/planning/congestion_management_process/cmp_guidebook/

Figure 16: Elements of the Congestion Management Process



Special Studies and Plans Contributing Mobility 2045

There are several special studies and plans that have been conducted which contributed to the development of Mobility 2045.

Freight plan

The CORE MPO's Freight Transportation Plan, completed in 2016, focused on the freight development of the Savannah MSA (Chatham, Bryan and Effingham Counties). The plan intends to provide a road map for enhancing freight mobility within and outside of the three-county area in order to improve the Savannah region's economic competitiveness. Recommendations from the Freight Plan included land use recommendations and freight infrastructure improvements, which have been presented in both policy recommendations and project-specific recommendations. Many of these infrastructure improvement recommendations are being incorporated into the 2045 Metropolitan Transportation Plan. For more information on the CORE MPO's Freight Transportation Plan, visit <https://www.thempc.org/Core/fp>.

Non-Motorized plan

The current Non-motorized plan was adopted in October 2014 and is in the process of being updated. Any bicycle, sidewalk or trail project seeking CORE MPO highway funding is considered consistent with the MPO's 2045 Metropolitan Transportation Plan provided that 1) the project is consistent with the adopted CORE MPO Non-Motorized Transportation Plan; and 2) the project has a dedicated local sponsor with local match funding commitment. For more information on the Non-Motorized Plan visit <https://www.thempc.org/Core/Bpp>



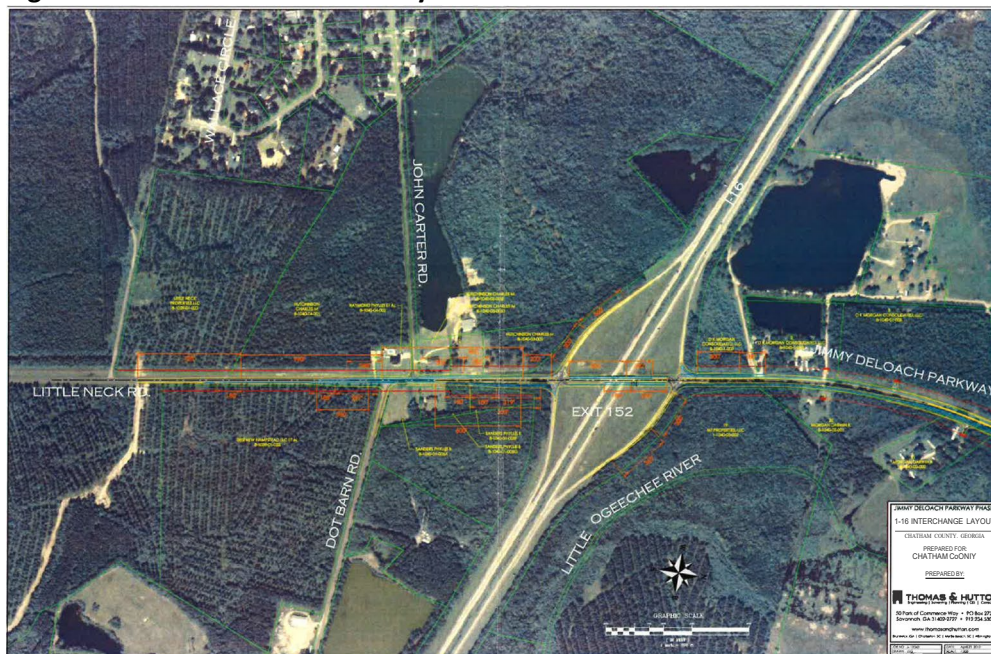
I-16 at Little Neck

The I-16 at Little Neck Road interchange as shown in Figure 17 will be the future terminus of the Jimmy DeLoach Parkway, Phase 2 project. The Jimmy DeLoach Parkway, Phase 2 project is the “last section” of the Jimmy DeLoach Corridor which will provide direct, alternative access into the Georgia Ports Authority from Interstate 16.

During development of the Jimmy DeLoach Parkway, Phase 2 project, FHWA required an additional analysis of the existing conventional diamond interchange at the intersection of I-16 and existing Bloomingdale Road/Little Neck Road. Using the approved counts and projections for the Jimmy DeLoach Parkway, Phase 2 and Jimmy DeLoach Parkway at US 80 Interchange, a rough analysis was performed to determine if improvements were needed at the interchange prior to construction of the Jimmy DeLoach Parkway, Phase 2 projects. The preliminary analysis showed that an interchange improvement will be needed at the existing interchange. The projected volumes in the area indicate that the ramp termini at future Jimmy DeLoach Parkway, Phase 2 will operate over capacity (LOS F) in 2038 regardless of whether or not the Jimmy DeLoach Parkway, Phase 2 is constructed. A secondary analysis was performed that included widening the roadway and bridge over I-16 to provide two thru lanes in each direction, as well as widening the I-16 off-ramps approaching Bloomingdale Road and signaling the on/off ramp intersections. This analysis showed significant improvement to the operation of the interchange, providing LOS of A, B, C, and D.

The I-16 at Little Neck Road study will update the traffic counts, evaluate the existing operational analysis of the interchange, project new traffic volumes based on growth and land use data, evaluate the crash history of the interchange, develop alternatives to improve the operation and safety of the interchange, evaluate the alternatives using traffic projections and provide preliminary environmental screening to facilitate development of a future concept report and Interchange Modification Report (IMR), if required.

Figure 17. I-16 at Little Neck Study Site



I-95 at Airways Avenue

The existing conventional diamond interchange at the intersection of I-95 and existing Airways Avenue/Pooler Parkway experiences significantly congestion and delays. An Interchange Operational Analysis Report of the interchange was completed during the preliminary engineering for the I-95/Airways Avenue Interchange Improvements project done by GDOT, SAC, SEDA, and Gulfstream. This analysis used counts and projections for the project. Using the referenced counts and projections, a rough analysis was performed to determine if improvements were needed at the interchange. The preliminary analysis showed that an interchange improvement will be needed at the existing interchange. The projected volumes in the area indicate that the interchange will continue to operate over capacity (LOS F) unless either a DDI (Diverging Diamond Interchange), northbound to westbound flyover, or a northbound to westbound loop ramp is constructed.

The I-95 at Airways Avenue Study will update the traffic counts, evaluate the existing operational analysis of the interchange, project new traffic volumes based on growth and land use data, evaluate the crash history of the interchange, develop alternatives to improve the operation and safety of the interchange, evaluate the alternatives using traffic projections, and provide preliminary environmental screening to facilitate development of a future concept report and Interchange Modification Report (IMR), if required.

Public Involvement

A large component of the planning process is the public engagement efforts that take place throughout the plan update. Section 4 along with Appendix D detail the outreach efforts that occurred to incorporate public input into the planning process. The CORE MPO reached out the public with several methods to engage, inform and collect feedback:

- Interactive exercises to introduce population and economic information which fed into the development of the socioeconomic data
- Online Survey to define goals and objectives
- Open houses (during goals developed and a second round to review the draft plan)
- Public Speaking opportunities
- MPC Newsletter article
- Newspaper insert article
- Development of an online interactive map



SECTION SIX: FINANCIAL PLAN AND PROJECT RECOMMENDATIONS



Mobility 2045 Financial Plan

The 2045 Metropolitan Transportation Plan is required to include a financially balanced list of projects; the project costs must not exceed the anticipated funding for the planning period. The financial analysis is a key component in the development of the plan. Project costs must be developed and inflated to the anticipated year of expenditure or inflated to the year that the project is expected to be underway. The anticipated revenues from all sources, including federal, state and local, must also be inflated. The project costs must then be compared to the anticipated funding to ensure that all of the projects are financially feasible to complete. The final list of financially balanced projects is the Mobility 2045 Plan. The projects identified but are not included in the plan are incorporated into the Vision Project list, or unfunded project list.

Subsequent plan updates will utilize the Vision Project list for projects to include _____ when funds become available. The section below is a summary of the Mobility 2045 Financial Plan. For details on the development of this plan, please refer to Appendix C.



Highway Revenues

The GDOT Office of Financial Management (OFM) provided highway revenue forecasts for 2019 – 2045 based on a three-year average of the state’s obligation authority and distributions among MPOs. The forecasted revenues are divided into two parts – funds for projects and funds for maintenance. The project amounts are determined based on the MPO population from the 2010 census, and the maintenance amount was calculated using the MPO’s percentage of state route lane miles. These estimates are based on a standard 1% annual inflation. According to the GDOT forecasts, the Savannah region will receive an annual average of a little over \$30 million. These forecasts only include the federal portion of the expected highway revenues for the Savannah area and will be the basis for the final 2045 MTP highway revenue development. Since the 2045 MTP will cover 2020 to 2045, the GDOT 2019 revenue data will not be included in the final forecast.

To access these federal revenues, the State of Georgia and/or local project sponsors must provide matching funds. Although each federal funding program requires a different percentage of matching funds, the majority require a 20% match. Thus, the assumption is that 20% state/local matching funds would be added to the final highway revenue forecasts of the 2045 MTP.

1. For the 2045 MTP highway revenue projections, the funds for projects and funds for maintenance will be separated from each other.
2. The first two years (2020 and 2021) of the 2045 MTP overlap with the last two years of the current FY 2018 – 2021 Transportation Improvement Program (TIP). The funds included in the TIP are considered “committed”. Thus, the revenues committed in the TIP for 2020 and 2021 will replace the state obligation authority – based revenue forecasts for these two years for projects. These committed revenues include funds allocated to projects included in the Major Mobility Investment Program (MMIP) and projects programmed with HB 170 funds.
3. Since it is uncertain how much HB 170 funds will be allocated to the Savannah area for the duration of the 2045 MTP, it is assumed that no HB 170 funds would be available after 2021 for the final revenue forecasts.

