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COASTAL REGION MPO

MOVING FORWARD TOGETHER

2050 METROPOLITAN TRANSPORTATION PLAN

Coastal Region Metropolitan Transportation Organization

Adopted on August 15, 2024

Coastal Region Metropolitan Planning Organization
Chatham County - Savannah Metropolitan Planning Commission
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Resolution to Adopt the 2050 Metropolitan Transportation Plan

RESOLUTION TO ADOPT THE MOVING FORWARD TOGETHER 2050 METROPOLITAN TRANSPORTATION PLAN OF THE COASTAL REGION METROPOLITAN PLANNING ORGANIZATION

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

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

WHEREAS, the staff of the Federal Highway Administration, Federal Transit Administration, Georgia Department of Transportation and the Chatham County - Savannah Metropolitan Planning Commission have reviewed the organization and activities of the CORE MPO 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 Moving Forward Together 2050 MTP; and

WHEREAS, the CORE MPO, 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 CORE MPO planning area; and

WHEREAS, the CORE MPO Moving Forward Together 2050 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 Moving Forward Together 2050 MTP has incorporated recommendations from the Congestion Management Process, Regional Freight Transportation Plan, Transit Master Plan, Non-Motorized Transportation Plan, as well as other regional and sub-area plans and studies; and

WHEREAS, the CORE MPO Moving Forward Together 2050 MTP includes the plans for motorized transportation, non-motorized transportation and transit improvement in the CORE MPO planning area for the next 26 years.

NOW, THEREFORE BE IT RESOLVED, that the Coastal Region Metropolitan Planning Organization Board adopts the attached CORE MPO Moving Forward Together 2050 MTP with any corrections based upon the motion of August 15, 2024.

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 15, 2024**.

Chester Ellis, Chairperson
Coastal Region Metropolitan Planning Organization

Table of Contents

CORE MPO Organization iv

Resolution to Adopt the 2050 Metropolitan Transportation Plan x

List of Figures xvii

List of Tables xviii

Section 1: Overview 21

Coastal Region Metropolitan Planning Organization 22

Planning Transportation for the Future 23

Transportation Performance Management 24

Performance Based Planning and Programming 25

National Goal Areas 27

- Highway Performance Goals 27
- Transit Performance Goals 27
- Targets 29
- Reporting 29
- Assessments 30

Planning Emphasis Areas 30

- Tackling the Climate Crisis – Transition to a Clean Energy, Resilient Future 30
- Equity in Transportation Planning 30
- Complete Streets 31
- Public Involvement 31
- Strategic Highway Network/U.S. Department of Defense Coordination 31
- Federal Land Management Agency Coordination 31
- Planning and Environmental Linkages 31
- Data in Transportation Planning 32

Demographics and Future Trends 32

- Population 33
- Demographics 34
- Travel Characteristics 36
- Regional Commuting Patterns 38
- Trends for the Future 38

Section 2: Regional Goals and Performance Measures 41

Transportation Policy and Regional Goals 42

Safety and Security 42

Safety and Security Objectives 44
Highway Safety Performance Measures and Performance Targets 44
Georgia Safety Data 45
Regional Safety Data 46
CORE MPO Actions to Support Safety and Security 46
Freight Planning *46*
Resilience Planning *47*
Project Prioritization *47*
Non-Motorized Transportation Planning *47*
Partner Actions to Support Safety and Security 48
Supporting Vision Zero *48*
Emergency Management *48*
Public Transportation *48*
Resilience and Natural Hazards 49
Natural Hazards *50*
Man-Made Hazards *61*
Performance and Reliability 63
Performance and Reliability Objectives 64
System Performance Measures and Targets 64
CORE MPO Actions to Support Performance and Reliability 65
Congestion Management Process *65*
Freight Planning *65*
Transit, Bikes, and Pedestrian Transportation Planning *65*
Following Federal Guidance *65*
Partner Actions to Support Performance and Reliability 65
Access and Connectivity 66
Access and Connectivity Objectives 66
CORE MPO Actions to Support Access and Connectivity 67
The Non-Motorized Transportation Plan *67*
Community Health *67*
Advisory Committees *68*
Partner Actions to Support Access and Connectivity 68
Tide to Town *68*
Vision Zero Plans *69*
Chatham Area Transit *69*
Complete Streets *69*
Stewardship 69
Stewardship Objectives 70
CORE MPO Actions to Support Stewardship 70

Public Participation *70*
Project Prioritization *70*
CORE MPO Board and Committee Meetings *70*
Attending and Collaborating on Project Meetings *71*
Partner Actions to Support Stewardship 71

System and Environmental Preservation 71

System and Environmental Preservation Objectives 71
Highway System Preservation Performance Measures and Targets 72
CORE MPO Actions to Support System and Environmental Preservation 73

Following Federal Guidance *73*
Green House Gas Emissions Reduction *73*
Stormwater Management and Flood Modeling *73*
Partner Actions to Support System and Environmental Preservation 74

Chatham Area Transit *74*
Energy and Emissions 74

Emissions *74*
Plans and Programs *80*
Multi-Modal Transportation Electrification and Supporting Infrastructure *82*

Section 3: Regional Transportation Network 89

Transportation Network 90
Highway Network 90

Functional Classification of Highway Network 90
Highway Freight Network 92

National Highway Freight Network *92*
NHS Intermodal Connectors *94*
Strategic Highway Network 95
Pavement Conditions 95
Bridges 98

Rail Network 104

Freight Rail Network 104
Railroad Crossings 106

Bicycle and Pedestrian Network 108
Transit Network 111

Chatham Area Transit Authority 111

Ridership *115*
Coastal Regional Commission 117

Port of Savannah 117

Savannah/Hilton Head International Airport 118
Intercity Passenger and Freight Services 119
Passenger Rail 119
Passenger Bus 120
Traffic Operations and Emerging Technology 120
Traffic Operation Programs in the CORE MPO Region 121
Traffic Control Center of City of Savannah 121
GDOT RTOP 121
GDOT DMS 122
Other 123
Autonomous Vehicles/Driverless Cars 123
Transportation Network Companies (TNCs) or Ride-hailing/Ride Share 123
Bike and Scooter Share 123
SCAD 124
Section 4: Public Involvement Process 125
Public Involvement Process 126
2050 MTP Public Involvement 126
Public Involvement Process under Participation Plan 126
Public Involvement Opportunities 128
Three Rounds of Public Involvement 128
Coordination Meetings 131
2050 MTP Outreach Methods 131
Media Contacts 132
Brochures 132
Publications 132
Open comment period 132
Internet 132
Social Media 132
Surveys 133
Survey in Multiple Languages 133
Map Survey 133
2050 MTP Survey Distribution 133
2050 MTP Survey Results and Impacts on 2050 MTP 134
2050 MTP Public Outreach and Equity Planning 135
Moving Forward Together 2050 Plan and the Participation Plan 136
Section 5: Project Selection and Prioritization 137
Highway Project Selection 138

Project Selection Process 138
Plan Continuity *138*
Travel Demand Model *138*
Contributing Plans and Studies *139*
Project Selection Matrix *139*
Highway Project Prioritization 140
Project Prioritization Process 141
Three-Tier Screening *141*
Other Considerations *144*
Input from Advisory Committees *145*
Transit Project Selection and Prioritization 145
Section 6: Financial Plan and Project Recommendations 147
Moving Forward Together 2050 MTP Highway Financial Plan 148
Highway Revenues 148
Highway Project Cost Estimates 153
Development of Financially Constrained Highway Plan 154
Financially Constrained 2050 MTP Highway Plan 158
Moving Forward Together 2050 MTP Transit Financial Plan 162
Transit Revenues 162
Transit Projects Cost Estimates 162
Financially Constrained Transit Plan 163
System Performance Report 165
Performance Measures and Targets 165
2050 MTP Projects and Performance Measures 168
System Performance Report 170
Vision Plan Project List 171
Section 7: Impact Analysis and Mitigation 172
Introduction 173
Analysis of Potential Impacts 173
Managing Impacts 173
Noise and Mitigation Strategies 176
Noise Abatement Strategies 178
Stormwater Management & Green Infrastructure 179
Stormwater Management 179

The AASHTO Practitioner's Handbook: Developing and Implementing a Stormwater Management Program in a Transportation Agency *179*
Green Infrastructure 183
Enhancing Coastal Resilience with Green Infrastructure *183*
FHWA Nature-Based Solutions for Coastal Highway Resilience: An Implementation Guide *185*
FHWA Case Studies in Realizing Co-Benefits of Multimodal Roadway Design and Gray and Green Infrastructure *186*
Biodiversity and Wildlife Conservation 187
Wildlife Corridors and Crossings 187
Pollinator Habitat 188
Tools and Resources 188
Historic and Cultural Resources 188
Historic and Cultural Resource Mitigation 192
Environmental Justice 193
Environmental Justice 193
Environmental Justice Populations *195*
Environmental Justice Analysis for 2050 MTP 196
Highway Project Impacts *196*
Transit Project Impact *198*
Non-Motorized Transportation Impact *198*
Environmental Justice Mitigation 199

List of Figures

Figure 1.1: CORE MPO Metropolitan Planning Area 23
Figure 1.2: Transportation Performance Management 25
Figure 1.3: Performance Based Planning and Programming Process 26
Figure 1.4: Travel To Work in the CORE MPO Region 37
Figure 2.1: Chatham County Multi-Jurisdictional Pre-Disaster Hazard Mitigation Plan Summary of Hazard Risk Classification (2020) 51
Figure 2.2: Bryan County Hazard Mitigation Plan Update Threats (2019) 51
Figure 2.3: Effingham County Multi-Jurisdictional Pre-Disaster Hazard Mitigation Plan Summary of Hazard Risk Classification (2023) 52
Figure 2.4: Heat Indicators in the CORE MPO Region for 2050 54
Figure 2.5: Precipitation Indicators in the CORE MPO Region for 2050 56
Figure 2.6: Fort Pulaski Annual Relative Sea Level Since 1960 and Projections (NOAA) 57
Figure 2.7: Sea Level Rise Mid-Century Projections in the CORE MPO Region 57
Figure 2.8: Category 3 Hurricane Storm Surge in the CORE MPO Region 58
Figure 2.9: Tropical Storm / Hurricane Tracks (HIRA 2022, NOAA Historical Hurricane Tracks) 59
Figure 2.10: Hurricane Evacuation Routes in the CORE MPO Region 60
Figure 2.11: 2021 Greenhouse Gas Emissions from US Domestic Transportation by Mode (5th National Climate Assessment, 2023) 76
Figure 2.12: Three Primary Drivers of Emissions (US National Blueprint for Transportation Decarbonization) 76
Figure 2.13: Greenhouse Gas Emissions by Economic Industry 1990-2021 (EPA, 2023) 77
Figure 2.14: Greenhouse Gas Emissions in the CORE MPO Region 78
Figure 2.15: 100% Savannah Transportation and Mobility Report Card 81
Figure 2.16: Alternative Fuel Corridors where NEVI-funded EV charging stations are required to be installed (GDOT, 2023) 83
Figure 2.17: Public Electric Vehicles Charging Stations in the CORE MPO Region 85
Figure 2.18: Chatham Area Transit Zero Emission Milestones 86
Figure 2.19: Chatham Area Transit 5-Year Zero Emission Transition Action Items 86
Figure 2.20: Strava Metro Self-Reported E-Bike Usage from 2019 to May 2023 87
Figure 3.1: Roadway Functional Classification in the Savannah MSA 91
Figure 3.2: National Highway Freight Network 93
Figure 3.3: STRAHNET in the CORE MPO Region 96
Figure 3.4: Pavement Conditions on CORE MPO Region Roadways, 2020 97
Figure 3.5: Location of Bridges, 2021 100
Figure 3.6: Location of Bridges in Poor Condition, 2021 101
Figure 3.7: Highway Bridges with Less Than 16.5' of Vertical Clearance, 2021 102
Figure 3.8: Posted Bridges, 2021 103
Figure 3.9: CORE MPO Region Railroad, 2022 105
Figure 3.10: Public At-Grage Railway Crossings 107
Figure 3.11: Existing and Planned Bicycle Network 109
Figure 3.12: Proposed Pedestrian Network 110

Figure 3.13: CAT Transit Network and Bus Stops 114
Figure 3.14: CAT Ridership Trend for All Modes 115
Figure 5.1: Highway Project Selection Matrix 140
Figure 6.1: Moving Forward Together 2050 MTP Highway Project Location 161
Figure 7.1: Common Outdoor and Indoor Noises 176
Figure 7.2: GDOT MS4 Permitted Areas (GDOT) 181
Figure 7.3: Approaches for considering nature-based solutions in the transportation planning process 186
Figure 7.4: National Environmental Policy Act Implementing Procedures 191
Figure 7.5: Historic and Cultural Resources in CORE MPO Region 192
Figure 7.6: 2050 MTP Highway Projects and Environmental Justice 197

List of Tables

Table 1.1: Federal Highway Program Performance Goals 28
Table 1.2: Federal Transit Program Performance Goals 29
Table 1.3: Population Growth in the CORE MPO Region 34
Table 1.4: Demographic Composition in the Savannah MSA 36
Table 1.5: Mode of Travel to Work in the CORE MPO Region 37
Table 1.6: Regional Commuter Patterns 38
Table 2.1: Alignment of 2050 MTP Goals with National Goals and Planning Factors 43
Table 2.2: Highway Safety/PM1, System Conditions and Performance 45
Table 2.3: Chatham, Bryan and Effingham County Total Crashes 46
Table 2.4: Heat Indicators in the CORE MPO Region for 2050 54
Table 2.5: Precipitation Indicators in the CORE MPO Region for 2050 55
Table 2.6: Strava Metro Self-Reported E-Bike Usage from 2019 to May 2023 87
Table 3.1: Functional Classification of Roadways in the Savannah MSA, 2020 90
Table 3.2: Freight Intermodal Connectors 94
Table 3.3: Bridge Structures by Highway Functional Classification, 2021 98
Table 3.4: Condition Rating of Bridge Structures by Agency Responsible for their Maintenance, 2021 99
Table 3.5: Distribution of Vertical Clearance on Roadway Bridges by Functional Class, 2021 99
Table 3.6: CORE MPO Region Railroads 104
Table 3.7: Busiest Public At-Grade Rail Crossings 106
Table 3.8: CAT Annual Ridership of All Modes 115
Table 3.9: Average Annual Passengers Per Hour Per Route 116
Table 4.1: 2050 MTP Public Involvement Opportunities 128
Table 5.1: Project Prioritization - Needs Screening 142
Table 5.2: Vulnerability Assessment: Exposure Scoring Descriptions 143
Table 5.3: Vulnerability Assessment: Sensitivity Scoring Descriptions 143
Table 5.4: Vulnerability Assessment: Adaptive Capacity Scoring Descriptions 143
Table 5.5: Project Prioritization - Equity Screening 144

Table 6.1: 2050 MTP Highway Revenue Estimates 151
Table 6.2: 2050 MTP Highway Revenue Allocation by Cost Band and Category Expenditure 152
Table 6.3: Financially Constrained Moving Forward Together 2050 MTP Highway Plan 159
Table 6.4: Transit Capital Revenues 163
Table 6.5: Transit Capital Improvements 164
Table 6.6: Highway Safety/PM1, System Conditions and Performance 165
Table 6.7: Pavement and Bridge Condition/PM2 Performance and Targets 166
Table 6.8: System Performance/Freight Movement/CMAQ (PM3) Performance and Targets 166
Table 6.9: Regional Transit Asset Management Targets 167
Table 6.10: Transit Safety Performance Targets for 2023 168
Table 6.11: 2050 MTP Projects and Performance Measures 169
Table 6.12: 2050 MTP Investments by Mode 170
Table 6.13: 2050 MTP Investments and Performance Measures 170
Table 7.1: Moving Forward Together 2050 Roadway Projects and Potential Impacts 174
Table 7.2: Maximum Noise Emission Levels as Required by EPA for Newly Manufactured Trucks with GVWR Over 10,000 pounds 177
Table 7.3: Maximum Noise Emission Levels as Required by EPA for In-Use Medium and Heavy Trucks with GVWR Over 10,000 pounds Engaged in Interstate Commerce 177
Table 7.4: Barrier Abatement 178
Table 7.5: 2050 MTP Financially Constrained Plan Construction Costs in Neighborhoods 198
Table 7.6: Potential Benefits and Burdens 200

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Section 1: Overview

Coastal Region Metropolitan Planning Organization

The Coastal Region Metropolitan Planning Organization (CORE MPO) is the designated MPO for the Savannah Urban Area, a Census-designated area that includes the City of Savannah as well as surrounding Census blocks with at least 500 people per square mile. The CORE MPO is regional and includes Chatham County and portions of Bryan County and Effingham County.

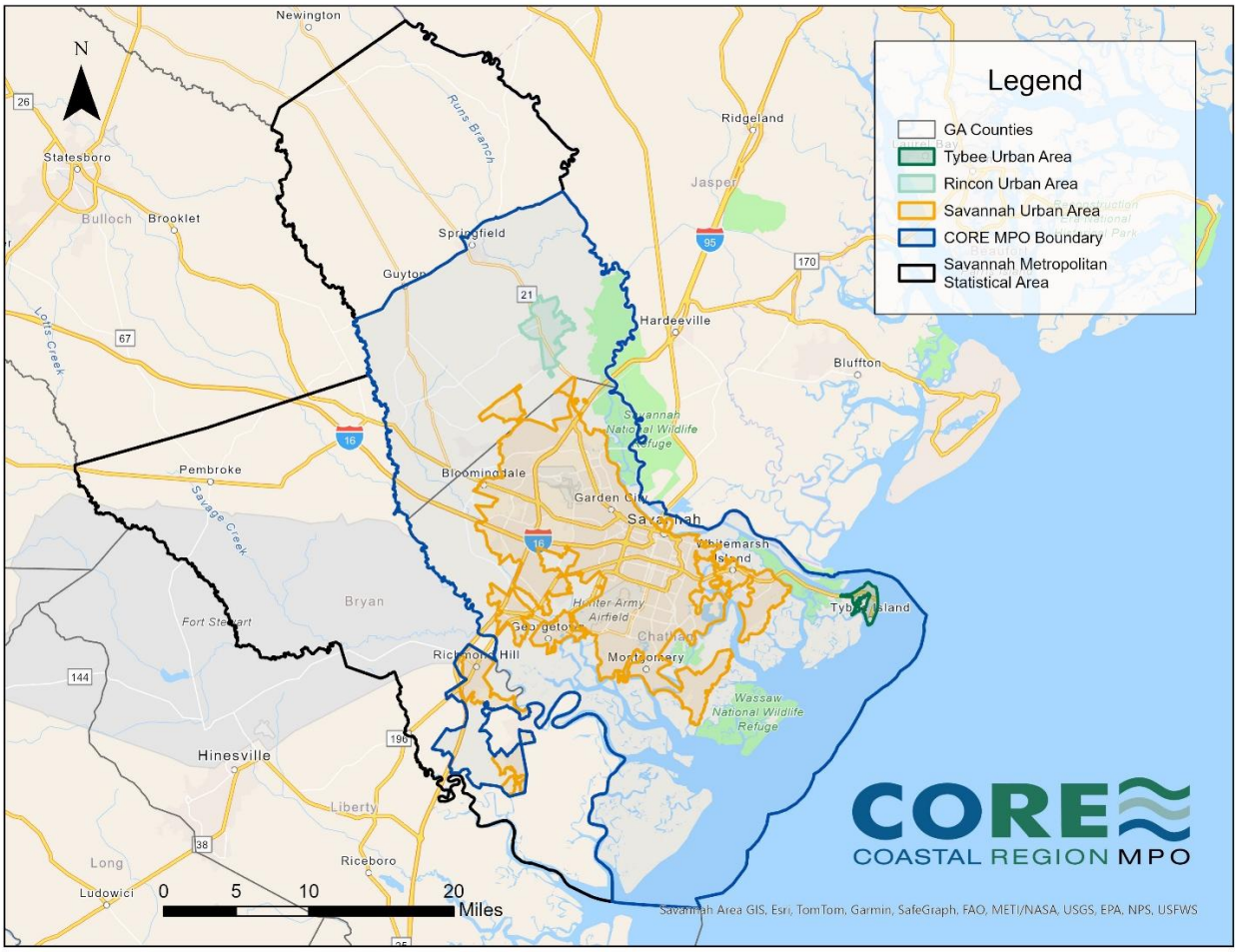
Metropolitan planning processes are governed by federal law (23 USC 134), with regulations included in 23 CFR 450. Since 1962, federal law has mandated that Metropolitan Transportation Plans (MTPs) and programs be developed through a continuing, cooperative and comprehensive (3-C) planning process.

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 areas, as well as the areas expected to become urbanized in the next 20 years. The CORE MPO Metropolitan Planning Area (MPA) boundary as shown in **Figure 1.1**, was adopted by the CORE MPO Board in February 2024 and approved by the Governor of Georgia in the Spring of 2024.

The Savannah Urban Area's population exceeded 200,000 in the 2000 U.S. Census and continued to grow ever since. CORE MPO was designated in 2002 as a Transportation Management Area (TMA – an MPO with a population larger than 200,000). In addition to the federal requirements of MPOs, TMAs are also responsible for developing Congestion Management Processes (CMP), managing 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 includes elected and appointed officials from Chatham County, Bryan County and Effingham County and their municipalities within the CORE MPO MPA boundary, as well as modal representatives and executives from local, state and federal agencies. There are four standing committees that advise the CORE MPO Board and help them carry out the 3-C process. These committees include the Technical Coordinating Committee (TCC), the Economic Development and Freight Advisory Committee (EDFAC), the Bicycle and Pedestrian Advisory Committee (BPAC) established in 2024, and the Transportation Equity and Public Involvement Advisory Committee (TEPIAC) which consolidated the Citizens Advisory Committee (CAC) and the Advisory Committee on Accessible Transportation (ACAT) in 2024.

Figure 1.1: CORE MPO Metropolitan Planning Area



Planning Transportation for the Future

The Moving Forward Together 2050 Metropolitan Transportation Plan was prepared in accordance with federal law and regulations (23 USC 134, CFR 450) which require 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 CORE MPO's 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. 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. Many requirements set forth in the previous federal transportation legislation such as the Moving Ahead for Progress in the 21st Century Act (MAP-21, 2012) and the Fixing America's Surface Transportation Act (FAST Act, 2015) are carried forward into the current legislation – the Infrastructure Investment and Jobs Act (IIJA), which was signed into law in 2021. There are also new requirements under IIJA that need to be incorporated into the MPO's Metropolitan Transportation Plan.

The Moving Forward Together 2050 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 region's goals and financial capacity. The Moving Forward Together 2050 Plan will serve as the defining vision for transportation systems and services in the region. The overall goal of the Moving Forward Together 2050 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

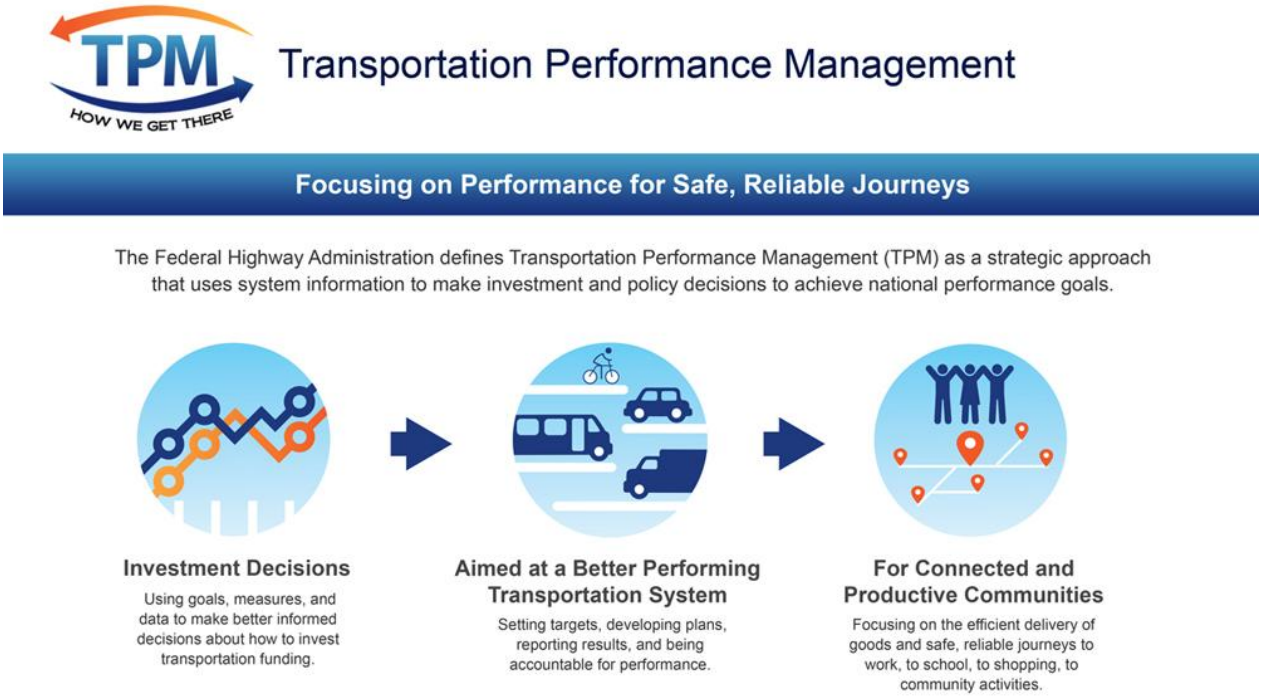
Since the 2012 Moving Ahead for Progress in the 21st Century Act (MAP-21), the subsequent federal transportation legislations (FAST-Act of 2015 and IIJA of 2021) all require that all state departments of transportation (state DOTs) and metropolitan planning organizations (MPOs) use a performance-based 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 (**Figure 1.2**). 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 1.2: 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.

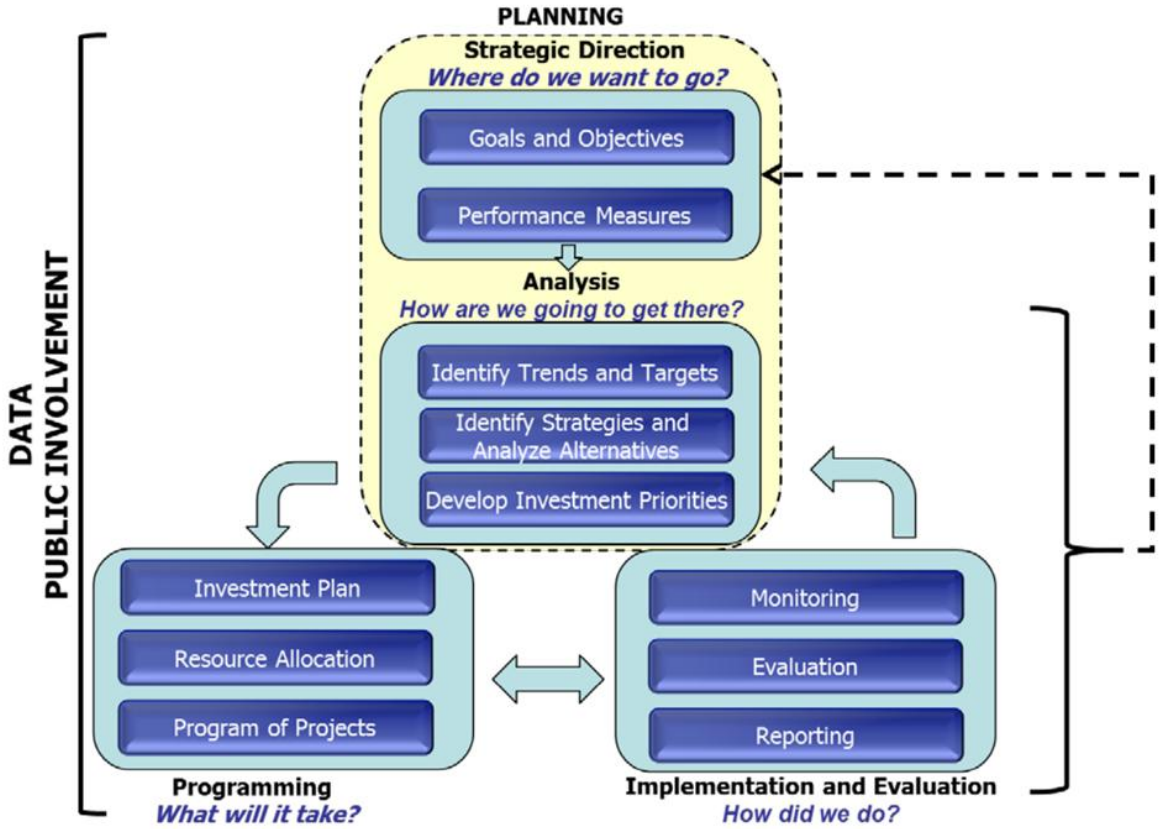
The process for MPOs includes incorporating PBPP into the Metropolitan Transportation Plan (MTP) which evaluates transportation system performance and is the MPO's long-range investment document, as well as the Transportation Improvement Program (TIP) which is the subset of the MTP and the MPO's

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 (**Figure 1.3**) 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 1.3: 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 trade-off analysis and focusing on data specific performance outcomes. The results will be 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, FAST-Act and IIJA 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 (**Table 1.1**) 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 the federal transportation legislation. The goals address three areas of concern which include safety, state of good repair and system efficiency. **Table 1** describes these national goal areas, rulemakings, performance areas, and prescribed measures.

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 (**Table 1.2**) 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 MPOs and states so that all plans and performance reports are coordinated. **Table 1.2** 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. CORE MPO is required to coordinate with public transit providers in the Savannah region to set targets for these measures.

Table 1.1: 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 classifieds 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)

Table 1.2: 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 state DOT sets 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. CORE MPO has decided to support the state targets from the Georgia Department of Transportation (GDOT). By supporting the state's targets, GDOT will do the quantitative work and CORE MPO will reflect the support of the targets 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 targets, or to establish quantifiable targets 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. However, FHWA and FTA will evaluate how the MPO incorporates performance-based planning and programming in the transportation planning process.

FHWA will determine if GDOT has met or made significant progress towards attaining the selected targets for the highway system on an annual basis.

Planning Emphasis Areas

The Moving Forward Together 2050 Plan also correlates the CORE MPO's planning process with the following Planning Emphasis Areas (PEAs). These PEAs are incorporated into the goals and objectives, needs identification, policy establishment, project selection and prioritization, as well as performance evaluation of the 2050 MTP.

Tackling the Climate Crisis – Transition to a Clean Energy, Resilient Future

CORE MPO, in cooperation with FHWA, FTA, GDOT, providers of public transportation in the Savannah region, and other local and regional planning partners, will ensure that our transportation plans and infrastructure investments help achieve the national greenhouse gas reduction goals of 50-52 percent below 2005 levels by 2030, and net-zero emissions by 2050, and increase resilience to extreme weather events and other disasters resulting from the increasing effects of climate change. CORE MPO will use the transportation planning process to accelerate the transition toward electric and other alternative fueled vehicles, plan for a sustainable infrastructure system that works for all users, and undertake actions to prepare for and adapt to the impacts of climate change.

Equity in Transportation Planning

The term "equity" is defined as the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. The term "underserved communities" refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the preceding definition of "equity."

The CORE MPO's Moving Forward Together 2050 Plan includes a comprehensive public involvement process and provides investments in the plan to advance Federal investments to disadvantaged communities. Equity is also included in other aspects of the 2050 MTP – goals and objectives, needs identification, project selection and prioritization, and revenue allocations.

Complete Streets

A complete street is safe, and feels safe, for everyone using the street. The CORE MPO's Moving Forward Together 2050 Plan aims to prioritize safety, comfort, and access to destinations for people who use the street network, including pedestrians, bicyclists, transit riders, micro-mobility users, freight delivery services, and motorists. The goal is to provide an equitable and safe transportation network for travelers of all ages and abilities, including those from marginalized communities facing historic disinvestment.

Public Involvement

Early, effective, and continuous public involvement brings diverse viewpoints into the decision-making process. The CORE MPO's Moving Forward Together 2050 Plan development process includes three rounds of public involvement with in-person and virtual public participation opportunities.

Strategic Highway Network/U.S. Department of Defense Coordination

It is in the national interest to accelerate construction of the Federal-aid highway system because many of the highways (or portions of the highways) are inadequate to meet the needs of national and civil defense. The DOD's facilities include military bases, ports, and depots. The road networks that provide access and connections to these facilities are essential to national security. The CORE MPO's Moving Forward Together 2050 Plan development process involves identifying infrastructure and connectivity needs for STRAHNET routes and other public roads that connect to DOD facilities and coordination with involved parties.

Federal Land Management Agency Coordination

The CORE MPO's Moving Forward Together 2050 Plan development process involves identifying infrastructure and connectivity needs related to access routes and other public roads and transportation services that connect to Federal lands and coordinating with the Federal Land Management agencies.

Planning and Environmental Linkages

CORE MPO targets to implement PEL as part of the transportation planning and environmental review processes. The use of PEL is a collaborative and integrated approach to transportation decision making

that considers environmental, community, and economic goals early in the transportation planning process, and uses the information, analysis, and products developed during planning to inform the environmental review process. PEL leads to interagency relationship building among planning, resource, and regulatory agencies in the early stages of planning to inform and improve project delivery timeframes, including minimizing duplication and creating one cohesive flow of information. This results in transportation programs and projects that serve the community's transportation needs more effectively while avoiding and minimizing the impacts on human and natural resources.

Data in Transportation Planning

CORE MPO aims to incorporate data sharing and consideration into the transportation planning process. Developing and advancing data sharing principles allow for efficient use of resources and improved policy and decision making at the State, MPO, regional, and local levels for all parties. The data sharing principles and data management are used in the 2050 MTP update process, including congestion management, freight planning, bike and pedestrian planning, equity analyses, performance management, travel time reliability, mobility services, and safety.

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,

THE CORE MPO REGION IN A SNAPSHOT:

Region's Population within CORE MPO Metropolitan Planning Area boundary (2020)

- 379,921

Land Area (Square miles)

- 895

Planning Area

- Chatham County and all municipalities within it
- Richmond Hill, Bryan County within 2020 census defined Savannah Urban Area, and the areas that are connecting Richmond Hill and the Savannah Urban Area in Bryan County
- Effingham County south of SR 119 - Indigo Road - Bethany Road

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.

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.

next to Los Angeles, moving more than 5.89 million twenty-foot container units in FY 2022 (annual growth rate of around 35% since 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 installations and educational institutions, port-related industries and manufacturing centers.

Population

The population growth in the CORE MPO region between 2010 and 2020 as illustrated in **Table 1.3** shows an upward trend. However, growth rates are different among the counites and municipalities. The upward population growth trend has continued since 2020.

The population of Chatham County and Savannah has continued its upward growth over the years. The neighboring Bryan County and Effingham County have witnessed even more dramatic population growth. According to the U.S. Census Bureau, the population of the Savannah metro area (Chatham, Effingham and Bryan counties) grew by about 20,000 to 425,000 between July 2020 and July 2023, a 5% increase in three years. According to the latest estimates, Chatham County had close to 304,000 residents in July 2023, an increase of about 8,500 residents since 2020. The City of Savannah is the largest municipality in Chatham County and its population grew from 136,286 in 2010 to an estimated 148,566 in 2024, about a 9.05% increase.

Despite being dramatically smaller in population than Chatham County, Bryan County added about 5,000 residents from 2020 to 2023 for an annual growth rate of more than 3%. Effingham County grew at a similar rate, adding about 6,500 residents in those three years. Some of the population increase in the tri-county metro area is due to natural change, with births significantly outpacing deaths. All three counties also have had more in-migration than out-migration.

The vast majority of international in-migration has occurred in Chatham County in recent years, but domestic migration shows a different pattern. Domestic migration resulted in a net gain of about 4,300 people in Chatham County between 2020 and 2023. Bryan County, less than half the size of Chatham County, added 4,200 people through domestic migration in the past three years. Bulloch County, which is not part of the Savannah MSA but is part of a larger combined statistical area (CSA), added about 3,800 residents through domestic migration from 2020 to 2023. The proximity to the Hyundai Metaplant is expected to result in faster growth in Bulloch.

Within Chatham County, the major growth centers are located in the western portion of the county and are concentrated in the cities of Pooler and Port Wentworth. From 2010 to 2023, Port Wentworth grew from 5,428 to 12,347 in population, an increase of around 127%. At the same time, the City of Pooler grew from a population of 18,619 to 30,311, approximately an increase of 62.8%. The population growth will have a profound impact on the region’s transportation system.

Table 1.3: Population Growth in the CORE MPO Region

County	2010	2020	Percent Change
Bryan County	30233	44738	47.98%
Chatham County	265128	295291	11.38%
Effingham County	52250	64769	23.96%
Town/Municipality	**2010**	**2020**	**Percent Change**
Richmond Hill	9281	16633	79.22%
Bloomingdale	2713	2790	2.84%
Garden City	8778	10289	17.21%
Pooler	19140	25711	34.33%
Port Wentworth	5359	10878	102.99%
Savannah	136286	147780	8.43%
Thunderbolt	2668	2556	-4.20%
Tybee Island	2990	3114	4.15%
Vernonburg	122	139	13.93%
Unincorporated Chatham	87072	92034	5.70%
Guyton	1684	2289	35.93%
Springfield	2852	2703	-5.22%
Rincon	8836	10934	23.74%

Source: US Census Bureau

Demographics

Environmental Justice (EJ) is a consideration in transportation planning, 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 2050 MTP development process so that equity consideration is incorporated into the plan. This information is also useful in helping the MPO to design inclusive public involvement procedures, evaluate possible disproportionate impacts and develop mitigation measures, and assess benefits distributions. Transportation Equity is a major focus area for the 2050 MTP which is incorporated in various aspects of the plan update – goals and objectives development and refinements, transportation system evaluation, public involvement, project selection and prioritization, revenue allocation, as well as impact analysis and mitigation.

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 in Chatham County. Based on the 2020 census data, non-Hispanic white composes the largest percentage of the regional population (around 54.09%). County wide, however, Bryan County and Effingham County are dominated by non-Hispanic white population, with a percentage of 70.01% and 71.13% respectively. Chatham County has a non-Hispanic white percentage of 47.22%.

The 2020 census data also indicate that the African Americans compose most of the minority populations in the Savannah MSA (30.79%). County wise, the percentage of African Americans to the county population is 37.02% for Chatham County, 14.50% for Bryan County, and 13.66% 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. Though the percentage changes remain small, it is apparent that the population composition is diversifying in the Savannah region.

The largest change is in the 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 was almost 7% for Chatham County, 4.5% for Bryan County and nearly 3% for Effingham County. Because of this change, CORE MPO developed a Language Assistance Plan (LAP) and translated the vital 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 2020 census data indicate the following percentages for the Hispanic population – 8.06% for Chatham County, 7.31% for Bryan County, and 5.39% 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 the underserved population to consider for transportation planning is related to poverty. According to the 2016 – 2020 American Community Survey (ACS) data, the percentage of Persons Below Poverty Level is 12.8% in the Savannah MSA. By county, the percentage is 14.42% for Chatham County, 10.32% for Bryan County, and 7.35% for Effingham County.

Table 1.4 summarizes the demographic composition in the Savannah Metropolitan Statistical Area. As part of the federal requirements for developing a transportation plan, 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 was mapped to fully understand the locations and to correlate with the planned improvements. This is discussed further in Section 7: Impact Analysis and Mitigation.

Table 1.4: Demographic Composition in the Savannah MSA

Census Population	Bryan	Chatham	Effingham	Savannah MSA	Threshold
2020 Total Population	44,738	295,291	64,769	404,798	
Not Hispanic or Latino - White Alone	31,321	139,433	48,204	218,958	
Minority - All Others	**13,417**	**155,858**	**16,565**	**185,840**	**45.9%**
2016-2020 ACS 5-Year Estimates Total Estimated Persons for Poverty	38,069	277,048	61,602	376,719	
2016-2020 ACS 5-Year Estimates Total Estimated Persons below Poverty Level	**3,927**	**39,940**	**4,530**	**48,397**	**12.8%**

Source: U.S. Census Bureau, 2020 Decennial Census and the 2016-2020 American Community Survey 5-Year Estimates.

Travel Characteristics

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 for the majority of workers. The City of Savannah, Chatham County and other jurisdictions are continuing to invest in bicycle and pedestrian infrastructure to ensure the safety of the users and to provide network connectivity.

According to the 2022 5-year American Community Survey estimates shown in **Figure 1.4** and **Table 1.5**, the City of Savannah is estimated to have 69% of its workers driving to work alone and 74.9% of the workers in Chatham County drive alone to work, as compared to 74.2% in the state. Effingham County, Bryan County and the Cities of Richmond Hill and Rincon have more than 82% of their workers driving alone.

Carpooling is most prevalent in Chatham County, at 10.70% of the population of the county, followed by Bryan County at 7.20% and Effingham County at 7.00% of their county population. Among

municipalities, the City of Savannah has the highest carpool percentage (10.8%). The carpool percentages in both Chatham County and the City of Savannah are higher than that of the state of Georgia.

With technological development and the impact from the pandemic, more people are working from home. Chatham County has the highest percentage of people working from home (8.50%), followed by Bryan County (7.20%) and Effingham County (4.00%). The City of Savannah has the highest percentage of people working from home in the region (9.5%). Savannah also exhibits the highest percentages of public transit (2.2%), walking (4.8%) and biking (1.9%).