4. It is assumed that an additional \$2.5 million annual local funds would be included in the final 2045 MTP revenue forecasts. These funds will be used to finance projects' implementation, not to be spent on maintenance.
5. It is assumed that no other funding sources (bonds, discretionary grant funds, public – private partnership funds, etc.) would be included in the final 2045 MTP revenue forecasts.
6. Using 2020 as the base year, a 1% annual inflation rate is applied to the 2045 MTP revenue forecasts for maintenance and for projects of 2022 - 2045.
7. The revenues of the 2045 MTP expressed in Year-of-Expenditure (YOE) dollars will be distributed into short-, mid- and long- term cost bands to cover projects included in each band as follows.
 - a. Cost Band One: 2020 – 2027 (8 years)
 - b. Cost Band Two: 2028 – 2036 (9 years; mid-year is 2032)
 - c. Cost Band Three: 2037 – 2045 (9 years; mid-year is 2041)
8. The project revenues in each cost band will be divided into revenues for specific projects and revenues for category expenditures. Three categories have been identified:
 - a. Operational Improvements Set Aside: based on the approximate lump sum category percentage of the total revenues in the FY 2018 – 2021 TIP, it is assumed that 9.5% of available project revenues for 2022 - 2045 will be reserved for operational improvements. The 2020 and 2021 lump sum funding amounts in the TIP are used for Operational Improvements for these two years.
 - b. Transit Set Aside: based on historic Z230 funding awards, it is assumed that \$700,000 from project revenues will be reserved each year for bus purchase or transit improvements. Implementation of these transit projects will require funding flexing from FHWA to FTA.
 - c. Non-Motorized Set Aside: based on the annual Z301 funding availability for the Savannah area, it is assumed that \$500,000 each year from project revenues will be reserved for non-motorized projects (bike, ped, trails, etc.) for 2022 – 2045. The 2020 and 2021 funding amounts for programmed bike/ped projects in the TIP are used for these two years.

The Table 12 depicts the anticipated highway revenues for the planning period of 2020 – 2045 for highway projects and category expenditures.

Table 12: 2020-2045 Highway Revenue Projections

Year	Federal*			Matching Funds			Total with Matching Funds			HB 170	Local****	Other	Highway Total Estimates	Cost Band	Cost Band Total	Cost Band Project	Cost Band Maintenance
	Projects Estimate	Maintenance Estimate	Total Estimate	Projects Estimate	Maintenance Estimate	Total Estimate	Projects Estimate	Maintenance Estimate	Total Estimate								
2020**	\$30,473,622	\$6,289,725	\$36,763,348	\$7,618,406	\$1,572,431	\$9,190,837	\$285,949,746	\$7,862,157	\$293,811,903	\$0	\$2,500,000	\$0	\$296,311,903	One	\$801,290,466	\$736,147,226	\$65,143,240
2021**	\$30,778,358	\$6,352,623	\$37,130,981	\$7,694,590	\$1,588,156	\$9,282,745	\$190,430,286	\$7,940,778	\$198,371,064	\$0	\$2,525,000	\$0	\$200,896,064				
2022	\$31,086,142	\$6,416,149	\$37,502,291	\$7,771,536	\$1,604,037	\$9,375,573	\$38,857,678	\$8,020,186	\$46,877,864	\$0	\$2,550,250	\$0	\$49,428,114				
2023	\$31,397,003	\$6,480,310	\$37,877,314	\$7,849,251	\$1,620,078	\$9,469,328	\$39,246,254	\$8,100,388	\$47,346,642	\$0	\$2,575,753	\$0	\$49,922,395				
2024	\$31,710,974	\$6,545,113	\$38,256,087	\$7,927,743	\$1,636,278	\$9,564,022	\$39,638,717	\$8,181,392	\$47,820,109	\$0	\$2,601,510	\$0	\$50,421,619				
2025	\$32,028,083	\$6,610,565	\$38,638,648	\$8,007,021	\$1,652,641	\$9,659,662	\$40,035,104	\$8,263,206	\$48,298,310	\$0	\$2,627,525	\$0	\$50,925,835				
2026	\$32,348,364	\$6,676,670	\$39,025,034	\$8,087,091	\$1,669,168	\$9,756,259	\$40,435,455	\$8,345,838	\$48,781,293	\$0	\$2,653,800	\$0	\$51,435,093				
2027	\$32,671,848	\$6,743,437	\$39,415,285	\$8,167,962	\$1,685,859	\$9,853,821	\$40,839,810	\$8,429,296	\$49,269,106	\$0	\$2,680,338	\$0	\$51,949,444				
2028	\$32,998,566	\$6,810,871	\$39,809,437	\$8,249,642	\$1,702,718	\$9,952,359	\$41,248,208	\$8,513,589	\$49,761,797	\$0	\$2,707,142	\$0	\$52,468,939	Two	\$491,556,682	\$411,796,891	\$79,759,791
2029	\$33,328,552	\$6,878,980	\$40,207,532	\$8,332,138	\$1,719,745	\$10,051,883	\$41,660,690	\$8,598,725	\$50,259,415	\$0	\$2,734,213	\$0	\$52,993,628				
2030	\$33,661,837	\$6,947,770	\$40,609,607	\$8,415,459	\$1,736,942	\$10,152,402	\$42,077,297	\$8,684,712	\$50,762,009	\$0	\$2,761,555	\$0	\$53,523,564				
2031	\$33,998,456	\$7,017,247	\$41,015,703	\$8,499,614	\$1,754,312	\$10,253,926	\$42,498,070	\$8,771,559	\$51,269,629	\$0	\$2,789,171	\$0	\$54,058,800				
2032	\$34,338,440	\$7,087,420	\$41,425,860	\$8,584,610	\$1,771,855	\$10,356,465	\$42,923,050	\$8,859,275	\$51,782,325	\$0	\$2,817,063	\$0	\$54,599,388				
2033	\$34,681,825	\$7,158,294	\$41,840,119	\$8,670,456	\$1,789,574	\$10,460,030	\$43,352,281	\$8,947,868	\$52,300,149	\$0	\$2,845,233	\$0	\$55,145,382				
2034	\$35,028,643	\$7,229,877	\$42,258,520	\$8,757,161	\$1,807,469	\$10,564,630	\$43,785,804	\$9,037,346	\$52,823,150	\$0	\$2,873,686	\$0	\$55,696,836				
2035	\$35,378,929	\$7,302,176	\$42,681,105	\$8,844,732	\$1,825,544	\$10,670,276	\$44,223,662	\$9,127,720	\$53,351,382	\$0	\$2,902,422	\$0	\$56,253,804				
2036	\$35,732,719	\$7,375,198	\$43,107,916	\$8,933,180	\$1,843,799	\$10,776,979	\$44,665,898	\$9,218,997	\$53,884,895	\$0	\$2,931,447	\$0	\$56,816,342	Three	\$537,608,304	\$450,376,195	\$87,232,109
2037	\$36,090,046	\$7,448,950	\$43,538,995	\$9,022,511	\$1,862,237	\$10,884,749	\$45,112,557	\$9,311,187	\$54,423,744	\$0	\$2,960,761	\$0	\$57,384,505				
2038	\$36,450,946	\$7,523,439	\$43,974,385	\$9,112,737	\$1,880,860	\$10,993,596	\$45,563,683	\$9,404,299	\$54,967,982	\$0	\$2,990,369	\$0	\$57,958,350				
2039	\$36,815,456	\$7,598,673	\$44,414,129	\$9,203,864	\$1,899,668	\$11,103,532	\$46,019,320	\$9,498,342	\$55,517,662	\$0	\$3,020,272	\$0	\$58,537,934				
2040	\$37,183,610	\$7,674,660	\$44,858,271	\$9,295,903	\$1,918,665	\$11,214,568	\$46,479,513	\$9,593,325	\$56,072,838	\$0	\$3,050,475	\$0	\$59,123,313				
2041	\$37,555,446	\$7,751,407	\$45,306,853	\$9,388,862	\$1,937,852	\$11,326,713	\$46,944,308	\$9,689,259	\$56,633,567	\$0	\$3,080,980	\$0	\$59,714,546				
2042	\$37,931,001	\$7,828,921	\$45,759,922	\$9,482,750	\$1,957,230	\$11,439,980	\$47,413,751	\$9,786,151	\$57,199,902	\$0	\$3,111,790	\$0	\$60,311,692				
2043	\$38,310,311	\$7,907,210	\$46,217,521	\$9,577,578	\$1,976,803	\$11,554,380	\$47,887,889	\$9,884,013	\$57,771,901	\$0	\$3,142,908	\$0	\$60,914,809				
2044	\$38,693,414	\$7,986,282	\$46,679,696	\$9,673,354	\$1,996,571	\$11,669,924	\$48,366,768	\$9,982,853	\$58,349,620	\$0	\$3,174,337	\$0	\$61,523,957				
2045	\$39,080,348	\$8,066,145	\$47,146,493	\$9,770,087	\$2,016,536	\$11,786,623	\$48,850,435	\$10,082,681	\$58,933,117	\$0	\$3,206,080	\$0	\$62,139,196				
2020 - 2045 Revenues	\$899,752,941	\$185,708,113	\$1,085,461,054	\$224,938,235	\$46,427,028	\$271,365,263	\$1,524,506,233	\$232,135,141	\$1,756,641,373	\$0	\$73,814,079	\$0	\$1,830,455,452		\$1,830,455,452	\$1,598,320,311	\$232,135,141

* Data provided by GDOT based on a three-year average of the state’s obligation authority and distributions among MPOs. Projection amounts are YOY \$ - (1% inflation per year). Projection only covers the federal portion.

** The committed funds in 2020 and 2021 from FY 2018 - 2021 TIP are used to replace the state's obligation - authority based forecasts.

***The 2045 MTP covers 2020 to 2045, so the 2019 data is not used for revenue projections.

****Local revenues will be used to fund projects, not maintenance.

Highway Project Cost Estimates

The following summarizes the methodology utilized to calculate the highway project cost estimates in YOE dollars for the 2045 MTP.

1. The project phases of each potential 2045 MTP highway project, which include Preliminary Engineering (PE), Right-of-Way acquisition (ROW), Utilities (UTL) and Construction (CST), are reviewed by CORE MPO staff and the 2045 MTP Working Group to determine which of three cost band periods best match the priority and schedule of each phase.
2. Funding source by project phase is not tracked; only the cost totals by phase (PE, ROW, UTL and CST) are calculated.
3. If a project phase was authorized prior to the adoption of the 2045 MTP, the project phase cost is not included in the plan.
4. The annual planning level cost estimating inflation rate is defined as 3.5% based on the National Highway Construction Cost Index (NHCCI) data from 2003 to 2018.
5. Project costs are calculated in YOE dollars for each appropriate time period. The projects' cost estimates for cost band periods are described below.
 - a) Cost Band One (2020 - 2027):
 - i. Overlaps with GDOT's short-range planning period and the current FY 2018 - 2020 Transportation Improvement Program (TIP).
 - ii. For 2020 and 2021 projects, use the projects' phase costs in the TIP that reflect the most current GDOT cost estimates.
 - iii. For 2022 – 2027 projects, use the best available cost estimates from GDOT, local project sponsors or CORE MPO where applicable. The projects' costs should be estimated for the appropriate phase (PE, ROW, UTL and CST). No inflation factor is applied to these projects assuming the cost estimates are already inflation-adjusted.
 - b) Cost Band Two (2028 – 2036)
 - i. Incorporate cost estimates developed for the 2040 MTP, or project sponsor-provided estimates, or estimates based on per mile costs of comparable local projects as expressed in approved concept reports as available.
 - ii. Apply the appropriate escalation inflation factor calculated for YOE 2032 (the midpoint of this time band) for the final cost estimates for each phase.
 - c) Cost Band Three (2037-2045)
 - i. Incorporate cost estimates developed for the 2040 MTP, or project sponsor-provided estimates, or estimates based on per mile costs of comparable local projects as expressed in approved concept reports as available.
 - ii. Apply the appropriate escalation inflation factor calculated for YOE 2041 (the midpoint of this time band) for the final cost estimates for each phase.

Development of Financially Constrained Highway Plan

With the development of the anticipated highway revenues over the planning period, the next step is to decide what projects are to be included in the highway section of the financially constrained 2045 MTP. This step takes into consideration projects' development status and implementation schedule, MTP continuity, projects' prioritization rankings, fiscal constraints, and geographic equity analysis. For highway financially-constrained plan development, the projects are evaluated and selected based on the methodology listed below.

1. The projects included in the current 2040 MTP that are completed, under construction or no longer needed are not included in the 2045 plan.

2. The remaining projects in the 2040 MTP that are in the pipeline for implementation will be carried forward to the financially constrained 2045 MTP. The following projects qualify for this criterion.
3. The long-range projects in the 2040 MTP are evaluated for their project prioritization rankings, fiscal constraints of each cost band, and geographic equity analysis.
4. New highway projects identified through the travel demand modelling process and/or by local sponsors are evaluated for their project prioritization rankings, fiscal constraints of each cost band, and sponsors' commitment. The highway project rankings are listed in Appendix F.
5. Policy statements are developed for category projects to correspond to project revenue category expenditure set-asides and maintenance expenditures. These Policy Statements include the following:
 - a) Maintenance Policy: The Georgia Department of Transportation (GDOT) maintains the state highways in Georgia. Maintenance projects in the Savannah area which have been duly selected for funding by the State Transportation Board are considered to be consistent with the CORE MPO's 2045 Metropolitan Transportation Plan.
 - b) Operational Improvements Set Aside Policy: Any operational improvement project (traffic signals, turn lanes, intersection improvement, etc.) in the Savannah area seeking CORE MPO highway funding is considered to be consistent with the MPO's 2045 Metropolitan Transportation Plan provided that 1) the project is consistent with the MPO's plans (2045 Vision Plan, Freight Plan, Congestion Management Process, etc.) or local Capital Improvement Programs; 2) the project makes improvements to functionally-classified roadways (collectors and above); and 3) the project has a dedicated project sponsor with local match funding commitment.
 - c) Transit Improvements Set Aside Policy: Any transit improvement project seeking CORE MPO highway funding in the Savannah area is considered to be consistent with the MPO's 2045 Metropolitan Transportation Plan provided that 1) the project has an eligible local sponsor with matching fund commitment; 2) the project is consistent with the transit needs identified in the 2045 MTP; and 3) the project is approved by the CORE MPO Board for inclusion in the Transportation Improvement Program.
 - d) Non-Motorized Improvements Set Aside Policy: Any bicycle, sidewalk or trail project seeking CORE MPO highway funding is considered consistent with the MPO's 2045 Metropolitan Transportation Plan provided that 1) the project is consistent with the adopted CORE MPO Non-Motorized Transportation Plan; and 2) the project has a dedicated local sponsor with local match funding commitment

Financially Constrained Highway Plan

The selected priority projects' costs are adjusted for inflation and then the costs balanced against the anticipated revenues in each cost band. In order to balance the anticipated revenues with the project costs for the financially feasible plan, some projects or project phases have to be removed and pushed back into the Vision Plan. The MPO worked closely with the 2045 MTP Working Group and developed a draft fiscally constrained 2045 MTP for highway projects as shown below in Table 13 and Figure 18.

Tabel 13: 2045 Metropolitan Transportation Plan - Cost Feasible Project List

GDOT PI #	Map ID	Identified Projects			2020-2027				2028-2036 (mid-year 2032)				2037-2045 (mid-year 2041)					
		NAME	TERMINI		Thoroughfare Plan Cross Section	PE	ROW	CST	Total Project Cost	PE	ROW	CST	Total Project Cost	PE	ROW	CST	Total Project Cost	
			FROM	TO														
0008358	1	I-516 @ CS/1503/DeRenne Avenue (DeRenne Blvd. Option)	I-516	White Bluff Road	Major Arterial - Suburban		\$ 18,400,000	\$ 33,000,000	\$ 51,400,000									
0008359	2	East DeRenne from SR 204 to Harry S Truman Parkway (East DeRenne Avenue Improvements)	Abercorn St	Truman Pkwy	Major Arterial - Suburban		\$ 4,700,000	\$ 5,600,000	\$ 10,300,000									
0010236	3	SR 21 from CS 346/Mildred Street to SR 204 (West DeRenne Avenue Improvements)	Mildred Street	Abercorn St	Major Arterial - Suburban		\$ 6,800,000	\$ 4,100,000	\$ 10,900,000									
0013741	4	SR 25/US 17 @ SAVANNAH RIVER IN PORT WENTWORTH	Savannah River		Minor Arterial - Suburban		\$80,580	\$30,564,675	\$30,645,255									
0013742	5	SR 25/US 17 @ MIDDLE RIVER IN PORT WENTWORTH	Middle River		Minor Arterial - Suburban		\$72,420	\$30,238,275	\$30,310,695									
0015704	6	SR 404 SPUR/US 17 @ BACK RIVER	Back River		N/A*			\$1,620,000	\$1,620,000									
0015705	7	SR 404 SPUR/US 17 FM NE OF SAVANNAH HARBOR PKWY TO BACK RIVER	NE of Savannah Harbar Pkwy	Back River	N/A*		\$500,000	\$2,000,000	\$2,500,000									
0006700	8	Effingham Parkway from SR 119/Effingham to SR 30/Chatham	Effingham County	Meinhard Road	Minor Arterial - Suburban			\$ 41,879,134	\$ 41,879,134									
0012757	9	I-16 FROM I-95 TO I-516	I-95	I-516	N/A*		\$ 6,100,000	\$ 205,800,000	\$ 211,900,000									
0012758	10	I-16 at I-95 Interchange Reconstruction	---	---	N/A*													
0013727	11	I-16 @ SR 307			N/A*			\$ 28,155,497	\$ 28,155,497									
521855	12	SR 26 From I-516 to CS 188/Victory Drive (US 80 / Ogeechee Rd Widening)	4 Ln E Lynes Pkwy	Victory Dr	Major Arterial - Urban		\$ -	\$ 16,497,481	\$ 16,497,481									
0006328	13	Brampton Road Connector from Foundation Drive to SR 21/SR 25/US 80	SR 25	Georgia Ports Authority	Collector - Suburban	\$ 1,665,671	\$ -	\$ 60,350,423	\$ 62,016,094									
0010560	14	SR 26/US 80 @ Bull River and @ Lazaretto Creek	West of Bull River	East of Lazeretto Creek	Major Arterial - Suburban	\$ 1,000,000	\$ 280,500	\$ 93,719,188	\$ 94,999,688									
None	15	I-16 Interchange at Little Neck Road	Little Neck Road		N/A*	\$ 2,000,000	\$ 813,717	\$ 30,000,000	\$ 32,813,717									
None	16	I-95 at Airways Avenue	Airways Avenue		N/A*	\$ 3,000,000		\$ 30,000,000	\$ 33,000,000									
None	17	I-516 / Lynes Parkway at I-16 Interchange Reconstruction	At I-16		N/A*									\$ 19,788,105.00			\$ 19,788,105	
0013160	18	I-516 / Lynes Parkway Widening	I-16	Veterans Parkway	N/A*					\$ 14,270,550			\$ 14,270,550			\$ 153,863,204	\$ 153,863,204	
None	19	I-516 / Lynes Parkway Widening	Veterans Parkway	Mildred St	N/A*					\$ 12,610,598	\$ 7,991,650	\$ 113,495,380	\$ 134,097,628					
None	20	I-95 at SR 21 / Augusta Rd Interchange Reconstruction			Major Arterial - Suburban					\$ 5,137,479	\$ 83,912,321		\$ 89,049,800			\$ 104,250,067	\$ 104,250,067	
None	21	President Street / Truman Parkway Interchange Bridge and Ramp Reconstruction	HST Parkway		N/A*					\$ 9,820,608	\$ 3,928,243	\$ 84,457,236	\$ 98,206,087					
0015528	22	I-16 Widening	Pooler Pkwy	I-95	N/A*					\$ 4,508,364			\$ 4,508,364			\$ 62,862,317	\$ 62,862,317	
None	23	Old River Road Widening	SR 204	Effingham County / Chatham County line	Collector - Suburban					\$ 1,016,571	\$ 3,909,890	\$ 11,870,426	\$ 16,796,887					
None	24	Gulfstream Widening	SR 21	Airways Avenue	Collector - Suburban									\$ 6,394,535			\$ 6,394,535	
None	25	I-95 at Quacco Road Interchange Study	I-95	Quacco Road	NA	\$ 450,000			\$ 450,000									
None	26	Harris Trail Road Widening	Timber Trail	Port Rayal Road	Collector - Suburban									\$ 1,722,918	\$ 5,709,638	\$ 21,537,789	\$ 28,970,345	
None	27	Port Royal Road Widening	SR 144	Harris Trail	Collector - Suburban									\$ 1,721,515	\$ 5,164,546	\$ 10,329,091	\$ 17,215,152	
Total Cost									\$ 659,387,561	Total Cost				\$ 356,929,316	Total Cost			\$ 393,343,725
Total Highway Project Revenue									\$ 658,937,561	Total Highway Project Revenue				\$ 361,876,186	Total Highway Project Revenue			\$ 396,790,456
Balance									\$ (450,000)	Balance				\$ 4,946,870	Balance			\$ 3,446,731