Figure 1.4: Travel To Work in the CORE MPO Region

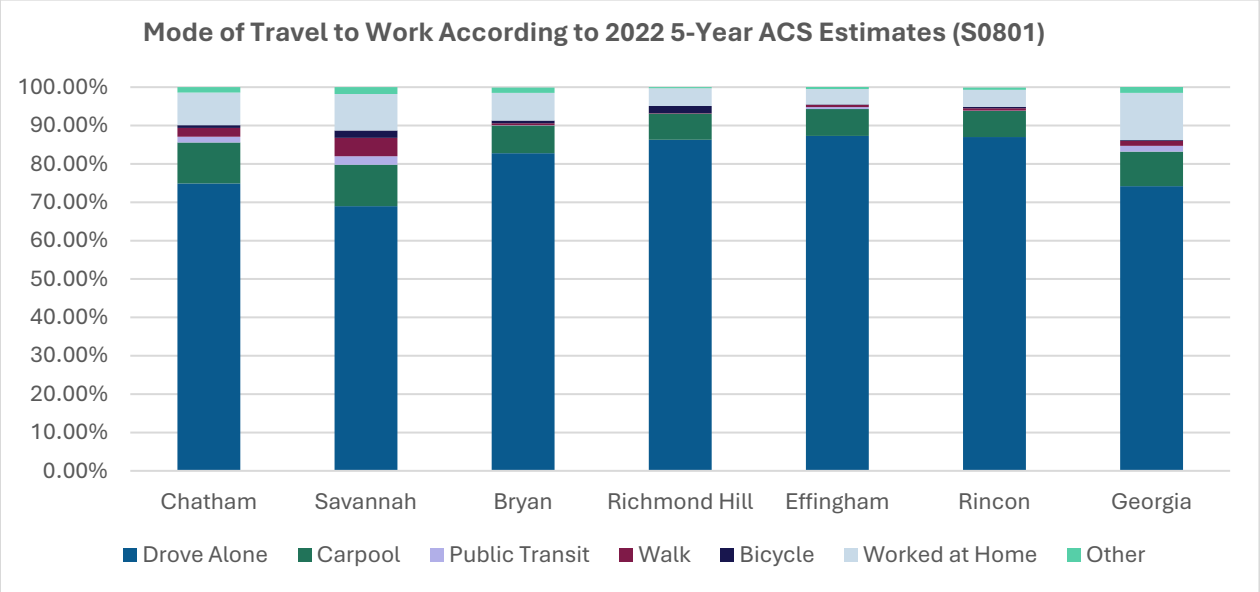


Table 1.5: Mode of Travel to Work in the CORE MPO Region

Mode of Travel to Work According to 2022 5-Year ACS Estimates (S0801)							
	Drove Alone	**Carpool**	**Public Transit**	**Walk**	**Bicycle**	**Worked at Home**	**Other**
Chatham	74.90%	10.70%	1.50%	2.30%	0.70%	8.50%	1.40%
Savannah	69.00%	10.80%	2.20%	4.80%	1.90%	9.50%	1.80%
Bryan	82.80%	7.20%	0.10%	0.50%	0.70%	7.20%	1.40%
Richmond Hill	86.30%	6.80%	0.00%	0.10%	1.90%	4.60%	0.30%
Effingham	87.30%	7.00%	0.50%	0.60%	0.10%	4.00%	0.60%
Rincon	87.00%	6.80%	0.10%	0.60%	0.40%	4.40%	0.60%
Georgia	74.20%	9.00%	1.50%	1.30%	0.20%	12.30%	1.60%

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, 92.8% of the county residents and 94.1% of the Savannah residents work within the county (**Table 1.6**).

The neighboring counties of Bryan and Effingham both have a high percentage of their residents commuting outside the County for work each day, at 67.5% and 58.8% respectively. 72.3% of Richmond Hill residents travel outside Bryan County and 60.6% of Rincon residents travel outside Effingham County for work. Other nearby counties also experience a significant out-commuting pattern. Liberty County has 23.7% and Bulloch County has 29.70% of their population working outside their counties and those workers have a typical commute time of about one hour each way. Across the state line in South Carolina, Jasper County has 59.7% of its population working outside the county, with 8.5% work outside state of residence. Beaufort County also has 4% of its population working outside the county.

Table 1.6: Regional Commuter Patterns

Location	Work in County of Residence %	Work Outside County of Residence %
Chatham	92.80%	4.70%
Savannah	94.10%	3.70%
Bryan	29.80%	67.50%
Richmond Hill	25.00%	72.30%
Effingham County	36.30%	58.80%
Rincon	33.80%	60.60%
Bulloch	68.60%	29.70%
Statesboro	73.50%	25.80%
Liberty	75.20%	23.70%
Hinesville City	76.60%	22.60%
Jasper, SC	40.30%	59.70%
Beaufort, SC	94.50%	4.00%
*Commuting Characteristics 2022 ACS 5-Year Estimates (S0801)		

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 595,000 by 2050 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 development, will also continue to grow.

Savanah 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 completion of 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.

Related to the increased port activities and freight movements, the logistics industry is booming. In Chatham, Effingham and Bryan Counties, a combined 124 new warehouse facilities totaling nearly 52 million square feet have been added over the last five years alone. The region is quickly becoming a recognized hub for the supply chain and logistics industry. The booming manufacturing industry will have impacts on the transportation network and commuting patterns as well. For example, the Hyundai Metaplant will have 80% of its employees from the Greater Savannah area (60-mile radius around the plant), which includes 33% from Chatham County, 7% from Bryan County, 15% from Bulloch County and 9% from Effingham County.

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 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 jobs 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.

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Section 2: Regional Goals and Performance Measures

Transportation Policy and Regional Goals

As the conversation surrounding transportation shifts, and the area for which the CORE MPO planning area expands, new priorities for transportation have emerged. This chapter will describe the region's transportation goals and objectives, and discuss how CORE MPO is working to make them come to fruition.

The Goals and Objectives of the Moving Forward Together 2050 Plan were developed using multiple sources. Many goals and objectives from Mobility 2045 were carried forward into the Moving Forward Together 2050 Plan and new goals and objectives were added to address current transportation needs. Additionally, the results of the 2050 MTP survey were used to develop and/or refine the specifics of each goal. Lastly, the regional goals were developed based on National goals and planning factors, as summarized in **Table 2.1**. This ensured the regional goals are aligned with federal guidelines while also meeting the needs of the local community.

Safety and Security

The Moving Forward Together 2050 Metropolitan Transportation Plan (2050 MTP or 2050 Plan) strives for a safe, secure, and resilient transportation system for people and freight. The goals adopted for the 2050 MTP 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. CORE MPO coordinates with local jurisdictions to ensure the safety of all modes, including bicycle and pedestrian users. Safety for these modal users is of critical importance, and CORE MPO has developed a Non-Motorized Transportation Plan to address the provision of a safe and connected network.

A transportation system can impact safety of its users. For example, the East Palestine, Ohio train derailment heavily impacted the health and environment of the area surrounding the accident. The Francis Scott Key Bridge collapse in Baltimore tragically resulted in the death of six people. Car accidents are so frequent that, according to the National Highway Traffic Safety Administration, over 1000 people die on Georgia roads every year. Because of this, ensuring the safety of the transportation system and the people who use it is paramount.

Many roadway safety factors are attributed to human behaviors that are personal decisions, which may be swayed by public education and enforcement campaigns. Targeted safety improvements can be tailored to individual corridors to keep a vehicle on the road and/or allow the driver to safely recover the vehicle should it depart the roadway. At the same time, natural and man-made disasters have tremendous impacts on the security of the transportation system and should be considered in making transportation improvements.

Table 2.1: Alignment of 2050 MTP Goals with National Goals and Planning Factors

Goals	National Goals						Planning Factors									
	Safety	Economic Strength and Global Competitiveness	Equity	Climate and Sustainability	Transformation	Organizational Excellence	Economic Vitality	Safety	Security	Accessibility and Mobility	Integration and Connectivity	Preservation	Protect and Enhance the Environment	Efficiency	Resiliency	Enhance Travel and Tourism
Safety & Security: Provide a safe and secure transportation system for all users	X		X				X	X	X							
Performance and Reliability: Enhance transportation system efficiency and freight movement		X				X	X				X			X		
Access & Connectivity: Enhance mobility by improving access to opportunities and multimodal options	X		X	X	X	X	X		X	X	X					
Stewardship: Strategically maintain and improve the transportation system through coordination, economic competitiveness, and resource management		X		X	X	X	X					X	X		X	X
System & Environmental Preservation: Maintain and preserve the transportation system and natural environment				X	X							X	X		X	

Safety and Security Objectives

CORE MPO has developed several objectives to achieve the Safety and Security Goal in the 2050 MTP.

Goal - Safety and Security: Provide a safe and secure transportation system for all users
Objectives:
• Reduce the rate, frequency, and severity of crashes, injuries, and fatalities for all modes and freight and at-grade rail crossings
• Improve emergency response and incident clearance times
• Increase the resiliency of infrastructure to risks helping prepare for, respond to, and recover from emergencies, including extreme weather and environmental conditions
• Increase resilience of infrastructure to reduce flooding on roadways

Highway Safety Performance Measures and Performance Targets

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

1. **Number of Fatalities:** The total number of persons suffering fatal injuries in a motor vehicle crash during a calendar year.
2. **Rate of Fatalities:** 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 Injuries:** 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.
5. **Number of Non-motorized Fatalities and Non-motorized Serious Injuries**: 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.

CORE MPO has elected to accept and support the State of Georgia's safety targets. The adopted statewide Safety targets are included in the System Performance Report in ***Section Six*** and ***Appendix A***. CORE MPO will maintain the Performance Based Planning and Programming process for Safety by:

- Addressing 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;
- Updating safety targets or supporting the GDOT safety targets annually;
- Integrating safety goals, objectives, performance measures, and targets into the planning process; and
- Describing the anticipated effect toward achieving the targets noted above within the Transportation Improvement Program (TIP), effectively linking investment priorities to safety target achievement.

Georgia Safety Data

Georgia is striving to reduce fatalities and serious injuries through engineering solutions. After years of an overall decline in traffic fatalities, the number of people dying on roadways increased between 2020 and 2021. According to data from the Georgia Governor's office of Highway Safety, in 2021, Georgia's traffic fatality rate was 1.49 fatalities per 100 million vehicle miles traveled. This is higher than the national average of 1.37 fatalities per 100 million VMT, according to the National Highway Traffic Safety Administration (NHTSA).

Table 2.2: Highway Safety/PM1, System Conditions and Performance

Fatalities Per 100 Million Vehicle Miles Driven in Georgia									
2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1.11	1.08	1.04	1.21	1.27	1.23	1.14	1.12	1.43	1.49

Source: https://www.gahighwaysafety.org/traffic-data/

As shown in **Table 2.2**, the traffic fatality rate jumped sharply in 2020 and continued to increase in 2021. This coincides with the beginning and height of the COVID-19 Pandemic. While the traffic fatality rate increase may be related to the pandemic, the exact reason for this rate jump is not fully understood. Several factors that decrease safety might be outside of an MPO's control, such as:

- Smartphone usage while driving,
- Large and distracting dashboard screens in cars, and
- Increased vehicles sizes.

However, MPOs can still advocate and plan for infrastructure that improves safety. CORE MPO can prioritize actions that improve safety, such as:

- Prioritizing traffic calming measures,
- Prioritizing separated bike and pedestrian facilities,
- Prioritizing FHWA Proven Safety Countermeasures, and
- Promoting Vision Zero Initiatives.

Regional Safety Data

CORE MPO regularly collects crash data utilizing the Numetric system. The number of total crashes, injury crashes and fatal crashes for the CORE MPO area for the past several years are shown in **Table 2.3**. Total crashes in Chatham, Bryan and Effingham Counties increased from 2020 to 2022, with the number of crashes peaking in 2021. The data for injury crashes shows an upward trend between 2020 and 2022, with the trend more apparent in Chatham County. The fatality crash data shows an upward trend between 2019 and 2022 as well.

Table 2.3: Chatham, Bryan and Effingham County Total Crashes

	2016	2017	2018	2019	2020	2021	2022
Total Crashes							
Chatham County	15,476	14,936	13,958	14,433	12,014	14,821	14,530
Bryan County	857	947	1,074	1,113	1,005	1,300	1,207
Effingham County	1,041	1,206	1,307	1,289	1,397	1,417	1,408
Total	**17,374**	**17,089**	**16,339**	**16,835**	**14,416**	**17,538**	**17,145**
Crashes Involving Injuries							
Chatham County	3,805	3,553	3,179	3,500	3,016	3,546	3,668
Bryan County	278	317	202	316	268	341	324
Effingham County	363	400	359	356	374	399	399
Total	**4,446**	**4,270**	**3,740**	**4,172**	**3,658**	**4,286**	**4,391**
Crashes Involving a Fatality							
Chatham County	35	26	34	26	35	65	56
Bryan County	11	4	5	6	5	7	4
Effingham County	12	7	7	4	9	5	13
Total	**58**	**37**	**46**	**36**	**49**	**77**	**73**

Source: Numetric

CORE MPO Actions to Support Safety and Security

Freight Planning

The CORE MPO's Regional Freight Transportation Plan update was completed in October 2023 and included information on freight crashes. Using data from the Numetric database, the number, types, and severity of freight crashes were identified. Overall, the results indicate that corridors that exceed the regional average truck crash rate are concentrated in the urban core of the region and along the Savannah River. For corridors in downtown Savannah, the truck-involved crash rates are likely being driven by box trucks and smaller delivery vehicles serving the region's substantial restaurant and hospitality industry. Examples include Bay Street and SR 204/Abercorn
Street. Along the Savannah River, portions of corridors such as SR 21 and SR 25 exhibit higher crash rates. This is likely associated with freight traffic serving the Port of Savannah and nearby

warehousing/distribution center developments. This data was used to create recommendations for future projects and plans.

Resilience Planning

The Savannah area is a coastal, low-lying region, making it vulnerable to the effects of flooding, storm surge, extreme heat, and extreme storms. The area will become more vulnerable due to the effects of climate change; therefore, CORE MPO prioritizes measures that improve resilience. For example, in the project scoring process of the 2050 MTP development, projects were assessed based on their exposure, sensitivity, and adaptive capacity to climate stressors. The climate stressors include temperature, sea level rise, storm surge, and wind. This data creates a better understanding of the resilience of our roadways and 2050 MTP projects. Additionally, CORE MPO has a Flood Dynamic Modeling tool that can aid in the decision-planning on flood risk management, operational response, and resilience planning for the Savannah region. This model includes data that has been used to inform the public, policymakers, stakeholders, and planners on the areas that are in most need of resilience improvements.

CORE MPO staff also facilitate the Coastal Empire Resilience Network (CERN). CERN is a network engaging regional community partners, municipal staff, and policymakers to coordinate strategies to address the physical, economic, and social challenges coastal Georgia faces due to a changing climate. CERN is working to align regional strategies, share resources, and advocate for collective action to improve the resilience of communities in the coastal region.

Project Prioritization

There are three tiers within the highway prioritization process for the 2050 MTP. In each of these tiers, safety is a measure used to assess projects. For example, increasing equity is one of the ways the MPO prioritized projects. Within the equity scoring system, there was a safety component, in which projects that included safety features such as roundabouts or RCUT intersections were prioritized more highly than projects without those features. Additionally, projects that improved safety for pedestrians and cyclists were also prioritized.

Non-Motorized Transportation Planning

CORE MPO maintains the Non-Motorized Transportation Plan, which is the region's bike and pedestrian plan. Safety is an important factor within the plan, which is why, for the addition of new projects, most are protected facilities. The decision to prioritize protected facilities was based on the FHWA's Proven Safety Countermeasures, which show that separated and protected bike and pedestrian facilities increase safety.

Partner Actions to Support Safety and Security

Supporting Vision Zero

Savannah Vision Zero (SAVZ) is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. Savannah renewed its commitment to safer streets in 2022 with the adoption of the Vision Zero strategy. The following principles were identified by the City of Savannah's Vision Zero Resolution and continued work to create safer streets:

1. Traffic deaths and serious injuries are preventable and unacceptable;
2. Saving human lives is an objective of the highest order;
3. Solutions should be comprehensive, collaborative, equitable, and data-driven; and
4. Savannah as a whole - elected officials, staff, community members and visitors - are accountable for implementing the Vision Zero Action Plan.

Effingham County's Vision Zero Action Plan is currently being developed. As Effingham County grows, the plan will be used to make responsible planning decisions to improve safety in currently developed areas of the county and to create safe infrastructure in the newly developing areas.

Emergency Management

CORE MPO coordinates closely with and supports the local and state agencies that are responsible for emergency management. CORE MPO can address the overall security goal by coordinating with the agencies in the planning process.

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.

CORE MPO, GDOT, and local agencies coordinate hurricane evacuation planning. The east-west interstate, I-16, 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.

Public Transportation

The Chatham Area Transit Authority (CAT) is responsible for the provision of public transit services in the Savannah 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. CAT also coordinates with CEMA during an evacuation. CAT buses will be utilized in case of an emergency to assist in the evacuation process.

As a part of the Performance Based Planning and Programming, CAT also adopts transit performance measures and targets to improve safety on public transportation. FTA established four transit safety performance measures in the National Public Transportation Safety Plan:

- **Fatalities** - Total number of reportable fatalities and the rate per total vehicle revenue miles by mode.
- **Serious Injuries** - Harm to person that requires immediate medical attention away from the scene.
- **Safety Event** - Collision, derailment, fire, hazardous material spill, or evacuation
- **System Reliability** - Major mechanical failure preventing a vehicle from completing or starting scheduled trip.

Addressing the FTA's four safety performance measures requires seven transit safety performance targets by mode. These performance targets are:

1. Total fatalities;
2. Rate of fatalities per vehicle revenue miles;
3. Total serious injuries;
4. Rate of serious injuries per vehicle revenue miles;
5. Total safety events;
6. Rate of safety events per vehicle revenue miles; and
7. Miles between major mechanical failures.

CAT has shared with CORE MPO their Public Transportation Agency Safety Plan (PTASP) which included their transit safety targets. Through coordination between CORE MPO and CAT, CORE MPO adopted the CAT transit safety targets for the Savannah Metropolitan Planning Area. Establishing the same targets as CAT ensures a common goal and consistency between the two organizations. The Savannah Metropolitan Planning Area's transit safety performance targets adopted for 2023 are included in the System Performance Report in ***Section Six*** and ***Appendix A***.

Resilience and Natural Hazards

Resilience and sustainability are key components of a transportation network and are factors within the Safety and Security Goals. According to federal requirements regarding the metropolitan planning process, MPOs must "Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation;" (23 CFR 450.306(b)(9)) and " assess capital investment and other strategies to preserve the existing and projected future metropolitan transportation infrastructure, provide for multimodal capacity increases based on regional priorities and needs, and reduce the vulnerability of the existing transportation infrastructure to natural disasters" (23 CFR 450.324(f)). The MPO's planning process must incorporate FHWA policy on

preparedness and resilience to climate change and extreme weather events as established by FHWA Directive 5520 Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events.

FHWA defines resilience as "a capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment."[1] In respect to a project, resilience includes "the ability to resist hazards or withstand impacts from weather events and natural disasters; or to reduce the magnitude or duration of impacts of a disruptive weather event or natural disaster on a project; and to have the absorptive capacity, adaptive capacity, and recoverability to decrease project vulnerability to weather events or other natural disasters."[2]

The National Environmental Policy Act (NEPA) defined sustainability as a national policy "to create and maintain conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations."[3] Sustainable transportation is defined by the United Nations as the "the provision of services and infrastructure for the mobility of people and goods—advancing economic and social development to benefit today's and future generations— in a manner that is safe, affordable, accessible, efficient, and resilient, while minimizing carbon and other emissions and environmental impacts."[4]

Resilience and sustainability involve several topics, including natural and man-made threats, climate change, energy and emissions, biodiversity and wildlife conservation, stormwater management, and green infrastructure.

Natural Hazards

The transportation network within the CORE MPO region is susceptible to natural and man-made hazards. Natural hazards include changes in temperature and precipitation, sea level rise, storm surge, and flooding, whereas man-made hazards include infrastructure failures, cybersecurity threats, terrorism, active shooters, and hazardous material spills. Hazard Mitigation Plans (HMPs) identify and assess hazard risk mitigation to better protect the people and property from the effects of natural and human-caused hazards.

According to the Chatham County Multi-Jurisdictional Pre-Disaster HMP, Chatham County is at high risk for extreme heat, hurricanes, flood, hazardous materials event, sea level rise, wildfire, severe winter weather, tornado, severe weather, and drought. The county has a moderate risk of earthquake, erosion, terror threat, and a low risk of dam failure (**Figure 2.1**).[5] The Bryan County HMP identified coastal

[1] https://www.transportation.gov/priorities/climate-and-sustainability/definitions
[2] Source: Public Law 117-58, also known as Bipartisan Infrastructure Law
[3] https://www.epa.gov/sustainability/learn-about-sustainability#care
[4] https://sdgs.un.org/sites/default/files/2021-10/Transportation%20Report%202021_FullReport_Digital.pdf
[5] https://chathamemergency.org/About/Plans

storms, drought, flooding, hurricanes/tropical storms, tornadoes, wildfires, and windstorms as the greatest threats (**Figure 2.2**). The Effingham County Joint HMP identified tornadoes, inland flooding, hurricane wind, severe weather, and coastal hazards as high priority, drought, severe winter weather, wildfire, wind, and extreme heat as medium priority, and seismic and geologic hazards as low priority (**Figure 2.3**).

Figure 2.1: Chatham County Multi-Jurisdictional Pre-Disaster Hazard Mitigation Plan Summary of Hazard Risk Classification (2020)

Table 2.88 – Summary of Hazard Risk Classification

High Risk (> 2.4)	Extreme Heat Hurricane Flood Hazardous Materials Incident Sea Level Rise Wildfire Severe Winter Weather Tornado Severe Weather (Thunderstorm Wind, Lightning, Hail) Drought
Moderate Risk (2.0 – 2.4)	Earthquake Erosion Terror Threat
Low Risk (< 2.0)	Dam Failure

Figure 2.2: Bryan County Hazard Mitigation Plan Update Threats (2019)

The Bryan County Hazard Mitigation Plan Update addresses the following seven hazards considered by committee members to pose the most threat to the residents, property and economy of Bryan County:

- Coastal Storms
- Drought
- Flooding
- Hurricanes/Tropical Storms
- Tornadoes
- Wildfires
- Windstorms

Figure 2.3: Effingham County Multi-Jurisdictional Pre-Disaster Hazard Mitigation Plan Summary of Hazard Risk Classification (2023)

Vulnerability Ranking			
Rank	**Hazard**	**Score**	**Priority**
1	Tornado	34	High
2	Inland Flooding	32	High
3	Hurricane Wind	30	High
4	Severe Weather	28	High
5	Coastal Hazards	27	High
6	Drought	26	Medium
7	Severe Winter Weather	26	Medium
8	Wildfire	24	Medium
9	Wind	17	Medium
10	Extreme Heat	17	Medium
12	Seismic Hazards	10	Low
13	Geologic Hazards	6	Low

The HMPs identified extreme heat, flood, hurricanes, sea level rise, tornadoes, severe weather, drought, wildfires, and windstorms as the primary threats to the tri-county region. Therefore, the CORE MPO's planning efforts will focus on describing and evaluating future conditions of climate hazards of extreme temperature, precipitation, sea level rise, storm surge, and wind using data from the Climate Mapping for Resilience and Adaptation (CMRA) Assessment Tool and National Oceanic and Atmospheric Administration (NOAA). In addition, man-made threats of hazardous materials incidents, cybersecurity incidents, active shooters, radiological releases, and infrastructure failures on the transportation system will be described using the Chatham County HMP and Georgia Hazard Identification and Risk Assessment (HIRA).

The CORE MPO region can expect to experience several natural hazards as a result of climate change. FHWA defines climate change as "changes in average weather conditions that persist over multiple decades or longer. Climate change encompasses both increases and decreases in temperature, as well as shifts in precipitation, changing risk of certain types of severe weather events, and changes to other

features of the climate system." [6] The region will need to adapt to the changing environment while also mitigating the effects by reducing the emissions of greenhouse gases.

The CMRA Assessment Tool was utilized to report on the future climate hazards for the year 2050. CMRA is hosted by NOAA and was developed in 2022 by an interagency partnership working under the U.S. Global Change Research Program (USGCRP) with guidance from the U.S. Federal Geographic Data Committee (FGDC). CMRA is designed to work with the US Climate Resilience Toolkit and help organizations assess their exposure to climate-related hazards.[7] Temperature, precipitation, and sea level rise are described in baseline, low, and high emissions scenarios using representative concentration pathway (RCP) scenarios for 2050. The baseline data is based on historical data from 1976-2005. The low emissions scenario uses RCP 4.5, which aligns with Conference of Parties (COP) 26 goals. The high emissions scenario uses RCP 8.5, which reflects a "business as usual" approach. A higher RCP indicates higher greenhouse gas concentrations. Other indicators use historical data to help better understand current vulnerability.

Temperature

Extreme heat can result in drought, prolonged heatwaves, and wildfire. This can result in overuse of water sources, negative impacts on public health, loss of agricultural crops, and loss of life. Wildfires can cause loss of property and life, especially in the wildland-urban interface, an area where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.[8] Changes in temperature can also result in changes to the length of the construction season and higher rates of evaporation and drier soil, affecting rates of erosion and pavement degradation.[9]

Extreme heat causes more deaths than any other weather-related hazards, even hurricanes and flooding, and urban areas can be 1.8-5.4˚ F warmer than their surroundings during the day and 22˚ F during the evening due to heat absorption. Many people are at higher risk to heat, including those who have a health risk, work outside or work without air conditioning, which can include those in the transportation sector.[10]

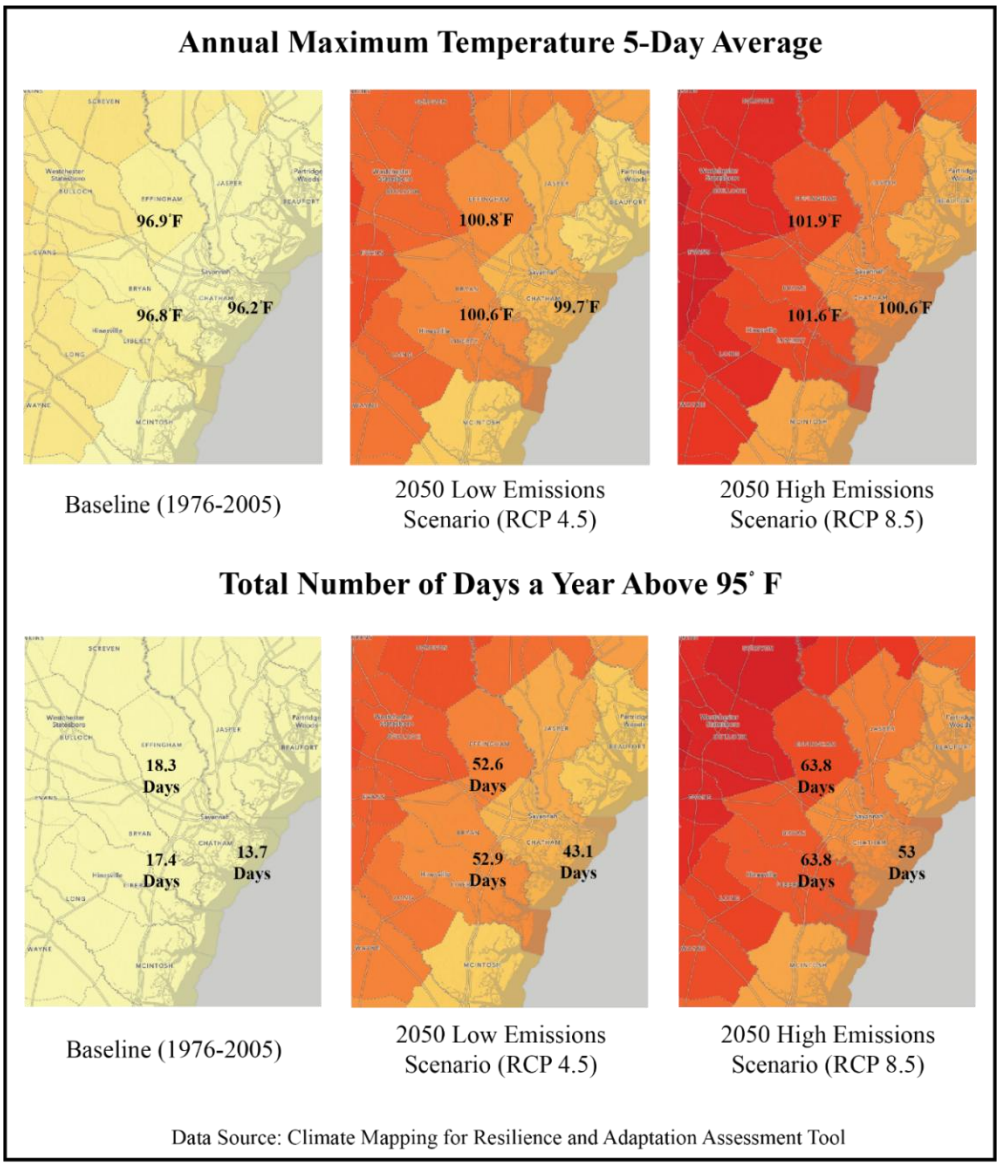
The CORE MPO region is expected to experience a change in the annual maximum temperature. The five-day average is expected to increase by 3.69˚ F in 2050 in a lower emissions scenario and 4.66˚ F in a high emissions scenario. The change in total number of days a year above 95˚F is approximately 30 days in 2050 in a lower emissions scenario and 41 days in a high emissions scenario (**Table 2.4, Figure 2.4**). Values reported in the table are for the geographic area of the CORE MPO and values reported in the figure are by individual county.

[6] https://www.transportation.gov/priorities/climate-and-sustainability/definitions
[7] https://resilience.climate.gov/pages/about
[8] HIRA (2022) pg. 34
[9] FHWA Climate Adaptation and Assessment Framework pg. 12
[10] https://www.epa.gov/sites/default/files/2016-10/documents/extreme-heat-guidebook.pdf

Table 2.4: Heat Indicators in the CORE MPO Region for 2050

Climate Stressor	Indicator	Baseline (1976-2005)	2050 Low Emissions Scenario (RCP 4.5)	2050 High Emissions Scenario (RCP 8.5)
Temperature	Annual Maximum Temperature 5 Day Average	96.84˚ F	100.53˚ F	101.49˚ F
Temperature	Total number of days a year above 95˚F	14.19 days	44.36 days	55.13 days

Figure 2.4: Heat Indicators in the CORE MPO Region for 2050



Precipitation/Flooding

Precipitation is not expected to change as dramatically as temperature in the CORE MPO region. There will be a change in total annual precipitation of approximately 1.7 inches in a 2050 low emissions scenario and 2.6 inches in a high emissions scenario. The number of consecutive days with precipitation is expected to increase by 0.42 days in a 2050 low emissions scenario and 0.37 days in a high emissions scenario (**Table 2.7**, **Figure 2.5**). Values reported in the table are for the geographic area of the CORE MPO and values reported in the figure are by individual county.

Table 2.5: Precipitation Indicators in the CORE MPO Region for 2050

Climate Stressor	Indicator	Baseline (1976-2005)	2050 Low Emissions Scenario (RCP 4.5)	2050 High Emissions Scenario (RCP 8.5)
Precipitation	Total Annual Precipitation	49.70 inches	51.43 inches	52.28 inches
Precipitation	Number of Consecutive Days with Precipitation	14.69 days	15.11 Days	15.06 Days

Sea Level Rise

As shown in **Figure 2.6**, the projected sea level rise at the Fort Pulaski tide gauge *in an* intermediate scenario is 0.95 ft in 2040 and 1.64 ft in 2060. In a high scenario, projected sea level rise is 1.12 ft in 2040 and 2.4 ft in 2060. **Figure 2.7** shows that in less than 20 years, the Georgia coast is projected to experience approximately 1 ft sea level rise. Sea level rise can damage property, facilities, and infrastructure through flooding and storm surge.

Figure 2.5: Precipitation Indicators in the CORE MPO Region for 2050

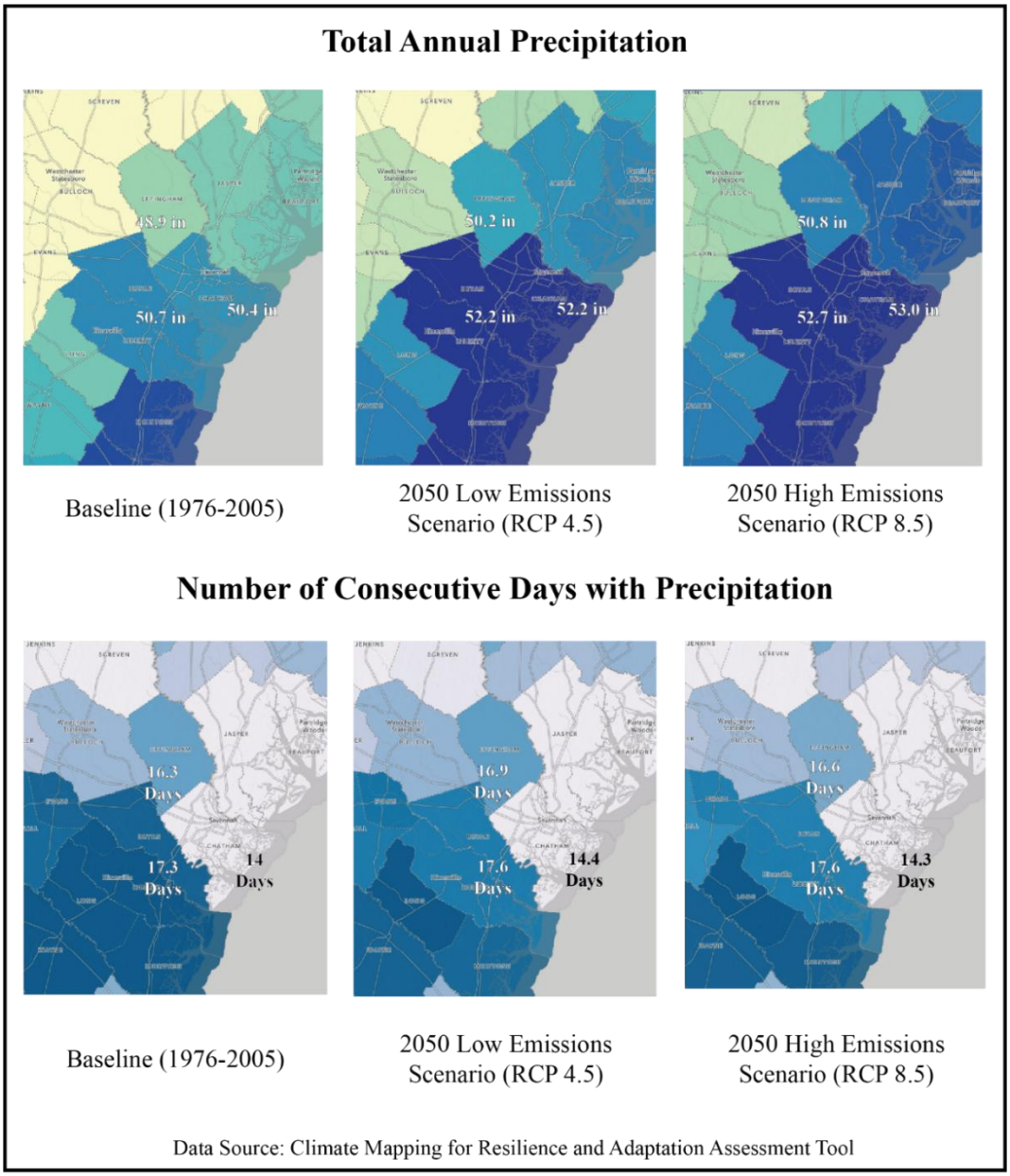


Figure 2.6: Fort Pulaski Annual Relative Sea Level Since 1960 and Projections (NOAA)

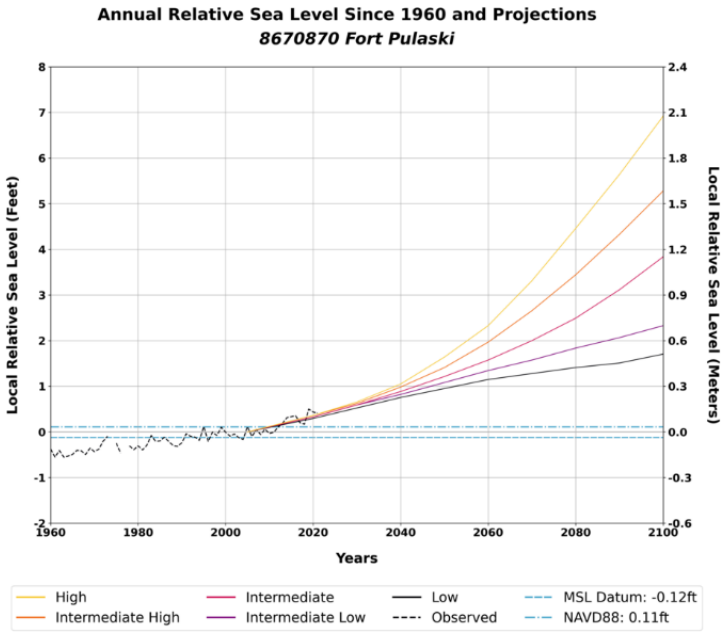
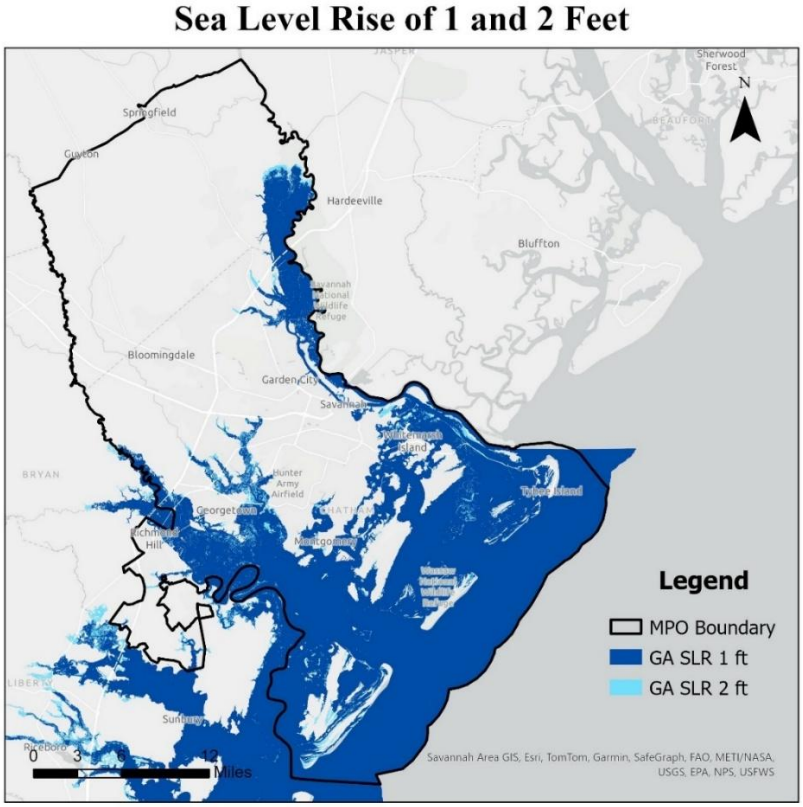


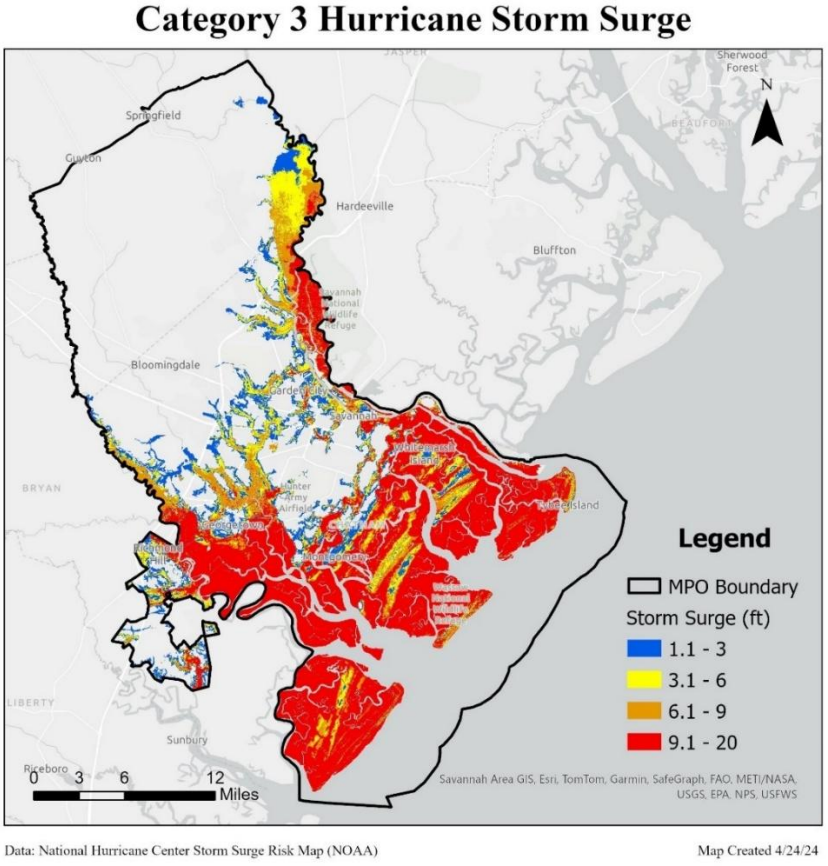
Figure 2.7: Sea Level Rise Mid-Century Projections in the CORE MPO Region



Storm Surge

NOAA defines storm surge as "the abnormal rise in seawater level during a storm, measured as the height of the water above the normal predicted astronomical tide. The surge is caused primarily by a storm's winds pushing water onshore."[11] The Georgia Coastal region is vulnerable to high storm surge, with the highest potential to cause devastation in Chatham, Bryan, Liberty, McIntosh, Glynn, and Camden Counties. Storm surge ranged from 3-5 ft in past tropical cyclones of Floyd in 1999, Matthew in 2016, and Irma in 2017, but could be 10-20 ft in a worst-case scenario.[12] **Figure 2.8** shows the potential impacts from Category 3 hurricane storm surge in the CORE MPO region. Hurricanes and tropical storms can impact roads, bridges, schools, and healthcare facilities by water damage from storm surge. Storm surge can cause widespread destruction to property, facilities, and infrastructure and result in high recovery costs. Further, power outages and the disruption of transportation can delay emergency response teams.[13]