GDOT PI #	Map ID	Identified Projects				2020-2027				2028-2036 (mid-year 2032)				2037-2045 (mid-year 2041)					
		NAME	TERMINI		Thoroughfare Plan Cross Section	PE	ROW	CST	Total Project Cost	PE	ROW	CST	Total Project Cost	PE	ROW	CST	Total Project Cost		
			FROM	TO															
TBA		Operational Improvements with project sponsors			Operational Improvements			\$ 58,271,837	\$ 58,271,837			\$ 39,120,705	\$ 39,120,705			\$ 42,785,738	\$ 42,785,738		
Total Cost									\$ 58,271,837	Total Cost				\$ 39,120,705	Total Cost				\$ 42,785,738
Total Operational Set Aside									\$ 58,271,837	Total Operational Set Aside				\$ 39,120,705	Total Operational Set Aside				\$ 42,785,738
Balance									\$0	Balance				\$0	Balance				\$0

TBA		Transit Improvements/Bus Replacements			Transit			\$ 5,600,000	\$ 5,600,000			\$ 6,300,000	\$ 6,300,000			\$ 6,300,000	\$ 6,300,000		
Total Cost									\$ 5,600,000	Total Cost				\$ 6,300,000	Total Cost				\$ 6,300,000
Total Transit Set Aside									\$ 5,600,000	Total Transit Set Aside				\$ 6,300,000	Total Transit Set Aside				\$ 6,300,000
Balance									\$0	Balance				\$0	Balance				\$0

0015306	28	TRUMAN LINEAR PARK TRAIL – PHASE II-B	DeRenne Avenue	52nd Street/Bee Road				\$ 4,405,623	\$ 4,405,623										
0010028	29	CS1097/DeLesseps/LaRoche Avenue From Waters Avenue to Skidaway Road (Bike/Ped Facilities)	Waters Ave	Skidaway Road	Collector - Urban	\$ 25,000		\$ 5,907,205	\$ 5,932,205										
TBA		Priotiy bike/ped projects in the Non-Motorized Transportation Plan with local sponsors			Bike/Ped			\$ 3,000,000	\$ 3,000,000			\$ 4,500,000	\$ 4,500,000			\$ 4,500,000	\$ 4,500,000		
Total Cost									\$ 13,337,828	Total Cost				\$ 4,500,000	Total Cost				\$ 4,500,000
Total Non-Motorized Set Aside									\$ 13,337,828	Total Non-Motorized Set Aside				\$ 4,500,000	Total Non-Motorized Set Aside				\$ 4,500,000
Balance									\$0	Balance				\$0	Balance				\$0

TBA		Maintenance Projects			Maintenance			\$ 65,143,240	\$ 65,143,240			\$ 79,759,791	\$ 79,759,791			\$ 87,232,109	\$ 87,232,109		
Total Cost									\$ 65,143,240	Total Cost				\$ 79,759,791	Total Cost				\$ 87,232,109
Total Maintenance									\$ 65,143,240	Total Maintenance				\$ 79,759,791	Total Maintenance				\$ 87,232,109
Balance									\$0	Balance				\$0	Balance				\$0

Band 1 Highway Project Costs	\$ 659,387,561	Band 2 Highway Project Costs	\$ 356,929,316	Band 3 Highway Project Costs	\$ 393,343,725
Operational Set Aside	\$ 58,271,837	Operational Set Aside	\$ 39,120,705	Operational Set Aside	\$ 42,785,738
Transit Set Aside	\$ 5,600,000	Transit Set Aside	\$ 6,300,000	Transit Set Aside	\$ 6,300,000
Non Motorized Set Aside	\$ 13,337,828	Non Motorized Set Aside	\$ 4,500,000	Non Motorized Set Aside	\$ 4,500,000
Maintenance	\$ 65,143,240	Maintenance	\$ 79,759,791	Maintenance	\$ 87,232,109
Total Band One Costs	\$ 801,740,466	Total Band Two Costs	\$ 486,609,812	Total Band Three Costs	\$ 534,161,572
Total Available Revenues	\$ 801,290,466	Total Available Revenues	\$ 491,556,682	Total Available Revenues	\$ 537,608,304
Balance	\$ (450,000)	Balance	\$ 4,946,870	Balance	\$ 3,446,732

Total Project Costs of all Cost Bands	\$ 1,822,511,850
Total Available Revenues of all Cost Bands	\$ 1,830,455,452
Balance	\$ 7,943,602

Notes:

Blue Text: Projects with construction phase included in the current FY 2018 - 2021 TIP.

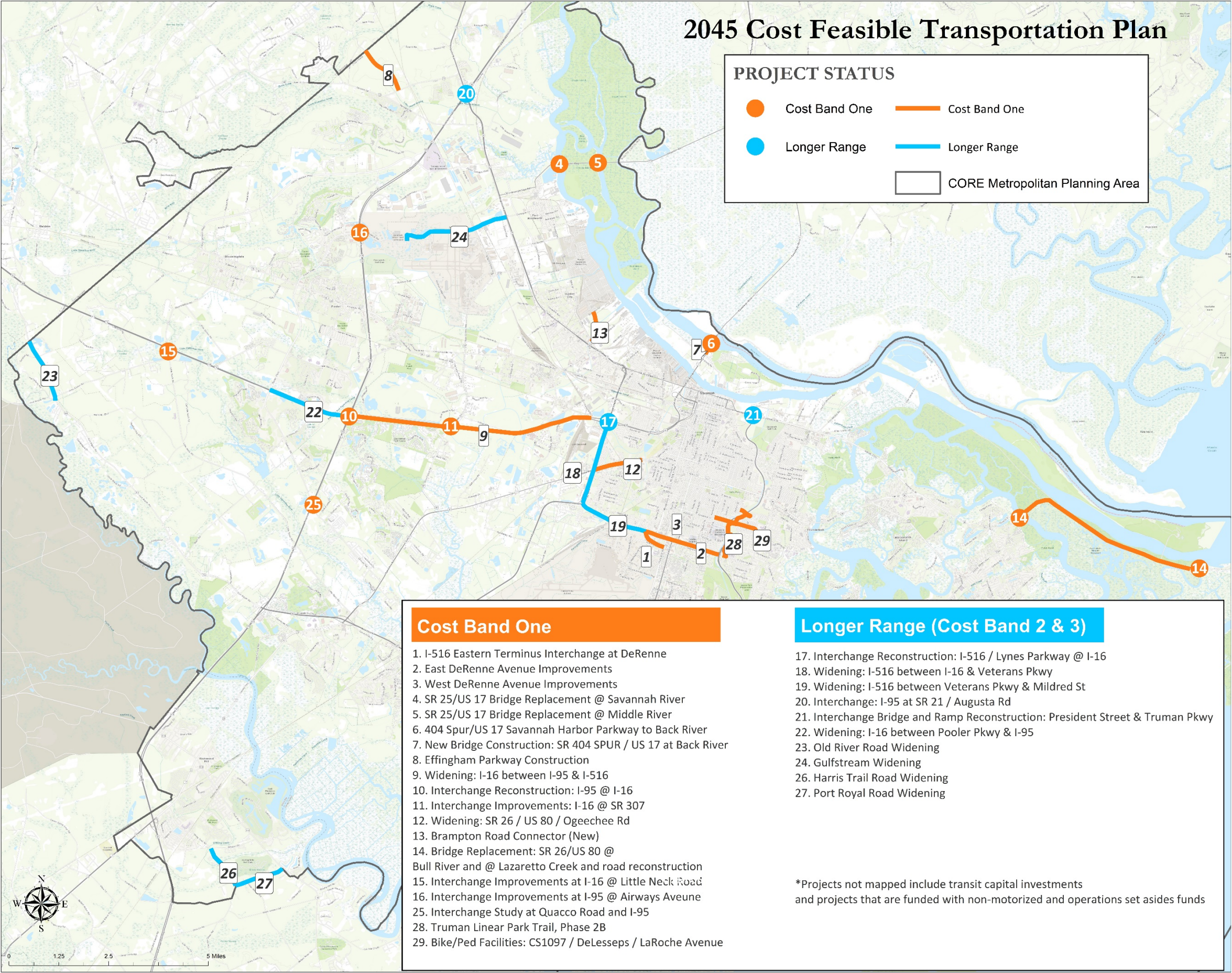
Green Text: some project phases are included in the current FY 2018 - 2021 TIP, but construction is not in the TIP.