Figure 2.8: Category 3 Hurricane Storm Surge in the CORE MPO Region



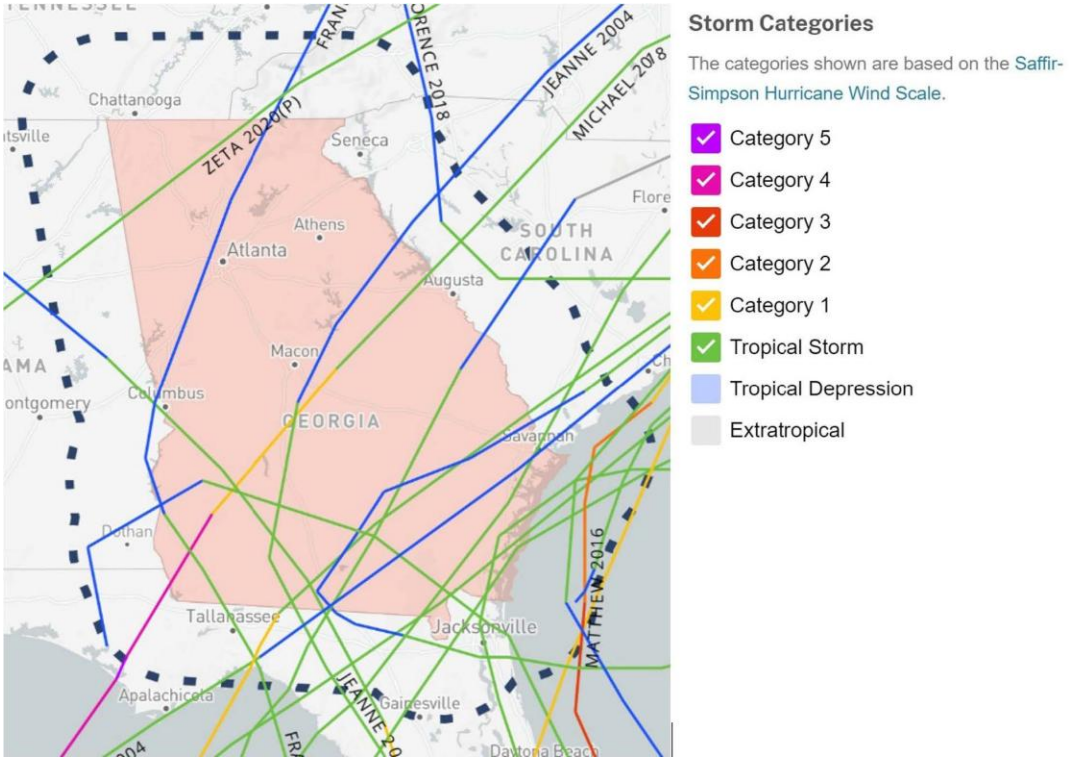
[11] https://oceanservice.noaa.gov/facts/stormsurge-stormtide.html
[12] Georgia HIRA 2022, pg. 6
[13] Georgia HIRA 2022, pg. 30

Wind

Sustained wind caused by tropical storms and hurricanes can cause extensive damage to structures, roadways, and bridges from flying debris and power loss. This can disrupt response units and may even damage or destroy first response vehicles.[14] The average windspeed recorded at the Savannah/Hilton Head International Airport (KSAV) from April 1996 to February 2024 is 6.55 mph and the fastest recorded wind speed was 81 mph.[15]

Figure 2.9 shows the historic tropical storm and hurricane tracks in Georgia and the CORE MPO region. Nineteen total storms have impacted Georgia at tropical storm or hurricane strength between 2001 and 2020. Twelve occurred within state lines, and seven occurred within fifty miles of state lines. Wind from Hurricanes Michael (2018) and Irma (2017) caused massive power outages, agricultural loss, damage to infrastructure, and downed trees. Hurricane Matthew (2016) caused the highest wind gusts recorded of 94-96 mph on Tybee Island, although it did not make landfall. Wind may also intensify other hazards such as tornadoes, thunder and hailstorms, and wildfires.[16]

Figure 2.9: Tropical Storm / Hurricane Tracks (HIRA 2022, NOAA Historical Hurricane Tracks)



[14] HIRA pg. 30
[15] https://www.ncei.noaa.gov/
[16] HIRA pg. 33 and 7

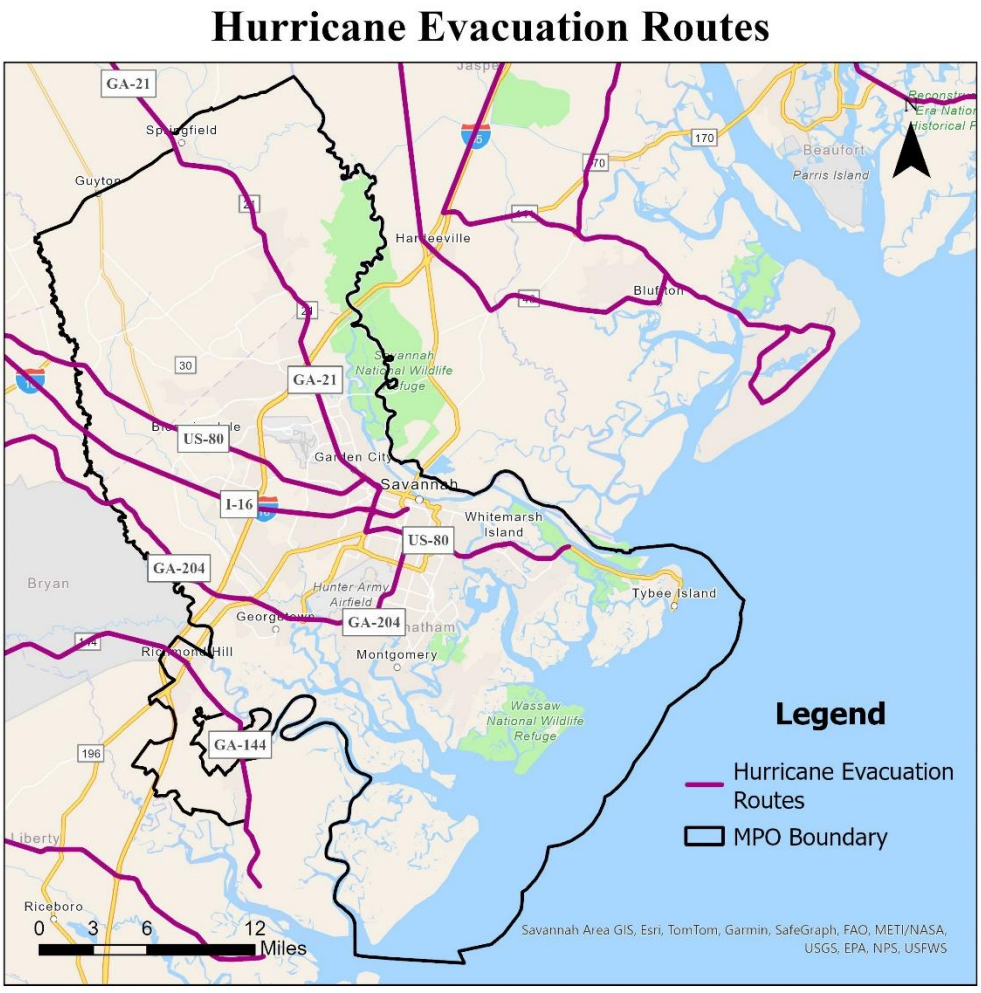
Evacuation Routes and Critical Facilities

Hurricane evacuation routes in the CORE MPO region include I-16, US 80, GA-21, GA-204, and GA-144 (**Figure 2.10**). Within Chatham County, there are three evacuation zones:

- Zone A: Areas east of Truman Parkway and the Vernon River
- Zone B: Areas west of Truman Parkway but east of Interstate 95
- Zone C: Areas west of Interstate 95

An Evacuation Order is a general statement used to encourage residents to evacuate and will be issued when local officials feel it may be in the best interest of the public to evacuate the targeted area. A Mandatory Evacuation Order is an executive directive requiring all residents, visitors, businesses, and others in the target area to evacuate.[17]

Figure 2.10: Hurricane Evacuation Routes in the CORE MPO Region



[17] https://www.chathamemergency.org/PrepareNow/EvacuationZones

Critical facilities are essential services and lifelines that would result in severe consequences to public health, safety, and welfare if damaged in an emergency event.[18] These may include emergency operation centers, hospitals, fire stations, police stations, government buildings, and schools. All critical facilities are considered at risk to hurricane winds across the CORE MPO region. Facilities may be more vulnerable depending on age, construction, and other factors.[19] Critical facilities can be located within individual HMPs.

Man-Made Hazards

Man-made or human-caused hazards are defined as "any disastrous event caused directly and principally by one or more identifiable deliberate or negligent human actions [and] a technological hazard is a hazard originating from technological or industrial conditions, including accidents, dangerous procedures, or failures."[20] Building resilience to man-made hazards is as important as to natural hazards. The following man-made hazards might impact the CORE MPO region: hazardous materials incidents, cybersecurity incidents, active shooters, and infrastructure failures.

Hazardous Materials Incidents

The Chatham County Multi-Jurisdictional HMP defines a transportation hazardous materials incident as "the accidental release of chemical substances or mixtures during transport… Highway accidents involving hazardous materials pose a great potential for public exposures. Both nearby populations and motorists can be impacted and become exposed by accidents and releases. If airplanes carrying hazardous cargo crash, or otherwise leak contaminated cargo, populations and the environment in the impacted area can become exposed."[21]

Hazardous materials are routinely stored and transported throughout Georgia. Georgia's industrial capacity and network of highways, pipelines, waterways, and railways result in vulnerabilities to hazardous material releases. Storage sites as well as hazardous materials in transit could be impacted by accidental, criminal, or terrorist events. Many sites that utilize or store hazardous materials are in coastal counties where they could be exposed to tropical cyclone winds and rains. A release of a hazardous material could result in injury, long-term health problems, loss of life and damage to property and the environment. The consequences of a hazardous material release will vary greatly depending on the location, time, quantity, and material released. A hazardous material incident can impact delivery of services by requiring roadway and bridge closures and disruption of transit services while the event is happening and during cleanup.[22]

[18] Chatham County Multi-Jurisdictional HMP (2020), pg. 56
[19] Chatham County Multi-Jurisdictional HMP (2020), pg. 133
[20] HIRA pg. 1
[21] Chatham County Multi-Jurisdictional HMP (2020), pg. 205
[22] HIRA (2022) pg. 51

There are many fixed facility sites and transportation routes with hazardous materials in the CORE MPO region. The Chatham County HMP addressed this hazard and found it highly likely in the planning area.[23] Based on available data, there were over 900 reports of oil and hazmat releases reported to the Georgia Environmental Protection Division in 2017. Some of the major occurrences include the folloiwng:

- Multiple tanker roll overs throughout GA releasing thousands of gallons of gasoline and diesel fuel;
- Multiple train derailments resulting in the release of thousands of gallons of oil and diesel fuel; and
- Multiple sunken vessels along Georgia's coast.[24]

Cybersecurity Incidents

Most of Georgia's critical infrastructure is linked to some technology-based platform, which is a key vector of attack in a cybersecurity incident.[25] The Georgia Hazard Identification and Risk Assessment (HIRA) defines cybersecurity as "the methods, techniques, and practices of protecting cyberspace (internet-connected networks, devices, software applications, and the sensitive data that travels through them all) from unauthorized access that would compromise the confidentiality, integrity and/or availability of the data. Cyberspace and its underlying infrastructure are vulnerable to a wide range of risks stemming from both physical and cyber threats and hazards. Sophisticated cyber criminals, threat actors and nation-states exploit vulnerabilities to steal information and money and are developing capabilities to disrupt, destroy, or threaten the delivery of essential services."[26]

Cyberspace is particularly difficult to secure due to several factors: the ability of malicious actors to operate from anywhere in the world, the linkages between cyberspace and physical systems and the difficulty of reducing vulnerabilities and consequences in complex cyber networks. Cybersecurity attacks can disrupt services, such as supply chain capabilities and delivery of everyday goods and services.

Active shooters

HIRA describes an active killer or active shooter as the "perpetrator of a type of mass murder marked by rapidity, scale, randomness, and often suicide."[27] These attacks can impede delivery of services depending on the type of an attack, especially if explosive devices are utilized. For example, roadways or bridges may be closed and transit services may be disrupted. These attacks may impact access to homes and critical facilities as well.

[23] Chatham County Multi-Jurisdictional HMP (2020), pg. 51
[24] HIRA (2022) pg. 51
[25] HIRA pg. 4
[26] HIRA pg. 40
[27] HIRA pg. 45

Infrastructure failures

Infrastructure is aging in the United States, making it more prone to failure as the average age increases. Infrastructure can include structures that improve living conditions and commerce, including schools, hospitals, roads, bridges, dams, sewers, and energy systems. Failures can lead to heavy flooding, power loss, property damage, injury, and even death. Roadways may become obstructed or inaccessible to the public and first responders in an emergency. Delivery of food, drinking water, and services will be impacted locally, regionally, and statewide due to problems with accessibility and transport abilities. Communications, transportation, and governmental services operations would be impacted due to power failure and accessibility challenges. Property of homes and businesses may be destroyed if situated close to the failure point.[28]

Performance and Reliability

Managing the flow of traffic is an important part of any functioning transportation system, and the CORE MPO region is expected to see traffic increase with population growth. One of the goals identified for the Moving Forward Together 2050 Plan is the support of an efficient, reliable and multi-modal transportation system that supports economic competitiveness and enhance system efficiency and freight movement.

There are a number of critical economic drivers in the CORE MPO region, including the Port of Savannah, manufacturing and logistical industries, medical and educational institutions, as well as the tourism industry which primarily focused on the Savannah Historic District and Tybee Island. Access to the port facilities is key to continuing its growth in the future. The Savannah/Hilton Head International Airport is another modal economic engine for the region. The City of Savannah is a regional economic draw, and the surrounding cities and counties often experience congestion as commuters travel in and out of the City. With the new Hyundai Metaplant under construction and starting production, the risk of congestion on the once rural roadways will increase.

Therefore, improving the performance and reliability of the transportation system supports the economic drivers in the region. CORE MPO, in recognition of the impacts from these economic drivers on the transportation system and mobility, as well as the economic vitality of the region, coordinates closely with the local and regional entities to ensure that their needs are incorporated into the short- and long-term transportation assessments.

[28] HIRA pg. 55

Performance and Reliability Objectives

CORE MPO has developed several objectives to achieve the Performance and Reliability Goal.

Goal - Performance and Reliability: Enhance transportation system efficiency and freight movement
Objectives:
• Enhance and expand the region's ITS, adaptive and actively managed traffic systems
• Improve travel time reliability for vehicles, transit, and freight on the transportation system
• Reduce travel time and congestion for vehicles, transit, and freight
• Maximize efficiency of signalized intersections and coordination

System Performance Measures and Targets

The federal legislation 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.

There are two major System Performance Measures.

- Level of Travel Time Reliability (LOTTR) – The LOTTR 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.

The System Performance Targets are required to be adopted every 4 years, with a revision possible at the 2-year mark. Implementation differs for the Interstate and non-Interstate National Highway System (NHS) measures. State DOTs must establish 2- and 4- year targets for the Interstate, but only a 4-year target for the non-Interstate NHS. 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. GDOT has adopted the System Performance 2-year and 4-year targets for the state of Georgia. CORE MPO has elected to accept and support the GDOT System Performance targets, which are included in the System Performance Report in ***Section 6*** and ***Appendix A***. GDOT will continue to collect and analyze the data at a statewide level and CORE MPO will be reporting on the MPO's efforts to make progress towards the state's targets through planning and programming projects.

CORE MPO Actions to Support Performance and Reliability

Congestion Management Process

CORE MPO maintains and updates the Congestion Management Process. This process keeps MPO staff up to date on congestion areas within the region and helps staff to develop strategies to combat congestion. By maintaining this planning process, policymakers, stakeholders, engineers, and the public can collaborate to create solutions, resulting in studies and projects to address congestion. CORE MPO also works closely with the City of Savannah's Traffic Services office, who directs the traffic engineering for Savannah.

Freight Planning

The CORE MPO Regional Freight Transportation Plan includes a congestion component. The plan identified the areas that experience the most congestion from freight as well as proper strategies to resolve the congestion problems. This plan is updated every five years to reflect the latest developments.

Transit, Bikes, and Pedestrian Transportation Planning

Because driving is the primary form of travel in the CORE MPO region, traffic engineering and road widening can only do so much to prevent congestion. Another solution to this issue is replacing car trips with transit or non-car travel. Transit is more space efficient and investing in public transportation is a viable strategy in fighting congestion. For example, the CAT DOT shuttle replaces car trips in downtown Savannah. This means fewer people are driving downtown and looking for parking. This would alleviate current parking conditions, which often cannot accommodate the number of people that visit Savannah. CORE MPO collaborates with CAT and provides funding to the organization to maintain and expand its transit services.

Many car trips can be replaced by biking or walking. One of the aims of the Non-Motorized Transportation Plan is to make travel by bike or walking safer and more convenient by expanding the bike and pedestrian network.

Following Federal Guidance

As a part of the federally required Performance Based Planning and Programming process, CORE MPO staff will continue to coordinate with GDOT to adopt the System Performance targets and implement strategies to help meet the targets through the MPO's planning process.

Partner Actions to Support Performance and Reliability

CORE MPO and our planning partners conduct various corridor and regional studies that are related to system performance, with focuses on congestion identification and solutions as well as facilitation of freight movement. These include the GDOT Coastal Empire Study, SR 204 Access Study, SR 21 Access

Management Study, US 17 Corridor Study, US 80 Corridor Study, SR 307 Corridor Study, President Street Railroad Crossing Elimination Study, etc. Through coordination and collaboration, these studies inform the CORE MPO's planning and programming process, assisting the MPO to better meet the goals of Performance and Reliability.

Access 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. Lack of road safety also impacts access and connectivity. This is especially true for pedestrian travel, as pedestrian deaths on roadways are at a 40-year high. People who are older, live in poverty, have a disability, or are very young are more vulnerable to these safety issues. A road must do more than connect one place to another to be accessible and connective. That connection must also be safe and easy to drive, bike, walk, or roll on.

The Moving Forward Together 2050 Plan seeks to increase the community's access and connection to the transportation system by emphasizing the need to develop all forms of transportation. Developing bicycle, pedestrian, and transit travel is a major priority within this plan and future infrastructure development. The goal of an accessible and connective transportation system is to create one that is both multi-modal and safe.

Access and Connectivity Objectives

CORE MPO has developed several objectives to achieve the Access and Connectivity Goal.

Goal - Access & Connectivity: Enhance mobility by improving access to opportunities and multimodal options
Objectives:
• Enhance and expand bicycle and pedestrian facilities and infrastructure to improve the connectivity of the bike and pedestrian network
• Ensure bicycle and pedestrian infrastructure is in a state of good repair
• Increase modal opportunities and options as a means to enhance tourism
• Prioritizing projects that accommodate transit, pedestrian, and bicycle travel
• Improve housing and employment access to transit
• Ensure equitable access and options for disadvantaged populations
• Prioritize transit investment in high-need population areas
• Separate bike lanes and pedestrian infrastructure from roadways where necessary

CORE MPO Actions to Support Access and Connectivity

The Non-Motorized Transportation Plan

CORE MPO has a long-standing commitment to the provision of safe, connected bicycle and pedestrian facilities. CORE MPO developed the Non-Motorized Transportation Plan specifically for identifying and prioritizing the pedestrian and bicycle needs. A substantial amount of funding was set aside for the completion of these types of projects in the previous plan. This set aside of funding is continued and incorporated into the 2050 MTP 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 the Moving Forward Together 2050 Plan, 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;
- Identifies bike and pedestrian crash hotspots throughout the region;
- Prioritizes improvements and identifies funding opportunities;
- Prioritizes safety for pedestrians and cyclists; and
- Recommends projects to create a regional system of protected shared-use paths, as protected bike and pedestrian facilities are safer to use.

CORE MPO used equity data from the US Department of Transportation in the non-motorized planning process. Using the Equitable Transportation Community Explorer, staff identified the areas in most need of transportation options, especially non-motorized options. The CORE MPO non-motorized planning goals and decisions are centered on providing bike and pedestrian access to those areas experiencing poverty, transportation disadvantages, and high levels of social vulnerability. These equity measures will also be used to prioritize projects within the project list.

The resulting prioritized lists will guide the MPO in programming of approximately $34 million that is set aside for non-motorized transportation over 25 years in the Moving Forward Together 2050 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.

Community Health

The approach to community health spans several 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 region is cognizant of the interconnectedness between land use and public health. As such, programs and policy changes have been developed to improve public health and are committed

to continue into the future. CORE MPO 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 provide the policy framework for the promotion of health considerations in transportation planning.

Many projects in the cost-constrained plan target addressing accessibility and connectivity issues by reducing delays and offering better opportunities for people and goods to travel. The Moving Forward Together 2050 Plan strives to increase accessibility, mobility, and connectivity to the transportation system for all travelers, especially for those who do not own a car.

Advisory Committees

CORE MPO consolidated the previous Advisory Committee on Accessible Transportation (ACAT) and the Citizens Advisory Committee (CAC) into the Transportation Equity and Public Involvement Advisory Committee (TEPIAC) in 2024. One of the missions of the committee is to provide input on transportation projects to improve access for people who are disabled, low income, and transportation disadvantaged. TEPIAC also brings accessibility issues to the attention of CORE MPO and CAT, so those problems can be addressed. This gives people who are transportation disadvantaged a body that can advocate for their needs.

CORE MPO established a new Bicycle and Pedestrian Advisory Committee (BPAC) in 2024. This committee will advise CORE MPO in the planning, project selection and implementation of bike, pedestrian, and trail projects. Access and connectivity will be a focus area for BPAC.

Partner Actions to Support Access and Connectivity

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 Carollton'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 of Savannah. Additional miles of connector paths will connect to over 60 neighborhoods, 30 public schools, and multiple hospitals 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 was formed in 2017 to lead the development of Tide to Town. As of 2024, almost five miles of the trail have been completed, and an additional 5 miles of on-street bike lanes have been constructed.

Vision Zero Plans

Safety is a barrier to transportation accessibility and connectivity. Many communities in the CORE MPO region, including the City of Savannah, Chatham County, and Effingham County have developed or are developing a Vision Zero Plan. In addition to making roads safer by reducing fatalities, Vision Zero efforts will have a side-effect of increasing access and connectivity, as unsafe infrastructure is a barrier to travel in the area.

Chatham Area Transit

Chatham Area Transit (CAT) is the public transportation service provider within Chatham County. In addition to providing a fixed route bus service and a scheduled paratransit service, CAT consistently assesses community needs for transit. CAT recently completed the Master Transit Plan and Transit Development Plan to plan the future growth of the transit system, including establishing new routes, supporting popular routes, and expanding to new areas. CAT also researched the role of housing density for the feasibility of establishing a regular bus route. Additionally, CAT has multiple services to improve access to transit, such as the Micro-Mobility program, which is a free, on-demand service, in which people can use an app to arrange a ride. CAT also has a fare free program for students. This is extremely important as children under the age of 16 cannot obtain a driver's license. CAT's fare free program gives young people more transportation options.

Complete Streets

The Savannah Complete Streets policy was adopted in January 2015. The City of Savannah's Complete Streets policy aims to encourage healthy active living, reduce traffic congestion and fossil fuel use, and improve the safety and quality of life of residents of the City of Savannah. The City aims to do so by providing safe, convenient and comfortable routes for walking, bicycling and public transportation.

Stewardship

Maintaining the infrastructure system is a collaborative and ongoing effort. Road infrastructure can be negatively impacted due to increased vehicle weights, freight, and extreme weather. As the infrastructure system ages, it can create dangerous situations and may lead to a transportation system that no longer fits the needs of the community. Thus, it is important to maintain communication between MPOs, stakeholders, and the community to ensure that our transportation system develops efficiently.

The Moving Forward Together 2050 Plan serves as a guide for comprehensive, cooperative and continuing transportation planning throughout the CORE MPO region. Through intergovernmental coordination efforts and a performance-based planning process, the 2050 MTP ensures a wise use of public funds.

Stewardship Objectives

CORE MPO has developed several objectives to achieve the Stewardship Goal.

Goal - Stewardship: Strategically maintain and improve the transportation system through coordination, economic competitiveness, and resource management
Objectives:
• Capitalize on common goals and needs in the region to reduce costs, promote efficiency in transportation improvements, and increase data sharing
• Participate in transportation-related planning efforts initiated by other agencies and organizations throughout the region
• Improve accessibility to regional employment centers
• Support the region's economic competitiveness through the efficient movement of freight
• Prioritize projects that provide the greatest cost-benefit
• Improve project delivery for all modes

CORE MPO Actions to Support Stewardship

Public Participation

CORE MPO highly values public input. The 2050 MTP survey included questions to assess the goals of the community. Most survey respondents stated that their highest priority for the transportation system is to maintain the infrastructure that currently exists. The results of the survey directly fed into the 2050 MTP objectives within the Stewardship Goal and the System and Environmental Preservation Goal. CORE MPO also works closely with local organizations that serve the community, such as Bike/Walk Savannah and Healthy Savannah, to better understand the needs of the region.

Project Prioritization

The 2050 MTP project prioritization method prioritizes the projects that improve transportation stewardship. Within the project scoring system, projects with high connectivity to activity centers within the region received a higher priority score based on the project's ability to connect people to needed places, such as employment centers. Additionally, within the needs assessment of the project scoring process, roadways that provide access and connection to freight generating land uses were assigned higher prioritization scores.

CORE MPO Board and Committee Meetings

Part of the transportation planning process involves collaboration. CORE MPO holds bi-monthly CORE MPO Board and advisory committee meetings to facilitate project collaboration and to ensure that stakeholders, project managers, planners, and policy makers all understand ongoing infrastructure development in the CORE MPO region. The knowledge sharing is necessary as transportation improvement involves interconnection both within and outside of city and county boundaries and is a multidisciplinary process that requires input from people of different professions and backgrounds. The collaboration ensures that project development is done sustainably and to the benefit of the community.

Attending and Collaborating on Project Meetings

CORE MPO staff often attend project meetings to give input from a regional and MPO standpoint. Staff provide technical assistance to help project managers and planners navigate federal funding, planning decisions, and data. For example, CORE MPO staff may provide data that project managers need access to. Staff can also aim to bring a multi-modal viewpoint to projects that may be focused on only one mode of transportation.

Partner Actions to Support Stewardship

CORE MPO's planning partners from federal, state, regional and local levels work with the MPO in concerted efforts to carry out the 3-C transportation planning process for the region, to promote economic competitiveness and resource management, and to make wise investments to promote efficient movement for all modes.

System and Environmental Preservation

State and local transportation agencies have continued to face tremendous funding shortfalls. Agencies have struggled to keep up with their expanding transportation needs with continually shrinking budgets. 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 CORE MPO to preserve and maintain the existing system and infrastructure and to maximize the benefits of any transportation investments.

System and Environmental Preservation Objectives

CORE MPO has developed several objectives to achieve the System and Environmental Preservation Goal.

Goal - System and Environmental Preservation: Maintain and preserve the transportation system and natural environment
Objectives:
• Meet industry, state, and national standards for infrastructure and asset quality, condition, and performance for all public transportation and transit infrastructure
• Support funding for transportation maintenance
• Reduce emissions and energy consumption
• Increase the application of green infrastructure in projects
• Reduce stormwater impacts of surface transportation
• Maintain and improve our existing roads and transportation infrastructure

Highway System Preservation Performance Measures and Targets

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 federal legislation 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), which 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 has adopted the Pavement and Bridge Conditions Performance 2-year and 4-year targets for the state of Georgia. CORE MPO has elected to accept and support the GDOT Performance targets which are included in the System Performance Report in ***Section Six*** and ***Appendix A***. 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, with a revision possible at the 2-year mark.

CORE MPO Actions to Support System and Environmental Preservation

Following Federal Guidance

As a part of the federally required Performance Based Planning and Programming process, CORE MPO staff will continue to coordinate with GDOT to adopt the Bridges and Pavement performance targets and implement strategies to help meet the targets through the MPO's planning process.

Green House Gas Emissions Reduction

The greenhouse gases leached from emissions and exhaust from vehicles contribute to climate change and negatively impact quality of life. Impervious surface to support transportation can contribute to poor air quality, flooding/drainage issues, and excessive heat. Building out the transportation system often involves construction on land that is environmentally sensitive, and can lead to loss of nature, such as wetlands, animals, insects, and trees. Losing these features can increase the environmental problems that the CORE MPO region already faces. For example, development over wetlands increases flooding and loss of trees increases heat while reducing air quality.

CORE MPO aims to reduce Green House Gas (GHG) emissions. This is being accomplished by prioritizing public transportation and bike and pedestrian travel, and by coordinating with state and local efforts to promote electric vehicle use and infrastructure. Moreover, CORE MPO also engages in resilience work as described previously in this chapter.

During collaborations with stakeholders, developers, and project planners, CORE MPO gives feedback and data based on resilience and environmental sensitivity. For example, the Georgia Department of Transportation often collaborates with CORE MPO on Environmental Justice data. During these coordination requests, CORE MPO shares the demographic and environmental profile of a project area, so that GDOT can better understand how to responsibly develop the project and engage in public outreach.

Stormwater Management and Flood Modeling

Stormwater has long been a concern in the CORE MPO region due to its negative impact on water quality in the region's water bodies particularly in the Savannah area. Efforts to mitigate 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 water bodies.

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 to protect the transportation system from the negative impacts of stormwater and to improve the resiliency and reliability of the transportation system.

CORE MPO has contributed to addressing this issue through data. The Stormwater Management Model (SWMM), for example, was part of the Flooding Dynamic Modeling Study, which will help optimize the planning, risk management, operational response, and resilience of the transportation system in Chatham County. Now, when projects are planned, the SWMM can be used to understand the stormwater environment of the project area under multiple scenarios. Although this study is specific to Chatham, the study area is expected to be expanded to the whole CORE MPO Metropolitan Planning Area in Phase II.

Partner Actions to Support System and Environmental Preservation

Chatham Area Transit

As a part of the Performance Based Planning and Programming process, CAT has developed a Transit Asset Management (TAM) Plan to monitor and manage its transportation assets, improve safety, increase reliability and performance, and establish performance measures in order to help keep its system operating smoothly and efficiently. These performance measures ensure that the majority of transit assets and resources within CAT are in a state of good repair. CAT has also adopted the TAM performance targets and shared them with CORE MPO. The TAM plan is updated every four years and the TAM targets are updated annually. The latest TAM targets are included in the System Performance Report in Section Six and Appendix A. CAT is responsible for collecting data and reporting the progress towards meeting these targets to the Federal Transit Administration's (FTA's) National Transit Database (NTD) annually. CORE MPO coordinates with CAT to adopt the TAM targets and will reflect the support of the targets through its planning and programming activities.

Energy and Emissions

Emissions

The Inventory of US Greenhouse Gas Emissions and Sinks reported that the transportation sector was the largest emitter of greenhouse gas (GHG) emissions (28.5%) in the United States in 2021.[29] According to the *US National Blueprint for Transportation Decarbonization*, emissions from transportation are the result of system design and land use, vehicle and engine efficiency, and high-GHG fuels and can be

[29] https://www.epa.gov/system/files/documents/2023-04/US-GHG-Inventory-2023-Main-Text.pdf

reduced by increasing convenience, improving efficiency, and transitioning to clean vehicles and fuels.[30] Understanding the link between emissions and transportation can result in co-benefits such as safety and quality of life, equity, air quality, economic growth, and energy security.

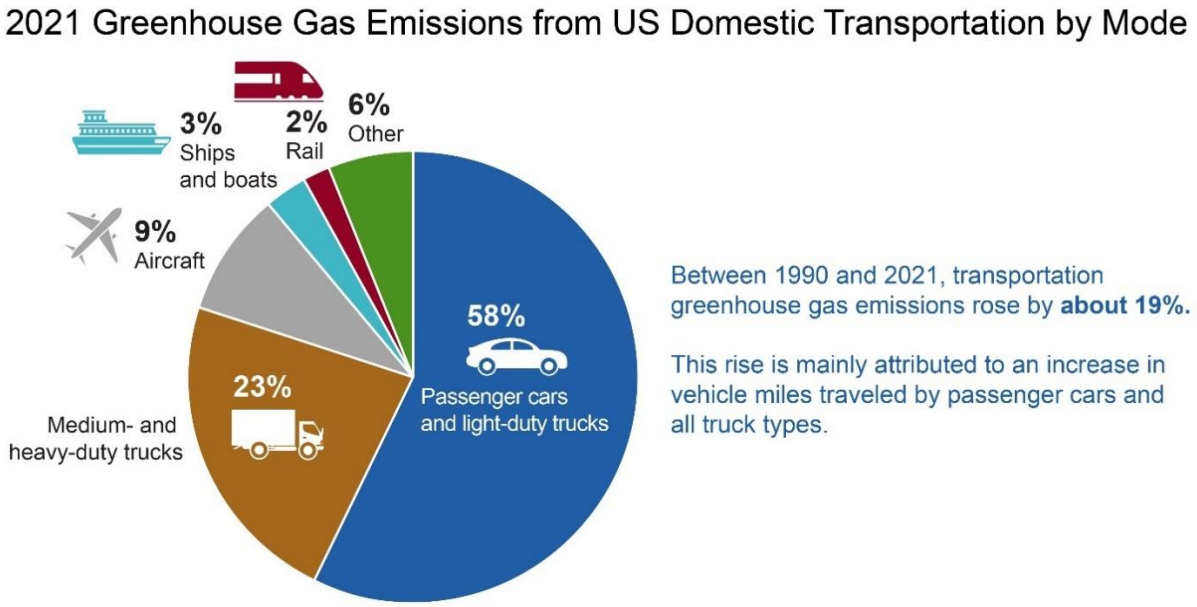
Greenhouse gases absorb heat in the atmosphere near the Earth's surface, preventing it from escaping into space. If the atmospheric concentrations of these gases rise, the average temperature of the lower atmosphere will gradually increase, a phenomenon known as the greenhouse effect. Greenhouse gases include carbon dioxide, water vapor, and methane.[31] The greenhouse effect is caused by GHGs such as water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases absorbing radiation leaving the earth and trapping heat in the atmosphere.

The *Fifth National Climate Assessment* describes the changing climate conditions as "rapid and unprecedented." The present-day levels of GHGs in the atmosphere are higher than at any time in the past 800,000 years, with most emissions occurring since 1970, and global temperature has increased faster in the last 50 years than at any time in the past 2,000 years.[32] Working to decrease emissions needs to become a top priority in the transportation sector.

Carbon dioxide is the primary GHG emitted from human activities and the transportation sector, primarily due to fossil fuel combustion.[33] Many factors influence CO_2 emissions from fossil fuel combustion, such as changes in population growth, energy prices, technology, and behavior.[34] In 2021, CO_2 accounted for 35% of all transportation emissions. Light-duty vehicles, including passenger cars, SUVs, pickup trucks, and motorcycles, were the largest contributors to U.S. transportation GHG emissions, and medium- and heavy-duty vehicles (MHDVs) were the second-largest contributor (**Figure 2.11**).[35]

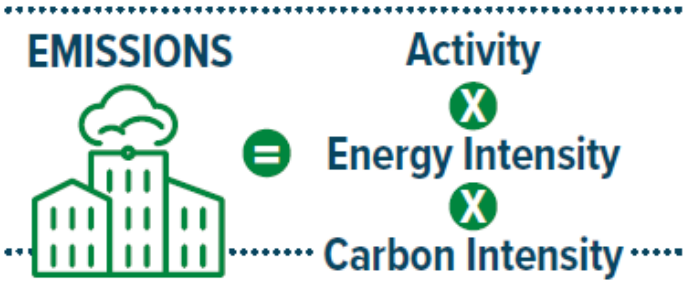
[30]https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization
[31] https://www.transportation.gov/priorities/climate-and-sustainability/definitions
[32] https://nca2023.globalchange.gov/#overview
[33] https://www.epa.gov/ghgemissions/overview-greenhouse-gases
[34] https://www.dot.ga.gov/GDOT/Pages/CarbonReduction.aspx
[35]https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization

Figure 2.11: 2021 Greenhouse Gas Emissions from US Domestic Transportation by Mode (5th National Climate Assessment, 2023)[36]



The *US National Blueprint for Transportation Decarbonization* describes transportation use-phase emissions as, "the result of three main drivers or categories: the total amount of activity, (i.e., the distance and volume of passenger and goods travel); the energy intensity of the transportation options used to meet the activity demand, (i.e., the energy used per mile traveled); and the carbon intensity of the fuels used to provide that energy, specifically the amount of GHG emitted per unit of energy consumed (**FIGURE 2.12**)."[37]

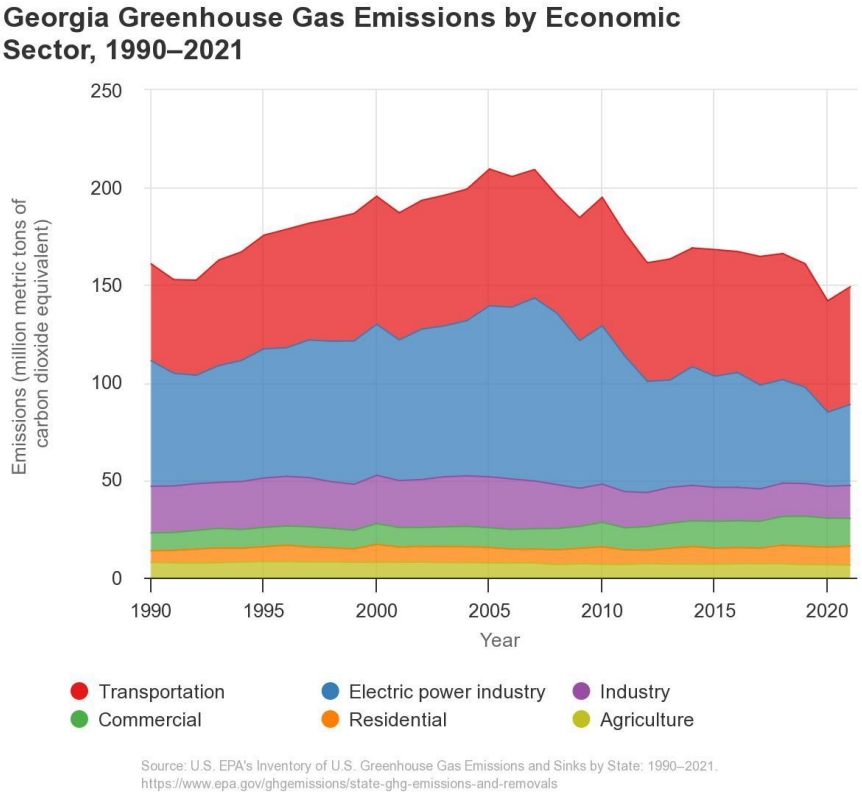
Figure 2.12: Three Primary Drivers of Emissions (US National Blueprint for Transportation Decarbonization)[38]



[36] https://nca2023.globalchange.gov/chapter/13#section-1
[37]https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization
[38]https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization

In Georgia, the transportation sector was the highest emitter of GHGs, primarily CO_2, in 2021.[39] Georgia has reduced overall statewide emissions by 12.2% between 1990 and 2020 due to reductions in electricity-generating and industrial sectors (**FIGURE 2.13**).[40]

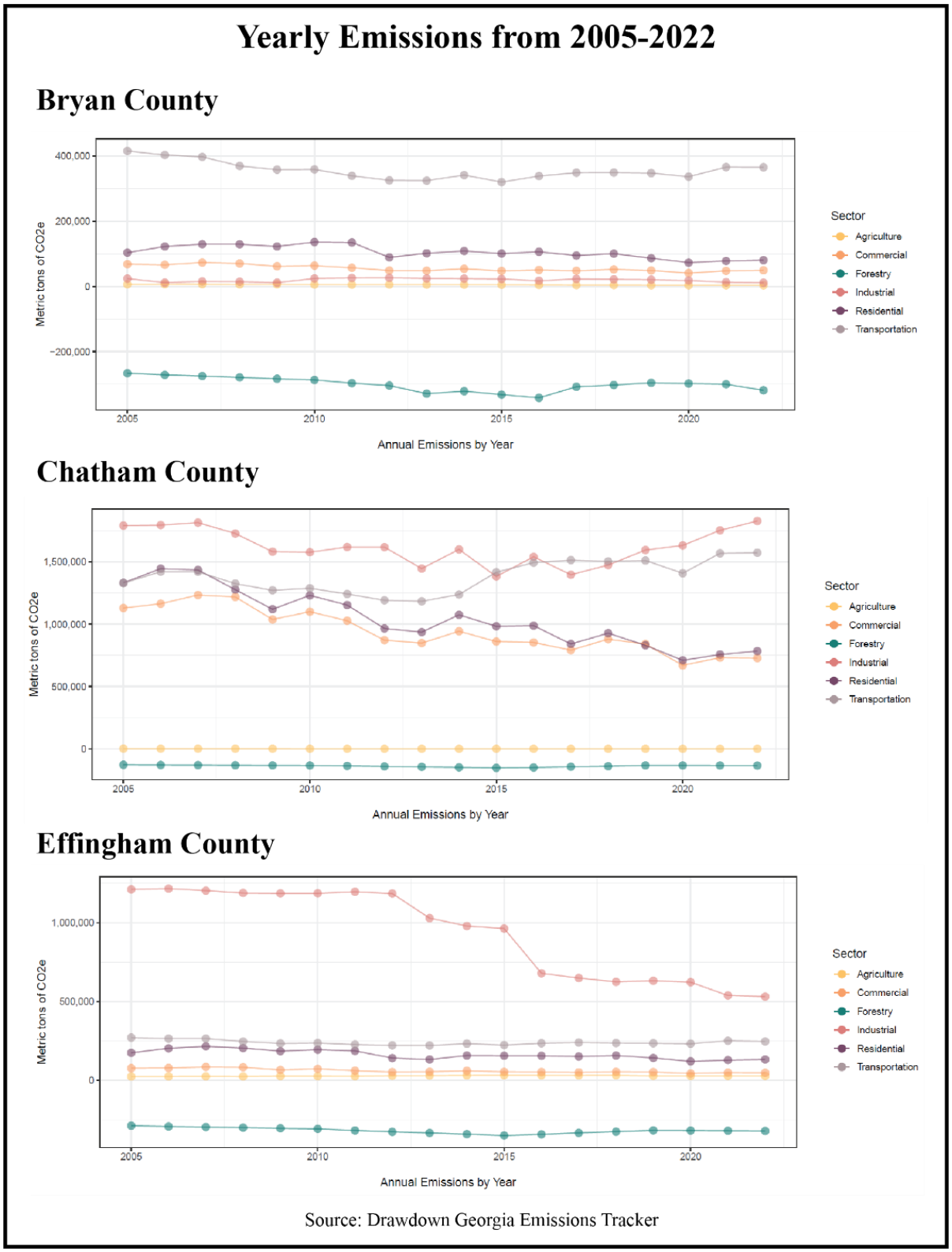
Figure 2.13: Greenhouse Gas Emissions by Economic Industry 1990-2021 (EPA, 2023)[41]



Within the CORE MPO region, transportation contributed to the most emissions in Bryan County, and the second most emissions in Chatham and Effingham counties behind the industrial sector for the years 2005-2022 (**Figure 2.14**).[42] The year 2020 is considered an anomaly due to the COVID-19 Pandemic when less people were driving. By 2022, transportation emissions were at or above pre-pandemic levels in each county.