Red Text: projects are carried over from 2040 MTP.

Purple Text: newly added projects.

Orange Text: projects to be funded with set-aside revenues.

Figure 18: Mobility 2045 Projects



Mobility 2045 includes projects from the 2040 Total Mobility Plan that are in the pipeline for implementation. A lot of these projects are programmed in the FY 2018 – 2021 TIP as shown below.

2040 MTP Projects In the Pipeline for Implementation to Be Carried Forward to 2045 MTP
PI# 0012757, I-16 FROM I-95 TO I-516
PI# 0012758, I-95/I-16 Interchange Reconstruction
PI# 0013741, SR 25/US 17 @ SAVANNAH RIVER IN PORT WENTWORTH
PI# 0013742, SR 25/US 17 @ MIDDLE RIVER IN PORT WENTWORTH
PI# 0015704, SR 404 SPUR/US 17 @ BACK RIVER
PI# 0015705, SR 404 SPUR/US 17 FM NE OF SAVANNAH HARBOR PKWY TO BACK RIVER
PI# 0015306, TRUMAN LINEAR PARK TRAIL – PHASE II-B
PI# 0008358, I-516 @ CS / 1503 / DeRenne Avenue (DeRenne Blvd Option)
PI# 0008359, EAST DERENNE FROM SR 204 TO HARRY S TRUMAN PKWY
PI# 0010236, SR 21 FROM CS 346/MILDRED STREET TO SR 204
PI# 0010028, CS 1097/DELESSEPS/LA ROCHE AVE FM WATERS AVE TO SKIDAWAY RD
PI# 0013727, I-16 @ SR 307
PI# 0006700, EFFINGHAM PKWY FM CR 156/BLUE JAY/EFFINGHAM TO SR 30/CHATHAM
PI# 0010560, SR 26 FM JOHNNY MERCER TO OLD US 80; INC BULL RVR&LAZARETTO
PI# 0006328, BRAMPTON ROAD CONNECTOR FM FOUNDATION DR TO SR 21/SR25/US80
PI# 521855, SR 26 FROM I-516 TO CS 188/VICTORY DRIVE

Mobility 2045 will also include some longer-range projects from the 2040 Total Mobility Plan based on project prioritization results. These are listed in the table below. The prioritization process is based on the 2045 MTP goals and objectives, as well as achieving the performance measures targets.

Long Range 2040 MTP Projects To Be Carried Forward to 2045 MTP
I-95 at SR 21 / Augusta Rd Interchange Reconstruction
President Street / Truman Parkway Interchange Bridge and Ramp Reconstruction
I-516 / Lynes Parkway Widening from Veterans Parkway to Mildred St
I-516 / Lynes Parkway at I-16 Interchange Reconstruction
I-516 / Lynes Parkway Widening from CR 975/Veterans Pkwy to I-16
PI# 0015528, I-16 Widening from CS 565/Pooler Pkwy to I-95
Harris Trail Road Widening from Timber Trail to Port Royal Road
Port Royal Road Widening from SR 144 to Harris Trail Road

Additional Projects

New highway projects identified through the travel demand modelling process and/or by local sponsors included in Mobility 2045 are listed below.

Additional Projects Added to 2045 MTP	
Projects	Source
Gulfstream Widening from SR 21 to Airways Avenue	Travel demand model
I-16 Interchange at Little Neck Road	Local sponsor (Chatham County)
I-95 at Airways Avenue	Local Sponsor (Savannah Airport Commission)
I-95 at Quacco Road Interchange Study	Local request
Old River Road Widening from SR 204 to Effingham / Chatham County line	Local Sponsor (Chatham County)

Transit Revenues

Mobility 2045 includes transit capital projects only. Transit operating funds will not be a part of the transit revenue projections.

1. Based on the information provided by CAT, the uncertainty of federal grants to be available, and the limited impact the CRC's capital program has on the 2045 MTP, it is assumed that an annual average of \$7.5 million (federal grants + state matching funds + local revenue sources) will be available for transit revenue projections.
2. Using 2020 as the base year, a 1% annual inflation rate is applied to the 2045 MTP transit capital revenue forecasts.
3. Similar to highway revenue projections, the transit capital revenues expressed in YOE dollars will be distributed into short-, mid- and long-term cost bands. Table 14 lists the expected transit capital revenues for the 2045 MTP.

Transit Projects Cost Estimates

For transit capital projects, CAT used cost information developed from the Transit Development Plan/System Re-design, or RFP quotes as the basis; then applied the appropriate escalation inflation factors similar to highway projects for final cost estimates.

Table 14: Transit Capital Revenues

2020 - 2045 Transit Capital Revenue Projections			
Year	Transit Capital	Cost Band	Cost Band Total
2020	\$7,500,000	One	\$62,142,529
2021	\$7,575,000		
2022	\$7,650,750		
2023	\$7,727,258		
2024	\$7,804,530		
2025	\$7,882,575		
2026	\$7,961,401		
2027	\$8,041,015		
2028	\$8,121,425	Two	\$76,085,794
2029	\$8,202,640		
2030	\$8,284,666		
2031	\$8,367,513		
2032	\$8,451,188		
2033	\$8,535,700		
2034	\$8,621,057		
2035	\$8,707,267		
2036	\$8,794,340		
2037	\$8,882,283	Three	\$83,213,913
2038	\$8,971,106		
2039	\$9,060,817		
2040	\$9,151,425		
2041	\$9,242,940		
2042	\$9,335,369		
2043	\$9,428,723		
2044	\$9,523,010		
2045	\$9,618,240		
2020 - 2045 Revenues	\$221,442,236		\$221,442,236

Financially Constrained Transit Plan

The selected priority transit project costs shown in Table 15 are adjusted for inflation and then the costs are balanced against the anticipated transit revenues in each cost band. The MPO worked with CAT and developed a draft fiscally constrained 2045 MTP for transit capital improvement projects as shown below.

Table 15: Transit Capital Improvements

2045 MTP Cost Feasible Transit Capital Improvements			
Project Description	Cost Band One (2020 - 2027)	Cost Band Two (2028 - 2036)	Cost Band Three (2037 - 2045)
Vehicle Replacement/Expansion - Fixed Route	\$33,720,752	\$41,286,865	\$45,154,837
Vehicle Replacement - Paratransit	\$5,255,182	\$6,434,317	\$7,037,117
Intelligent Transit System (ITS)	\$2,715,177	\$3,324,397	\$3,635,844
Upgraded Farebox and Payment System	\$3,722,421	\$4,557,641	\$4,984,625
Electric Vehicle Infrastructure	\$3,503,455	\$4,289,544	\$4,691,412
Passenger Amenities	\$1,751,727	\$2,144,772	\$2,345,706
Facility Improvement Project - ITC	\$1,532,761	\$1,876,676	\$2,052,493
Facility Improvement Project - Gwinnett	\$1,532,761	\$1,876,676	\$2,052,493
Vanpool Capital	\$788,277	\$965,147	\$1,055,568
Park & Ride Capital	\$4,379,318	\$5,361,931	\$5,864,264
Facility Construction - Ferry Maintenance	\$569,311	\$697,051	\$762,354
Facility Construction - Ferry Dock	\$1,270,002	\$1,554,960	\$1,700,637
Ferry Boat Construction	\$1,401,382	\$1,715,818	\$1,876,565
Total	\$62,142,529	\$76,085,794	\$83,213,913