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

Figure 2.14: Greenhouse Gas Emissions in the CORE MPO Region



Source: Drawdown Georgia Emissions Tracker

Co-Benefits of Emissions Reduction

The *US National Blueprint for Transportation Decarbonization* described co-benefits of decarbonization:

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

Equity – Today's transportation system does not serve all communities equitably. For example, 20% of American families below the poverty line do not have access to a car, with a disproportionate percentage of those families being Black (33%) and Latino (25%). Limited transportation options mean limited access to jobs, culture, recreation, and even friends and family. Investments in reliable, frequent, and affordable transit service, along with safe sidewalks and bike lanes, provide much-needed mobility for households without access to personal vehicles and offer outsized benefit for people of color, residents of low-income communities, and Americans with limited mobility. Increasing access to low-carbon travel infrastructure by improving bicycle and pedestrian safety will benefit all roadway users and bring significant benefits to vulnerable roadway users, including seniors, people with disabilities, and people in lower income communities. In addition, investments in infrastructure can increase wealth creation opportunities for underserved communities. DOT's Disadvantaged Business Enterprise program is helping to ensure that small businesses owned by people of color and women get a fair chance to compete for infrastructure contracts.

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

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

Energy Security – Transportation is currently heavily dependent on petroleum fuels, and the sector accounts for over 70% of all petroleum used in the United States. Improving mobility options and the efficiency of the transportation sector will reduce our dependence on petroleum, limit the impacts of petroleum price volatility and inflation, and lower our total energy use. Lower and more diversified energy demand—when accompanied by enhanced domestic supply chains or clean technologies—will improve the nation's security, decrease vulnerability to supply interruptions or price changes, and increase the reliability and affordability of mobility for all Americans. Incentives in the IIJA and IRA combined with other federal investments and the National Blueprint for Lithium-Batteries are actively expanding sources of battery components, increasing diversification and energy security.[43]

Plans and Programs

FHWA GHG Performance Measure

In December 2023 FHWA issued the final rule, "National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure," which requires State DOTs and MPOs to establish declining CO2 targets for the GHG measure and report progress. States and MPOs will have the flexibility to set their own targets if emissions decline over time.[44] However, twenty-two States filed two lawsuits challenging FHWA's greenhouse gas (GHG) emissions Final Rule. Pursuant to negotiations in these cases, FHWA agreed to temporarily not seek to enforce the February 1, 2024, deadline for States to submit initial targets and reports through March 29, 2024. On March 27, the U.S. District Court for the Northern District of Texas vacated and remanded the Final Rule to DOT, in effect nullifying the rule Nationwide. Consistent with the Court's decision, States and MPOs are not required to submit initial targets and reports at this time, and FHWA will provide more information at a later date. Despite the ruling on the GHG Performance Rule, CORE MPO can begin to incorporate strategies from decarbonization plans at the federal, state, and local level.

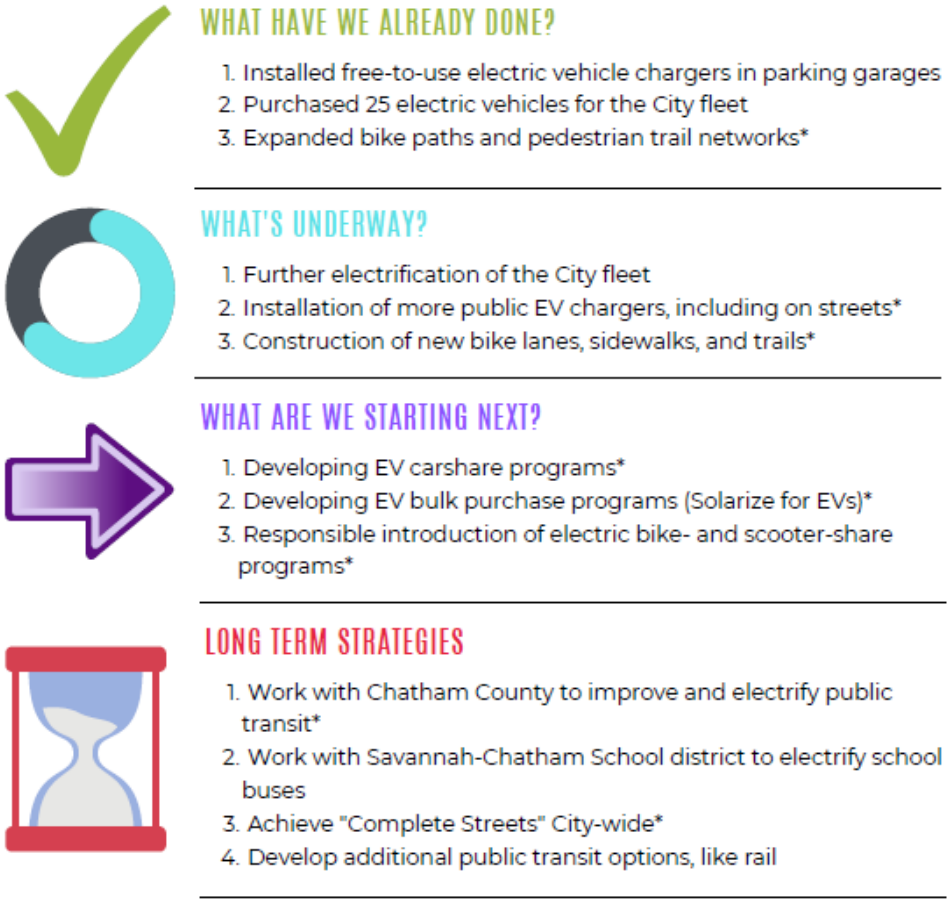
100% Savannah Plan

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

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

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

Figure 2.15: 100% Savannah Transportation and Mobility Report Card[45]



100% Savannah lists several strategies for decarbonization of the transportation sector (**Figure 2.15**).

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

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

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

[45] https://www.savannahga.gov/2931/100-Savannah

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

Introduce new mobility options: To increase familiarity with electrification, it would be beneficial to introduce new electric mobility options.[46]

Carbon Reduction Strategy (CRS) and Program (CRP)

The Carbon Reduction Program was established by the Infrastructure Investment and Jobs Act (IIJA) in 2021 and will provide an estimated $211 million to Georgia for the 5-year period, 2022–2026. The purpose is to "reduce transportation emissions through the development of state carbon reduction strategies and by funding projects designed to reduce transportation emissions," where, "transportation emissions means carbon dioxide emissions from on-road highway sources of those emissions within a State." Funds will be distributed throughout the state and Metropolitan Planning Organization (MPO) partners. The Georgia Department of Transportation (GDOT) developed the Carbon Reduction Strategy to highlight available funding and provide information on strategies consistent with the goals of the CRP. CORE MPO should seek to take advantage of these funds by consulting the CRS and coordinating with GDOT to determine which projects may qualify for funding.

The CRS is a document that will guide GDOT and Georgia's MPOs as they select strategies to include in their planning process and leverage available federal funds. The GDOT CRS includes a menu of strategies and projects which are eligible for CRP funds and are consistent with state priorities. The plan will be updated every 4 years after USDOT approval. The strategies/projects fall into 3 broad categories:

1. Sustainable Infrastructure: This set of strategies addresses infrastructure-based reductions, such as sustainable pavements, alternative construction, and maintenance practices.
2. Operational Efficiency Improvements: Efforts to manage transportation operations, optimize system performance, reduce delay, and smooth traffic flow to reduce vehicle exhaust.
3. Alternative Technologies and Modes: Strategies addressing consumer choice, including choices related to vehicle purchases and travel choices.

Multi-Modal Transportation Electrification and Supporting Infrastructure

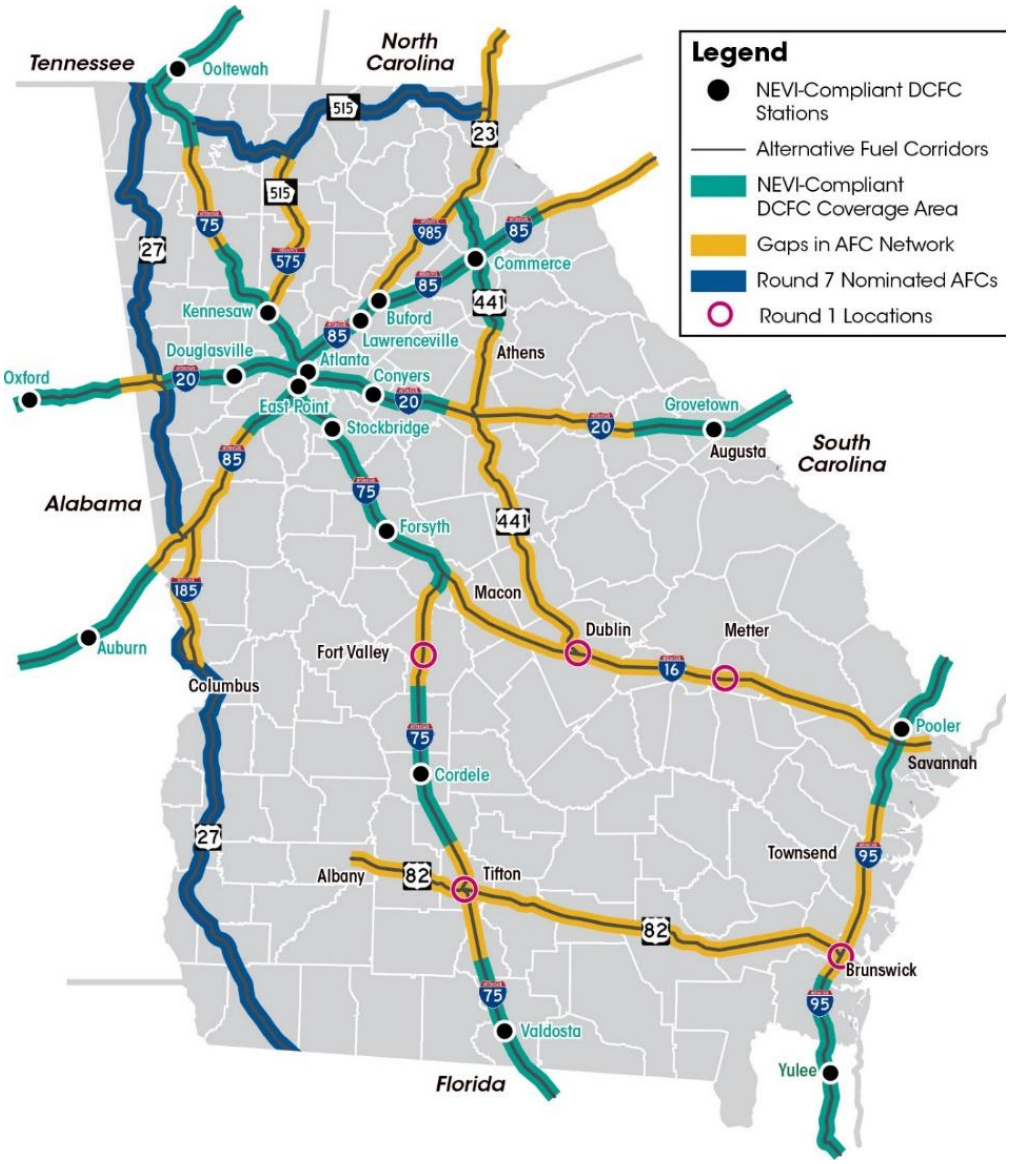
National Electric Vehicle Infrastructure (NEVI) Deployment Program

CORE MPO does not have a plan for electric vehicles and follows guidance from GDOT's National Electric Vehicle Infrastructure (NEVI) Deployment Program, derived from the 2021 Law enacted as the Infrastructure Investment and Jobs Act (IIJA). According to GDOT, the goal of the Georgia NEVI Program

[46] https://www.savannahga.gov/2931/100-Savannah

is to deploy a network of electric vehicle (EV) charging stations that provides a convenient, reliable, affordable, and equitable experience for all users (**Figure 2.16**). The program provides nearly $5 billion nationally over five years beginning in the fall of 2022. Georgia's allotment from the formula program is approximately $135 million to develop its portion of the national network.[47]

Figure 2.16: Alternative Fuel Corridors where NEVI-funded EV charging stations are required to be installed (GDOT, 2023)[48]



[47] https://nevi-gdot.hub.arcgis.com/
[48] https://nevi-gdot.hub.arcgis.com/

NEVI-funded EV charging stations must be:

- Open to the public or to authorized commercial vehicle operators from more than one company;
- Located first on Georgia's AFC network such that stations are installed;
- No more than 50 miles apart;
- Less than one mile from the AFC; and
- Direct Current (DC) Fast Chargers with at least four Combined Charging System (CCS) ports capable of delivering a minimum of 150 kilowatts (kW) of power per port simultaneously for a total of at least 600 kW per station.

Federal NEVI Requirements:

- Program must deliver 40% of the overall benefits to federally defined Disadvantaged Communities which includes rural and underserved populations.
- Once the AFC network is built out to NEVI standards and certified by the Secretary of Transportation, Georgia DOT may use any remaining funds for EV charging infrastructure on any public road or publicly accessible location.[49]

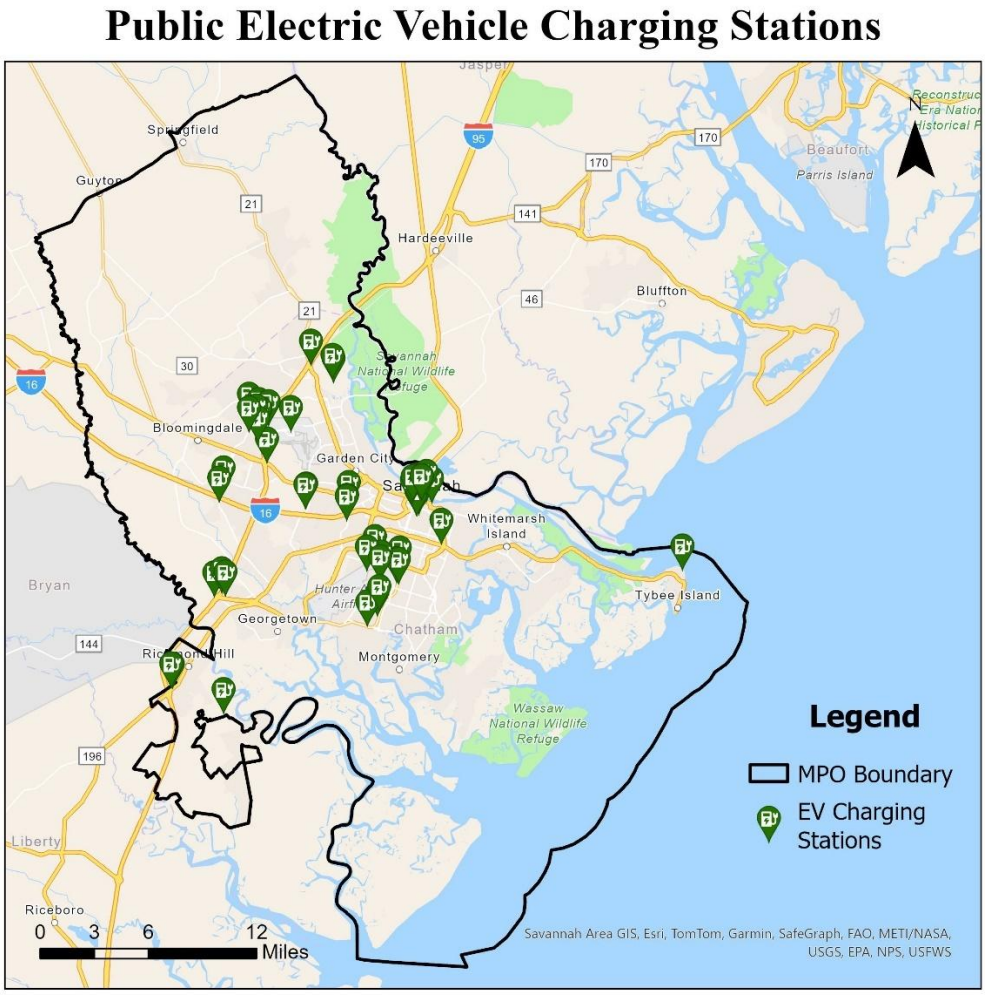
Georgia is considered a leader in the automotive and manufacturing space with 186 companies making $2.9 billion in investments and supporting 10,500 jobs in the state Fiscal Year 2021; and it continues to welcome investment in the electric mobility ecosystem and its substantial Tier 1, 2, and 3 suppliers. GDOT's efforts to use NEVI funds to bridge gaps and provide public charging will help maintain Georgia's leadership in this electric mobility ecosystem. Georgia is already the Southeast's leader with 4.4 EV registrations per 1,000 registered automobiles and offers more EV charging outlets per capita than any other state in the Southeast. Georgia attracted Rivian, an EV truck manufacturer, and Hyundai Motor Group to build multibillion-dollar EV manufacturing plants in Georgia.[50] More information can be found in the GDOT Georgia Electric Vehicle Infrastructure Deployment Plan (2023).

Charging Stations in the CORE MPO Region

As of April 2024, there are 73 electric vehicle charging stations in the CORE MPO region (**Figure 2.17**). Stations are typically located in clusters, such as in the Savannah downtown area and the Tanger Outlet shopping center, or along highways and interstates. Interstates 16 and 95 are both Alternative Fuel Corridors where NEVI-funded EV charging stations are required to be installed. There are no charging stations in the CORE MPO portion of Effingham County and three stations in the Bryan County portion. Locations of charging stations can be accessed througth the Department of Energy Alternative Fuels Data Center.[51]

[49] https://nevi-gdot.hub.arcgis.com/
[50] GDOT NEVI Plan pg. 21
[51] https://afdc.energy.gov/

Figure 2.17: Public Electric Vehicles Charging Stations in the CORE MPO Region



Data: Department of Energy Alternative Fuels Data Center, downloaded 4/25/2024 Map Created 4/25/24

Chatham Area Transit Zero Emission Transportation Plan

The Chatham Area Transit (CAT) Zero Emission Transportation Plan for electric fleet transition includes fixed-route transit and trolley service and will be comprised of only Battery Electric Buses (BEBs). CAT is currently transitioning to a battery electric fleet and will continue with the purchase of additional vehicles and the installation of on-route charging infrastructure in 2025. The next procurement of 40-foot BEBs will occur in 2026 and the first procurement of battery electric trolleys will occur the following year in 2027. CAT's trolley fleet will be 100% zero emissions in 2030 and the 35-foot and 40-foot bus fleet will be 100% zero emissions in 2034. CAT's fleet transition plan is a phased approach, with milestones through 2034 (**Figure 2.18**) and detailed action items planned out through 2027 (**Figure 2.19**).

Figure 2.18: Chatham Area Transit Zero Emission Milestones

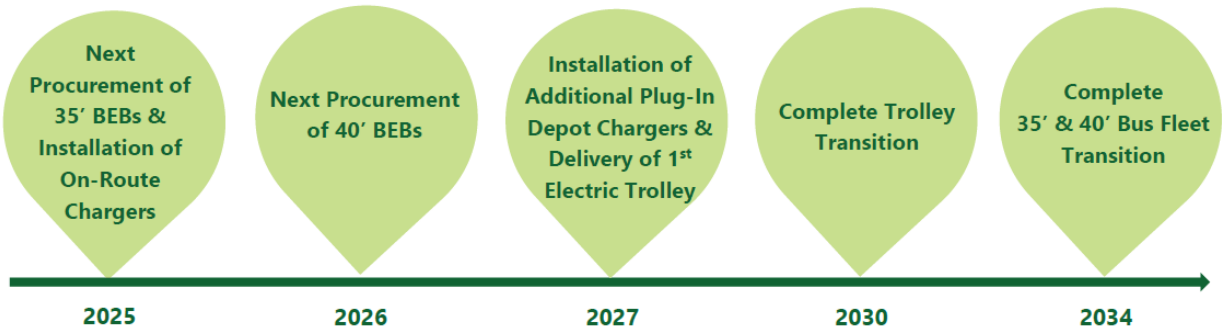


Figure 1. CAT Zero Emission Milestones

Figure 2.19: Chatham Area Transit 5-Year Zero Emission Transition Action Items

Table 1. CAT 5-Year Zero Emission Transition Action Items

Year	Actions
2023	– Decision to do on-route charging or only depot charging – If on-route charging, decision to do pantograph charging or inductive charging at JMR Transit Center and Oglethorpe Mall – Decision to do inductive charging or continue plug-in charging at Gwinnett Street Garage – Begin working with property owner of Oglethorpe Mall to get approval for installation of utility and charging infrastructure
2024	– Begin working with Georgia Power to coordinate utility infrastructure upgrades required to support charging infrastructure at JMR Transit Center and Oglethorpe Mall – Apply for grant funding to purchase (6) additional buses and (4) on-route chargers to be delivered in 2025 – Retrofit existing plug-in chargers to have (3) dispensers each – Retrofit existing buses to support inductive and/or pantograph charging needed
2025	– Apply for grant funding to purchase (6) additional buses for delivery in 2026 – Install on-route charging infrastructure
2026	– Begin working with Georgia Power to coordinate facility infrastructure upgrades to support additional charging infrastructure at Gwinnett Street Garage – Apply for grant funding to purchase (2) additional depot chargers for installation in 2027 – Apply for grant funding to purchase (4) additional buses and (2) trolleys for delivery in 2027 – Select and purchase charge management software
2027	– Apply for grant funding to purchase (2) additional depot chargers for installation in 2028 – Apply for grant funding to purchase (6) additional buses for delivery in 2028 – Install (2) additional depot chargers with (3) dispensers each – Re-assess availability of hydrogen and advancements in hydrogen refueling to see if that technology should be included going forward

In addition to fixed-route transit and trolley services, CAT operates a complimentary water ferry system, linking Savannah's historic River Street with the Savannah International Trade & Convention Center on Hutchinson Island. The ferry serves more than 600,000 passengers annually. CAT recently purchased two hybrid electric ferries and has issued an Invitation for Bids for a third.

Electric Bikes

Electric bikes (e-bikes) are like conventional bikes and have a small electric motor and battery. E-bikes are growing in popularity across the nation and provide benefits to health, accessibility, and tourism. E-bikes are classified by the following:

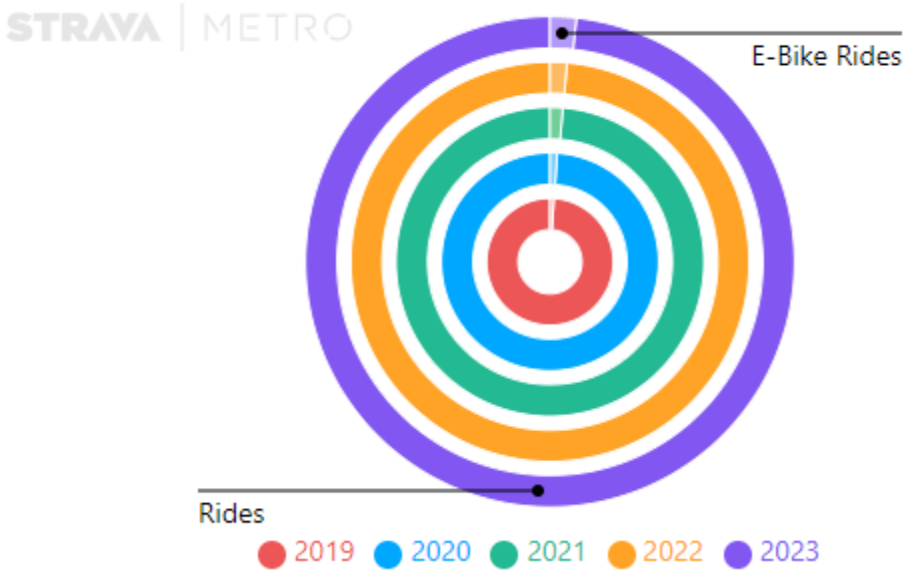
- Class 1: pedal assist, max assisted speed of 20 mph
- Class 2: throttle assist, max assisted speed of 20 mph
- Class 3: pedal assist, max assisted speed of 28 mph[52]

Strava Metro Data collects self-reported data on the share of bike trips that are completed with e-bikes. In the CORE MPO region, the share of e-bikes grew from 2019 to 2023 by 0.70% (**Table 2.6** and **Figure 2.20**). While the share of e-bikes is small, e-bike usage has consistently grown every year. The actual percentage of e-bike usage may be even higher.

Table 2.6: Strava Metro Self-Reported E-Bike Usage from 2019 to May 2023

	2019	2020	2021	2022	2023
Regular Bike	99.00%	98.90%	98.70%	98.60%	98.30%
E-Bike	1.00%	1.10%	1.30%	1.40%	1.70%

Figure 2.20: Strava Metro Self-Reported E-Bike Usage from 2019 to May 2023



[52] https://www.fhwa.dot.gov/environment/bicycle_pedestrian/resources/e-bikes/

Reduction of Truck Emissions at Port Facilities Grant Program

The Reduction of Truck Emissions at Port Facilities Grant Program, which was created by the Infrastructure Investment and Jobs Act (IIJA), invests in port electrification and efficiency improvements. This program aims to reduce pollution from idling trucks at our nation's ports while modernizing infrastructure and strengthening supply chains. Georgia is receiving $15.3 million toward improvements at the Port of Savannah, including to build large-scale charging project near the port, replace diesel-powered trucks, and expand the use of low-emission and zero-emission equipment.[53]

The Georgia Ports Authority will receive $7.5 million to conduct a four-year pilot program at the Port of Savannah that will expand the use of low-emission and zero-emission equipment to carry out daily port activities and reduce port-related emissions from idling trucks. The project will replace petroleum diesel fuel used by 621 trucks with renewable, low-emission diesel fuel. Voltera Power, a zero-emissions refueling infrastructure provider, will receive $7.8 million to build a large-scale charging project near the Port of Savannah. The project will reduce emissions from port-related traffic by providing parking and charging services for medium- and heavy-duty electric vehicle (EV) fleets.[54]

[53] https://highways.dot.gov/newsroom/grants-help-reduce-truck-air-pollution-ports

[54]https://ops.fhwa.dot.gov/bipartisan-infrastructure-law/RTEPF/2022-23/awards/index.htm?_gl=1*hr6esc*_ga*OTI4MTk0MDUyLjE2ODQ3NzUyNDg.*_ga_VW1SFWJKBB*MTcxNDY1NDM3Ny40NjMuMS4xNzE0NjU2OTM3LjAuMC4w

Section 3: Regional Transportation Network

Transportation Network

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

Highway Network

Functional Classification of Highway Network

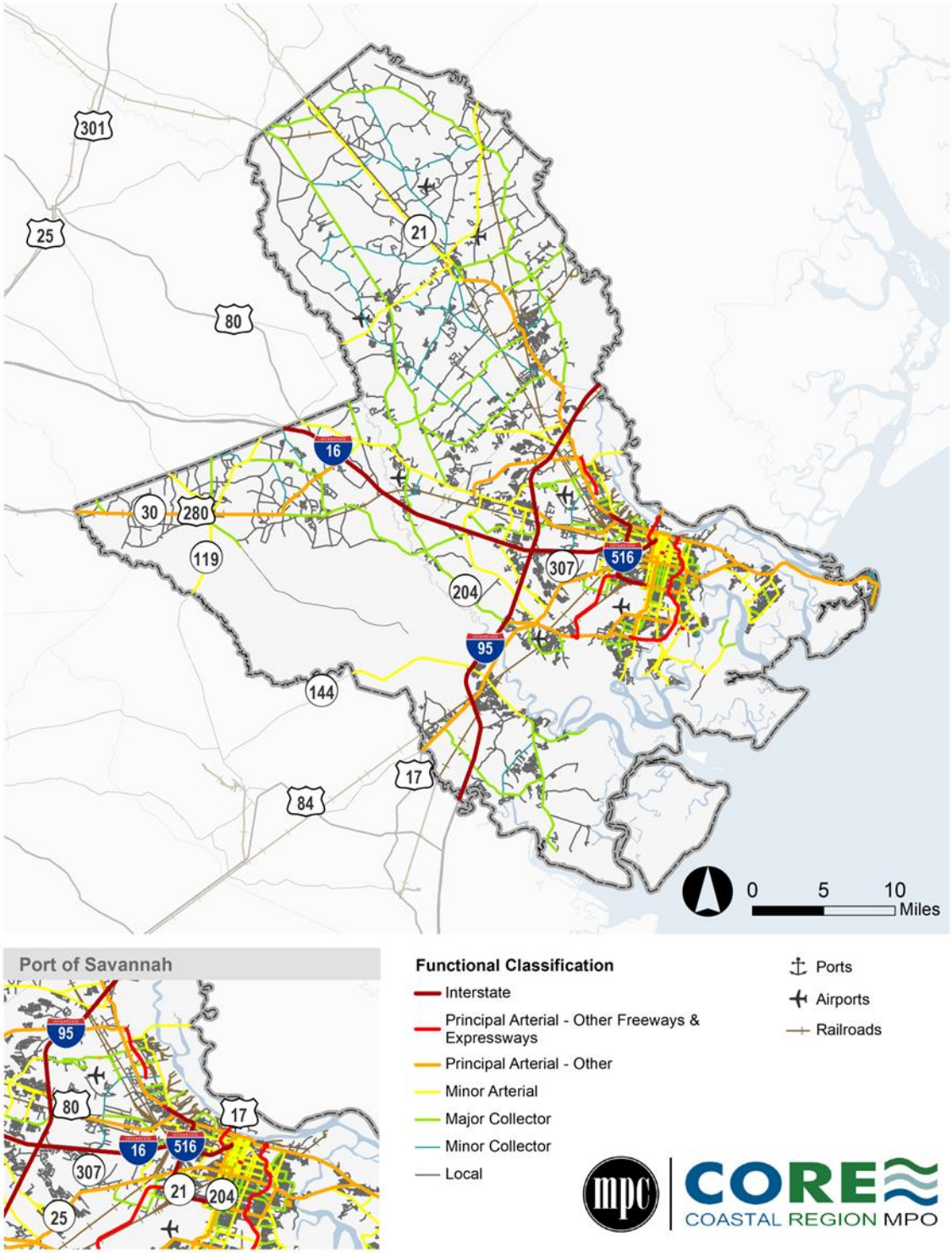
The Savannah Statistical Metropolitan Area (MSA) comprises of Bryan, Chatham and Effingham Counties. There are approximately 8,694 miles of roadways in the region as shown in **Table 3.1** and **Figure 3.1**. Nearly 71 percent of these roadways are classified as local. Local roadways can be described as smaller roadways not intended for use in long distance travel, except at the origin or destination end of a trip. Collectors are the next largest category of roadways in the area at just over 13 percent. These roadways primarily facilitate intra-county travel and funnel traffic from local roads to the arterial network. About 8 percent of the region's roadways are minor arterials which function to distribute traffic to smaller geographic areas. Around 4.7 percent of the region's roadways are classified as principal arterials, which provide for travel over multiple counties at relatively high speeds. Nearly 2.4 percent of the region's roadways are Interstate highways, and 0.8 percent are other freeways and expressways. These highways provide for travel over much longer distances and at higher speeds.

Table 3.1: Functional Classification of Roadways in the Savannah MSA, 2020

Functional Classification	Miles	Percent of Total
Interstate	207.92	2.4%
Principal Arterial – Other Freeways and Expressways	71.25	0.8%
Principal Arterial – Other	407.44	4.7%
Minor Arterial	688.97	7.9%
Major and Minor Collector	1,140.37	13.1%
Local	6,179.02	71.1%
Total	8,693.96	**100.0%**

Source: Federal Highway Administration, HPMS, 2020.

Figure 3.1: Roadway Functional Classification in the Savannah MSA



Highway Freight Network

In the CORE MPO region, freight moves through a transportation system that encompasses all modes. The region is served by a deepwater port, two Class I railroads, three rail terminals (including the Mason Mega Rail Terminal), and one commercial service airport that also provides cargo services. The region's roadway network connects all these assets to provide truck access from the intermodal terminals (seaports, rail yards, and airports) to origins or destinations of goods. The roadway freight network described below provides a critical connection between users and producers of goods throughout the state, the nation, and the world.

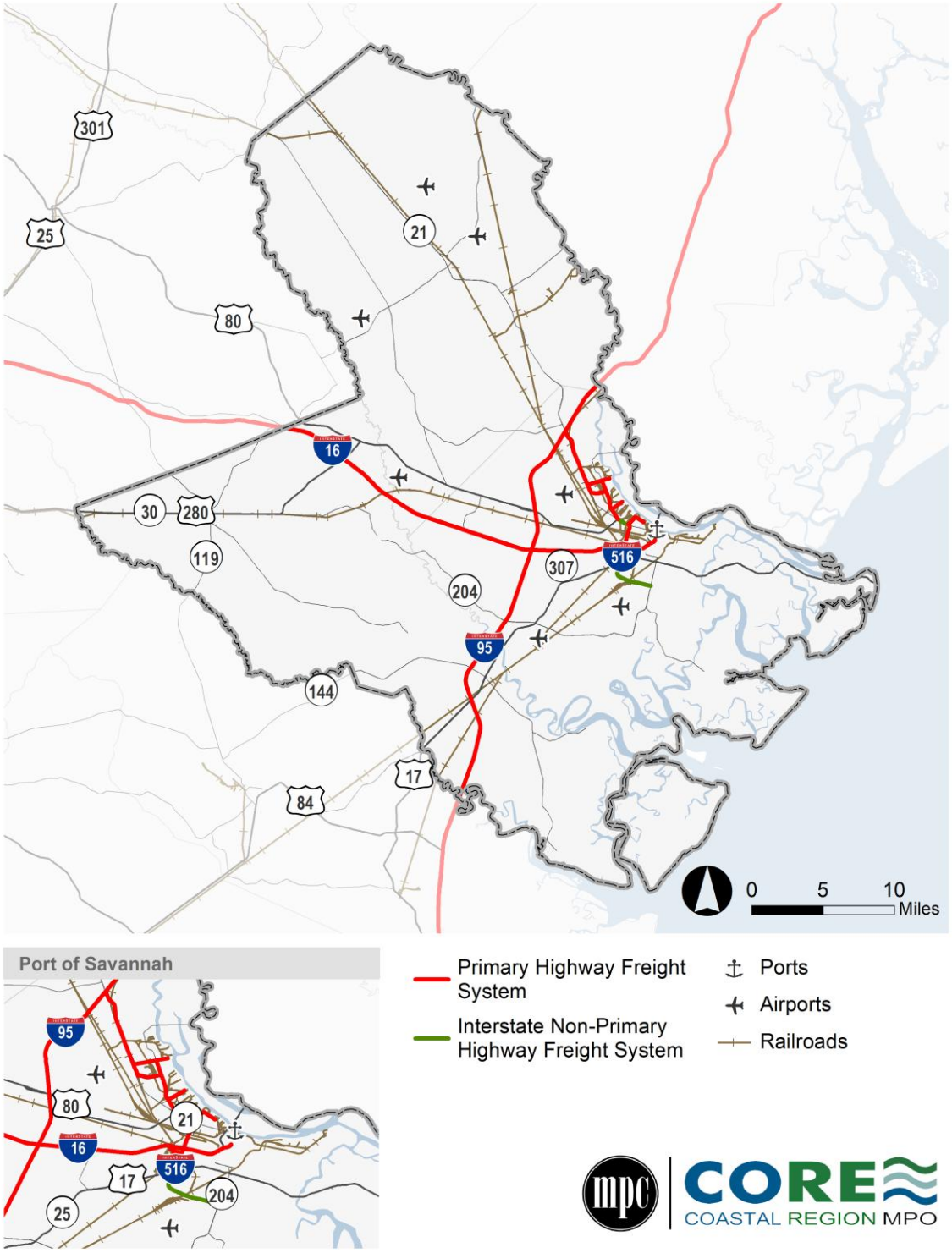
National Highway Freight Network

The National Highway Freight Network (NHFN) is defined at the national level for the purpose of strategically directing federal resources and policies toward improved performance of highway portions of the U.S. freight transportation system. The NHFN includes the following subsystems of roadways:

- Primary Highway Freight System (PHFS): This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consists of 41,518 centerlines miles Interstate and non-Interstate roads such as National Highway System (NHS) freight intermodal connectors. Georgia has just under 1,170 miles of roadway included on the PHFS. In the CORE MPO region, this includes I-16, I-95, and portions of I-516, SR 21, and SR 25.
- Other non-PHFS Interstate: These highways consist of the remaining portion of Interstate roads not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. I-516 between US 80 and W. Lathrop Ave. is included in this subsystem.
- Critical Rural Freight Corridors (CRFCs): These are public roads not in an urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities. Georgia has not designated any CRFCs.
- Critical Urban Freight Corridors (CUFCs): These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities. Georgia has not designated any CUFCs.

The National Highway Freight Network in the CORE MPO region is shown in **Figure 3.2**.

Figure 3.2: National Highway Freight Network



Source: Federal Highway Administration.

NHS Intermodal Connectors

The National Highway System (NHS) intermodal connectors, also known as the "first or last mile" linkages, provide critical connections between major freight nodes and designated NHS highways. This designation assists federal, state, and local governments with prioritizing operations, maintenance, and improvements of these key arterial connections to ensure that these networks support the ports, rail yards, airports, and other freight-intensive nodes efficiently. When designed, maintained, and operated with freight in mind, connector routes facilitate the best use of individual modes and improve the overall efficiency of regional highway networks.

Designation as a freight intermodal connector depends on a roadway meeting one of several primary and/or secondary criteria established by FHWA. These criteria primarily revolve around terminals meeting volume thresholds for trucks, twenty-foot equivalent units (TEUs), or tonnages. Roadways that are designated as NHS freight intermodal connectors are included on the PHFS.

There are 4 freight-related NHS intermodal connectors (i.e., those facilities connecting to an airport, port, or rail/truck terminal) in the CORE MPO region (**Table 3.2**). These connectors contain multiple roadway segments to comprise a route leading from the freight terminal to the mainline NHS. In addition, some freight terminals are served by multiple connector routes as indicated by the Connector Number column in the table. Near the Port of Savannah, portions of SR 21, SR 25, SR 307, and River Street are designated as intermodal connectors serving the Garden City and Ocean Terminals. Tremont Road west of I-516 and Safety First Road are designated as freight intermodal connectors serving the CSX Savannah Yard.

Table 3.2: Freight Intermodal Connectors

Facility	Type	Connector No.	Description	Length	Facility ID
Garden City Terminal	Port Terminal	1	From SR 25/SR 21 northwesterly on SR 25, westerly on SR 307 (Bourne Ave) to SR 21/SR 17	4.88	GA24P
Ocean Terminal	Port Terminal	2	From W Lathrop Ave (CR 1142); SE on Lathrop Ave (CR 740), continue on River St. (Savannah City St. 145) to the terminal	1.52	GA25P
CSX Intermodal Terminal	Truck/Rail Facility	1	From I-516: N&W 0.70 mi on Tremont Rd, N 0.1 mi on Tremont Ave, W 0.2 mi on Safety First Rd.	1.00	GA26R
Port of Savannah	Port Terminal	2	From SR 21 northeasterly on Grange Road to terminal facilities	1.09	GA33P

Source: Federal Highway Administration.

Strategic Highway Network

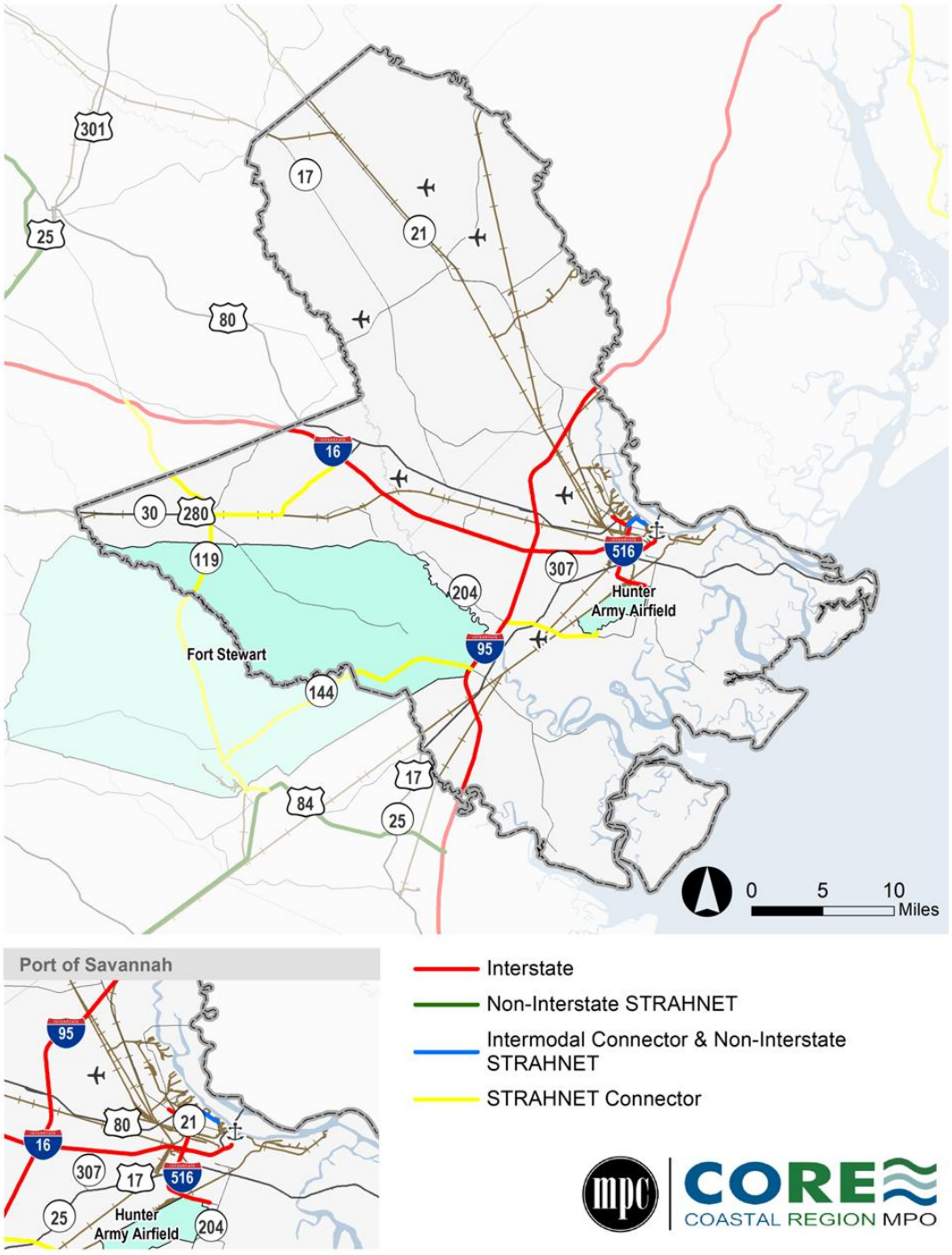
The Strategic Highway Network (STRAHNET) is a system of roads deemed necessary for emergency mobilization and peacetime movement of heavy armor, fuel, ammunition, repair parts, food, and other commodities to support U.S. military operations. It provides defense, continuity, and emergency capabilities for the nation's military installations. There are over 62,000 miles of STRAHNET roadways which consists of both Interstate and non-Interstate routes. The STRAHNET through the CORE MPO region is shown in **Figure 3.3**. It includes all the region's Interstate highways. It also includes corridors that provide access to Hunter Army Airfield and Fort Stewart in Bryan and Liberty Counties. These corridors include US 280, SR 67, SR 119, SR 144, and SR 204.

Pavement Conditions

Roadway pavement condition can impact the cost and safety of travel for passengers and freight. Cracked and rutting roadway surfaces can cause additional wear and tear on vehicles as well as damage the goods that freight trucks are transporting. Poor pavement conditions can also impact travel time-based performance measures if vehicles must decrease their speeds to avoid potholes or other condition-related hazards. Pavement conditions may also impact safety performance.

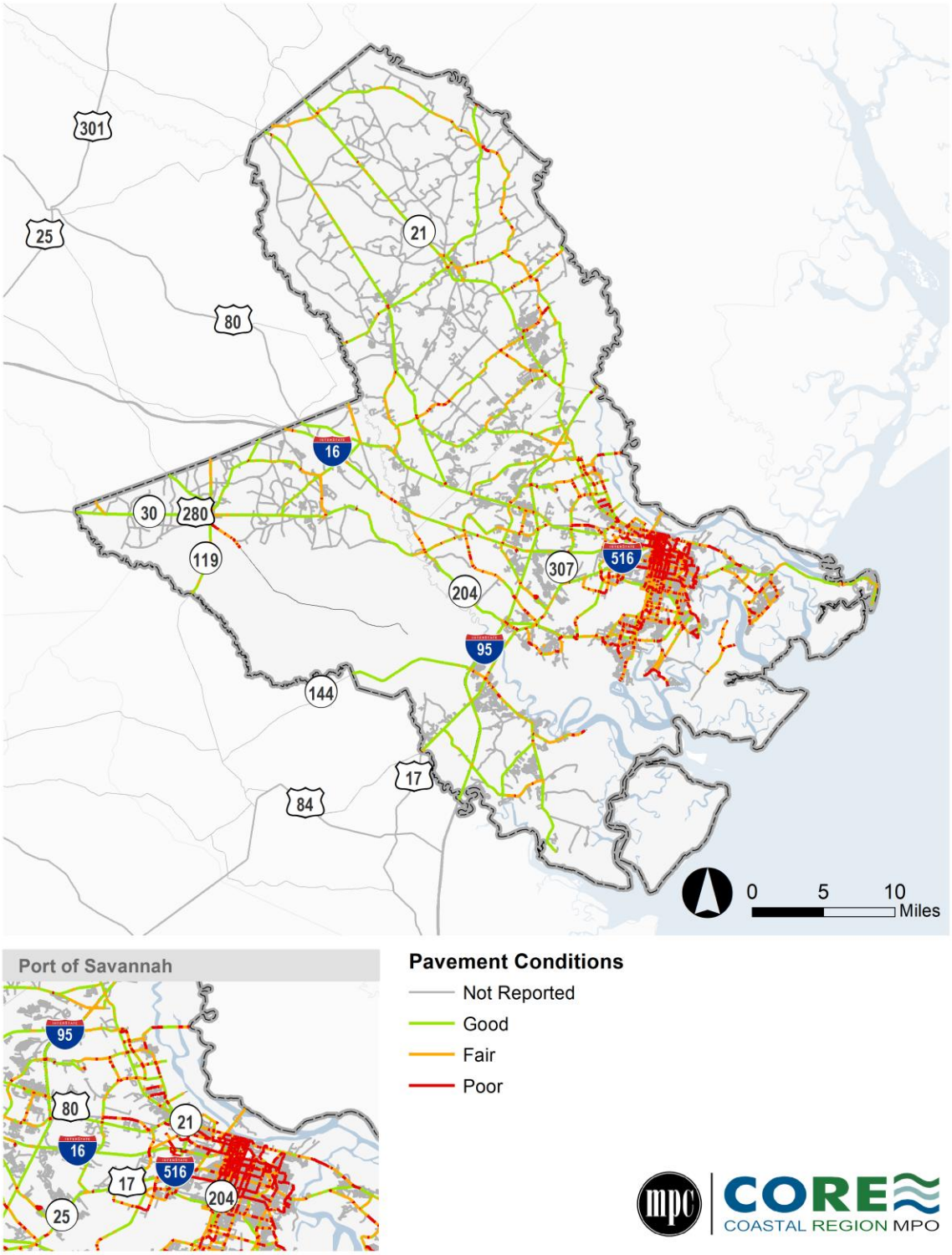
The pavement conditions can be sorted into three categories – good, fair and poor. The pavement conditions throughout the CORE MPO region are depicted in **Figure 3.4**. The majority of the region's roadway network has pavements that are in good to fair condition - about 84 percent. Poor pavements are largely concentrated in the urban center of the region in the City of Savannah. Poor pavement conditions can also be observed on corridors throughout the region including those with heavy volumes of freight traffic. Examples include SR 21 near the Port of Savannah and portions of SR 307/Bourne Avenue.

Figure 3.3: STRAHNET in the CORE MPO Region



Source: Federal Highway Administration HPMS; U.S. Census Bureau, TIGER/Line Shapefiles Database.

Figure 3.4: Pavement Conditions on CORE MPO Region Roadways, 2020



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

Bridges

Due to the geography of the CORE MPO region, it is important to have a good understanding of the bridge locations and conditions. This consideration will be necessary for safety, congestion and freight movements performance measures.

There are 311 bridges and 96 box culverts in the CORE MPO region as shown in **Table 3.3**. **Figure 3.5** shows the locations of the bridges. About 29 percent of the region's bridges are located on Interstate highways, approximately 43 percent are on arterials (i.e., minor, principal, and other freeways/expressways), 24 percent are on collector routes, and about 21 percent are on local roads. The region's box culverts are primarily located on arterials, collectors, and local roads as only about 8 percent of box culverts carry Interstate highways.

Table 3.3: Bridge Structures by Highway Functional Classification, 2021

Functional Class	Bridges	Percent of Total	Box Culverts	Percent of Total
Interstate	89	29%	8	8%
Other Freeways and Expressways	4	1%	0	0%
Other Principal Arterial	88	28%	20	21%
Minor Arterial	42	14%	20	21%
Collector	24	8%	23	24%
Local	64	21%	25	26%
Total Structures	311	100%	96	100%

Source: U.S. Department of Transportation, National Bridge Inventory, 2022.

Table 3.4 shows the distribution of the condition ratings of bridges and box culverts by the entity responsible for their maintenance. Over 82 percent of the region's 311 bridges are in good condition. Of the 256 bridges in good condition, nearly two-thirds are maintained by the state and the remainder are maintained by counties, cities, and other entities in the region. Only 2 bridges, less than 1 percent, are in poor condition as shown in **Figure 3.6**. Both of these bridges are maintained by the state and are located along SR 25 in Port Wentworth. Bridge ID #5100540 is the historic Houlihan Bridge which carries SR 25 over the Savannah River. Bridge #5100550 carries SR 25 over the Middle River. Both bridges are in the process of being replaced. Once replaced, bridge ID #5100540 will be raised so that it has about 65 ft. of clearance above the Savannah River.

Vertical clearance of bridges can impact freight mobility as trucks are forced to divert to less efficient routes if a facility does not have sufficient vertical clearance. In general, bridges with less than 16.5 feet of vertical clearance can impose significant challenges to the movement of goods. Of the region's 311 bridges, 104 cross over roadways (including bridges that cross roadways in addition to other features such as railroads or water bodies). **Table 3.5** summarizes the distribution of vertical clearances for these bridges. The results show that 9 bridges across the region do not meet the current standard for

minimum vertical clearance. **Figure 3.7** shows the locations of these bridges. Posted bridges are another challenge to efficient freight movement. A posted bridge is one that has a weight limit below the standard truck axle distribution weight, which means heavier trucks may not be able to use the bridge. The heavier truck must either detour around the bridge or reduce its payload, which would lead to more trucks on the road for the same haul. In total, there are 9 posted bridges in the region as shown in **Figure 3.8**.

Table 3.4: Condition Rating of Bridge Structures by Agency Responsible for their Maintenance, 2021

Maintenance Responsibility	In Good Condition	Share of Structures in Good Condition	In Fair Condition	Share of Structures in Fair Condition	In Poor Condition	Share of Structures in Poor Condition	Total Number
Bridges							
State	164	64%	27	51%	2	100%	193
County	56	22%	9	17%	0	0%	65
City	27	11%	5	9%	0	0%	32
Others	9	4%	12	23%	0	0%	21
Total Bridges	256	100%	53	100%	2	100%	311
Box Culverts							
State	41	47%	5	63%	0	0%	46
County	40	46%	1	13%	0	0%	41
City	2	2%	1	13%	0	0%	3
Others	4	5%	1	13%	1	100%	6
Total Box Culverts	87	100%	8	100%	1	100%	96
Total Structures	343	100%	61	100%	3	100%	407

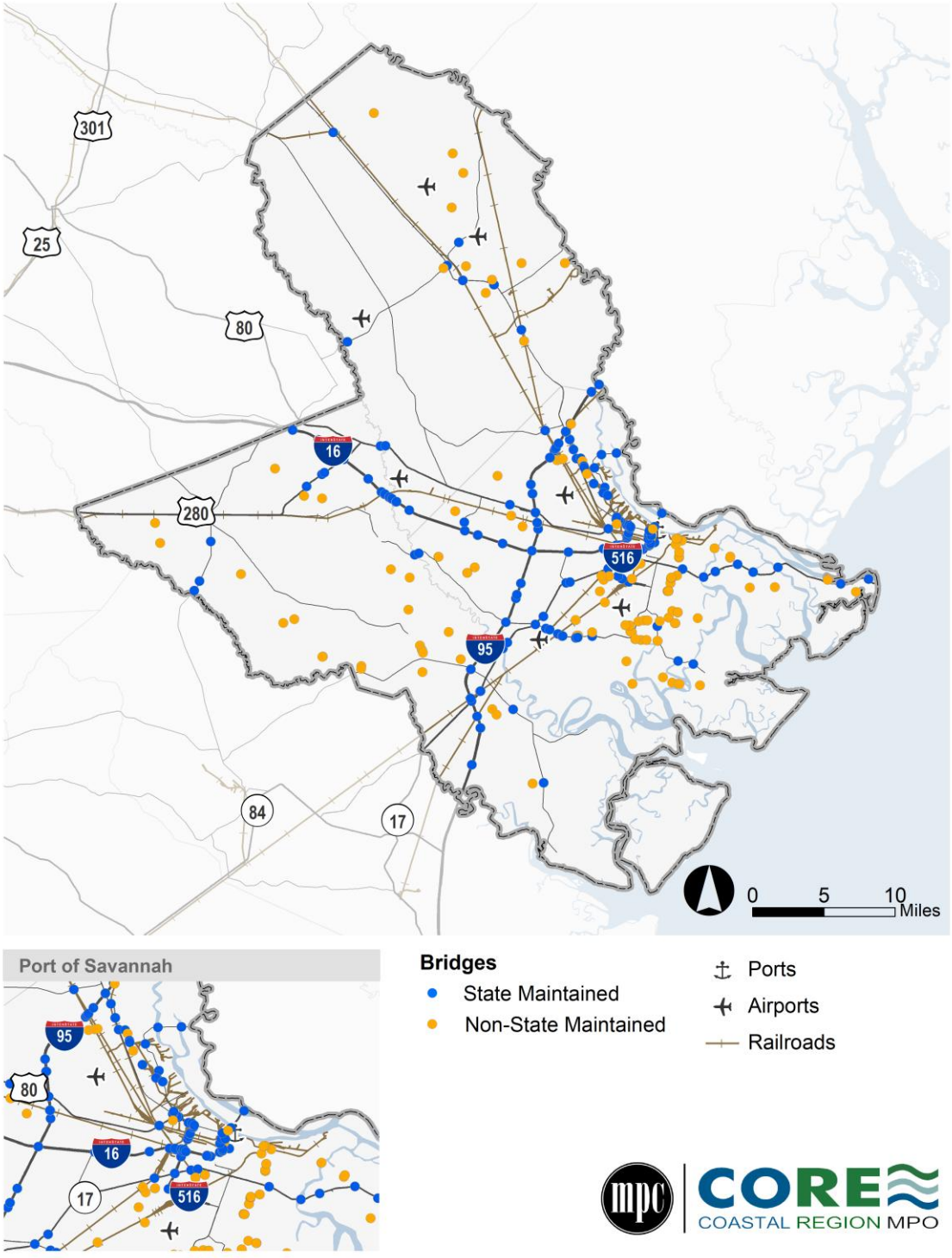
Source: U.S. Department of Transportation, National Bridge Inventory, 2022; Cambridge Systematics, Inc.

Table 3.5: Distribution of Vertical Clearance on Roadway Bridges by Functional Class, 2021

Roadway Type	14.5 ft. – 16.5 ft.	16.5 ft. - 17 ft.	>=17 ft.	Total
Local	0	4	5	9
Minor or Major Collector	1	5	2	8
Minor Arterial	1	4	4	9
Other Principal Arterial (incl. Freeways and Expressways)	3	6	25	33
Interstate	4	14	27	45
Total	9	33	62	104

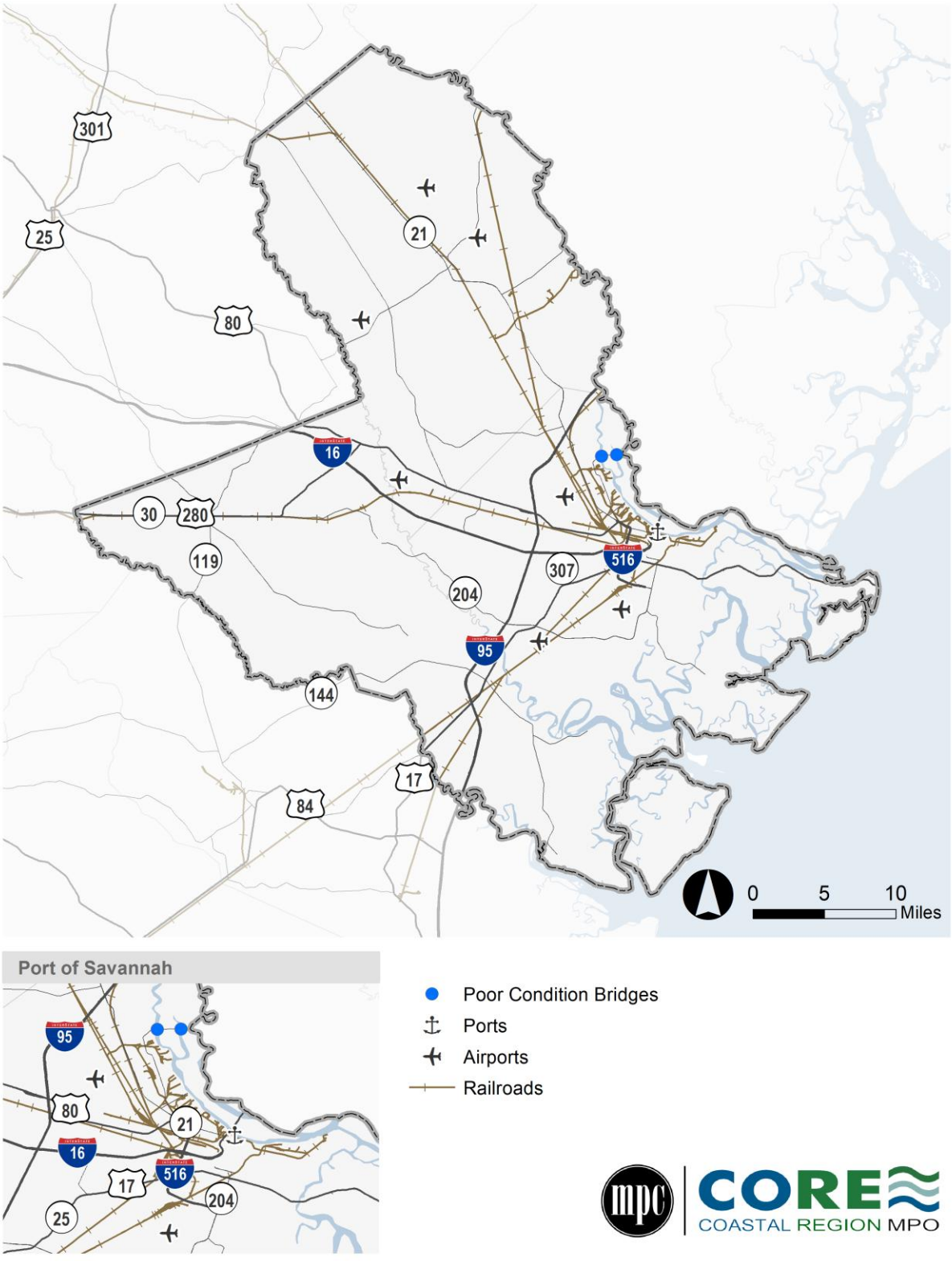
Source: U.S. Department of Transportation, National Bridge Inventory, 2022.

Figure 3.5: Location of Bridges, 2021



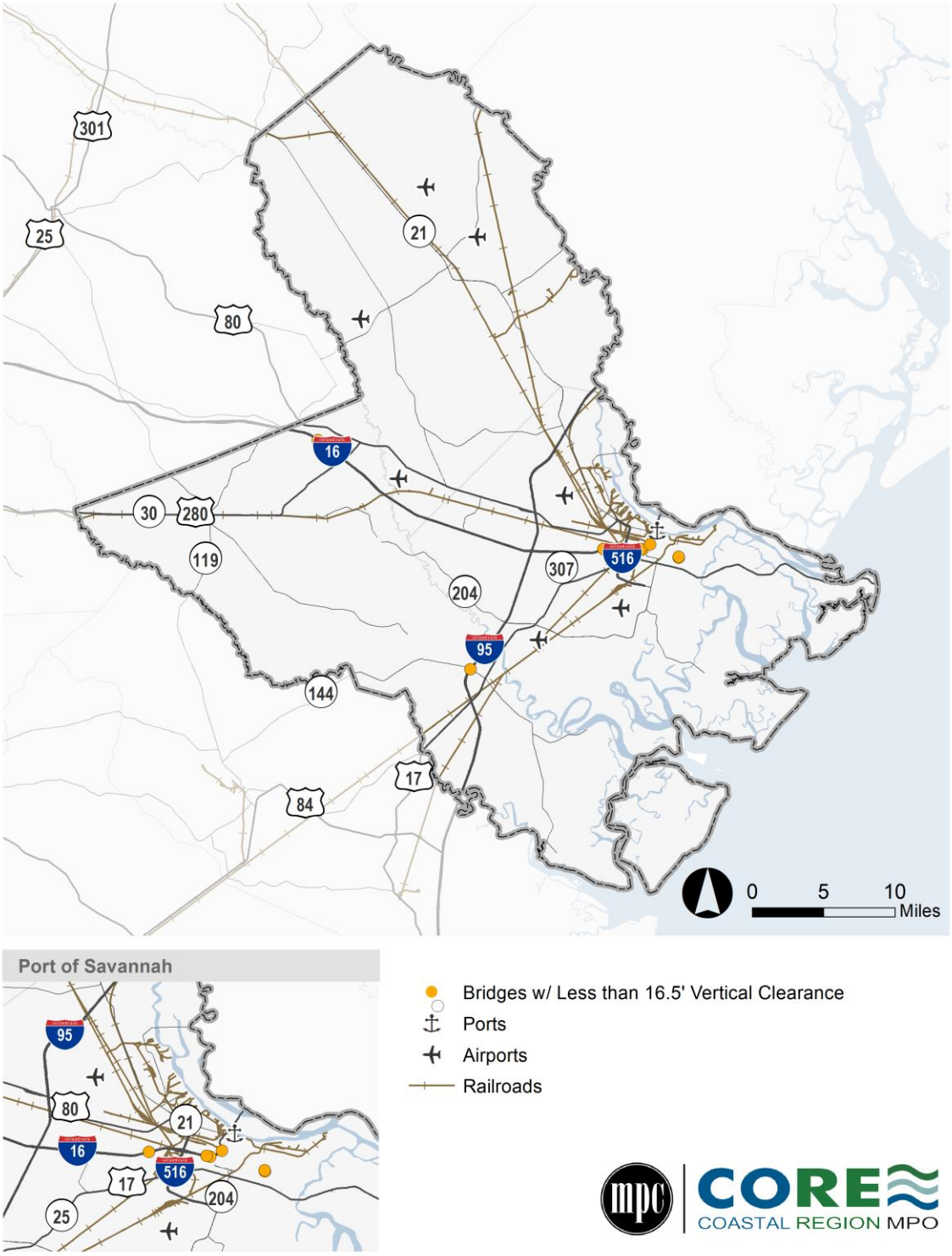
Source: U.S. Department of Transportation, National Bridge Inventory, 2022.

Figure 3.6: Location of Bridges in Poor Condition, 2021



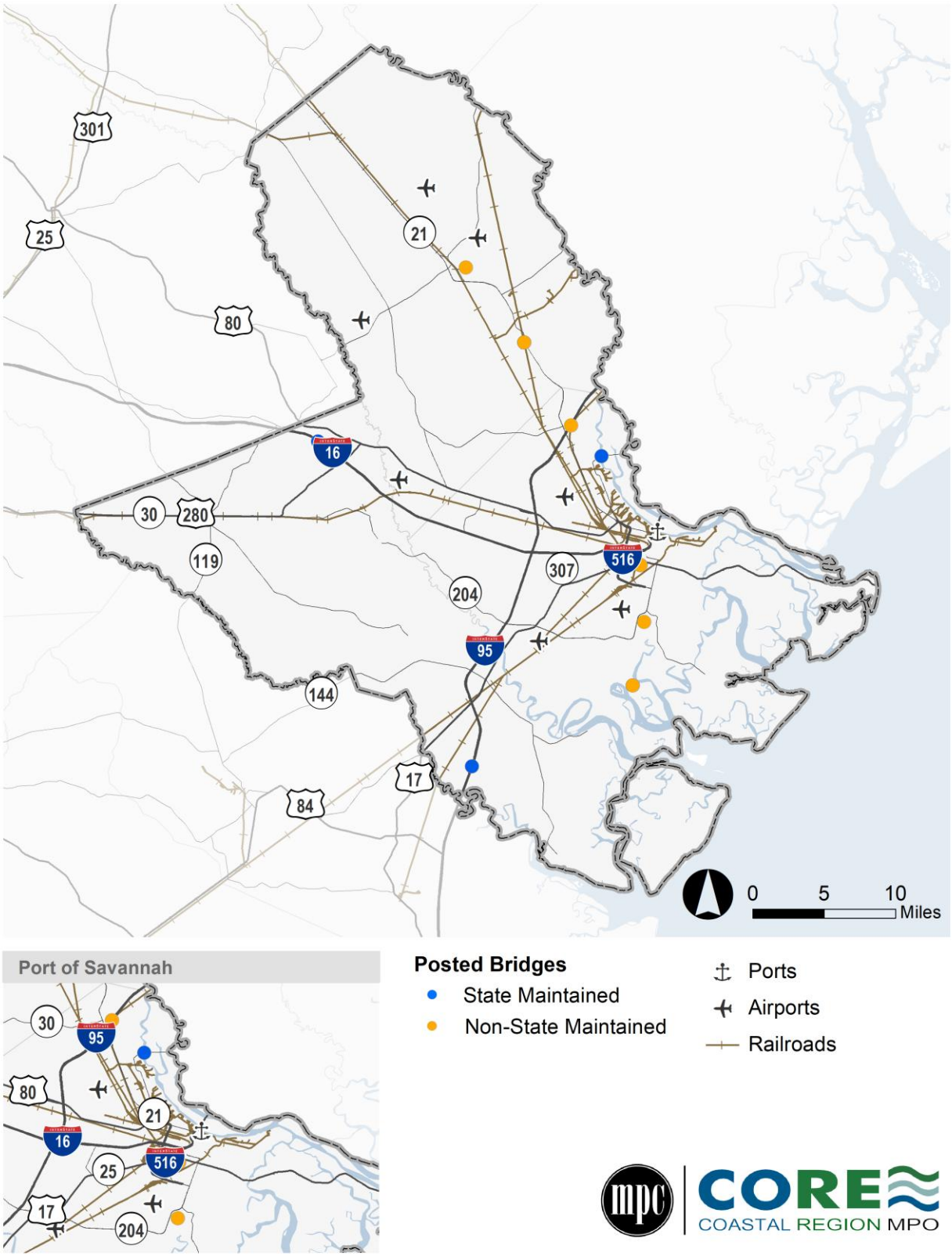
Source: U.S. Department of Transportation, National Bridge Inventory, 2022; Cambridge Systematics, Inc.

Figure 3.7: Highway Bridges with Less Than 16.5' of Vertical Clearance, 2021



Source: U.S. Department of Transportation, National Bridge Inventory, 2022.

Figure 3.8: Posted Bridges, 2021



Source: U.S. Department of Transportation, National Bridge Inventory, 2022.

Rail Network

Bryan, Chatham, and Effingham Counties represent a key node in the statewide freight rail system, a status that is only growing as the Port of Savannah continues to experience record freight volumes year over year. Ongoing rail capacity expansion projects at the Port of Savannah should further cement the region's status as a critical freight hub for Georgia and the southeastern United States, and freight rail service will continue to play a major role in this dynamic in the years ahead.

Freight Rail Network

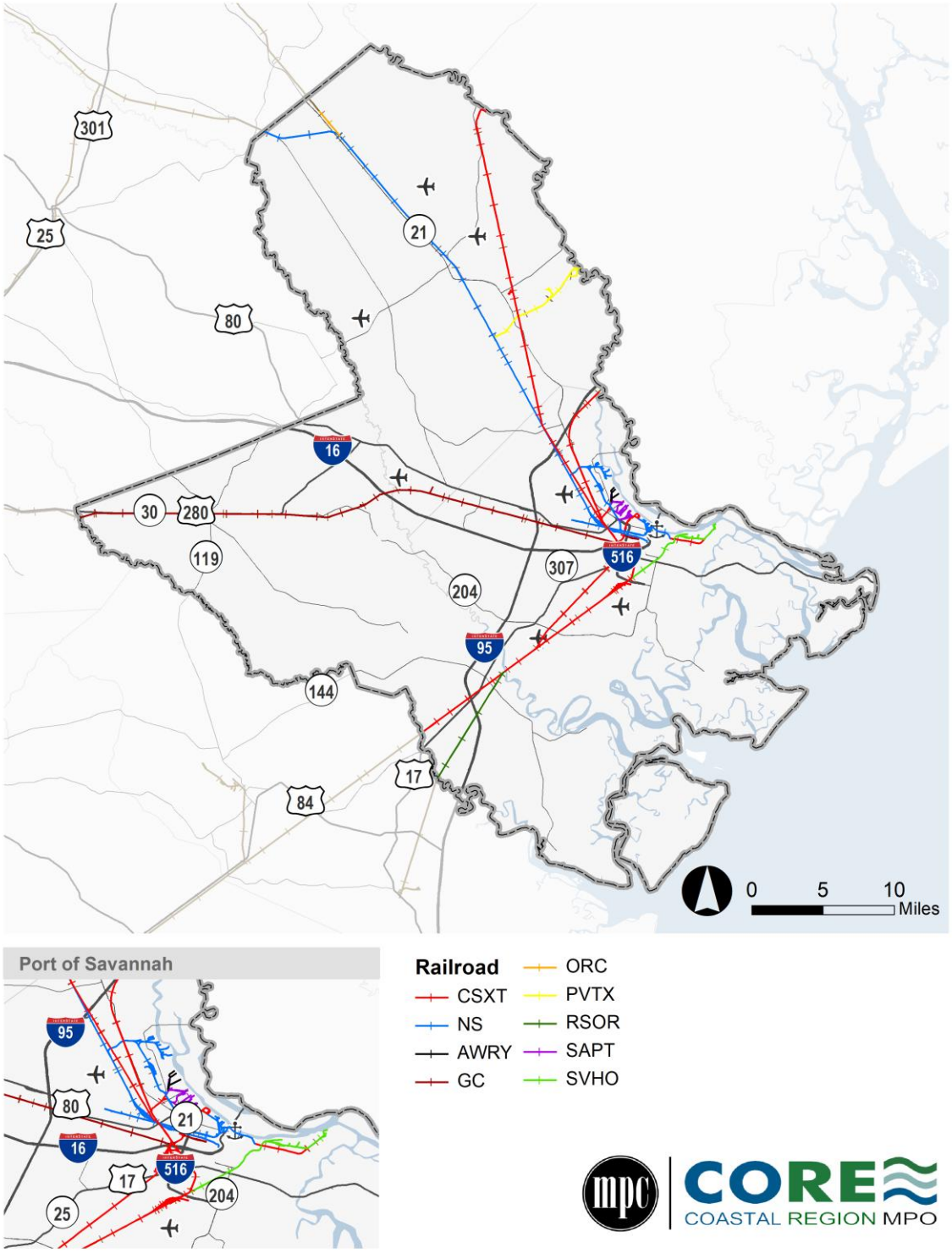
There are 278.9 miles of freight network that are located within the three-county CORE MPO region. Freight railroads are categorized as Class I, Class II, or Class III based on their annual revenues. Class I railroads are the largest and generally include those operators that carry freight longer distances across state lines and into other regions of the United States or internationally into Canada and Mexico. As shown in **Table 3.6** and **Figure 3.9**, there are two Class I railroads operating in the region, Norfolk Southern and CSX Transportation. The remaining railroads operating in the region are Class III railroads and include: the Georgia Central Railway, the PVTX (a private railroad serving Georgia Power and Georgia Pacific facilities in the region), Savannah Port Terminal Railroad, Savannah & Old Fort Railroad, Riceboro Southern Railway, Ogeechee Railroad Company, and Allegheny & Western Railway Company. Class III railroads are typically short-line operations that provide direct, last-mile connections to key destinations in the freight network, including ports, industrial facilities, and warehousing and distribution centers.

Table 3.6: CORE MPO Region Railroads

Railroad	Reporting Mark	Miles
Class I Railroads		
CSXT Transportation	CSXT	104.0
Norfolk Southern Railway Company	NS	80.5
Class III Railroads		
Georgia Central Railway	GC	42.9
Savannah Port Terminal Railroad	SAPT	15.3
PVTX	PVTX	11.0
Savannah & Old Fort Railroad	SVHO	10.3
Riceboro Southern Railway	RSOR	8.8
Ogeechee Railroad Company	ORC	2.3
Allegheny & Western Railway Company	AWRY	3.6
Total		**278.9**

Source: Bureau of Transportation Statistics, National Transportation Atlas Database, 2022; AECOM; Cambridge Systematics.

Figure 3.9: CORE MPO Region Railroad, 2022



Source: Bureau of Transportation Statistics, National Transportation Atlas Database, 2022.

Railroad Crossings

At-grade rail crossings represent points where the highway and rail systems interact and have the potential for conflict. Grade-level rail crossings can impose significant delays to trucks and other vehicles as they wait for trains to pass. In addition, vehicles idling at crossings emit more pollutants especially as they must accelerate from a complete stop. At-grade crossings are a potential safety hazard as they present an opportunity for trains to collide with vehicles, pedestrians, or other roadway users. In total, there are 192 public at-grade rail crossings in the CORE MPO region shown in **Figure 3.10**.

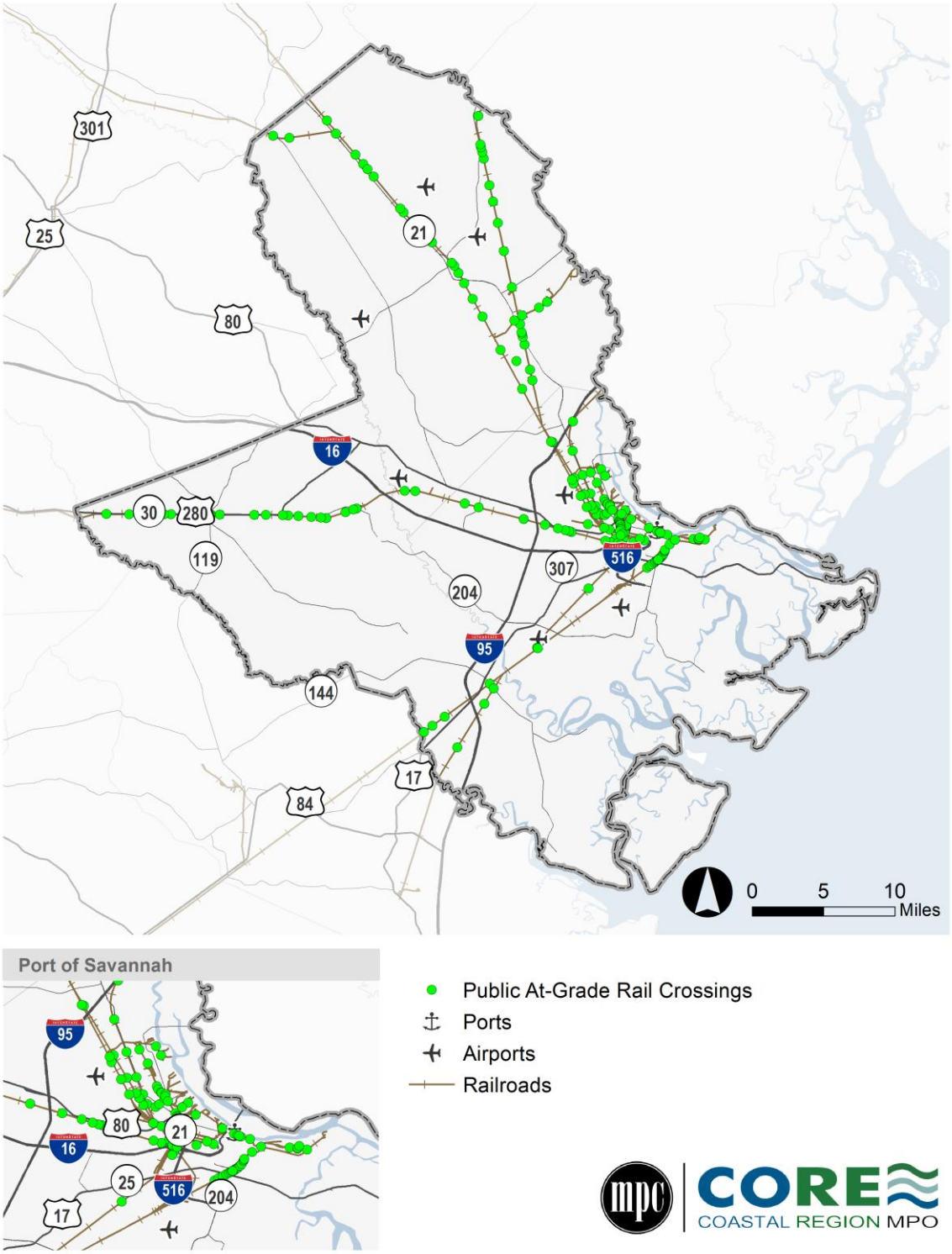
Table **Table 3.7** shows the busiest at-grade rail crossings in terms of total trains (i.e., through and switching train movements) for the CORE MPO region. The busiest at-grade rail crossing is crossing 641179A on Telfair Road near the I-16/I-516 interchange in the City of Savannah. The crossing is located on the CSX transportation network and is adjacent to a substantial amount of freight-intensive land uses. On average, about 40 trains per day (30 through movements and 10 switching) use this crossing. Telfair Rd. also has a substantial amount of truck activity as about 25 percent of the estimated 2,730 vehicles per day using this roadway (over 680 trucks per day) consists of trucks.

Table 3.7: Busiest Public At-Grade Rail Crossings

Crossing ID	Railroad	County	Location	AADT	AADTT	Trains per Day
641179A	CSX	Chatham	Telfair Rd., Savannah (Near Tremont Rd.)	2,730	683	40
734148K	NS	Chatham	Big Hill Rd., Garden City (Near Charlie Gay Dr.)	1,569	63	31
637579L	CSX	Bryan	SR 144/Ford Ave, Richmond Hill (Near Richard Davis Dr.)	23,300	1,864	24
734152A	NS	Chatham	Crossgate Drive, Port Wentworth (Near Ray St.)	800	48	22
957126C	NS	Chatham	Oxnard Dr., Port Wentworth (Near Sugar Ave and Imperial Sugar Co.)	250	No Estimate	22
637338X	CSX	Bryan	Cartertown Rd., Richmond Hill (Near Bryan and Liberty County line and Mt. Hope Cir.)	350	11	21
637588K	CSX	Bryan	Daniel Siding Rd., Richmond Hill (Between Daniel Siding Loop Rd. and Roger Clark Rd.)	600	18	21
637337R	CSX	Bryan	Clarktown Road, Richmond Hill (Near David Myrick Rd.)	600	18	21
641187S	CSX	Chatham	Nelson Ave., Garden City (Near SR 25)	500	10	21
632473Y	CSX	Chatham	SR 307/Bourne Avenue, Garden City (Near SR 21)	18,000	3,600	19

Source: Federal Railroad Administration, Highway-Rail Crossing Inventory, 2022; Cambridge Systematics, Inc. analysis.

Figure 3.10: Public At-Grage Railway Crossings



Source: Federal Railroad Administration, Highway-Rail Crossing Inventory, 2022; AECOM; Cambridge Systematics, Inc.

Bicycle and Pedestrian Network

While the automobile is the primary mode of transportation in the CORE MPO region, bicycling and walking are important modes. CORE MPO and the local jurisdictions all have a strong commitment to the provision of safe and 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 in the region, particularly in the City of Savannah.

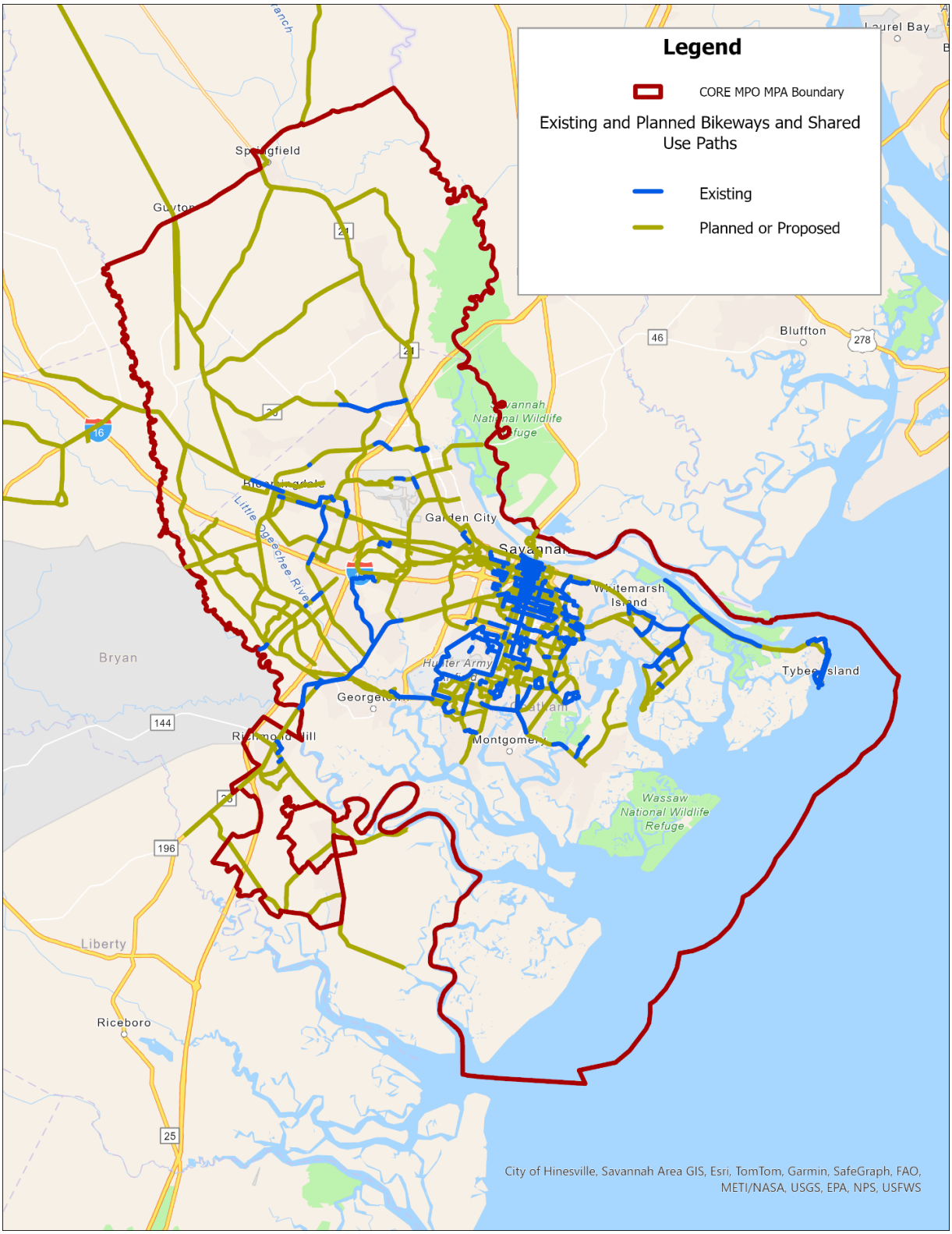
The bicycle network includes multi-use paths, designated bike lanes and paved shoulders. **Figure 3.11** from the Non-Motorized Transportation Plan depicts the existing and proposed bikeways and shared use paths within the CORE MPO's Metropolitan Planning Area. This network aims to provide a regional framework where offshoot sub-area bike networks can be connected.

Figure 3.12 shows the pedestrian network in the Savannah area. The highest concentration of pedestrian facilities is located within the City of Savannah. The recommendations include connections from this network to the south.

It should be noted that the CORE MPO staff are working on conducting a comprehensive inventory of bikeways and sidewalks in the region to document the locations and conditions of the bike/pedestrian networks. Identified improvement projects will be included in the CORE MPO's Non-Motorized Transportation Plan (NMTP). The CORE MPO's Bicycle and Pedestrian Advisory Committee (BPAC) will work with the state and local governments to implement the priority bike/pedestrian projects from this plan.