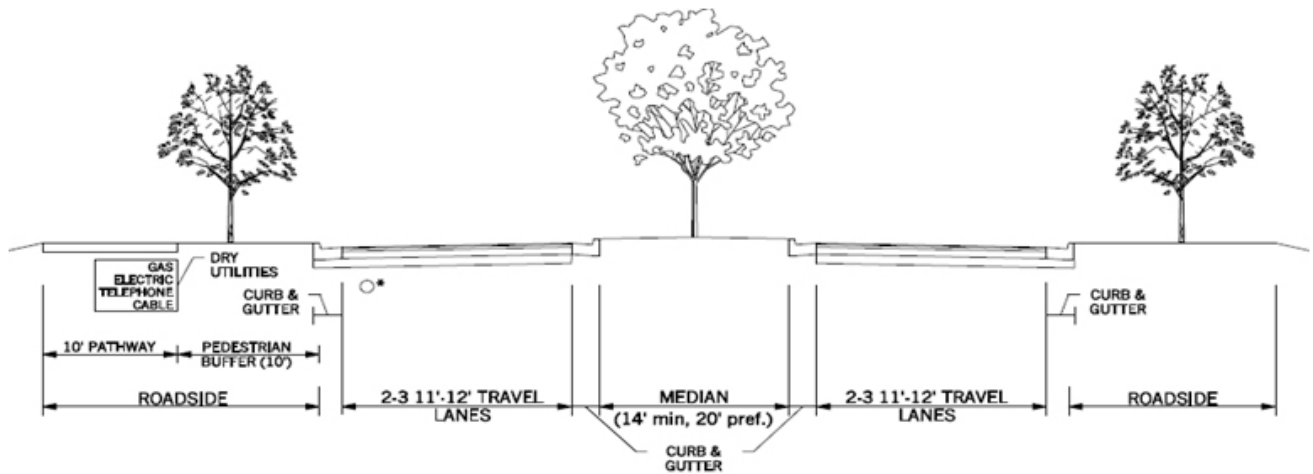
Thoroughfare Plan Coordination

Each of the projects included in the Cost Feasible Plan were correlated with the Thoroughfare Plan to identify the roadway typology and to incorporate the corresponding design elements. Mobility 2045 projects are shown below with the design elements identified in the Thoroughfare Plan. For more information on the Thoroughfare Plan see Appendix B. The phases identified, as well as the cost bands, are also included. Project phases include the following:

- Preliminary Engineering (PE)
- Right of Way (ROW)
- Construction (CST)

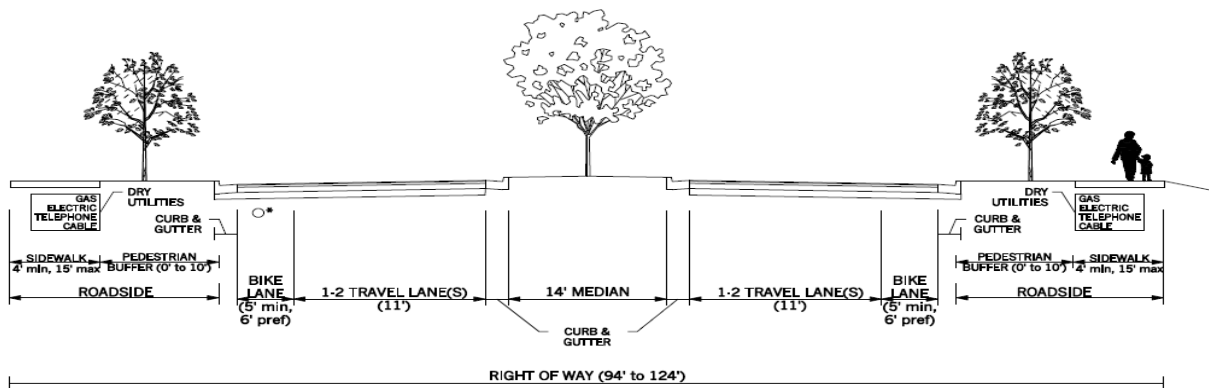
Thoroughfare Plan Cross Section: Major Arterial Suburban

West DeRenne Ave Improvement	ROW 1 CST 1	SR 26/Ogeechee Road Widening	CST 1
I-516 Terminus Interchange at DeRenne (DeRenne Blvd. Option)	ROW 1 CST 2	East DeRenne Avenue Improvements	ROW 1 CST 1
Effingham Parkway	CST 1	SR 26/US 80 Bridges at Bull River and Lazaretto Creek	CST 1
President Street/Truman Parkway Interchange Reconstruction	PE 2 ROW 2 CST 2		



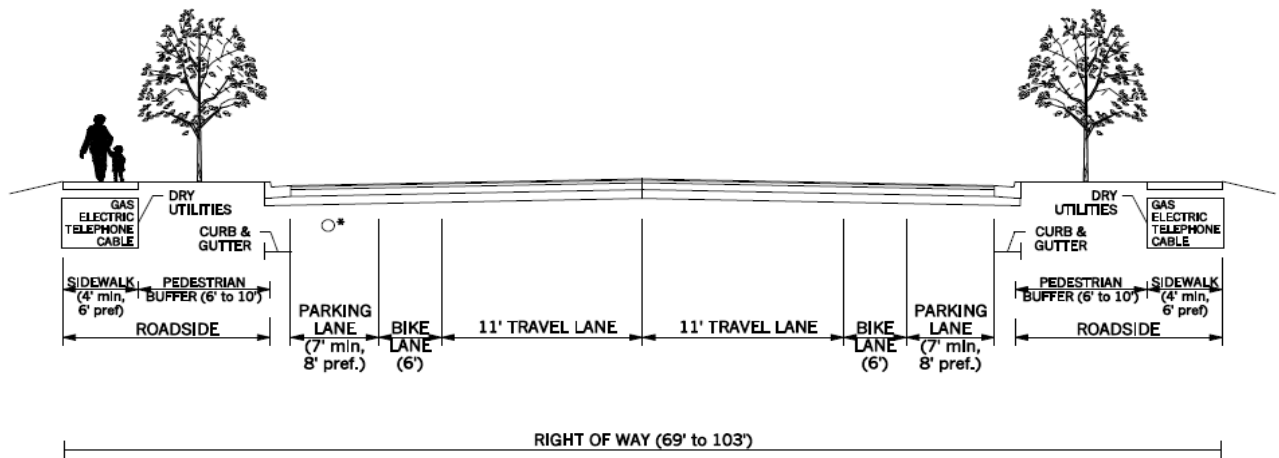
Thoroughfare Plan Cross Section: Minor Arterial Suburban

SR 25/US17 Savannah River	ROW 1 CST 1
SR 25/US 17 Middle River	ROW 1 CST 1



Thoroughfare Plan Cross Section: Collector Suburban

Old River Road Reconstruction	PE 2 ROW 2 CST 2
Gulfstream Widening	PE 3
Brampton Road Connector	CST 1
Harris Trail road Widening	PE 3 ROW 3 CST 3
Port Royal Road Widening	PE 3 ROW 3 CST 3



Thoroughfare Plan Cross Section: Not Applicable

There are a number of projects that are not classified by thoroughfare type. These projects include interstate and interchange projects, as well as culvert replacements. It is important to note that the cross sections of the facilities that cross interstates have been identified and will be incorporated into the projects.

SR 404 Spur Back River	CST 1	Interstate/Interchange
SR 404 Spur Savannah Harbor	ROW 1, CST 1	Interstate/Interchange
I-516 Widening (Veterans Pkwy to Mildred)	PE 2, ROW 2, CST 2	Interstate/Interchange
I-516 Widening (I-16-Veterans Pkwy)	PE 2, CST 3	Interstate/Interchange
I-516 and I-16 Interchange	PE 3	Interstate/Interchange
I-95/SR 21 Interchange Reconstruction	PE 2, ROW 2, CST 3	Interstate/Interchange (SR 21 – Major Arterial Suburban)
	PE 2, ROW 2, CST 3	Interstate/Interchange (Major Arterial Suburban)
I-16 Interchange at Little Neck Interchange	PE 1, ROW 2, CST 1	Interstate/Interchange (Major Arterial Suburban)
I-95 and Airways Avenue Interchange	PE 1, ROW 2, CST 1	Interstate/Interchange (Major Arterial Suburban)
I-16 Widening (I-95 to I-516)	CST 1	Interstate/Interchange
I-16 at SR 307 Interchange	CST 1	Interstate/Interchange
I-16 at I-95 Interchange	CST 1	Interstate/Interchange
I-16 Widening (Pooler Pkwy to I-95)	PE 2, CST 3	Interstate/Interchange

Vision Project List

Although Mobility 2045's primary purpose is to identify affordable regionally significant projects that are consistent with local, state and national priorities, there is also an ongoing need for additional investments that just cannot be funded given expected and reliable revenue sources. Throughout Mobility 2045's development, a large number of projects were identified that could not be funded given today's financial reality; both regionally and locally.

These unfunded project needs are incorporated in the priority Vision Project list. Many of the projects found in the Vision Plan have identified as needs from a variety of sources:

- Travel Demand Model results: corridors with a level of service "E" or "F" not resolved by the financially constrained project investments.
- Congestion Management Process: congestion mitigation strategies
- Locally identified needs: Projects that arose out of a local agency plans or identified needs
- Non-Motorized plan: All projects identified in the non-motorized plan
- Throughout Fare plan: All projects identified in the thoroughfare plan
- Freight Plan: All projects in the freight plan and those identified by the Economic Development and Freight Advisory Committee
- Corridor and Sector studies: Project identified from specific corridor and sector studies

These improvements are important and will be built if we are able if more funding becomes available. If these projects are important to you and you think they should be funded, you can: contact your local elected officials and let them know these projects are important to you and why; visit one of our many public meeting or workshops; and/or contact us directly. For a full list of VISION projects see Appendix E.



SECTION SEVEN: IMPACT ANALYSIS AND MITIGATION



Analysis of Potential Impacts

The roadway projects from the financially-constrained Mobility 2045 have been evaluated for potential impacts upon roadway safety as well as natural and historic resources. Table 16 shows which projects are located along roadway segments designated as high-crash areas; which projects have a potential impact on natural resources (wetlands and conservation lands); which projects have a potential impact on historic resources; and which projects have a potential impact on environmental justice areas. A discussion of coordination and consultation for environmental mitigation follows.