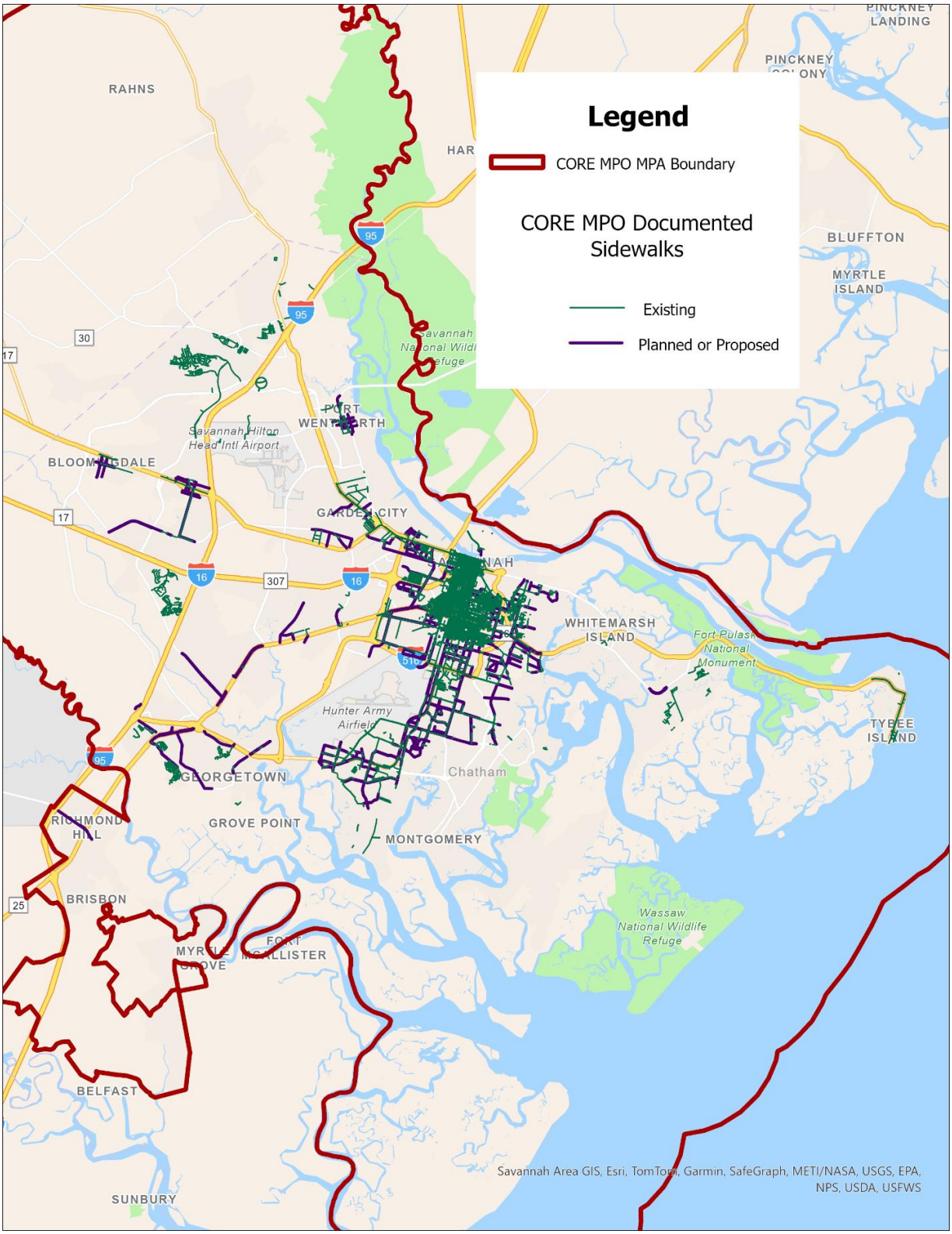
More than 400 bike/pedestrian/trail projects have been identified in the NMTP. The MPO staff and BPAC are working on prioritizing and ranking these projects. The NMTP will be the source for bike/pedestrian improvements in the 2050 MTP which has a set aside (3% of total Project Revenue) dedicated to bike/pedestrian/trail projects.

Figure 3.11: Existing and Planned Bicycle Network



Source: CORE MPO Non-Motorized Transportation Plan

Figure 3.12: Proposed Pedestrian Network



Source: CORE MPO Non-Motorized Transportation Plan

Transit Network

Chatham Area Transit Authority

The Chatham Area Transit Authority (CAT) is the agency responsible for the provision of transit services to the Savannah area. CAT provides a combination of bus and ferry service in the City of Savannah plus parts of the unincorporated Chatham County, and portions of Garden City and Port Wentworth. There are nearly 300,000 people living in the CAT's service area. In 2022, CAT provided 1.7 million trips, including fixed route, paratransit and ferry.

CAT serves all types of riders, including residents and tourists, making sure people can get to and from work, go shopping, reach medical appointments, see friends, and do all the other things that are important. Many people use CAT because it is the travel option that works best for them. For others, CAT provides a lifeline that connects them to daily needs that otherwise would be difficult to reach.

CAT's public transportation services include three "modes" or types of service.

1. CAT Bus Service includes 16 "fixed route" bus routes and 2 downtown "dot" shuttles. Bus routes serve major corridors and neighborhoods in Savannah and parts of Chatham County. The dot shuttles offer zero fare transportation in downtown Savannah, the Victorian District south to Victory Drive as well as the Historic Carver Village and Cloverdale neighborhoods.

2. CAT Mobility provides transportation for people with disabilities. People can use this service to travel anywhere in Chatham County.
3. Savannah Belles Ferry System connects Savannah's River Street with the Savannah International Trade and Convention Center and Hutchinson Island.

In April 2024, CAT launched a new SMART Microtransit Pilot Program. The ADA accessible CAT SMART service is operational in Zone 1: East Savannah. The service includes mobility pick up and drop off areas within the zone. CAT expects to expand the service to other zones.

Through 2022 and 2023, CAT conducted the Chatham Connects study which includes work associated with the Master Transit Plan as well as a separate related project, Comprehensive Operations Analysis and Transit Development Plan (COA/TDP). The COA/TDP focused on a strategy for the next few years, while the Master Transit Plan was oriented around a longer-range horizon through 2050. The plans were developed with extensive input from transit riders, community members, stakeholders, and CAT staff including bus operators and supervisors. These plans lay out a strategy that can be initiated in both short-term and long-term which feeds into the CORE MPO's Moving Forward Together 2050 Plan.

CAT's fixed route bus transit network operates using a combination of "grid" and "hub-and-spoke" models. The grid model, where bus routes operate on parallel streets creating opportunities to change direction at intersections, is used in downtown Savannah including the historic district as far south as

Anderson Street. Bus routes operate on most major north/south and east/west streets, enabling passengers to change directions by connecting with another CAT bus route at most major intersections. CAT's service also functions as a hub-and-spoke model with the Joe Murray Rivers Intermodal Transit Center (ITC) in downtown Savannah acting as a connecting point for passengers to transfer to other routes. Twelve (12) of the eighteen (18) bus routes connect at the ITC and most bus routes radiate from the ITC on major corridors and connect to major destinations. The transit network and bus stops are shown on **Figure 3.13**.

CAT's complementary paratransit service to meet the requirements of the Americans with Disabilities (ADA) Act of 1990, branded as CAT Mobility, is available to individuals with a disability. The ADA requirement is that transit agencies operate the paratransit service with origins and destinations up to ¾ of a mile from the fixed route service. CAT goes beyond the minimum federal requirements by providing CAT Mobility for eligible riders throughout Chatham County.

CAT's Savannah Belles Ferry service provides zero-fare passenger ferry service across the Savannah River between downtown Savannah's Riverwalk and Hutchinson Island, providing service from hotels and other amenities downtown to the Savannah Convention Center. The ferries are fully accessible and operate from 7:00 AM to 10:00 PM seven days per week. Ferry service runs between City Hall Landing and Trade Center Landing, with departures scheduled every 30-minutes on the hour and half hour from City Hall. An additional stop is made at Waiving Girl Landing on the east end of River Street from 8:20 AM to 6:20 PM. CAT increases service levels upon request and in response to conventions and other events in Savannah and/or on Hutchinson Island. The system includes 2 ferries and three docks with a 4th dock planned for construction.

Figure 3.13: CAT Transit Network and Bus Stops

Source: Chatham Area Transit

Ridership

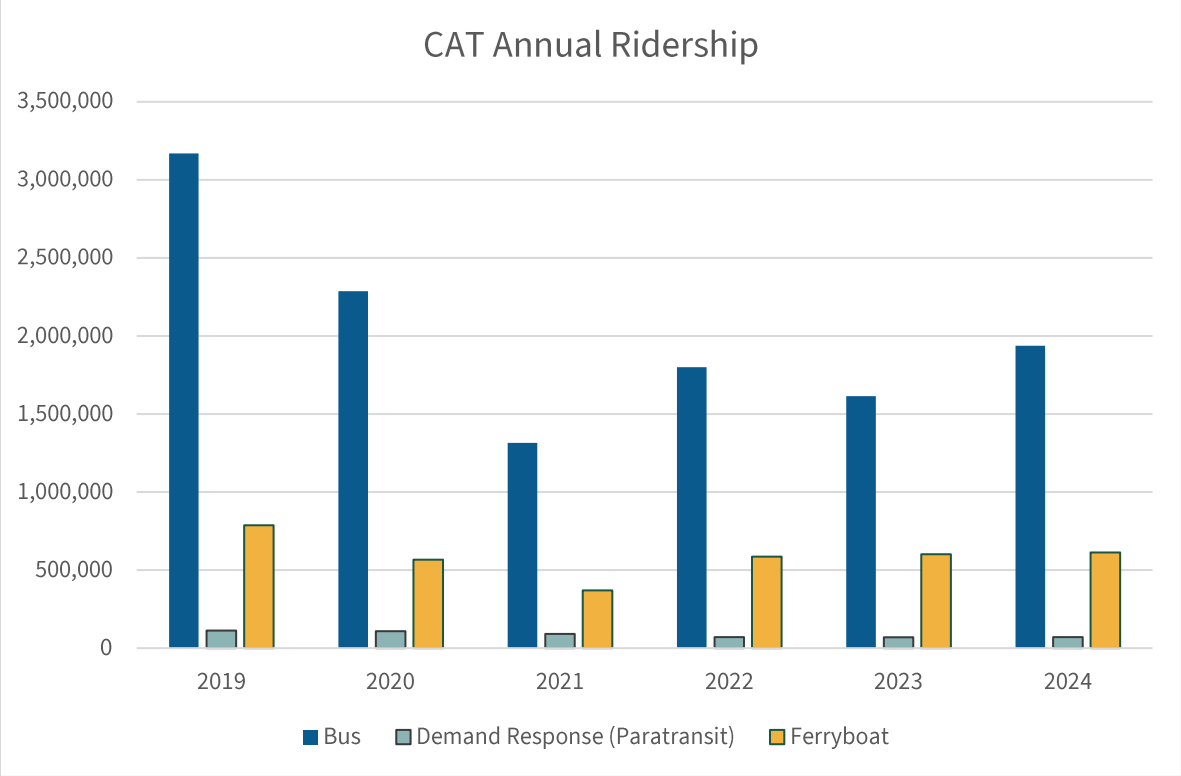
One measure of transit performance is the sheer amount of ridership it attracts. CAT's ridership was consistent leading up to 2019 across all modes. In FY 2019, CAT carried 3,168,774 passengers on the fixed-route network, 112,915 on CAT Mobility, and 787,468 on the Savannah Belles Ferry. The COVID-19 pandemic had a significant impact on transit ridership, with all modes showing a sharp decline in ridership in Spring 2020. Ridership decreased by 21% in March 2020, and then again by 71% in April 2020. Ridership increased over the summer of 2020 and then decreased in 2021. Since then, there has been an upward trend. Overall, however, the annual ridership in 2020 – 2024 has not reached the 2019 level. **Table 3.8** and **Figure 3.14** show the CAT ridership data from 2019 to 2024 for all modes**.**

Table 3.8: CAT Annual Ridership of All Modes

CAT Annual Ridership Data (Unlinked Passenger Trips)

Mode	2019	2020	2021	2022	2023	2024
Bus	3,168,774	2,286,234	1,314,806	1,799,488	1,614,701	1,936,800
Demand Response (Paratransit)	112,915	108,214	90,917	71,019	69,365	71,148
Ferryboat	787,468	567,259	369,965	586,288	602,017	613,230

Figure 3.14: CAT Ridership Trend for All Modes



Since the pandemic, CAT has been challenged by an ongoing and persistent shortage of drivers. The driver shortage has had an impact on the quality and reliability of service, such that in October 2022, CAT had to reduce the amount of service it operates to match their workforce capability. CAT has been working diligently to attract, hire and train drivers as fast as possible, with service being added as drivers are added to the workforce.

Not considering the impacts from the COVID and driver shortage, the data show that the highest ridership on the fixed routes occurs on the following routes (**Table 3.9**):

- North-south routes between downtown, the Oglethorpe Mall area, and the Georgia Southern University (GSU) Armstrong Campus;
- Near hospitals, universities and malls, in general;
- Augusta Road as far as Brampton Road;
- Skidaway Road and Pennsylvania Avenue from DeRenne to E. President Street; and
- Savannah's DOT Forsyth Shuttle.

Table 3.9: Average Annual Passengers Per Hour Per Route

Average Annual Passengers Per Hour By Route						
Route/Year	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
3 WEST CHATHAM	14.8	13.7	9.4	7.6	8.0	12.8
3B AUGUSTA AVENUE	23.3	20.6	14.4	12.4	16.2	22.5
4 BARNARD	10.8	9.5	6.9	5.7	6.6	8.5
6 CROSSTOWN	9.1	8.2	5.9	5.6	6.7	8.9
10 EAST SAVANNAH	17.1	17.0	11.4	8.6	11.1	16.3
11 CANDLER	6.5	6.1	3.2	3.5	60.2	4.2
12 HENRY	N/A	7.9	5.7	4.8	5.4	8.7
14 ABERCORN	22.8	20.1	13.5	12.1	16.1	23.3
17 SILK HOPE	17.2	16.2	13.0	9.3	10.5	16.5
20 SKIDAWAY/ COFFEE BLUFF	6.5	4.7	2.0	1.6	1.6	N/A
25 WESTLAKE APARTMENTS/MLK	N/A	14.9	10.7	8.0	11.7	17.1
27 WATERS	18.9	16.4	11.7	10.5	14.0	20.0
28 WATERS	20.5	18.8	13.1	10.8	12.5	17.3
29 WEST GWINNETT	13.8	12.8	8.0	7.1	8.0	11.2
31 SKIDAWAY/SANDFLY	19.4	18.0	12.2	10.4	13.9	18.9

The CAT Mobility (paratransit) has also been impacted by driver shortage, so the driver recruitment and retention program is impacting this service as well.

The Savannah Belles Ferry service is funded by the Savannah Trade Center. The ferry ridership 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.

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 (UZA) and it supplements the CAT service which is mostly within the Savannah UZA.

CRC and GDOT are working to create the first Regional Transit Development Plan (TDP) for the Coastal Georgia region with a completion date expected by the end of 2024. This TDP will identify transit needs and opportunities to inform future transit system improvements. This 20-year forecast will identify projects and recommendations to improve transit services across Coastal Georgia. The planning process consists of:

- Setting the vision and goal of transit in the region
- Documenting existing conditions
- Identifying system needs
- Developing alternatives and evaluating solutions
- Establishing a financial plan
- Providing recommendations and implementation plans

Port of Savannah

The Port of Savannah and the Georgia Ports Authority (GPA) continue to be a major transportation hub and economic engine for both the CORE MPO region and the State of Georgia. The Port of Savannah is the largest and fastest growing container terminal in America and the 3rd busiest container port complex in U.S., after L.A./ Long Beach and New York-New Jersey. It is the largest gateway for agricultural exports.

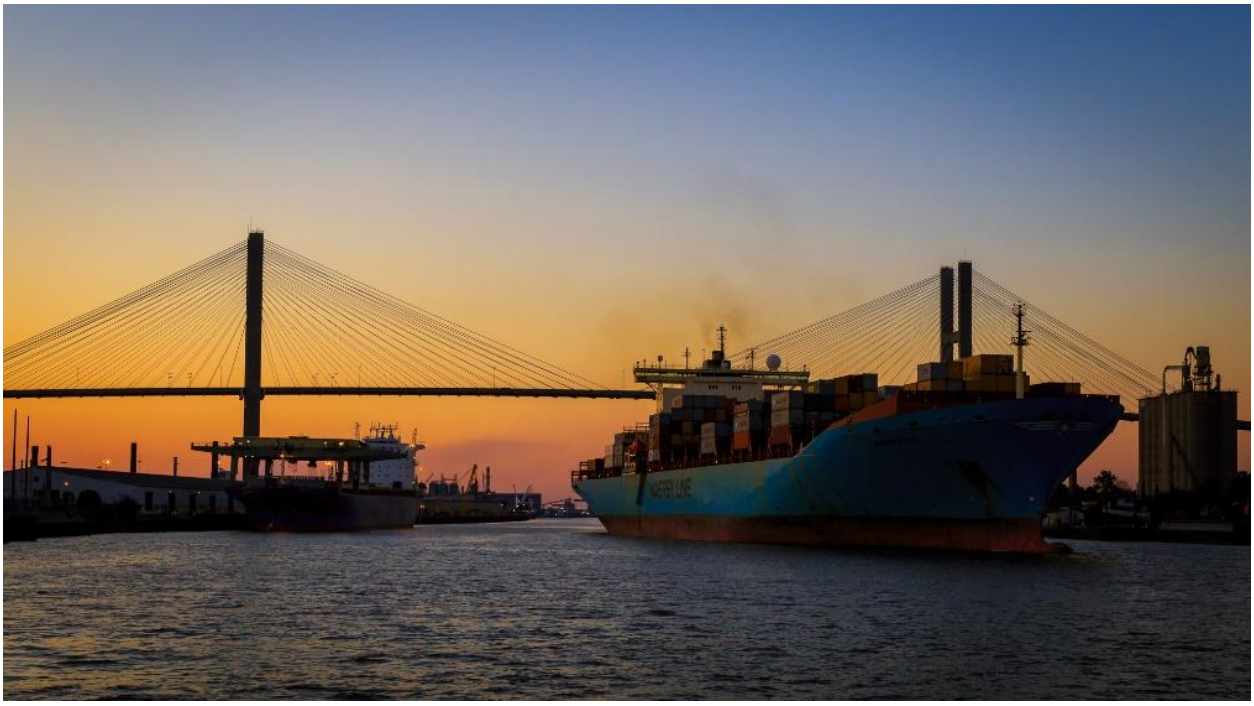
In 2021, despite the COVID-19 pandemic's substantial disruption of national and international supply chains, the Georgia Ports Authority handled 41.6 million tons of trade including 5.6 million twenty-foot equivalent container units (TEUs).

The Port is comprised of two deep water terminals: Garden City Terminal and Ocean Terminal. The Garden City Terminal handles container traffic and has on-terminal rail intermodal access. Both Norfolk Southern (NS) and CSX Transportation operate at the Mason Mega Rail Terminal located on the Garden City Terminal. The Ocean Terminal handles breakbulk, roll-on/roll-off (Ro/Ro), and container traffic. This

facility is in the process of being converted to primarily handle containers. It also has on-dock rail access via NS and CSX.

The Savannah Harbor Expansion Project that was completed 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.

There are several projects that are in the pipeline in the GPA area – Ocean Terminal @ CS 2356/Louisville Road & @ SR 25/US 17 Ramp, SR 404 Spur/US 17 @ Savannah River Crossing, Port of Savannah Renewable Fuel Project, etc.



Savannah/Hilton Head International Airport

The Savannah/Hilton Head International Airport (SAV) is a commercial and military-use airport in Savannah, Georgia, United States. It is 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. The Savannah/Hilton Head International Airport 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.

SAV is second only to the 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. The airport also serves as the world headquarters for Gulfstream Aerospace. The Georgia Air National Guard's 165th Airlift Wing is also based at the Savannah/Hilton Head International Airport.

SAV is also the only public airport that handles cargo in the Savannah region. Dedicated cargo carriers include Air Cargo Carriers, Federal Express (FedEx), Martinaire Aviation, Sky Way Enterprises, and Suburban Air Freight. In total, there is about 138,000 square feet of air cargo warehouse space at the airport. This includes an approximately 80,000-square foot general cargo building open to all carriers as well as an approximately 58,000-square foot air cargo facility dedicated to a single tenant. Both facilities are along Bob Harmon Road which is accessed by SR 307/Dean Forest Road. As air cargo is typically interchanged with highway freight, SAV impacts these and surrounding roadways by generating truck traffic to and from its air cargo facilities.

In 2023, the Savannah/Hilton Head International Airport handled 1,944,791 enplanements, 1,952,741 deplanements, and 9,116.30 tons of air cargo.

The airport has three projects that have a completion date in 2024 – 1) Security Checkpoint Expansion to expand the existing four lanes security lanes to six lanes; 2) Fuel Farm Expansion to expand the SAV fuel farm by 120,000 gallons and repair the fuel truck parking area; and 3) Demo Air Cargo, Construct Apron, Taxiplane to redevelop the southeast quadrant of the airport.

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

Passenger Rail

Amtrak Silver Service provides intercity passenger rail service to Savannah at its train station located 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 offers intercity bus service between Savannah and other cities within the United Sates. 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.

Traffic Operations and Emerging Technology

Transportation improvements that focus on 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. Operational improvement projects may enable transportation agencies to "stretch" their funding to benefit more areas and customers. The benefits of operational improvements 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 transportation 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.

Traffic Operation Programs in the CORE MPO Region

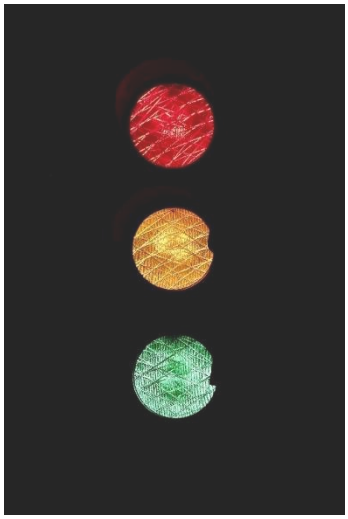
Traffic Control Center of City of Savannah

Operational improvement 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 a Traffic Control Center (TCC) that is active primarily during commuting and daylight hours from 7:30 am to 6 pm. During major events such as the St Patricks' Day Parade, the center is manned 24 hours. The City currently has access to more than 315 cameras that can be monitored and also provide recording to review incidents. The City has access to the 77 GDOT CCTV cameras and are in the process of integrating the TCC into the broader statewide system. The TCC would serve as a regional traffic management center supporting ITS infrastructure and operational improvements throughout the region.

GDOT RTOP

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 of 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.
- Assist managing traffic operations during St. Patrick's Day festivities.
- Respond to emergency situations that required signal timing adjustments to accommodate shift in traffic patterns.



- Monitor operations after storms to ensure signals are operational.
- Repair items, such as malfunctioning detection (vehicle, pedestrian), pull boxes, replaced cabinets, etc.

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

- SR 25/Ogeechee Road between Canebreak Road and 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 were plans to expand SRTOP to include the intersections in Pooler on the following corridors:

- SR 26/US 80 between Pooler Parkway and Jimmy DeLoach
- Pooler Parkway between Durham Park and Lowes and I-16 ramps
- SR 307 at Jimmy De Loach and Commerce
- SR 21 between Rice Hope and Fort Howard

The long-range expansion of the SRTOP program may include additional locations on Island Expressway, Bay Street to west City limits, and the SR 21 corridor to west Chatham County and South Effingham County. As of 2024, SRTOP has morphed into SigOps.

GDOT DMS

Dynamic message signs (DMS) are electronic signs that have the capability of changing part or all of a sign's message. Most DMS are the large electronic signs that appear over highways, but smaller versions can be found on other routes. DMS can be used for many applications regarding traffic management, public safety, and evacuation. Together with CCTV cameras, DMS are important for mitigating disruptions on the system due to incidents and other unpredictable events as they allow GDOT to convey timely information on travel conditions to the traveling public. There are 9 DMS deployed at the following locations throughout the CORE MPO region:

- SR 21 Southbound south of International Trade Parkway;
- Jimmy Deloach Parkway Southbound at Crossgate Road;
- I-95 Northbound north of SR 144;
- I-95 Southbound near US 80;
- I-95 Southbound south of the South Carolina state line;
- SR 204 Westbound 3 miles before I-95;
- I-516 Northbound before SR 25;
- US 80 Westbound at Old US 80; and
- US 80 Eastbound east of Bryan Woods Drive.

Other

The City of Pooler has installed an 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 that remain on fixed timing sequence. The Rhythm adaptive system was disconnected in January 2024 and the corridor was retimed and is now supported under the SigOps program.

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 area. The potential could eventually reach the CORE MPO region particularly related to AVs in the trucking industry such as *Waymo* to support the growing Port of Savannah. Another area that is often discussed as potential 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 CORE MPO region. 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 CORE MPO region is offered to SCAD (Savannah College of Art and Design) students. CAT used to operate a station-based bicycle share 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. Some companies are 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 in Savannah and enrolls approximately 11,300 students. 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 4: Public Involvement Process

Public Involvement Process

Public involvement is one of the most important elements of the Moving Forward Together 2050 Plan. CORE MPO has a long-standing history of incorporating citizen and stakeholder input into the planning process. The MPO created numerous opportunities for input throughout the development of this plan. This included in-person meetings and events, virtual presentations, surveys, and community pop-ups to name a few. Meetings were planned and held at critical project milestones to ensure public input was present at all stages of the plan development. Meeting locations were selected based on their accessibility by all populations, with close proximity to transit and underserved communities.

During the plan development, CORE MPO coordinated with multiple local jurisdictions and planning partners within the region. For example, the MPO staff facilitated or attended meetings at city halls within Bryan, Chatham, and Effingham Counties to ensure that our local government partners understood the 2050 MTP planning process and could share input based on the needs of their respective communities. Staff also presented the 2050 MTP information at neighborhood meetings throughout the region to help community members understand the role of an MPO and the impact of the 2050 MTP. Furthermore, CORE MPO collaborated with organizations such as GDOT, Chatham Area Transit, Bike/Walk Savannah, Healthy Savannah, and the CORE MPO advisory committees. Working with diverse groups created a well-rounded public involvement process that considered all forms of transportation.

CORE MPO also works closely and coordinates with our regional partners. The MPO has a close working relationship with our neighboring MPOs which include the Hinesville Area MPO (HAMPO) 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 CORE MPO Board and committee meetings, and CORE MPO staff regularly attend the HAMPO Policy Committee and LATS meetings. The coordination on specific planning efforts that may have more wide-ranging impacts, such as a freight assessment, also regularly occurs. This regional coordination and collaboration ensured that the 2050 MTP development process considered regional infrastructure needs and impacts.

The following information will describe current and future public outreach activities, as the 2050 Moving Forward Together Plan is being updated.

2050 MTP Public Involvement

Public Involvement Process under Participation Plan

Under the guidance of federal legislation, CORE MPO has developed, maintained, and updated a Participation Plan which outlines the following public involvement strategies for MTP update that meet or exceed the federal requirements:

- The Citizens Advisory Committee (CAC) will facilitate the participation process during the development of the MTP.[55]
- 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 Participation Plan, and the consultation agencies as identified in Appendix I of the 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 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.

[55] The CORE MPO Citizens Advisory Committee was consolidated into the Transportation Equity and Public Involvement Advisory Committee or TEPIAC during the 2050 MTP development. CAC (later TEPIAC) guided the formal public involvement process for the 2050 MTP development.

Public Involvement Opportunities

Three Rounds of Public Involvement

Besides following the public involvement process outlined in the Participation Plan, the 2050 MTP development process was organized around three (3) rounds of public meetings and/or open houses to facilitate public involvement at critical stages – 1) plan kick off, 2) plan progress report (including progress and recommendations from the Regional Freight Transportation Plan, Non-Motorized Transportation Plan, Urban Flooding Model Study, and Congestion Management Process), and 3) final plan presentation. Meetings were commonly held outside of business hours (evenings and weekends) to give people a better opportunity to attend. Virtual presentations were made available to accommodate people who could not travel to event locations.

The bi-monthly CORE MPO Board and advisory committee meetings provided an opportunity for the public to learn about the progress of the 2050 MTP update. These meetings were held in even-numbered months (February, April, June, August, October, and December). The registration links to the meetings were available on the CORE MPO website, and staff extended invitations to attend the meetings at public outreach events. The bi-monthly CORE MPO Board and advisory committees were all open to the public and staff fully utilized these meetings to collect input from the committee members and the general public on various components of the 2050 MTP.

During the three rounds of public involvement, the CORE MPO staff also gave presentations on the 2050 MTP at various neighborhood and agency meetings and collected input at multiple pop up events.

Table 4.1 summarizes the three-rounds of Public Involvement Opportunities for the 2050 MTP development.

Table 4.1: 2050 MTP Public Involvement Opportunities

Meeting	Venue	Date and Time	Location
1st Round – Plan Kick Off			
First African Baptist Church	In-Person	Sept. 12, 2022 at 6 pm	First African Baptist Church, 23 Montgomery St, Savannah, GA 31401
Virtual Meeting	Virtual	Sept. 13, 2022 at 11 am	Online
Virtual Meeting	Virtual	Sept. 19, 2022 at 6 pm	Online
Effingham County Administrative Complex	In-Person	Sept. 20, 2022 at 5 pm	Effingham County Administrative Complex, 804 S. Laurel St, Springfield, GA 31329
Richmond Hill City Hall	In-Person	Sept. 20, 2022 at 5:30 pm	Richmond Hill City Hall, CC Chambers, 40 Richard Davis Dr, Richmond Hill, GA 31324

Edgemere Sackville Neighborhood Meeting	Virtual	Sept. 21, 2022 at 6:30 pm	Online
Liberty City Community Center Neighborhood Meeting	In-Person	Oct. 3, 2022 at 6 pm	1401 Mills B Lane Blvd, Savannah, GA
Coastal Georgia Indicators Coalition (CGIC)	Virtual	Oct. 5, 2022 at 8:30 am	Online
Woodville Community Center Meeting	In-Person	Oct. 12, 2022 at 6 pm	Woodville Community Center, 127 Darling St, Savannah, GA
First Presbyterian Church	In-Person	Oct. 13, 2022 at 1:30 pm	First Presbyterian Church, 520 Washington Ave, Savannah, GA 31405
City Hall of Garden City	In-Person	Oct. 17, 2022 at 6 pm	100 Central Ave, Garden City, GA
Savannah Arts Academy	In-Person	Oct. 19, 2022 at 2:45 pm	500 Washington Ave, Savannah, GA 31405
CORE MPO Economic Development and Freight Advisory Committee (EDFAC) Meeting	Hybrid (In-Person and Virtual)	Oct. 20, 2022 at 10 am	112 E State St, Savannah, GA and online
CORE MPO Technical Coordinating Committee (TCC) Meeting	Hybrid (In-Person and Virtual)	Oct. 20, 2022 at 2 pm	112 E State St, Savannah, GA and online
CORE MPO Citizens Advisory Committee (CAC) Meeting	Hybrid (In-Person and Virtual)	Oct 20, 2022 at 5:30 pm	112 E State St, Savannah, GA and online
Habersham Fall Festival at Hull Park	In-Person	Oct. 22, 2022 at 3 pm	55th Atlantic Ave, Savannah, GA 31405
Living Independence for Everyone, Inc (LIFE)	Virtual	Oct. 28, 2022 at 9:30 am	Online
100% Savannah Event	In-Person	Oct. 29, 2022 at 10 am	Fellwood Park, 50 Kenny Anderson Collection Dr., Savannah GA 31415
CORE MPO Board Meeting	Hybrid (In-Person and Virtual)	November 2, 2022 10:00 am	112 E State St, Savannah, GA and online
2nd Round – Plan Progress Report			
Power of You Conference	In Person	April 28, 2023 at 10 am	14 W Anderson St, Savannah, GA 31401
Coastal Georgia Indicators Coalition (CGIC)	Virtual	Nov 14, 2023 at 3 pm	Online

Coastal Georgia Indicators Coalition (CGIC)	Virtual	Jan 3, 2024 at 9 am	Online
Girls Engineer It Day	In-Person	Feb 10, 2024 at 1 pm	151 Coach Joe Turner St, Garden City, GA 31408
Harambee House	Hybrid (In-Person and Online)	March 2024	112 E State St, Savannah, GA and online
Earth Day	In-Person	April 19, 2024 at 4 pm	Daffin Park, 1401 E Victory Dr, Savannah, GA 31404
CORE MPO Board and Advisory Committee (TCC, CAC and ACAT) Meetings	Hybrid (In-Person and Virtual)	Bi-monthly, December 2022 - April 2024	112 E State St, Savannah, GA and online
3rd Round – Plan Presentation and Adoption			
CORE MPO Board and Advisory Committee (TCC, CAC and ACAT) Meetings	Hybrid (In-Person and Virtual)	June 2024	112 E State St, Savannah, GA and online
Chatham County Commission Meeting	In-Person	June 28, 2024	124 Bull St, Savannah, GA
Metropolitan Planning Commission (MPC) Meeting	In-Person	July 09, 2024 at 1:30 pm	112 E State St, Savannah, GA
City of Savannah Neighborhood Associations Department	Virtual	July 15, 2024	Online
Effingham County Transportation Advisory Board (TAB) Meeting	In-Person	July 16, 2024 at 9:00 am	804 South Laurel St., Springfield, GA 31329
Health Team Meeting	Virtual	July 18, 2024 9:00 am	Online
Racial and Economic Inequalities in Savannah Panel	Hybrid (In-Person and Virtual)	July 19, 2024	112 E State St, Savannah, GA and online
Forsyth Farmer's Market	In-Person	July 20, 2024	Forsyth Park, Savannah, GA 31401
CAT Board Meeting	In-Person	July 23, 2024 at 4 pm	900 E Gwinnett St, Savannah, GA 31401
CORE MPO Public Meeting	Virtual	July 25, 2024 at 2 pm	Online
CORE MPO Public Meeting	Hybrid (In-Person and Virtual)	July 25, 2024 at 6:00 pm	112 E State St, Savannah, GA and online
CORE MPO TEPIAC Meeting	Hybrid (In-Person and Virtual)	July 29, 2024 at 1 pm	112 E State St, Savannah, GA and online

CORE MPO BPAC Meeting	Hybrid (In-Person and Virtual	July 30, 2024 at 2 pm	112 E State St, Savannah, GA and online
LIFE Inc.	Virtual	July 31, 2024	Online
CORE MPO TCC Meeting	Hybrid (In-Person and Virtual)	August 1, 2024 at 2 pm	112 E State St, Savannah, GA and online
CORE MPO Board Meeting	Hybrid (In-Person and Virtual)	August 15, 2024 at 10 am	112 E State St, Savannah, GA and online

Coordination Meetings

The CORE MPO staff also had discussions with the various jurisdictions and agencies within the CORE MPO planning area throughout the 2050 MTP development process, including Bryan County, Pooler, and Tybee Island.

In addition, since the 2050 MTP is multi-modal and there are several ongoing planning efforts that have contributed to the 2050 MTP development, the CORE MPO staff coordinated with other planning partners and neighborhoods as well in hosting joint meetings to collect input.

- Chatham Area Transit developed its Master Transit Plan which fed into the 2050 MTP. The portions of the plan related to housing fed into the housing and transportation consideration and socio-economic data development of the 2050 MTP. The Master Transit Plan also impacted the transit set-aside amount within the 2050 MTP financial plan. The MPO staff coordinated with CAT and attended the Master Transit Plan public meetings and shared information on the 2050 MTP.
- There were several ongoing studies that included data and recommendations that were incorporated into the 2050 MTP. The CORE MPO staff attended the stakeholder meetings and public meetings for these studies and shared information on the 2050 MTP. These studies include:
    - CAT Smart Grant Program (Microtransit program)
    - US 80 Corridor Study (within Chatham County)
    - US 17 Corridor Study
    - SR 21 Overpass at CSX Railroad Study
    - President's Street Railroad Crossing Elimination Study
    - City of Savannah Vision Zero Plan

2050 MTP Outreach Methods

While public meetings and coordination meetings were held during the 2050 MTP update process, they were only one part of a broader outreach effort that included print media, social media, the internet, surveys, and collaboration with local neighborhood associations.

Media Contacts

All local newspapers as well as radio and television stations were provided with notifications of all public meetings and community meetings on the 2050 MTP. In addition, legal notices were published in the Savannah Morning News in accordance with the CORE MPO Participation Plan.

Brochures

Brochures highlighting the activities of the plan update and the public participation process were developed for distribution at public meetings and community meetings, in various churches, agencies, organizations, neighborhood associations, information booths as well as online. The brochures included a QR code linking to the 2050 MTP website, where the public could access surveys and planning information. The brochures were especially helpful for people who did not have social media or lacked experience with technology. Chatham Area Transit provided stacks of the brochures on their buses, giving riders the opportunity to learn more about the Moving Forward Together 2050 Plan.

Publications

The MPC newsletter was used to disseminate the 2050 MTP information. In addition, the publications of planning partners (the Chatham Connection, CAT publication, etc.) were utilized as well.

Open comment period

Although a formal comment period was established for the draft plan in June-August 2024, the MPO accepted comments at any time during the plan update.

Internet

The MPC website includes a section for CORE MPO, which was used to disseminate up-to-date information on the 2050 MTP. The public could also access information about the plan on multiple webpages on the MPC website. In addition, the MPC homepage provided a direct link to the 2050 MTP survey and registration links for CORE MPO meetings.

A dedicated website for the 2050 MTP was established where notices, flyers, brochures, and draft plan documents were made available for review. A comment map was available on the website to provide the opportunity to submit comments about the problems or opportunities occurring throughout the community. The “Get Involved” webpage provided a master list of survey links, event schedules, and contributing plans, such as the CORE MPO Participation Plan and the Regional Freight Transportation Plan. Lastly, the dedicated 2050 MTP website provided an introduction to the plan, links to the CORE MPO social media pages, links to the surveys, and a list of public meetings and community meetings. Using the dedicated website, the public could access massive amounts of information related to the plan.

Social Media

Dedicated social media accounts for the 2050 MTP were established via Facebook and Instagram by CORE MPO staff. They were used to disseminate the 2050 MTP information concurrently with the

dedicated website. The use of social media helped to increase engagement among younger people. It also made sharing the CORE MPO information among partners simpler. The social media posts were formatted to be eye-catching and provided basic information while linking to the CORE MPO website. This was to ensure the posts were engaging while also providing a pathway to more detailed MPO information.

CORE MPO also coordinated with partner agencies and organizations (Chatham Area Transit, Chatham County, City of Savannah, Bike Walk Savannah, etc.) to use their social media accounts to distribute the 2050 MTP development information.

In addition, CORE MPO staff used WeChat to distribute the 2050 MTP development information to the Chinese community in the region.

Surveys

Survey in Multiple Languages

In an effort to reach a wider audience, the CORE MPO staff developed a survey to capture the regions' thoughts on transportation. The survey was developed with input from the various CORE MPO committees and partners. The questions were multi-modal, and included topics such as highway development, resilience, equity, bike and pedestrian needs, and transit needs. The survey included close-ended multiple-choice responses and open-ended responses. It was available in four languages – English, Spanish, Chinese and Vietnamese. The CORE MPO region is diverse, in which many residents may speak a language other than English. The survey was translated into three languages based on guidance from the CORE MPO Language Assistance Plan. Within the CORE MPO region, Chinese, Spanish, and Vietnamese meet the thresholds of needing language assistance according to the American Community Survey.

Map Survey

A map survey was also created for the 2050 MTP development. It allowed respondents to drop a pin on a map and leave a comment about that area. This map survey allowed the public to pinpoint to a specific area and provide specific details. Combined with the broad, high-level responses from the 2050 MTP text survey, the map survey filled in gaps by providing specific, ground level responses.

2050 MTP Survey Distribution

The Moving Forward Together 2050 Plan text survey and map survey were shared with multiple partners and the general public through multiple methods. This included paper copies shared at the public and community meetings as well as coordination meetings, email distribution lists, social media, the CORE MPO website, and a press release to major media outlets. Partnering organizations also helped to share and promote the surveys through emailing, social media, and posting links on their websites. The examples posted on planning partners' website are included in ***Appendix E - Public Involvement Process***.

These partners included the following.

- MPC Members and Staff
- CORE MPO TCC
- CORE MPO ACAT
- CORE MPO CAC
- CORE MPO EDFAC
- CORE MPO Board
- Healthy Savannah
- Bike/Walk Savannah
- Savannah Morning News
- CGIC/Coastal Georgia Indicators Coalition
- Chatham County
- City of Savannah
- Garden City
- City of Pooler
- City of Port Wentworth
- City of Bloomingdale
- City of Thunderbolt
- City of Tybee Island
- Effingham County
- Chatham Area Transit
- Living Independence for Everyone Inc. (LIFE)
- Coastal Empire Resilience Network

The surveys were run for the duration of the two-year MTP development process. The surveys remained open to give the community a longer period to provide input at any stage of the 2050 MTP development process, which was used to understand the community's viewpoint of the transportation system.

2050 MTP Survey Results and Impacts on 2050 MTP

CORE MPO received around 500 responses from the text survey and more than 70 responses from the map survey. The community members notified the MPO of problem areas, gave insight into their individual experience with the region's transportation system, and communicated how they want to see the transportation system develop. Their major concerns and suggestions included maintaining the existing transportation assets, improving safety for all modes of travel, traffic congestion relief, making infrastructure improvements for bicyclists and pedestrians, investing in public transportation, etc. The detailed survey results are included in Appendix E – Public Involvement Process.

The input from the surveys was incorporated into the 2050 MTP in multiple ways.

- The input was used to update and refine the 2050 MTP goals and objectives. For example, because the need for safe and separated bike and pedestrian facilities was such a common answer on the 2050 MTP survey, new objectives were added to reflect that under the Access and Connectivity goal. Maintaining current roadways was the most popular response on the survey,

so an additional objective for improving roadway maintenance was added under the System & Environmental Preservation goal.

- The input was used to facilitate the 2050 MTP project selection and prioritization. For example, the results from the map survey identified specific locations to make improvements.
- The input impacted the 2050 MTP financial planning. For example, the non-motorized and transit revenue set asides were increased in the 2050 MTP compared to the 2045 MTP. This was in response to the survey results indicating a need for more public transportation and infrastructure for cyclists and pedestrians.
- The input will impact the 2050 MTP project implementation. The input collected from the surveys will be shared with the implementation jurisdictions within the CORE MPO region to ensure that this information is flowing to the policy actors who can directly address local transportation issues.

2050 MTP Public Outreach and Equity Planning

CORE MPO ensured that the 2050 MTP public outreach process reached the entirety of the community. Equity was at the forefront of the outreach process. Using data, historical context, and input from advisory committees, CORE MPO formulated various outreach methods to meet the unique needs of the region.

- The MPO staff attended several neighborhood meetings and gave presentations on the 2050 MTP in West Savannah, an area that has been historically marginalized and underserved. These included multiple West Savannah community centers - Liberty City Community Center, Woodville Community Center, etc.
- Reaching low-income communities was also important within this outreach process. The MPO staff set up information booths at several events within low-wealth communities (Fellwood Park, e.g.), providing brochures, paper copies of surveys, and links to the CORE MPO website. The staff also coordinated with organizations dealing with equity planning and giving presentations at their meetings, including the Coastal Georgia Indicators Coalition (CGIC), and Harambee House.
- Making outreach accessible to those with disabilities was also highly important, as events, online surveys, and social media posts may not be accessible to individuals with mobility, sight, or hearing disabilities. To provide opportunities for public input, the MPO staff gave presentations at organizations such as Living Independence for Everyone, Inc. (LIFE) and Chatham Area Transit (CAT). This ensured that meetings were easily accessible without a car, and people with disabilities had a forum to give input.
- Age was also a consideration in this outreach process, as residents who are young and residents who are elderly were less likely to give input on the 2050 MTP development. The MPO staff employed multiple strategies to increase engagement with these age groups, such as:
    - Providing physical copies of the survey for those who cannot or do not use cellphones or computers;
    - Giving presentations at schools and events for students;
    - Keeping the survey open to provide more time to submit responses;
    - Increasing social media presence;

- Creating coloring pages to give out at events; and
- Providing QR codes linking directly to the surveys.

Moving Forward Together 2050 Plan and the Participation Plan

In addition to gathering public opinion for the 2050 MTP development, the CORE MPO staff analyzed the effectiveness of each outreach approach. Examples include the following.

- A major takeaway from the 2050 MTP public outreach process is the role of presence in communication. Often, before discussing the 2050 MTP, most people wanted to understand what a Metropolitan Planning Organization is and how it functions. For many people, these outreach events were the first time they knew that an MPO existed in the region. Future public outreach should include a quick briefing on the role of an MPO in addition to introducing the Metropolitan Transportation Plan.

- Regarding survey distribution, collaborating with local non-profits has led to a surge in survey submissions.

- Through the 2050 MTP outreach process, it was found out that social media was not necessarily the best engagement tool but was a good tool for keeping record of public events. Social media is useful for being able to easily track public events throughout the timeline of the plan development. Even though the same information is archived on the CORE MPO website, social media ensures that the most relevant information is at the forefront.

- To be more effective for public outreach, the MPO needs to utilize multiple choices in the toolbox – in person vis virtual meetings, going to events where people already gather, designing different outreach methods for different age groups, various income levels, and multiple geographic locations.

The 2050 MTP public outreach process has illuminated the most and least effective public outreach strategies, which will be used to inform the update of the CORE MPO's Participation Plan.

Section 5: Project Selection and Prioritization

Highway Project Selection

The 2050 MTP utilized a precise methodology for highway project selection. The process was based upon the performance-based planning and programming process (PBPP) as outlined in the previous sections of the 2050 MTP. This practice was structured to remain in compliance with all state and federal requirements. The plan utilized a selection process that integrated land use with transportation, a complete streets/context sensitive design approach, and was focused on mobility, sustainability, and quality of life for residents and visitors.

Project Selection Process

There were several elements which went into the highway project selection process.

- Continuity between 2045 MTP and 2050 MTP
- Travel Demand Model analysis
- Incorporation of contributing plans and studies

Plan Continuity

The projects in the 2045 MTP were analyzed first. Those projects that were completed, under construction, or had construction funds authorized were excluded from the 2050 MTP. The remaining projects in Cost Band One of the 2045 MTP that were in the pipeline for implementation were automatically carried forward to the 2050 MTP. These specific projects are documented in ***Section Six*** and ***Appendix D – Financial Plan Development***.

The Cost Band Two and Three projects were re-evaluated based on a matrix (**Figure 5.1**) constructed of these projects and how often they were included in various studies across the CORE MPO region.

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 (LOS). The LOS measures how well a facility is functioning and 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 2050 MTP analysis, the regional travel demand model was updated to reflect updated socioeconomic and transportation data. The Georgia Department of Transportation (GDOT) updated the model and provided the LOS information throughout the plan development process to the CORE MPO staff and committees to assess various transportation project scenarios.

The model results were used as an aid in determining issues and strategies and in identifying projects to resolve poor level of service. The results for six model runs were reviewed.

- 2020 Base year
- 2050 Level of Service with no new project implemented
- 2050 Level of Service with existing and committed projects
- 2050 Level of Service with all current Transportation Improvement Projects completed
- 2050 Level of Service for non-financially constrained projects
- 2050 Level of Service results for financially constrained projects

Those roadways with LOS "E" and "F" were included in the matrix (**Figure 5.1**) for further analysis. Information on the travel demand model and level of service maps are located in ***Appendix C - Travel Demand Model Technical Report***.

Contributing Plans and Studies

The 2050 MTP highway project selection process included evaluating recommended projects from several contributing plans and studies, including:

- CORE MPO 2024 Congestion Management Process
- CORE MPO 2023 Regional Freight Transportation Plan
- GDOT Coastal Empire Study
- SR 307 Corridor Study
- US 80 Corridor Study
- SR 21 Access Management Plan
- Three Bryan County and Richmond Hill transportation studies
- Effingham County Master Transportation Plan
- Chatham County 2023 TSPLOST project list

These projects were included in the matrix (**Figure 5.1**) for further analysis.

Project Selection Matrix

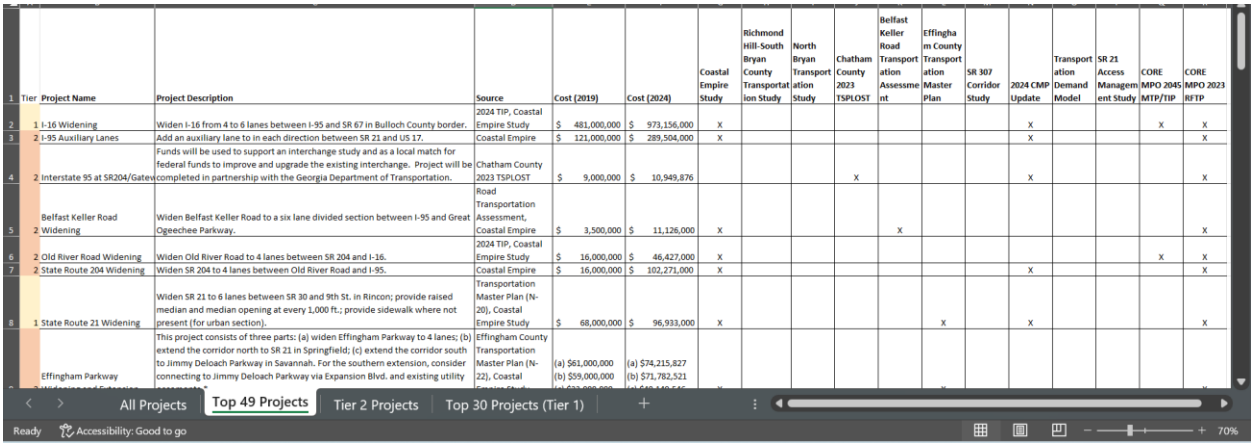
Figure 5.1 shows an example of the 2050 MTP project selection matrix. The following criteria were applied:

- Projects with the most frequent recommendations throughout the plans and studies, denoted with 'X' marks in the matrix, were assigned to a higher tier:
    - Projects mentioned four times, with four checks, were assigned to Tier 1;
    - Projects mentioned three times, with three checks, were assigned to Tier 2;
    - Projects mentioned two times, with two checks, were assigned to Tier 3; and
    - Projects mentioned 1 time, with one check, were assigned to Tier 4.
- All of the Tier 1 projects were carried over to the 2050 MTP projects. There are seven Tier 1 projects.

- The Tier 2 projects were further analyzed to determine which projects qualify for the 2050 MTP project list selection. There are 42 Tier 2 projects.
- The roadways of the Tier 2 projects were further analyzed utilizing the Travel Demand Model (TDM). The Level of Service data from the TDM was utilized for further analysis. The Level of Service standard for the 2050 MTP project selection is LOS 'D'. Any LOS below 'D' (either 'E', or 'F') indicates roadways that need congestion mitigation.

More technical analysis documentation on the 2050 MTP highway project selection process is included in ***Appendix B - Project Selection and Prioritization***.

Figure 5.1: Highway Project Selection Matrix



Tier	Project Name	Project Description	Source	Cost (2019)	Cost (2024)	Coastal Empire Study	Richmond Hill-South Bryan County Transportation Study	North Bryan Transportation Study	Chatham County 2023 TSPLOST	Belfast Keller Road Transportation Assessment	Effingham County Transportation Master Plan	SR 307 Corridor Study	2024 CMP Update	Transportation Demand Model	SR 21 Access Management Study	CORE MPO 2045 MTP/TIP	CORE MPO 2023 RFTP
1	I-16 Widening	Widen I-16 from 4 to 6 lanes between I-95 and SR 67 in Bulloch County border.	2024 TIP, Coastal Empire Study	$ 481,000,000	$ 973,156,000	X							X			X	X
2	I-95 Auxiliary Lanes	Add an auxiliary lane to in each direction between SR 21 and US 17.	Coastal Empire	$ 121,000,000	$ 289,504,000	X							X				X
2	Interstate 95 at SR204/Gatew	Funds will be used to support an interchange study and as a local match for federal funds to improve and upgrade the existing interchange. Project will be completed in partnership with the Georgia Department of Transportation.	Chatham County 2023 TSPLOST	$ 9,000,000	$ 10,949,876				X				X				X
2	Belfast Keller Road Widening	Widen Belfast Keller Road to a six lane divided section between I-95 and Great Ogeechee Parkway.	Road Transportation Assessment, Coastal Empire	$ 3,500,000	$ 11,126,000	X				X							X
2	Old River Road Widening	Widen Old River Road to 4 lanes between SR 204 and I-16.	2024 TIP, Coastal Empire Study	$ 16,000,000	$ 46,427,000	X										X	X
2	State Route 204 Widening	Widen SR 204 to 4 lanes between Old River Road and I-95.	Coastal Empire	$ 16,000,000	$ 102,271,000	X							X				X
1	State Route 21 Widening	Widen SR 21 to 6 lanes between SR 30 and 9th St. in Rincon; provide raised median and median opening at every 1,000 ft.; provide sidewalk where not present (for urban section).	Transportation Master Plan (N-20), Coastal Empire Study	$ 68,000,000	$ 96,933,000	X					X		X				X
	Effingham Parkway	This project consists of three parts: (a) widen Effingham Parkway to 4 lanes; (b) extend the corridor north to SR 21 in Springfield; (c) extend the corridor south to Jimmy Deloach Parkway in Savannah. For the southern extension, consider connecting to Jimmy Deloach Parkway via Expansion Blvd. and existing utility	Effingham County Transportation Master Plan (N-22), Coastal	(a) $61,000,000 (b) $59,000,000	(a) $74,215,827 (b) $71,782,521												

Source: CORE MPO

Highway Project Prioritization

The highway project prioritization process establishes the structure and methods for use in prioritizing highway projects recommended in the CORE MPO 2050 Metropolitan Transportation Plan. Prioritization is a key element of regional transportation planning due to the wide range of needs evaluated throughout the process and the large costs associated with infrastructure investments. Prioritization allows policy makers to target their limited resources at the most critical problems.

The 2050 MTP highway project prioritization process relies on a range of quantitative and qualitative variables and a weighting system to generate prioritization scores for individual projects. These scores are comparable only within project categories and/or modes. Scores for roadway capacity projects are not comparable with scores for operational or multimodal projects. While this prioritization process provides a foundation from which to make investment decisions, it does not replace the need for leadership and planning judgement calls. It should be used in conjunction with public feedback, awareness of limited resources, and broad policy objectives to guide transportation investment decisions.

Project Prioritization Process

The 2050 MTP utilized a defined process for determining what projects were included in the plan, as well as developing performance measures to determine how well the plan was addressing the region's transportation needs. CORE MPO developed the prioritization process within the framework of the identified goals and planning factors encompassing performance-based planning and programming. The process also followed the Federal Highway Administration's guidance using the "SMART" principle which focuses on using existing data and avoids placing an unrealistic burden on staff.

Three-Tier Screening

The project prioritization process included three screening tiers of analysis: transportation needs, transportation resilience, and transportation equity. These screens were determined based on rigorous research of modern transportation challenges and how to mitigate those challenges. The screens were structured around the CORE MPO goals for the long-range planning efforts. Metrics were identified based on available data and tools.

Needs Screening

Table 5.1 depicts the *Needs Screen*, with associated goals, prioritization factors and data source. The measures considered for this tier were: roadway Level of Service (LOS), Annual Average Daily Truck Traffic (AADTT), pavement conditions, whether a project provides connections to freight generating land uses, whether a project connects population centers to activity centers, vehicular crash density, and freight crash rates.

The goals for the needs screening included *System Performance; Safety and Security; Accessibility, Mobility and Connectivity; and State of Good Repair*. These goals were paired with *factors*, which were criteria utilized to measure the effectiveness of each goal. For example, the crash density indicates whether a facility may need projects to address the safety of the corridor, like midblock crossings to thwart jaywalking or signal optimization to increase 'all red time' and reduce vehicular crashes from redlight running. The *source* of each *factor* denoted the data source from which the *factors* originate.

Table 5.1: Project Prioritization - Needs Screening

Goal	Factor	Data Source
System Performance	• Level of service • Truck Traffic • Freight connections to strategic infrastructure	• Travel Demand Model • GIS • Freight Plan
Safety and Security	• Crash rate • Designated evacuation route • Pedestrian and Bicycle Injuries • Crash Density (facilities with most crashes)	• Georgia Department of Transportation • Chatham Emergency Management Agency • 2024 CMP • Non-Motorized Transportation Plan
Accessibility, Mobility and Connectivity	• Connecting population and employment • Freight last mile • Transit ridership • Non-motorized Plan priorities • Connecting Activity Centers • Human services transportation	• Travel Demand Model • Freight Plan • CAT • Non-Motorized Transportation Plan
State of Good Repair	• Bridge rating • Bridge Conditions • Pavement Conditions • Benefit/Cost	• Georgia Department of Transportation • Cost Estimates • Travel Demand Model • Freight Plan • Local Maintenance and Improvement Grant (LMIG)

Source: CORE MPO

Resiliency Screening

The resilience tier incorporated a vulnerability assessment following FHWA guidelines. FHWA defines vulnerability as "the degree to which a system is susceptible to, or unable to cope with adverse effects of climate change or extreme weather events. In the transportation context, climate change vulnerability is a function of a transportation system's exposure to climate effects, sensitivity to climate effects, and adaptive capacity." Measures that were considered for this tier were: exposure, sensitivity, and adaptive capacity (**Table 5.2**, **Table 5.3**, **Table 5.4**).

- **Exposure** refers to whether the asset or system is located in an area: experiencing direct effects of climate variables.
- **Sensitivity** refers to how the asset or system fares when exposed to a climate variable.

- **Adaptive capacity** refers to the system's ability to adjust to or cope with existing climate variability or future climate impacts.[56]

Table 5.2: Vulnerability Assessment: Exposure Scoring Descriptions

Score	Definition
NE	Not exposed to climate hazard (essentially zero).
1	Low likelihood of experiencing stressor (relative to other assets)
2	Moderate likelihood of experiencing stressor
3	High likelihood of experiencing stressor
4	Very high likelihood of experiencing stressor

Table 5.3: Vulnerability Assessment: Sensitivity Scoring Descriptions

Score	Definition
NE	Exposure would not cause any damage or disruption
1	Exposure would cause minimal damage or disruption
2	Exposure would cause moderate disruption (hours) and/or minor damage
3	Exposure would cause major disruption (days) and/or moderate damage
4	Exposure would cause severe damage and associated long-term disruption

Table 5.4: Vulnerability Assessment: Adaptive Capacity Scoring Descriptions

Score	Definition
1	Damage or disruption to the asset would have a minimal effect on activity in the CORE MPO region
2	Damage or disruption to the asset would have a moderate effect on activity in the CORE MPO region
3	Damage or disruption to the asset would have a severe effect on activity in a discrete portion of the CORE MPO region
4	Damage or disruption to the asset would have a severe effect on activity in the CORE MPO region

[56] FHWA Vulnerability Assessment and Adaptation Framework 3rd Edition (2017, pg. 81-82)

Equity Screening

The equity tier evaluated equity within the CORE MPO region and how different transportation facilities affect different areas and populations, particularly the populations of concern. The equity screening aims to mitigate disproportionate impacts of harm across different population groups in the region and increase overall quality of life for all within the region. The goal of this tier is to improve safety, accessibility by multiple modes of transportation, and connection to critical facilities. The measures that were considered for this tier were: transit connection and accessibility, bike/pedestrian improvements, connection and accessibility to critical features, Title VI/Environmental Justice considerations, and safety (**Table 5.5**).

Table 5.5: Project Prioritization - Equity Screening

Goal	Factor	Data Source
Quality of Life	• Connects underserved populations to destination attractions (grocery stores, medical facilities, parks, schools, banks, etc.) • Transportation system use costs • Inputs/investments vs. outcomes	• GIS • Travel Demand Model • Local Governments • CAT • Human services transportation
Safety and security	• Concentration of crashes in certain geographic areas (e.g. lane widening can create more pedestrian crashes without proper pedestrian facilities) • Facility placement	• Georgia Department of Transportation • GIS
Connectivity	• Broad modal shares across geographic areas • Proportion of traffic congestion /delays across geographic areas • Various Accessibility Measures • Journey to work time	• GIS • 2024 CMP • CAT

Source: CORE MPO

Other Considerations

While the three tiers were the basis of the highway project prioritization process, there were other measures to consider. Those included the following:

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

Input from Advisory Committees

Throughout the 2050 MTP project selection and prioritization process, the CORE MPO Technical Coordinating Committee (TCC) reviewed all of the technical information and the proposed methodology, and provided valuable input and direction. The newly established CORE MPO Bicycle and Pedestrian Advisory Committee (BPAC) and Transportation Equity and Public Involvement Advisory Committee (TEPIAC) provided guidance on the equity screening. The 2050 MTP Resource Committee provided input and direction for the resiliency screening.

More detailed information and the results of the highway project prioritization process can be found in ***Appendix B: Project Selection and Prioritization***.

Transit Project Selection and Prioritization

The 2050 MTP project selection and prioritization for transit projects followed the CAT Master Transit Plan.[57] The evaluation framework from the plan was based on equity principles and designed to be equitable in terms of both how projects were selected and their expected outcomes. The purpose of using an equity framework for evaluation was to:

- Invest in public transit as a way to work towards socioeconomic equity and racial equity.
- Ensure that investments prioritize communities that have been disproportionately burdened by current and past government decisions and deprioritize communities that have disproportionately benefited.
- Ensure that investments prioritize connections to services and destinations that will help people access opportunities, such as education, jobs, and healthcare.

[57] https://catchacat.org/wp-content/uploads/CAT-Master-Transit-Plan-final-report-20230803-V2.-pdf.pdf

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Section 6:
Financial Plan and Project Recommendations

The Moving Forward Together 2050 Metropolitan Transportation Plan is required to include a financially balanced list of projects, and 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 (YOE) 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 Moving Forward Together 2050 Plan. The projects identified but not included in the fiscally constrained plan are incorporated into the Vision Plan project list, or unfunded project list. Subsequent plan updates will utilize the Vision Plan for projects to include when funds become available.

This section is a summary of the Moving Forward Together 2050 MTP Financial Plan. For details on the development of this plan, please refer to Appendix D - Financial Plan Development.

Moving Forward Together 2050 MTP Highway Financial Plan

Highway Revenues

The GDOT Office of Financial Management (OFM) provided highway revenue forecasts for 2025 – 2050 based on census population, the state's obligation authority and distributions among MPOs. The forecasted revenues were divided into two parts – funds for Projects and funds for Maintenance. The project amounts were determined based on the MPO population from the 2020 census, and the maintenance amount was calculated using the MPO's percentage of state route lane miles. These estimates were based on 2% annual growth rate for each year of IIJA & 1% after 2026. According to the GDOT forecasts, the CORE MPO region will receive an annual average of a little over $55 million. These forecasts are matched funds, including the federal portion (80%) of the expected highway revenues for the CORE MPO Metropolitan Planning Area as well as expected matching funds (20%) provided by the State of Georgia and/or local project sponsors. These revenue forecasts were the basis for the final 2050 MTP highway revenue development.

The CORE MPO staff has made some adjustments to the highway revenue projections with input from the Technical Coordinating Committee and approval from the CORE MPO Board.

1. For the 2050 MTP highway revenue projections, the funds for Projects and funds for Maintenance will be separated from each other.
2. Use 2% annual inflation rate for all years 2026 – 2050 for both Project and Maintenance.
3. The first three years (2025, 2026 and 2027) of the 2050 MTP overlap with the last three years of the current FY 2024 – 2027 Transportation Improvement Program (TIP) and State Transportation

Improvement Program (STIP). The funds included in the TIP and STIP are considered "committed". Thus, the revenues from the adopted FY 2024 – 2027 TIP and STIP for FY 2025, 2026 and 2027 will replace state obligation-based revenue projections.

   a. The revenues for Projects will be the summation of revenue amounts for specific projects. The revenues for STIP projects in Bryan County and Effingham County located within the CORE MPO MPA will be added to the final Projects' revenues. If there are TIP and/or STIP amendments to the specific projects, the final amounts as shown after the August 2024 TIP/STIP amendments will be used. Because of the project schedule updates, some project phases are moved to FY 2028. The revenue adjustments for FY 2028 will be based on these amendments.

   b. The revenues for Maintenance will be the total of Lump Sum amounts. No Lump Sum amounts will be added to Bryan County and Effingham County for Maintenance as STIP did not provide such information.

4. The grant funds that have been awarded to three projects in the CORE MPO region will be added to the Project revenues – 1) Reconnecting Communities and Neighborhoods Program grant award for I-16 Exit Ramp Removal, 2) Reduction of Truck Emissions at Port Facilities Grant Program project award for Voltera Electrification of American Ports (VEAP), and 3) Reduction of Truck Emissions at Port Facilities Grant Program project award for Port of Savannah Renewable Fuel Project. The award amounts are federal portion only, so the total revenue including the required 20% match and any overmatch will be included in the final 2050 MTP revenue projections. However, it should be noted that the funds can only be used for these specific projects identified in the grant awards, nothing else, so they will be shown separately in the financial table. It is assumed that these revenues will be available in 2025 and will be amended into the TIP. FHWA will track these grant-funded projects directly, separating them from other projects.

5. The new formula funds from the National Electric Vehicle Infrastructure (NEVI) program will be included in the final revenue estimates. GDOT intends to use the NEVI funds for I-16 FROM W GWINNETT STREET TO CHATHAM PKWY. Thes funds will be available in 2025.

6. Since it is uncertain how much HB 170 funds or other state funds will be allocated to the CORE MPO region for the duration of the 2050 MTP, it is assumed that no HB 170 funds or other state funds would be available for the final revenue forecasts.

7. Considering it has become more common for the local project sponsors to provide overmatch (more than 20%) to federal funds for projects, it is assumed that $3 million annual local funds (SPLOST, TSPLOST, general funds) with adjustment of annual inflation rate of 2% would be included in the final 2050 MTP revenue forecasts. These funds will be used to finance Projects' implementation, not to be spent on Maintenance.

8. It is assumed that no other funding sources (bonds, discretionary grant funds, public – private partnership funds, etc.) would be included in the final 2050 MTP revenue forecasts.
9. For the Maintenance revenues, it is assumed that no additional funds (Local Maintenance and Improvement Grant or LMIG, etc.) would be included in the final 2050 MTP revenue forecasts.
10. The revenues of the 2050 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: 2025 – 2032 (8 years; overlaps with current and next TIPs; mid-year is 2028)
    b. Cost Band Two: 2033 – 2041 (9 years; mid-year is 2037)
    c. Cost Band Three: 2042 – 2050 (9 years; mid-year is 2046)
11. 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 as shown below.
    a. Operational Improvements Set Aside: based on the approximate Lump Sum category percentage of the total revenues in the FY 2024 – 2027 TIP, it is assumed that 12% of available project revenues for 2028 - 2050 will be reserved for operational improvements. The 2025, 2026 and 2027 lump sum funding amounts in the TIP are used for Operational Improvements for these three years.
    b. Transit Set Aside: based on historic Y230 funding awards to CAT and estimated costs for electric buses, it is assumed that $1.3 million 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 bike/pedestrian mode share of the CORE MPO region, it is assumed that 3% of Project revenues will be reserved for non-motorized projects (bike, pedestrian, trail, etc.) for 2028 – 2050. The 2025, 2026 and 2027 funding amounts for programmed bike/pedestrian/trail projects in the TIP and STIP are used for these three years.

Table 6.1 and **Table 6.2** depict the anticipated highway revenues for the planning period of 2025 – 2050 for highway projects as well as category expenditures.

Table 6.1: 2050 MTP Highway Revenue Estimates

*2025-2050 Savannah Funding Projections Adjusted by CORE MPO - As of 8/13/2024****

	GDOT Revenue Adjusted with 2% Annnual Growth Rate			Revenue Ajustments with 2045 MTP, TIP and STIP, and Recent Grant and Formual Awards			Additional Revenues					Total Highway Estimates			Cost Band	Cost Band Projects	Cost Band Maintenance	Cost Band Total
	Projects Estimate	*Maintenance Estimate*	*Total Estimate*	*Projects Estimate*	*Maintenance Estimate*	*Total with Local Match Funds*	HB 170	Grants	Local (SPLOST, TSPLOT)	LMIG	Total Additional	Porject	Maintenace	Total				
2025	$45,238,220	$3,154,046	***$48,392,265***	$143,896,400	$12,700,000	**$156,596,400**	$0	$0	$3,000,000	$0	**$3,000,000**	**$146,896,400**	**$12,700,000**	**$159,596,400**	One	**$572,965,519**	**$55,518,434**	**$628,483,953**
2026	$46,142,984	$3,217,126	***$49,360,111***	$101,381,166	$12,700,000	**$114,081,166**	$0	$0	$3,060,000	$0	**$3,060,000**	**$104,441,166**	**$12,700,000**	**$117,141,166**				
2027	$47,065,844	$3,281,469	***$50,347,313***	$26,859,000	$12,700,000	**$39,559,000**	$0	$0	$3,121,200	$0	**$3,121,200**	**$29,980,200**	**$12,700,000**	**$42,680,200**				
2028	$48,007,161	$3,347,098	***$51,354,259***	$73,256,015	$3,347,098	**$76,603,113**	$0	$0	$3,183,624	$0	**$3,183,624**	**$76,439,639**	**$3,347,098**	**$79,786,737**				
2029	$48,967,304	$3,414,040	***$52,381,344***	$48,967,304	$3,414,040	**$52,381,344**	$0	$0	$3,247,296	$0	**$3,247,296**	**$52,214,600**	**$3,414,040**	**$55,628,641**				
2030	$49,946,650	$3,482,321	***$53,428,971***	$49,946,650	$3,482,321	**$53,428,971**	$0	$0	$3,312,242	$0	**$3,312,242**	**$53,258,892**	**$3,482,321**	**$56,741,214**				
2031	$50,945,583	$3,551,968	***$54,497,551***	$50,945,583	$3,551,968	**$54,497,551**	$0	$0	$3,378,487	$0	**$3,378,487**	**$54,324,070**	**$3,551,968**	**$57,876,038**				
2032	$51,964,495	$3,623,007	***$55,587,502***	$51,964,495	$3,623,007	**$55,587,502**	$0	$0	$3,446,057	$0	**$3,446,057**	**$55,410,552**	**$3,623,007**	**$59,033,559**				
2033	$53,003,785	$3,695,467	***$56,699,252***	$53,003,785	$3,695,467	**$56,699,252**	$0	$0	$3,514,978	$0	**$3,514,978**	**$56,518,763**	**$3,695,467**	**$60,214,230**	Two	**$551,319,529**	**$36,047,908**	**$587,367,437**
2034	$54,063,860	$3,769,376	***$57,833,237***	$54,063,860	$3,769,376	**$57,833,237**	$0	$0	$3,585,278	$0	**$3,585,278**	**$57,649,138**	**$3,769,376**	**$61,418,514**				
2035	$55,145,137	$3,844,764	***$58,989,901***	$55,145,137	$3,844,764	**$58,989,901**	$0	$0	$3,656,983	$0	**$3,656,983**	**$58,802,121**	**$3,844,764**	**$62,646,885**				
2036	$56,248,040	$3,921,659	***$60,169,699***	$56,248,040	$3,921,659	**$60,169,699**	$0	$0	$3,730,123	$0	**$3,730,123**	**$59,978,163**	**$3,921,659**	**$63,899,822**				
2037	$57,373,001	$4,000,092	***$61,373,093***	$57,373,001	$4,000,092	**$61,373,093**	$0	$0	$3,804,725	$0	**$3,804,725**	**$61,177,726**	**$4,000,092**	**$65,177,819**				
2038	$58,520,461	$4,080,094	***$62,600,555***	$58,520,461	$4,080,094	**$62,600,555**	$0	$0	$3,880,820	$0	**$3,880,820**	**$62,401,281**	**$4,080,094**	**$66,481,375**				
2039	$59,690,870	$4,161,696	***$63,852,566***	$59,690,870	$4,161,696	**$63,852,566**	$0	$0	$3,958,436	$0	**$3,958,436**	**$63,649,307**	**$4,161,696**	**$67,811,003**				
2040	$60,884,688	$4,244,930	***$65,129,618***	$60,884,688	$4,244,930	**$65,129,618**	$0	$0	$4,037,605	$0	**$4,037,605**	**$64,922,293**	**$4,244,930**	**$69,167,223**				
2041	$62,102,381	$4,329,829	***$66,432,210***	$62,102,381	$4,329,829	**$66,432,210**	$0	$0	$4,118,357	$0	**$4,118,357**	**$66,220,738**	**$4,329,829**	**$70,550,567**				
2042	$63,344,429	$4,416,425	***$67,760,854***	$63,344,429	$4,416,425	**$67,760,854**	$0	$0	$4,200,724	$0	**$4,200,724**	**$67,545,153**	**$4,416,425**	**$71,961,578**	Three	**$658,877,872**	**$43,080,587**	**$701,958,459**
2043	$64,611,318	$4,504,754	***$69,116,071***	$64,611,318	$4,504,754	**$69,116,071**	$0	$0	$4,284,739	$0	**$4,284,739**	**$68,896,056**	**$4,504,754**	**$73,400,810**				
2044	$65,903,544	$4,594,849	***$70,498,393***	$65,903,544	$4,594,849	**$70,498,393**	$0	$0	$4,370,434	$0	**$4,370,434**	**$70,273,977**	**$4,594,849**	**$74,868,826**				
2045	$67,221,615	$4,686,746	***$71,908,361***	$67,221,615	$4,686,746	**$71,908,361**	$0	$0	$4,457,842	$0	**$4,457,842**	**$71,679,457**	**$4,686,746**	**$76,366,203**				
2046	$68,566,047	$4,780,481	***$73,346,528***	$68,566,047	$4,780,481	**$73,346,528**	$0	$0	$4,546,999	$0	**$4,546,999**	**$73,113,046**	**$4,780,481**	**$77,893,527**				
2047	$69,937,368	$4,876,090	***$74,813,458***	$69,937,368	$4,876,090	**$74,813,458**	$0	$0	$4,637,939	$0	**$4,637,939**	**$74,575,307**	**$4,876,090**	**$79,451,397**				
2048	$71,336,115	$4,973,612	***$76,309,728***	$71,336,115	$4,973,612	**$76,309,728**	$0	$0	$4,730,698	$0	**$4,730,698**	**$76,066,813**	**$4,973,612**	**$81,040,425**				
2049	$72,762,838	$5,073,084	***$77,835,922***	$72,762,838	$5,073,084	**$77,835,922**	$0	$0	$4,825,312	$0	**$4,825,312**	**$77,588,149**	**$5,073,084**	**$82,661,234**				
2050	$74,218,094	$5,174,546	***$79,392,640***	$74,218,094	$5,174,546	**$79,392,640**	$0	$0	$4,921,818	$0	**$4,921,818**	**$79,139,912**	**$5,174,546**	**$84,314,458**				
Total	**$1,523,211,832**	**$106,199,570**	**$1,629,411,402**	**$1,682,150,204**	**$134,646,929**	**$1,816,797,133**	**$0**	**$0**	**$101,012,717**	**$0**	**$101,012,717**	**$1,783,162,921**	**$134,646,929**	**$1,917,809,850**		**$1,783,162,921**	**$134,646,929**	**$1,917,809,850**

*** Projection amounts are YOE $*

2% growth rate for each year

Table 6.2: 2050 MTP Highway Revenue Allocation by Cost Band and Category Expenditure

2050 MTP Highway Revenue Projections by Cost Band and Category - Revised 8/13/2024								
Year	**Cost Band**	**Cost Band Total**	**Project Revenues**					**Maintenance Revenues**
		Projects + Maintenance	**Specific Highway Projects***	**Operational Improvements Projects Set Aside**	**Non-Motorized Projects Set Aside***	**Transit Projects Set Aside**	**Total for Projects**	**Total for Maitenance**
2025 - 2032	**One**	**$628,483,953**	$451,057,810	$73,097,730	$38,409,979	$10,400,000	$572,965,519	$55,518,434
2033 - 2041	**Two**	**$587,367,437**	$456,921,600	$66,158,344	$16,539,586	$11,700,000	$551,319,529	$36,047,908
2042 - 2050	**Three**	**$701,958,459**	$548,346,192	$79,065,345	$19,766,336	$11,700,000	$658,877,872	$43,080,587
Total		**$1,917,809,850**	**$1,456,325,602**	**$218,321,419**	**$74,715,901**	**$33,800,000**	**$1,783,162,921**	**$134,646,929**

Operational Improvements Set Aside assumes 12% of total available revenues for projects for 2028 - 2032. Lump Sum amounts from TIP are for FY 2025 - 2027.

Transit Set Aside assumes $1,300,000 each year for bus purchase and/or transit improvements.

Non-Motorized Set Aside assumes 3% each year for bike/ped projects for 2028 - 2050. Specific amounts for bike/ped projects from TIP are for FY 2025 - 2027.

Available revenues for specific highway projects are total project revenue minus set asides.

Specific Highway Project Revenues in Cost Band One include constrained revenues ($402,698,416) and revenues for discretionary projects ($48,359,394).

Highway Project Cost Estimates

The following summarizes the methodology utilized to calculate the highway project cost estimates in YOE dollars for the 2050 MTP.

1. The project phases of each potential 2050 MTP highway project, which include Preliminary Engineering (PE), Right-of-Way (ROW) acquisition, Utilities (UTL) and Construction (CST), are reviewed by the CORE MPO staff and the Technical Coordinating Committee 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 2050 MTP, the project phase cost is not included in the plan.
4. The annual planning level cost estimating inflation rate is defined as 4% per federal guidance and consultation from the Technical Coordinating Committee. For specific reasoning, please refer to Appendix D - Financial Plan Development.
5. Project costs are calculated in YOE dollars for each appropriate time period as described below.
    a. Cost Band One (2025 - 2032):
        i. Overlaps with the current FY 2024 – 2027 Transportation Improvement Program (TIP) and the FY 2024 – 2027 State Transportation Improvement Program (STIP).
        ii. For 2025, 2026 and 2027 projects, use the projects' phase costs in the TIP and STIP that reflect the most current cost estimates provided by GDOT and the local project sponsors.
        iii. For 2028 – 2032 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).
            1) No inflation factor is applied to the project phases if the cost estimates are already inflation-adjusted.
            2) Otherwise, the inflation factor of 1.12 for the midyear of Cost Band One (2028) is used assuming the cost estimates are based on the base year (2025).
    b. Cost Band Two (2033 – 2041)
        i. Incorporate cost estimates developed for the 2045 MTP, or project sponsor-provided estimates, or estimates developed from the contributing plans or studies, or estimates developed from the Cost Estimating Tool, or estimates

based on per mile costs of comparable local projects as expressed in approved concept reports as available.

ii. Adjust the cost estimates to the base year – 2025.

iii. Apply the appropriate escalation inflation factor of 1.6 calculated for YOE 2037 (the midpoint of this time band) for the final cost estimates for each phase.

c. Cost Band Three (2042-2050)

i. Incorporate cost estimates developed for the 2045 MTP, or project sponsor-provided estimates, or estimates developed from the contributing plans or studies, or estimates developed from the Cost Estimating Tool, or estimates based on per mile costs of comparable local projects as expressed in approved concept reports as available.

ii. Adjust the cost estimates to the base year – 2025.

iii. Apply the appropriate escalation inflation factor of 2.28 calculated for YOE 2046 (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 2050 MTP. This step takes into consideration projects' development status and implementation schedule, MTP continuity, projects' prioritization rankings, fiscal constraints, local project sponsor commitment, and geographic equity analysis. For development of the highway financially - constrained plan, the projects were evaluated and selected based on the methodology listed below.

1. The projects in the 2045 MTP that are completed, under construction, or have construction funds authorized were not included in the 2050 MTP, including the following.
    a. PI# 0012757, I-16 FROM I-95 TO I-516
    b. PI# 0012758, 1-95/I-16 Interchange Reconstruction
    c. PI# 0013741, SR 25/US 17 @ SAVANNAH RIVER IN PORT WENTWORTH
    d. PI# 0013742, SR 25/US 17 @ MIDDLE RIVER IN PORT WENTWORTH
    e. PI# 0015306, TRUMAN LINEAR PARK TRAIL – PHASE II-B
    f. PI# 0010028, CS 1097/DELESSEPS/LA ROCHE AVE FM WATERS AVE TO SKIDAWAY RD
    g. PI# 0013727, I-16 @ SR 307
    h. PI# 0006700, EFFINGHAM PKWY FM CR 156/BLUE JAY/EFFINGHAM TO SR 30/CHATHAM
    i. PI# 0006328, BRAMPTON ROAD CONNECTOR FM FOUNDATION DR TO SR 21/SR25/US80
    j. PI# 521855, SR 26 FROM I-516 TO CS 188/VICTORY DRIVE
    k. PI# 0010560, SR 26/US 80 @ Bull River and @ Lazaretto Creek (PE phase for the umbrella project, not including the two bridge replacement projects split from it)

2. The remaining projects in the 2045 MTP that are in the pipeline for implementation were carried forward to the financially constrained 2050 MTP as shown below. Some of these projects overlap with the current FY 2024 – 2027 TIP.
    a. PI# 0008358, I-516 @ CS / 1503 / DeRenne Avenue (DeRenne Blvd Option)
    b. PI# 0008359, EAST DERENNE FROM SR 204 TO HARRY S TRUMAN PKWY (East DeRenne Avenue Improvements)
    c. PI# 0010236, SR 21 FROM CS 346/MILDRED STREET TO SR 204 (West DeRenne Avenue Improvements)
    d. PI# 0015704, SR 404 SPUR/US 17 @ BACK RIVER
    e. PI# 0015705, SR 404 SPUR/US 17 FM NE OF SAVANNAH HARBOR PKWY TO BACK RIVER
    f. PI# 0017183, SR 404 SPUR/US 17 @ SAVANNAH RIVER CROSSING (ROW phase only)
    g. PI# 0017411, I-95 FM FLORIDA STATE LINE TO S CAROLINA STATE LINE-ITS EXP
    h. PI# 0017414, SR 26/US 80 @ BULL RIVER
    i. PI# 0017415, SR 26/US 80 @ LAZARETTO CREEK
    j. PI# 0017515, I-16 @ SR 17 (I-16 Interchange at Little Neck Road)
    k. PI# 0018402, I-95 at Airways Avenue

3. The projects from Bryan County and Effingham County within the CORE MPO Metropolitan Planning Area boundary that are programmed in the FY 2024 – 2027 STIP were included in the 2050 MTP as shown below.
    a. PI# 0018234, STILLWELL ROAD @ EBENEZER CREEK
    b. PI# 0019186, CR 307/LONG BRIDGE RD @ EBENEZER CREEK 4 MI E OF SPRINGFIELD
    c. PI# 511250, I-95 @ SAVANNAH RIVER @ SOUTH CAROLINA LINE

4. The projects that received grant funding that will go through the FHWA award process were included in the 2050 MTP as shown below.
    a. PI# 0011744, I-16 Exit Ramp Removal - Reconnecting Communities and Neighborhoods Program grant award, for PE phase only. The federal award is $1,800,000; the local match is $450,000; and the total is $2,250,000. The City of Savannah will use the grant funds to do the following - Equitable Redevelopment Plan, Concept Design, Environmental Studies, and Community Outreach Program.
    b. Voltera Electrification of American Ports (VEAP) - Reduction of Truck Emissions at Port Facilities Grant Program project award. Voltera Power, a zero-emissions refueling infrastructure provider, received $7.8 million to build a large-scale charging project near the Port of Savannah. The required 20% local match is $1,950,000. The total is $9,750,000. The project will reduce emissions from port-related traffic by providing parking and charging services for medium- and heavy-duty electric vehicle (EV) fleets.
    c. Port of Savannah Renewable Fuel Project - Reduction of Truck Emissions at Port Facilities Grant Program project award. The Georgia Ports Authority received $7,517,066 to conduct a four-year pilot program at the Port of Savannah that will expand the use of low-emission and zero-emission equipment to carry out daily port activities and reduce

port-related emissions from idling trucks. The project will replace petroleum diesel fuel used by 621 trucks with renewable, low-emission diesel fuel. The required 20% local match is $1,879,267 and GPA will provide over match in the amount of $26,963,062. The total project cost is $36,359,394.

5. The project that received the new NEVI formula funding was included in the 2050 MTP as shown below.
    a. PI# 0020351, I-16 FROM W GWINNETT STREET TO CHATHAM PKWY – NEVI Charging Station. The Georgia Department of Transportation will use the NEVI funds ($1,000,000 federal, $250,000 other, $1,250,000 total) to deploy charging stations on this segment of the highway.

6. The long-range projects in the 2045 MTP were evaluated for their project prioritization rankings, local project sponsor commitment, fiscal constraints of each cost band, and geographic equity analysis (methodology summarized in ***Section Five*** and ***Appendix B - Project Selection and Prioritization***). The following long-range 2045 MTP projects were carried forward to 2050 MTP.
    a. I-95 at SR 21 / Augusta Rd Interchange Reconstruction
    b. President Street / Truman Parkway Interchange Bridge and Ramp Reconstruction - a project with different concept has been identified for the 2050 MTP: President Street Grade Separation from East Broad Street to Dulany Avenue***. Appendix G - 2045 MTP Vs 2050 MTP Comparison*** summarizes the difference of projects for this location between the two MTPs.
    c. I-516 / Lynes Parkway Widening from Veterans Parkway to Mildred St
    d. I-516 / Lynes Parkway at I-16 Interchange Reconstruction
    e. I-516 / Lynes Parkway Widening from CR 975/Veterans Pkwy to I-16
    f. PI# 0015528, I-16 Widening from CS 565/Pooler Pkwy to I-95
    g. Old River Road Widening from SR 204 to Effingham/Chatham County Line – the new limit is from SR 204 to I-16 now that Southern Effingham County is a part of the COR MPO Metropolitan Planning Area.

    Several long-range projects included in the 2045 MTP were not carried forward to the 2050 MTP due to various reasons. The documentation can be found in ***Appendix D - Financial Plan Development***.