Table 16: 2045 Mobility Plan Roadway Projects and Potential Impacts

GDOT PI Number	Project Name	From	To	High-Crash Area	Potential Impact on Natural Resources	Potential Impact on Historic Resources	EJ Impact
0008358	I-516 @ CS/1503/DeRenne Avenue (DeRenne Blvd. Option)	I-516	White Bluff Road				
0008359	East DeRenne from SR 204 to Harry S Truman Parkway (East DeRenne Avenue Improvements)	Abercorn St	Truman Pkwy				
0010236	SR 21 from CS 346/Mildred Street to SR 204 (West DeRenne Avenue Improvements)	Mildred Street	Abercorn St				
0013741	SR 25/US 17 @ SAVANNAH RIVER IN PORT WENTWORTH	Savannah River		X	X	X	
0013742	SR 25/US 17 @ MIDDLE RIVER IN PORT WENTWORTH	Middle River		X	X	X	
0015704	SR 404 SPUR/US 17 @ BACK RIVER	Back River					
0015705	SR 404 SPUR/US 17 FM NE OF SAVANNAH HARBOR PKWY TO BACK RIVER	NE of Savannah Harbor Pkwy	Back River				
0006700	Effingham Parkway from SR 119/Effingham to SR 30/Chatham	Effingham County	Meinhard Road		X	X	
0006328	Brampton Road Connector	SR 25	Georgia Ports Authority		X	X	
0012757	I-16 FROM I-95 TO I-516	I-95	I-516		X		
0012758	I-16 at I-95 Interchange Reconstruction	---	---				
0013727	I-16 @ SR 307						
521855	SR 26 From I-516 to CS 188/Victory Drive (US 80 / Ogeechee Rd Widening)	4 Ln E Lynes Pkwy	Victory Dr				
0010560	SR 26/US 80 @ Bull River and @ Lazaretto Creek	West of Bull River	East of Lazaretto Creek				
None	I-16 Interchange at Little Neck Road	Little Neck Road					

GDOT PI Number	Project Name	From	To	High-Crash Area	Potential Impact on Natural Resources	Potential Impact on Historic Resources	EJ Impact
None	I-95 at Airways Avenue	Airways Avenue					
None	I-516 / Lynes Parkway at I-16 Interchange Reconstruction	At I-16		X	X	X	
None	I-516 / Lynes Parkway Widening	I-16	Veterans Parkway		X		
None	I-516 / Lynes Parkway Widening	Veterans Parkway	Mildred St		X		
None	I-95 at SR 21 / Augusta Rd Interchange Reconstruction						
None	President Street / Truman Parkway Interchange Bridge and Ramp Reconstruction	HST Parkway					
0015528	I-16 Widening	Pooler Pkwy	I-95				
None	Old River Road Widening	SR 204	Effingham County / Chatham County line				
None	Gulfstream Widening	SR 21	Airways Avenue				
None	Harris Trail Road Widening	Timber Trail	Port Royal Road				
None	Port Royal Road Widening	SR 144	Harris Trail				

Managing Impacts

As part of federal regulations (23 CFR 450.322), metropolitan and statewide transportation plans are required to include a discussion of environmental mitigation activities developed with Federal, State, and Tribal wildlife, land management, and regulatory agencies.

The CORE MPO has undertaken a high-level GIS screening analysis to determine the potential impacts of transportation projects on historic, cultural and natural resources, as well as environmental justice. This approach meets the requirements set forth by the GDOT Office of Planning guidance titled “Agency Consultation Process”. The results of this process include a visual screening of the 2045 MTP projects overlaid with natural and historic resource data and EJ areas to determine potential impacts. Any project in the 2045 MTP that potentially has negative environmental impacts must be analyzed on a more detailed level as part of the project development process, and to meet the requirements of the National Environmental Policy Act. As projects are further developed, each will be assessed more closely, and a determination can then be made as to any specific negative environmental impacts and an approach developed in mitigating those impacts.



Potential Mitigation Activities

There are a wide variety of mitigation activities that may be employed to address adverse impacts associated with transportation projects. Environmental mitigation activities are strategies, policies, and programs that serve to minimize or compensate for the disruption of elements of the human and natural environment associated with the implementation of transportation projects. Some of these potential mitigation activities that may be necessary for the CORE MPO transportation projects are discussed below. This list of potential activities is not all inclusive but provides examples of potential strategies available to the CORE MPO.

Stream and Wetland Mitigation

Wetlands are areas where the water table stands near, at, or above the land surface for at least part of the year and are described according to the degree of wetness and the type of vegetation that the site supports. Wetlands are important elements of a watershed because they serve as the link between land and water resources. Wetlands help to curb flooding by slowing down the flow of excess rainwater and absorbing it. Wetlands also cleanse water as it filters back into the water table and provide natural habitats for a number of plant and animal species.

Often, transportation projects can negatively impact wetland areas. Mitigation measures strive to avoid, minimize, and mitigate impacts to streams and wetlands throughout the project development process as required by regulations. Guidelines for the development of mitigation are followed as required by the United States Army Corps of Engineers (USACE) and the Georgia Environmental Protection Division (GAEPD). Mitigation measures will also be coordinated with the coastal best management practices currently under development by the Georgia Department of Natural Resources.

Mitigation opportunities may include mitigation banking, stream and wetland creation, restoration, and/or preservation. Wetland mitigation banking is a process that helps limit negative impacts to wetland resources. Banking can be used when wetlands affected by development cannot be preserved or preservation would not be environmentally beneficial and typically involves the consolidation of small, fragmented wetland mitigation projects into one large contiguous site.

Noise Mitigation

For noise mitigation, freeway or major roadway projects that add lanes or replace the pavement (such as from asphalt to concrete) should include an investigation of the noise levels. The possibility of mitigation with noise walls or other buffers may be necessary.

The level of highway traffic noise depends on three conditions: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater numbers of trucks.

Potential noise reduction measures include creating buffer zones, planting vegetation, and constructing barriers. Buffer zones are undeveloped open spaces which border a highway. Vegetation barriers consist of vegetation planted along the highway that are dense enough that they cannot be seen over or through. Noise barriers are solid obstructions built between the highway/major roadway and adjacent land use.

Barriers can be formed from earth mounds along the road or can be manmade vertical walls. Earth berms have a natural appearance but can require large amounts of land. Vertical walls take less space and can be built of wood, stucco, concrete, masonry, metal, and other materials. Noise walls require maintenance, and negative reactions may include a restriction of view, a feeling of confinement, a loss of air circulation, a loss of sunlight and lighting, and could be visually displeasing. While noise walls can be effective for decreasing noise levels close to a highway, the sound reflected from these walls can increase noise levels further away from that highway.

Storm Water Mitigation

Storm water runoff occurs when precipitation flows over the ground rather than settling into the ground. Impervious surfaces, such as asphalt and concrete, prevent stormwater runoff from naturally soaking into the ground.

Storm water can pick up debris, chemicals, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, or wetland. Storm water runoff can pollute water bodies and cause them to overflow and flood.

There are multiple mitigation techniques that can be used to curb storm water runoff. These techniques can include bioretention, detention ponds, grass swales, and filter strips.

- Bioretention is a practice that manages and treats storm water runoff using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression. The method combines physical filtering and adsorption with biological processes to retain and treat surface runoff before it leaves a site.
- Detention ponds are used to capture large amounts of water and slowly filter it back into the ground. Detention ponds are usually used in large residential or commercial developments.
- Grass swales are grasses that line a ditch or channel near impervious surfaces that capture storm water runoff and filter it into the ground.
- Vegetative filter strips and buffers are areas of land with vegetative cover that are designed to accept storm water runoff from upstream development. They can be constructed, or existing vegetated buffer areas can be used. Dense vegetative cover facilitates water filtering into the ground. Unlike grass swales, vegetative filter strips are effective only for areas with no defined channels.

Historic Resource Mitigation

Historic and cultural resource reviews during the project development phase are designed to comply with the National Environmental Policy Act (NEPA), the National Historic Preservation Act (NHPA), and applicable Georgia codes and regulations. These laws and regulations require that cultural and historic resources be considered during the development of transportation projects. An element of that consideration involves consulting with various entities including the Federal Highway Administration (FHWA), Advisory Council on Historic Preservation, (ACHP), State Historic Preservation Office (SHPO), local historic preservation groups, local public officials, and the public.

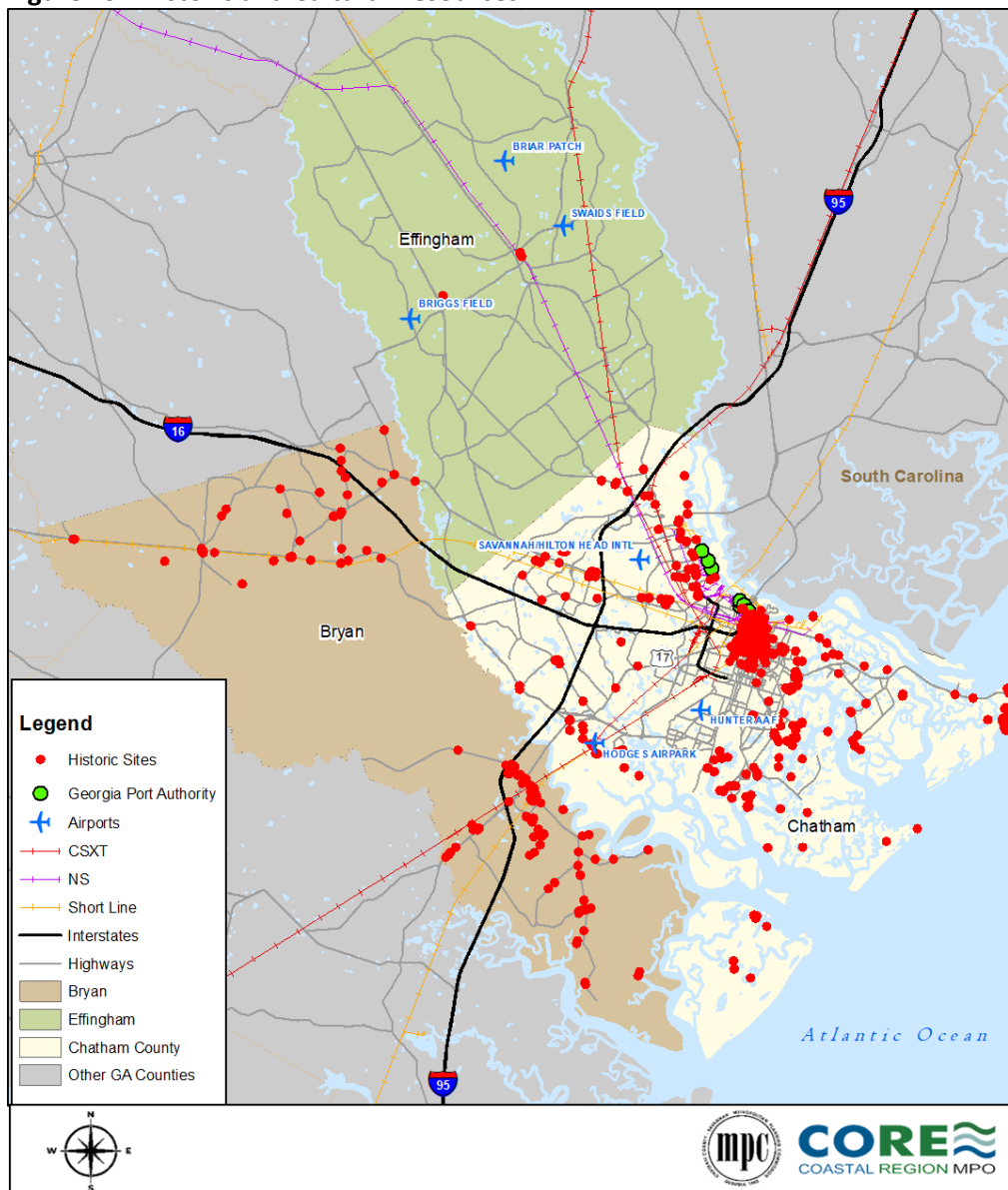
Mitigation measures developed through a Section 106 of the National Historic Preservation Act of 1966 (NHPA) Memorandum Of Agreement (MOA) consultation process provide ways to avoid, minimize, or mitigate adverse effects to historic properties impacted by projects. Historic properties include those listed or are eligible for listing in the National Register of Historic Places (NRHP). The mitigation measures are carried through as environmental document commitments and must be completed and accounted for with SHPO and FHWA (see Figure 19). The MOA will not be closed until all stipulations are fulfilled. A failure to meet all stipulations can potentially jeopardize a project sponsor's funding or other agreements or projects.

A plan for mitigating an adverse effect is site/property specific and requires a separate research design or approach for each historic property impacted by the project. It should be based on the context development and refinement through the environmental assessment and preliminary project design/engineering.



Mitigation measures may involve a variety of methods including, but not limited to: aesthetic treatments, avoidance, archaeological data recovery, creative mitigation, salvage and re-use of historic materials, informing/educating the public, and Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) documentation. Approaches vary widely depending on the type of historic property, the qualities that enable the property to meet the NRHP Criteria of Eligibility, the location of the historic property with respect to the project and other criteria specific to the site. Mitigation plans should be developed in consultation with Georgia Department of Transportation, State Historic Preservation Office, Federal Highway Administration, local public officials, local historic preservation groups, and the public, as applicable. In special circumstances consultation may include the Advisory Council on Historic Preservation.

Figure 19: Historic and Cultural Resources



Environmental Justice Analysis

As part of the planning process, any adverse impacts to the defined Environmental Justice (EJ) populations must be considered. These populations include low-income and minorities, which includes the African American, Hispanic, Asian American, American Indian/Alaskan natives, and native Hawaiian/Pacific Island populations.

Mobility 2045 is a multi-modal plan that is based on the socio-economic development of the Savannah region and is intended to provide efficient transportation services to all the residents in this area. Its multi-modal approach incorporates highway development, transit service, bike/pedestrian improvements, and other related transportation investments. The environmental justice (EJ) analysis is performed according to these modes. Each of the projects included in Mobility 2045 was analyzed for any adverse impacts within the context of environmental justice, and on the community and natural environment.

Environmental Justice Impacts

The CORE MPO identified where these traditionally underserved population groups, or environmental justice communities, are located to ensure that there are no disproportionate or adverse impacts from the planned transportation projects. The locations of the environmental justice communities, low income and minority populations, were mapped along with the MTP financially constrained projects (see Figure 20) to better understand the locations and to correlate with the planned improvements. The projects that are in, or adjacent to, those areas incorporate improved multimodal facilities as well as enhancements to improve the character of the adjacent communities.

Highway Project Impacts

The EJ analysis for highway element of the 2045 MTP was performed by reviewing the highway investments and displacements on the financially constrained plan that includes high priority projects. The category expenditures for Maintenance (resurfacing or repaving) and operational improvements are not included in this analysis because roadways of good repair benefit all modes of travel, be it highway, transit or bike/ped travel.

Highway Investments

Highway investments are represented by the construction costs of the highway projects in the 2045 MTP financially constrained plan. A tabulation of the proportion of construction costs proposed in low income and minority neighborhoods against total highway investments in non-EJ areas is shown in table 17.

Table 17: Mobility 2045 Financially Constrained Plan Construction Costs in Neighborhoods

Population	% of Population	% of Total Dollars
E. J. Target Area	57.87%	72.18%
Non E. J. Area	42.13%	27.82%
Savannah Region	100.00%	100.00%

Highway Displacements

Highway projects can have adverse impacts on the quality of life within the EJ target and non-target areas. One measure of negative impact on an area is the amount of real estate actions that are imposed

upon the area, referred to as right-of-way acquisition. Table 18 lists the percentages of right-of-way (ROW) costs in the EJ target areas and non-target areas for the 2045 MTP financially constrained plan.

Table 18: Mobility 2045 Financially Constrained Plan Right-of-Way Costs in Neighborhoods

Population	% of Population	% of Total Dollars
E. J. Target Area	57.87%	71.99%
Non E. J. Area	42.13%	28.01%
Savannah Region	100.00%	100.00%

For the highway system, project costs and displacement costs are approximately proportionate to each other within the EJ target areas. This makes a lot of sense considering that the EJ target areas are located in the Savannah urban core and that there are many limitations for new development or system expansion. In this area the preservation of the existing system weighs more heavily than in the non-target areas. To improve highway traffic flow in the EJ areas, management strategies (signal coordination and synchronization, etc.) and high-tech investments such as ITS measures will be applied. A large percentage of the highway maintenance and operational improvement funds will be invested in the EJ area.

Transit Project Impact

Often low-income populations and some of the minority populations do not have access to motor vehicles, the transit system provides the means for these EJ populations to get to their employment centers, do shopping, and travel to other destinations. The transit system also provides transportation for children to go to school, for the elderly to go to the medical facilities, and for people with mobility limitations to reach their destinations.

Table 19 shows the funding allocation summary of these travel modes in the 2045 MTP. Overall, the transit system is 11.78% of the total MTP funding while its existing work trip mode share is less than 5%. A large portion of the transit system users are EJ target populations thereby receiving a benefit through the MTP transit investments.

Table 19: Mobility 2045 Financially Constrained Plan Transportation Investments

2045 MTP Funding Allocation Summary	Total Investments	% of Total Funding
Highway Projects	\$1,417,604,203	69.09%
Highway Maintenance	\$232,135,141	11.31%
Highway Operational Improvements	\$140,178,281	6.83%
Transit Capital Projects	\$239,642,236	11.68%
Non-Motorized Investments	\$22,337,828	1.09%
2045 MTP Total Investments	\$2,051,897,688	100.00%

The Chatham Area Transit's priority transit capital improvement projects included in the financially constrained 2045 MTP will benefit both EJ target and non-EJ target populations. CORE MPO has also set aside some highway revenues from the 2045 MTP to make transit improvements. Overall, the transit investments will benefit EJ populations more than non-EJ populations.

Non-Motorized Transportation Impact

The Non-Motorized Transportation Plan is an important part of the CORE MPO's MTP. Convenient bikeways and pedestrian sidewalks provide an affordable means of transportation to low-income populations who don't have access to motor vehicles. Bike travel can be combined with transit services to provide means to employment centers, recreational facilities, shopping centers, schools, etc. Most of the bike/ped improvements in the Non-Motorized Transportation Plan are located in EJ target areas. The 2045 MTP financial plan includes a category expenditure of about \$22 million to help implement the bike/ped/trail needs identified in the Non-Motorized Transportation Plan.

Environmental Justice Mitigation

There are three fundamental principles of environmental justice:

1. The avoidance of unusually high adverse health, social and economic impacts on minority and low-income populations;
2. the inclusion of all potentially affected communities in the decision making process;
3. and to prevent the denial of benefits by minority and low income communities and populations.

MPOs can mitigate the adverse effects of projects on environmental justice communities in a variety of ways, including the utilization of advanced analytical capabilities to ensure compliance; the early identification of impacts on low income and minority populations and to ensure the fair distribution of both the burdens and the benefits associated with transportation investments; and to have an inclusive and active public participation process that does not provide barriers to participation by minority and low income populations in the decision making process.

Figure 20: Environmental Justice Analysis