7. Additional highway projects identified through the travel demand modelling process, Congestion Management Process, plan and study development process, and/or by local sponsors were evaluated for their project prioritization rankings, fiscal constraints of each cost band, and sponsors' commitment. The project selection and prioritization processes are documented in ***Section Five***. More detailed information is included in ***Appendix B - Project Selection and Prioritization***. The following new highway projects were included in the 2050 MTP.
    a. SR 21 Widening from SR 30 in Chatham County to McCall Road in Effingham County
    b. SR 21 Widening from McCall Road to 9th Street in Rincon

c. SR 204/Fort Argyle Rd Widening 2 to 4 lanes from I-95 to John Carter Road/Old River Road
d. US 80 Widening from Bryan/Effingham County Line to SR 17 in Effingham County
e. SR 307 Grade Rail Separation and Operational Improvements at SR 21
f. SR 307 Grade Separation at Norfolk Southern Crossing #855067U
g. Belfast Keller Widening from I-95 to Great Ogeechee Parkway

8. Policy statements were 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. Local governments maintain some roadways in the CORE MPO region that are functionally classified as Collectors and above. Maintenance projects in the CORE MPO region which have been duly selected for funding by the State Transportation Board or the local governments are considered to be consistent with the CORE MPO's 2050 Metropolitan Transportation Plan.
    b. Operational Improvements Set Aside Policy: Any operational improvement project (traffic signals, turn lanes, intersection improvement, etc.) in the CORE MPO region seeking CORE MPO highway funding is considered to be consistent with the MPO's 2050 Metropolitan Transportation Plan provided that 1) the project is consistent with the MPO's plans (2050 Vision Plan, CORE MPO Regional Freight Transportation 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 CORE MPO region is considered to be consistent with the MPO's 2050 Metropolitan Transportation Plan provided that 1) the project has an eligible local sponsor with match funding commitment; 2) the project is consistent with the transit needs identified in the 2050 MTP and/or the CAT Master Transit Plan and/or Transit Development Plan; 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 2050 Metropolitan Transportation Plan provided that 1) the project is consistent with the CORE MPO Non-Motorized Transportation Plan; and 2) the project has a dedicated local sponsor with local match funding commitment

Financially Constrained 2050 MTP Highway Plan

The selected priority projects' costs were adjusted for inflation and then the costs balanced against the anticipated revenues in each cost band. The MPO staff worked closely with the Technical Coordinating Committee and developed the fiscally constrained 2050 MTP for highway projects as shown below in **Table 6.3** and **Figure 6.1**. More information on specific projects can be found in ***Appendix F - Individual Project Pages***. In order to balance the anticipated revenues with the project costs for the financially feasible plan, some projects or project phases had to be pushed back into the Vision Plan.

Table 6.3: Financially Constrained Moving Forward Together 2050 MTP Highway Plan

2050 Metropolitan Transportation Plan - Cost Feasible Highway Project List - Revised as of 8/13/2024

GDOT PI #	Map ID	Identified Projects					2025 - 2032 (Mid Year 2028)					2033 - 2041 (mid-year 2037)				2042 -2050 (mid-year 2046)			
		NAME	TERMINI		Project Type	Thoroughfare Plan Cross Section	PE	ROW	UTL	CST	Total Project Cost	PE	ROW	CST	Total Project Cost	PE	ROW	CST	Total Project Cost
			FROM	TO															
0015704		SR 404 SPUR/US 17 @ BACK RIVER	Back River		New Bridge	N/A				$45,840,360	$45,840,360								
0015705		SR 404 SPUR/US 17 FM NE OF SAVANNAH HARBOR PKWY TO BACK RIVER	NE of Savannah Harbar Pkwy	Back River	Road Widenng	N/A		$500,000		$2,000,000	$2,500,000								
0017411		I-95 FM FLORIDA STATE LINE TO S CAROLINA STATE LINE-ITS EXP			ITS	N/A				$7,810,000	$7,810,000								
0017414		SR 26/US 80 @ BULL RIVER	Bull River		Bridge Replacement	Major Arterial - Suburban			$3,700,000	$38,097,378	$41,797,378								
0017415		SR 26/US 80 @ LAZARETTO CREEK	LAZARETTO CREEK		Bridge Replacement	Major Arterial - Suburban		$141,206		$20,798,854	$20,940,060								
0017515		I-16 @ SR 17 (Little Neck Road)	SR 17/Little Neck Road		Interchange	N/A		$3,800,000	$350,000	$32,000,000	$36,150,000								
0018234		STILLWELL ROAD @ EBENEZER CREEK	EBENEZER CREEK		Bridge Replacement	N/A		$325,000	$60,000	$7,000,000	$7,385,000								
0019186		CR 307/LONG BRIDGE RD @ EBENEZER CREEK 4 MI E OF SPRINGFIELD	EBENEZER CREEK		Bridge Replacement	N/A		$275,000	$50,000	$3,900,000	$4,225,000								
511250		I-95 @ SAVANNAH RIVER @ SOUTH CAROLINA LINE	Savannah River		Bridge Rehab	N/A				$17,160,000	$17,160,000								
0008358		I-516 @ CS/1503/DeRenne Avenue (DeRenne Blvd. Option)	I-516	White Bluff Road	New Roadway	Major Arterial - Suburban		$25,610,000	$2,558,000	$40,373,810	$68,541,810								
0010236		SR 21 from CS 346/Mildred Street to SR 204 (West DeRenne Avenue Improvements)	Mildred Street	Abercorn St	Road Improvements	Major Arterial - Suburban		$5,299,000	$1,155,000	$5,350,941	$11,804,941								
0008359		East DeRenne from SR 204 to Harry S Truman Parkway (East DeRenne Avenue Improvements)	Abercorn St	Truman Pkwy	Road Improvements	Major Arterial - Suburban		$4,845,000	$4,098,000	$8,065,069	$17,008,069								
0017183		SR 404 SPUR/US 17 @ SAVANNAH RIVER CROSSING	Savannah River		Bridge	N/A		$500,000			$500,000								
0018402		I-95 at Airways Avenue	Airways Avenue		Interchange Reconstruction	N/A		$5,900,280		$53,102,520	$59,002,800								
0020351		I-16 FROM W GWINNETT STREET TO CHATHAM PKWY – NEVI Charging Station	Gwinnett St	Chatham Pkwy	Electric Charging	N/A				$1,250,000	$1,250,000								
TBA		SR 21 Widening	SR 30 in Chatham County	McCall Rd	Road Widenng	N/A	$5,397,187			$48,574,687	$53,971,874								
TBA		SR 21 Widening	McCall Rd	9th St. in Rincon	Road Widenng	N/A	$3,169,777				$3,169,777			$40,754,273	$40,754,273				
TBA		President Street Grade Separation	East Boundary St	Dulany Ave	Interchange & Road Improvements	N/A						$12,147,200	$23,359,736	$99,840,000	$135,346,936				
TBA		SR 204/Fort Argyle Rd Widening 2 to 4 lanes	I-95	John Carter Road/Old River Road	Road Widenng	Major Arterial - Suburban						$8,099,021		$72,891,187	$80,990,208				
TBA		US 80 Widening	Bryan/Effingham County Line	SR 17 in Effingham County	Road Widenng	N/A						$5,384,949		$48,464,540	$53,849,489				
0013160		I-516 / Lynes Parkway Widening	I-16	Veterans Parkway	Road Widenng	N/A						$18,472,947			$18,472,947			$208,248,133	$208,248,133
TBA		I-516 / Lynes Parkway Interchange Reconstruction	At I-16		Interchange Reconstruction	N/A						$19,499,703			$19,499,703				
TBA		I-516 / Lynes Parkway Widening	Veterans Parkway	Mildred St	Road Widenng	N/A						$15,939,796			$15,939,796		$14,394,560	$204,427,878	$218,822,438
TBA		SR 307 Grade Rail Separation and Operational Improvements	At SR 21		New Interchange	N/A						$6,553,008		$58,977,069	$65,530,077				
0017271		I-95 Interchange Reconstruction	At SR 21 / Augusta Rd		Interchange Reconstruction	Major Arterial - Suburban						$6,493,773			$6,493,773				
TBA		SR 307 Grade Separation	At Norfolk Southern Crossing #855067U		New Interchange	N/A						$3,167,617			$3,167,617			$40,624,688	$40,624,688
0015528		I-16 Widening	I-95	Pooler Pkwy	Road Widenng	N/A						$2,063,166			$2,063,166			$32,632,039	$32,632,039
TBA		Belfast Keller Widening	I-95	Great Ogeechee Parkway	Road Widenng	N/A						$629,924		$5,669,315	$6,299,238				
TBA		Old River Road Widening	SR 204	I-16	Road Widenng							$2,879,652			$2,879,652			$36,931,535	$36,931,535
										Total Cost	$ 399,057,069			Total Cost	$ 451,286,876			Total Cost	$ 537,258,833
										Total Revenue for Specific Highway Projects	$ 402,698,416			Total Revenue for Specific Highway Projects	$ 456,921,600			Total Revenue for Specific Highway Projects	$ 548,346,192
										Balance	$ 3,641,347			Balance	$ 5,634,724			Balance	$ 11,087,358

GDOT PI #	Map ID	Identified Projects NAME	TERMINI FROM	TERMINI TO	Project Type	Thoroughfare Plan Cross Section	2025 - 2032 PE	ROW	UTL	CST	Total Project Cost	2032 - 2041 (mid-year 2037) PE	ROW	CST	Total Project Cost	2042 -2050 (mid-year 2046) PE	ROW	CST	Total Project Cost
0011744		I-16 Exit Ramp Removal	MLK Blvd	Montgomery St	Interchange	N/A	$2,250,000				$2,250,000								
TBA		Voltera Electrification of American Ports (VEAP)	Georgia Ports Authority		Electric Charging	N/A				$9,750,000	$9,750,000								
TBA		Port of Savannah Renewable Fuel Project	Georgia Ports Authority		Electric Charging	N/A				$36,359,394	$36,359,394								
										Total Cost	$ 48,359,394			Total Cost	$ -			Total Cost	$ -
										Total Revenue for Discretionary Grant Projects	$ 48,359,394			Total Revenue for Discretionary Grant Projects	$ -			Total Revenue for Discretionary Grant Projects	$ -
										Balance	$0			Balance	$0			Balance	$ -

GDOT PI #	Map ID	Identified Projects NAME	TERMINI FROM	TERMINI TO	Project Type	Thoroughfare Plan Cross Section	2025 - 2032 PE	ROW	UTL	CST	Total Project Cost	2032 - 2041 (mid-year 2037) PE	ROW	CST	Total Project Cost	2042 -2050 (mid-year 2046) PE	ROW	CST	Total Project Cost
TBA		Operational Improvements with project sponsors			Operational Improvements	Operational Improvements				$ 73,097,730	$ 73,097,730			$ 66,158,344	$ 66,158,344			$ 79,065,345	$ 79,065,345
										Total Cost	$ 73,097,730			Total Cost	$ 66,158,344			Total Cost	$ 79,065,345
										Total Revenue for Operational Set Aside	$ 73,097,730			Total Revenue for Operational Set Aside	$ 66,158,344			Total Revenue for Operational Set Aside	$ 79,065,345
										Balance	$0			Balance	$0			Balance	$0

GDOT PI #	Map ID	Identified Projects NAME	TERMINI FROM	TERMINI TO	Project Type	Thoroughfare Plan Cross Section	2025 - 2032 PE	ROW	UTL	CST	Total Project Cost	2032 - 2041 (mid-year 2037) PE	ROW	CST	Total Project Cost	2042 -2050 (mid-year 2046) PE	ROW	CST	Total Project Cost
TBA		Transit Improvements/Bus Replacements			Transit Capital Improvements	Transit				$ 10,400,000	$ 10,400,000			$ 11,700,000	$ 11,700,000			$ 11,700,000	$ 11,700,000
										Total Cost	$ 10,400,000			Total Cost	$ 11,700,000			Total Cost	$ 11,700,000
										Total Revenue for Transit Set Aside	$ 10,400,000			Total Revenue for Transit Set Aside	$ 11,700,000			Total Revenue for Transit Set Aside	$ 11,700,000
										Balance	$0			Balance	$0			Balance	$0

GDOT PI #	Map ID	Identified Projects NAME	TERMINI FROM	TERMINI TO	Project Type	Thoroughfare Plan Cross Section	2025 - 2032 PE	ROW	UTL	CST	Total Project Cost	2032 - 2041 (mid-year 2037) PE	ROW	CST	Total Project Cost	2042 -2050 (mid-year 2046) PE	ROW	CST	Total Project Cost
0017975		Chevis Road Improvements	Wild Heron Rd	State Route 25/Ogeechee Rd	Non-Motorized Improvements	Bike/Ped/Trail		$ 3,360,546	$ 1,000,000	$ 12,000,000	$ 16,360,546								
0017976		Garrard Avenue Improvements	Chatham Pkwy	Gamble Rd	Non-Motorized Improvements	Bike/Ped/Trail		$ 2,000,000		$ 8,800,000	$ 10,800,000								
0019015		Green Island Road Multipurpose Path off Diamond Causeway	Diamond Cswy	2.1 miles south	Non-Motorized Improvements	Bike/Ped/Trail				$ 2,500,000	$ 2,500,000								
TBA		Priotiy bike/ped projects in the Non-Motorized Transportation Plan with local sponsors			Non-Motorized Improvements	Bike/Ped/Trail				$ 8,749,433	$ 8,749,433			$ 16,539,586	$ 16,539,586			$ 19,766,336	$ 19,766,336
										Total Cost	$ 38,409,979			Total Cost	$ 16,539,586			Total Cost	$ 19,766,336
										Total Revenue for Non-Motorized Set Aside	$ 38,409,979			Total Revenue for Non-Motorized Set Aside	$ 16,539,586			Total Revenue for Non-Motorized Set Aside	$ 19,766,336
										Balance	$0			Balance	$0			Balance	$0

GDOT PI #	Map ID	Identified Projects NAME	TERMINI FROM	TERMINI TO	Project Type	Thoroughfare Plan Cross Section	2025 - 2032 PE	ROW	UTL	CST	Total Project Cost	2032 - 2041 (mid-year 2037) PE	ROW	CST	Total Project Cost	2042 -2050 (mid-year 2046) PE	ROW	CST	Total Project Cost
TBA		Maintenance Projects with state/local sponsors				Maintenance				$ 55,518,434	$ 55,518,434			$ 36,047,908	$ 36,047,908			$ 43,080,587	$ 43,080,587
										Total Cost	$ 55,518,434			Total Cost	$ 36,047,908			Total Cost	$ 43,080,587
										Total Revenue for Maintenance	$ 55,518,434			Total Revenue for Maintenance	$ 36,047,908			Total Revenue for Maintenance	$ 43,080,587
										Balance	$0			Balance	$0			Balance	$0

Notes:

Blue Text: 2045 MTP Cost Band One projects; construction phase included in the current FY 2024 - 2027 TIP.

Green Text: 2045 MTP Cost Band One projects; some project phases are included in the current FY 2024 - 2027 TIP, but construction is not in the TIP.

Red Text: 2045 MTP Cost Band One projects; no project phases are included in the current FY 2024 - 2027 TIP.

Dark Blue Text: Effihgham County projects that are included in the FY 2024 - 2027 STIP.

Purple Text: newly added projects with grant awards or new formula NEVI funds.

Black Text: Top priority projects selected through the 3-tier prioritizaton process. Sources include regional and sub-area plans and studies.

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

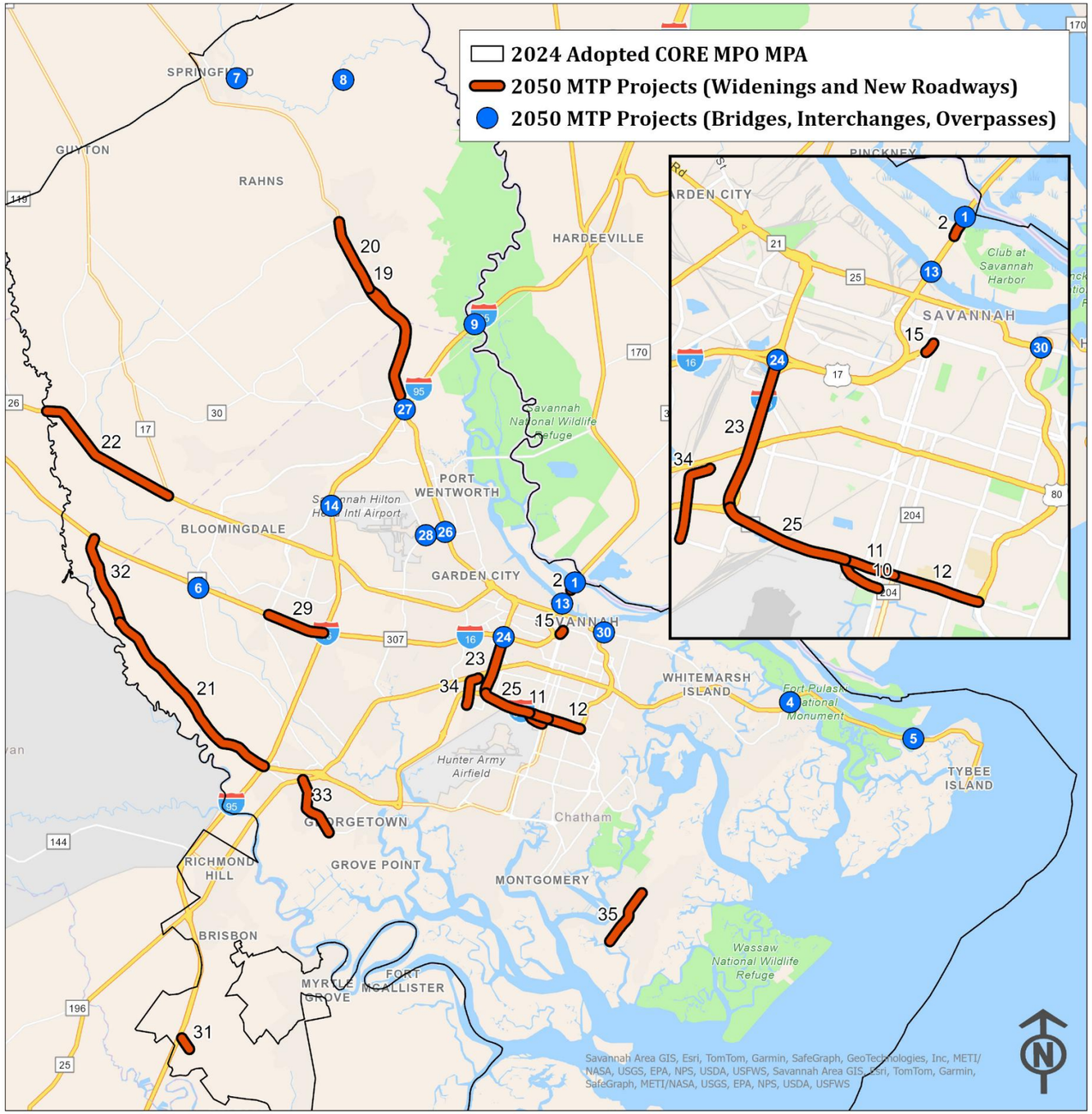
Band 1 Highway Project Costs	
Specific Highway Projects	$ 399,057,069
Discretionary Grant Projects	$ 48,359,394
Operational Set Aside	$ 73,097,730
Transit Set Aside	$ 10,400,000
Non Motorized Set Aside	$ 38,409,979
Maitenance	$ 55,518,434
Total Band One Costs	$ 624,842,607
Total Band One Revenues	$ 628,483,953
Cost Band One Balance	$ 3,641,347

Band 2 Highway Project Costs	
Specific Highway Projects	$ 451,286,876
Discretionary Grant Projects	$ -
Operational Set Aside	$ 66,158,344
Transit Set Aside	$ 11,700,000
Non Motorized Set Aside	$ 16,539,586
Maitenance	$ 36,047,908
Total Band Two Costs	$ 581,732,713
Total Available Revenues	$ 587,367,437
Balance	$ 5,634,724

Band 3 Highway Project Costs	
Specific Highway Projects	$ 537,258,833
Discretionary Grant Projects	$ -
Operational Set Aside	$ 79,065,345
Transit Set Aside	$ 11,700,000
Non Motorized Set Aside	$ 19,766,336
Maitenance	$ 43,080,587
Total Band Three Costs	$ 690,871,101
Total Available Revenues	$ 701,958,459
Balance	$ 11,087,358

Total Project Costs of all Cost Bands	$ 1,897,446,421
Total Available Revenues of all Cost Bands	$ 1,917,809,850
Balance	$ 20,363,429

Figure 6.1: Moving Forward Together 2050 MTP Highway Project Location



Pipeline Projects

1. SR 404 Spur/US 17 @ Back River
2. SR 404 Spur/US 17 FM NE of Savannah Harbor Pkwy to Back River
3. I-95 FM Florida State Line to South Carolina State Line -ITS EXP *
4. SR 26/US 80 @ Bull River
5. SR 26/US 80 @ Lazaretto Creek
6. I-16 @ SR 17 (Little Neck Road)
7. Stillwell Rd @ Ebenezer Creek
8. CR 307/Long Bridge Rd @ Ebenezer Creek 4 mi E of Springfield
9. I-95 @ Savannah River @ South Carolina Line
10. I-516 @ CS/1503/DeRenne Avenue (DeRenne Blvd. Option)
11. SR 21 from CS 346/Mildred Street to SR 204 (West DeRenne Avenue Improvements)
12. East DeRenne from SR 204 to Harry S Truman Parkway (East DeRenne Avenue Improvements)
13. SR 404 Spur/US 17 @ Savannah River Crossing
14. I-95 at Airways Avenue
15. I-16 Exit Ramp Removal
16. Voltera Electrification of American Ports (VEAP) *
17. Port of Savannah Renewable Fuel Project *
18. I-16 From W Gwinnett St to Chatham Pkwy – NEVI Charging Station *
33. Chevis Road Improvements
34. Garrard Avenue Improvements
35. Green Island Road Multipurpose Path off Diamond Causeway

Longer Term Projects

19. SR 21 Widening
20. SR 21 Widening
21. State Route 204 Widening 2 to 4 Lanes
22. US 80 Widening
23. I-516 / Lynes Parkway Widening from I-16 to Veterans Pkwy
24. I-516 / Lynes Parkway at I-16 Interchange Reconstruction
25. I-516 / Lynes Parkway Widening from Veterans Pkwy to Mildred St
26. SR 307 Grade Rail Separation and Operational Improvements
27. I-95 Interchange Reconstruction
28. SR 307 Grade Separation
29. I-16 Widening
30. President Street Grade Separation
31. Belfast Keller Road Widening
32. Old River Road Widening

*Projects not mapped

Moving Forward Together 2050 MTP Transit Financial Plan

Transit Revenues

The Moving Forward Together 2050 Plan focuses on transit capital projects only. Transit operating funds are not a part of the transit revenue projections.

1. Transit Revenues vary by year. CORE MPO has decided to use the current FY 2024 – 2027 TIP as the basis for transit revenue projections for the 2050 MTP. Considering the uncertainty of federal grants to be available, it has been determined that the year with only formula funds and no additional grant funds (e.g., FY 2027) will be used as the basis. The Capital Revenue would be the Total Revenue minus Operational Revenue.
2. Through coordination with the Intermodal Office of GDOT and the Coastal Regional Commission, it has been determined that no additional transit capital revenues will be available for Bryan County and Effingham County.
3. It is assumed that no Georgia State Transit Trust funds or additional local funds will be available for transit capital improvements.
4. Based on the information above, it is assumed that an annual average of $7.5 million (federal grants + state matching funds + local revenue sources) will be available for transit capital revenue projections.
5. Using 2025 as the base year, a 2% annual inflation rate is applied to the 2050 MTP transit capital revenue forecasts.
6. For FY 2025, 2026 and 2027, the actual total for transit capital improvements in the TIP will replace the estimated amounts as the TIP projects are considered “committed” projects.
7. The new grant funds that CAT received in July 2024 (Zero-Emission Battery-Electric Bus Deployment) will be added to the final transit revenue estimates. CAT divided these grant funds for three projects – 1) Gillig Zero Emission Buses (35-ft); 2) Infrastructure & Depot Charging; and 3) Workforce Development. Only the funds for #1 and #2 will be included in the 2050 MTP transit revenues as these are for capital improvements. The funds for #3 will be considered operational improvements.
8. 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 6.4** lists the expected transit capital revenues for the 2050 MTP.

Transit Projects Cost Estimates

For transit capital projects, CAT used cost information developed from the Master Transit Plan, Transit Development Plan, Transit Asset Management Plan, Transportation Improvement Program, or RFP quotes as the basis. CAT then applied the appropriate escalation inflation factors for each cost band similar to highway projects for final cost estimates.

Financially Constrained Transit Plan

The selected priority transit project costs shown in **Table 6.5** were adjusted for inflation and then the costs were balanced against the anticipated transit revenues in each cost band. The MPO worked with CAT and developed the fiscally constrained 2050 MTP for transit capital improvement projects.

Table 6.4: Transit Capital Revenues

2025 - 2050 Transit Capital Revenue Projections - Adjusted with TIP & Amendments				
	Transit Capital Revenue Estimates	**Transit Capital Revenue Adjustments with TIP**	**Cost Band**	**Cost Band Total**
2025	$7,500,000	$41,631,393	One	**$99,836,791**
2026	$7,650,000	$8,955,961		
2027	$7,803,000	$7,830,169		
2028	$7,959,060	$7,959,060		
2029	$8,118,241	$8,118,241		
2030	$8,280,606	$8,280,606		
2031	$8,446,218	$8,446,218		
2032	$8,615,143	$8,615,143		
2033	$8,787,445	$8,787,445	Two	**$85,718,264**
2034	$8,963,194	$8,963,194		
2035	$9,142,458	$9,142,458		
2036	$9,325,307	$9,325,307		
2037	$9,511,813	$9,511,813		
2038	$9,702,050	$9,702,050		
2039	$9,896,091	$9,896,091		
2040	$10,094,013	$10,094,013		
2041	$10,295,893	$10,295,893		
2042	$10,501,811	$10,501,811	Three	**$102,441,261**
2043	$10,711,847	$10,711,847		
2044	$10,926,084	$10,926,084		
2045	$11,144,605	$11,144,605		
2046	$11,367,498	$11,367,498		
2047	$11,594,848	$11,594,848		
2048	$11,826,744	$11,826,744		
2049	$12,063,279	$12,063,279		
2050	$12,304,545	$12,304,545		
2025 - 2050 Revenues	**$252,531,793**	**$287,996,316**		**$287,996,316**

Table 6.5: Transit Capital Improvements

2050 MTP Cost Feasible Transit Capital Improvements - Updated 8/13/2024			
Project Description	**FY 2025 - 2032 (Cost Band One)**	**FY 2033 - 2041 (Cost Band Two)**	**FY 2042 - 2050 (Cost Band Three)**
Transit ITS (TIP)	$120,000		
Preventative Maintenance (TIP)	$4,320,000	$11,591,964	$14,778,161
Facility Enhancements and Rehabilitation (TIP)	$729,801	$0	
Vehicle Replacement/Purchase (TIP)	$19,195,008	$0	
Ferry Boat Rehab, Purchase and Construction (TIP)	$8,436,683	$0	
Paratransit Maintenance Facility (TIP)	$8,508,472	$1,501,000	$1,501,000
Bus Stop Improvement Program (TIP)	$500,000	$0	
Gillig Zero Emission Buses (35-ft)	$8,044,800		
Infrastructure & Depot Charging	$1,260,000		
Vehicle Replacement/Expansion - Fixed Route	$13,078,953	$31,421,500	$32,810,100
Vehicle Replacement - Paratransit	$1,664,700	$7,625,400	$13,000,000
Intelligent Transit System (ITS)	$1,202,450	$3,699,300	$4,500,000
Upgraded Farebox and Payment System	$1,503,750	$7,772,200	$3,000,000
Electric Vehicle Infrasructure	$2,813,340	$2,145,500	$8,700,000
Passenger Amenities	$6,061,250	$6,496,900	$6,800,000
Facility Improvement Project - ITC	$1,503,750	$1,501,000	$1,501,000
Facility Improvement Project - Gwinnett	$1,503,750	$1,501,000	$1,501,000
Vanpool Capital	$1,202,400	$2,145,500	$2,350,000
Park & Ride Capital	$0	$8,317,000	$12,000,000
Facility Construction - Ferry Maintenance Facility	$1,302,875	$0	
Facility Construction - Ferry Dock	$3,520,800	$0	
Ferry Boat Construction	$6,061,250	$0	
Total Transit Project Costs	**$92,534,032**	**$85,718,264**	**$102,441,261**
Total Transit Revenues	**$99,836,791**	**$85,718,264**	**$102,441,261**
Balance	**$7,302,759**	**$0**	**$0**

System Performance Report

As indicated in previous sections, the federal legislation emphasizes performance-based planning and programing and requires that MTP projects contribute to achieving highway and transit performance targets. This section demonstrates the linkage between performance targets and the projects included in the 2050 MTP. More information can be found in ***Appendix A - System Performance Report***.

Performance Measures and Targets

CORE MPO has adopted the following performance targets.

PM1 Safety Performance Measures and Targets

The Highway Safety targets are updated annually. The following safety targets were adopted by the CORE MPO Board in December 2023 (**Table 6.6**).

Table 6.6: Highway Safety/PM1, System Conditions and Performance

PerformanceMeasures	2021 Statewide Target	2022 Statewide Target	2023 Statewide Target
Number of Fatalities	1,715	1,671	1,680
Rate of Fatalities per 100 Million Vehicle Miles Traveled	1.23	1.21	1.36
Number of Serious Injuries	6,407	8,443	8,966
Rate of Serious Injuries per 100 Million Vehicle Miles Traveled	4.422	4.61	7.679
Number of Combined Non-Motorized Fatalities and Non-Motorized Serious Injuries	686.5	793	802

PM2 Performance Measures and Targets

GDOT established the current statewide two-year and four-year PM2 targets on December 12, 2022. CORE MPO adopted the Georgia statewide PM2 targets on February 22, 2023. **Table 6.7** presents statewide baseline performance for each PM2 measure as well as the current two-year and four-year statewide targets established by GDOT.

PM3 Performance Measures and Targets

GDOT established the current PM3 targets on December 12, 2022. CORE MPO adopted the updated Georgia statewide PM3 targets on February 22, 2023. **Table 6.8** presents the statewide baseline performance for each PM3 measure as well as the current two-year and four-year statewide targets established by GDOT.

Table 6.7: Pavement and Bridge Condition/PM2 Performance and Targets

Performance Measures	Georgia Performance (Baseline)	Georgia 2year Target (2021)	Georgia 4year Target (2023)
Percent of Interstate pavements in good condition	60%	≥50%	≥50%
Percent of Interstate pavements in poor condition	4%	≤5%	≤5%
Percent of non-Interstate NHS pavements in good condition	44%	≥40%	≥40%
Percent of non-Interstate NHS pavements in poor condition	10%	≤12%	≤12%
Percent of NHS bridges (by deck area) in good condition	49.1%	≥50%	≥60%
Percent of NHS bridges (by deck area) in poor condition	1.35%	≤10%	≤10%

Table 6.8: System Performance/Freight Movement/CMAQ (PM3) Performance and Targets

Performance Measure	Georgia Performance (Baseline)	Georgia 2year Target (2021)	Georgia 4year Target (2023)
Percent of person-miles on the Interstate system that are reliable	80.4%	73.9%	68.4%
Percent of person-miles on the non-Interstate NHS that are reliable	84.9%	87.3%	85.3%
Truck Travel Time Reliability Index	1.44	1.62	1.65
Annual Hours of Peak Hour Excessive Delay (PHED) Per Captia*	N/A	23.7 hours	27.2 hours
Percent of Non-Single Occupancy Vehicle (SOV) Travel	N/A	22.7%	22.7%
Total Emissions Reduction	N/A	VOC:157.200 kg/day; NOx: 510.900 kg/day	VOC:257.100 kg/day; NOx 904.200 kg/day

Transit Asset Management Performance Measures and Targets

The Chatham Area Transit (CAT) is the designated and direct recipient of FTA funds and the major public transportation operator in the CORE MPO region. CAT established the latest TAM targets on July 1, 2022. CORE MPO adopted these updated TAM targets on February 22, 2023 (**Table 6.9**). Establishing the same targets between CORE MPO and CAT ensures a common goal and consistency between the two organizations.

Table 6.9: Regional Transit Asset Management Targets

ASSET CATEGORY	VEHICLE CLASS	REGIONAL TARGET (% IN STATE OF GOOD REPAIR) FY23	REGIONAL TARGET (% IN STATE OF GOOD REPAIR) FY24	REGIONAL TARGET (% IN STATE OF GOOD REPAIR (FY25)	REGIONAL TARGET (% IN STATE OF GOOD REPAIR (FY26)
ROLLING STOCK	Bus (BU)	74%	65%	65%	65%
	Cutaway bus (CU)	100%	100%	100%	100%
	Minivan(MV)	100%	100%	100%	0%
	Van (VN)	100%			
	School Bus (SB)	50%			
	Ferryboat (FB)	100%	100%	100%	100%
	Automobile (AO)	40%	53%	40%	53%
EQUIPMENT	Trucks and Other Rubber Tire Vehicles	86%	71%	57%	100%
	Maintenance	100%	100%	100%	100%
FACILITIES	Admin Maintenance Facility	50%	50%	100%	100%
	Passenger & Parking	100%	100%	100%	100%

Transit Safety Performance Measures and Targets

On December 28, 2022, CAT shared their latest Public Transportation Agency Safety Plan (PTASP) and transit safety targets with CORE MPO. The MPO adopted these regional transit safety performance targets on February 22, 2023 (**Table 6.10**). Establishing the same targets as CAT ensures a common goal and consistency between the two organizations.

Table 6.10: Transit Safety Performance Targets for 2023

Mode	Fatalities		Serious Injuries		Safety Events		Reliability
	Number	Rate	Number	Rate	Number	Rate	MDBF
Fixed Route Bus	0	0	13	0.63	13	0.54	11,842
Demand Response ADA Paratransit	0	0		0.30	3	0.30	87,686

MDBF = Mean Distance Between Failures.
Rate = Per 100,000 Vehicle Revenue Miles.

2050 MTP Projects and Performance Measures

The projects included in the CORE MPO 2050 MTP will help to achieve the performance targets. **Table 6.11** serves as a visualization tool to show how the projects included in the 2050 Plan relate to federal performance measures, underscoring the strong alignment between CORE MPO's planning and MTP update process and federal transportation planning priorities.

Table 6.11: 2050 MTP Projects and Performance Measures

Moving Forwared Together 2050 MTP Vs. Performance Measures

PI #	Name	Cost	Safety	Pavement and Bridges	Congestion	Freight	Air Quality	Transit Safety	Transit Asset Management
0015704	SR 404 SPUR/US 17 @ BACK RIVER	$45,840,360	X	X	X	X			
0015705	SR 404 SPUR/US 17 FM NE OF SAVANNAH HARBOR PKWY TO BACK RIVER	$2,500,000	X	X	X	X			
0017411	I-95 FM FLORIDA STATE LINE TO S CAROLINA STATE LINE-ITS EXP	$7,810,000	X		X	X	X		
0017414	SR 26/US 80 @ BULL RIVER	$41,797,378	X	X	X				
0017415	SR 26/US 80 @ LAZARETTO CREEK	$20,940,060	X	X	X				
0017515	I-16 @ SR 17 (Little Neck Road)	$36,150,000	X	X	X	X			
0018234	STILLWELL ROAD @ EBENEZER CREEK	$7,385,000	X	X					
0019186	CR 307/LONG BRIDGE RD @ EBENEZER CREEK 4 MI E OF SPRINGFIELD	$4,225,000	X	X					
511250	I-95 @ SAVANNAH RIVER @ SOUTH CAROLINA LINE	$17,160,000	X	X	X	X			
0008358	I-516 @ CS/1503/DeRenne Avenue (DeRenne Blvd. Option)	$68,541,810	X		X	X			
0010236	SR 21 from CS 346/Mildred Street to SR 204 (West DeRenne Avenue Improvements)	$11,804,941	X		X	X			
0008359	East DeRenne from SR 204 to Harry S Truman Parkway (East DeRenne Avenue Improvements)	$17,008,069	X		X	X			
0017183	SR 404 SPUR/US 17 @ SAVANNAH RIVER CROSSING	$500,000		X		X			
0018402	I-95 at Airways Avenue	$59,002,800	X		X	X			
0011744	I-16 Exit Ramp Removal	$2,250,000	X				X		
TBA	Voltera Electrification of American Ports (VEAP)	$9,750,000				X	X		
TBA	Port of Savannah Renewable Fuel Project	$36,359,394				X	X		
0020351	I-16 FROM W GWINNETT STREET TO CHATHAM PKWY – NEVI Charging Station	$1,250,000				X	X		
TBA	SR 21 Widening	$53,971,874	X		X	X			
TBA	SR 21 Widening	$43,924,050	X		X	X			
TBA	President Street Grade Separation	$135,346,936	X	X	X	X	X		
TBA	SR 204/Fort Argyle Rd Widening 2 to 4 lanes	$80,990,208	X		X	X			
TBA	US 80 Widening	$53,849,489			X	X			
0013160	I-516 / Lynes Parkway Widening	$226,721,080	X		X	X			
TBA	I-516 / Lynes Parkway Interchange Reconstruction	$19,499,703	X	X	X	X			
TBA	I-516 / Lynes Parkway Widening	$234,762,234	X		X	X			
TBA	SR 307 Grade Rail Separation and Operational Improvements	$65,530,077	X		X	X			
0017271	I-95 Interchange Reconstruction	$6,493,773	X	X	X	X			
TBA	SR 307 Grade Separation	$43,792,305	X		X	X			
0015528	I-16 Widening	$34,695,205	X		X	X			
TBA	Belfast Keller Widening	$6,299,238			X	X			
TBA	Old River Road Widening	$39,811,187			X	X			
0017975	Chevis Road Improvements	$16,360,546	X				X		
0017976	Garrard Avenue Improvements	$10,800,000	X				X		
0019015	Green Island Road Multipurpose Path off Diamond Causeway	$2,500,000	X				X		
TBA	Priotiy bike/ped projects in the Non-Motorized Transportation Plan with local sponsors	$8,749,433	X				X		
TBA	Operational Set Aside		X	X	X	X	X	X	
TBA	Maintenance Set Aside		X	X	X	X	X	X	
TBA	Transit Set Aside		X		X		X	X	X
N/A	Transit ITS (TIP)	$120,000	X		X		X	X	X
N/A	Preventative Maintenance (TIP)	$30,690,125	X		X		X	X	X
N/A	Facility Enhancements and Rehabilitation (TIP)	$729,801	X		X		X	X	X
N/A	Vehicle Replacement/Purchase (TIP)	$19,195,008	X		X		X	X	X
N/A	Ferry Boat Rehab, Purchase and Construction (TIP)	$8,436,683	X		X		X	X	X
N/A	Paratransit Maintenance Facility (TIP)	$11,510,472	X		X		X	X	X
N/A	Bus Stop Improvement Program (TIP)	$500,000	X		X		X	X	X
N/A	Gillig Zero Emission Buses (35-ft)	$8,044,800	X		X		X	X	X
N/A	Infrastructure & Depot Charging	$1,260,000	X		X		X	X	X
N/A	Vehicle Replacement/Expansion - Fixed Route	$77,310,553	X		X		X	X	X
N/A	Vehicle Replacement - Paratransit	$22,290,100	X		X		X	X	X
N/A	Intelligent Transit System (ITS)	$9,401,750	X		X		X	X	X
N/A	Upgraded Farebox and Payment System	$12,275,950	X		X		X	X	X
N/A	Electric Vehicle Infrasructure	$13,658,840	X		X		X	X	X
N/A	Passenger Amenities	$19,358,150	X		X		X	X	X
N/A	Facility Improvement Project - ITC	$4,505,750	X		X		X	X	X
N/A	Facility Improvement Project - Gwinnett	$4,505,750	X		X		X	X	X
N/A	Vanpool Capital	$5,697,900	X		X		X	X	X
N/A	Park & Ride Capital	$20,317,000	X		X		X	X	X
N/A	Facility Construction - Ferry Maintenance Facility	$1,302,875	X		X		X	X	X
N/A	Facility Construction - Ferry Dock	$3,520,800	X		X		X	X	X
N/A	Ferry Boat Construction	$6,061,250	X		X		X	X	X

System Performance Report

As shown in **Table 6.12**, of the total investments of more than $2.1 billion in the 2050 MTP, 85.53% of revenues are for highway improvements (including set asides for Maintenance, Operational Improvements and Non-Motorized Improvements) and 14.47% are for transit improvements, (including transit set asides from the highway revenues).

Table 6.12: 2050 MTP Investments by Mode

	2050 MTP Total Investments	Percent
Transit	$315,378,587	14.47%
Highway	$1,863,646,421	85.53%
Total	**$2,179,025,008**	**100.00%**

In terms of Performance Based Planning and Programming, **Table 6.13** demonstrates how the investments in the 2050 MTP are addressing the established performance measures.

Table 6.13: 2050 MTP Investments and Performance Measures

Moving Forward Together 2050 MTP Investments Vs. Performance Measures							
	Safety	Pavement and Bridges	Congestion	Freight	Air Quality	Transit Safety	Transit Asset Management
2050 MTP Investments	$2,031,205,700	$698,616,558	$2,042,589,713	$1,712,333,082	$935,829,166	$668,346,935	$315,378,587
Percent	93.22%	32.06%	93.74%	78.58%	42.95%	30.67%	14.47%

Normally each project (including set aside projects) addresses several performance measures and contributes to achieving the performance targets for various categories. Of all the investments in the 2050 MTP, the following percentages correspond to each performance category.

- Safety – 93.22%
- Pavement and Bridges – 32.06%
- Freight – 78.58%
- Congestion – 93.74%
- Air Quality – 42.95%
- Transit Asset Management – 14.47%
- Transit Safety – 30.67%

Of all of the project funds, significant percentages are addressing safety – 93.22% for highway Safety (PM1) and 30.67% for transit safety, which aligns well with the CORE MPO's and our member agencies' Vision Zero goals. Considering all of the freight developments in the CORE MPO region and their impacts

on the transportation system, it is no surprise that higher percentages of the 2050 MTP investments are addressing Freight (78.58%) and Congestion management (93.74%). Various projects will address pavement and bridges (32.06%), making the coastal region safer. ITS, maintenance, electric charging projects, transit and non-motorized projects all help to improve air quality (42.95%). In addition to enhance transit safety, the transit improvements from both FTA and FHWA sources are helping to achieve transit asset management goals (14.47%).

Overall, the 2050 MTP as a whole contributes to the economic development of the CORE MPO region.

Vision Plan Project List

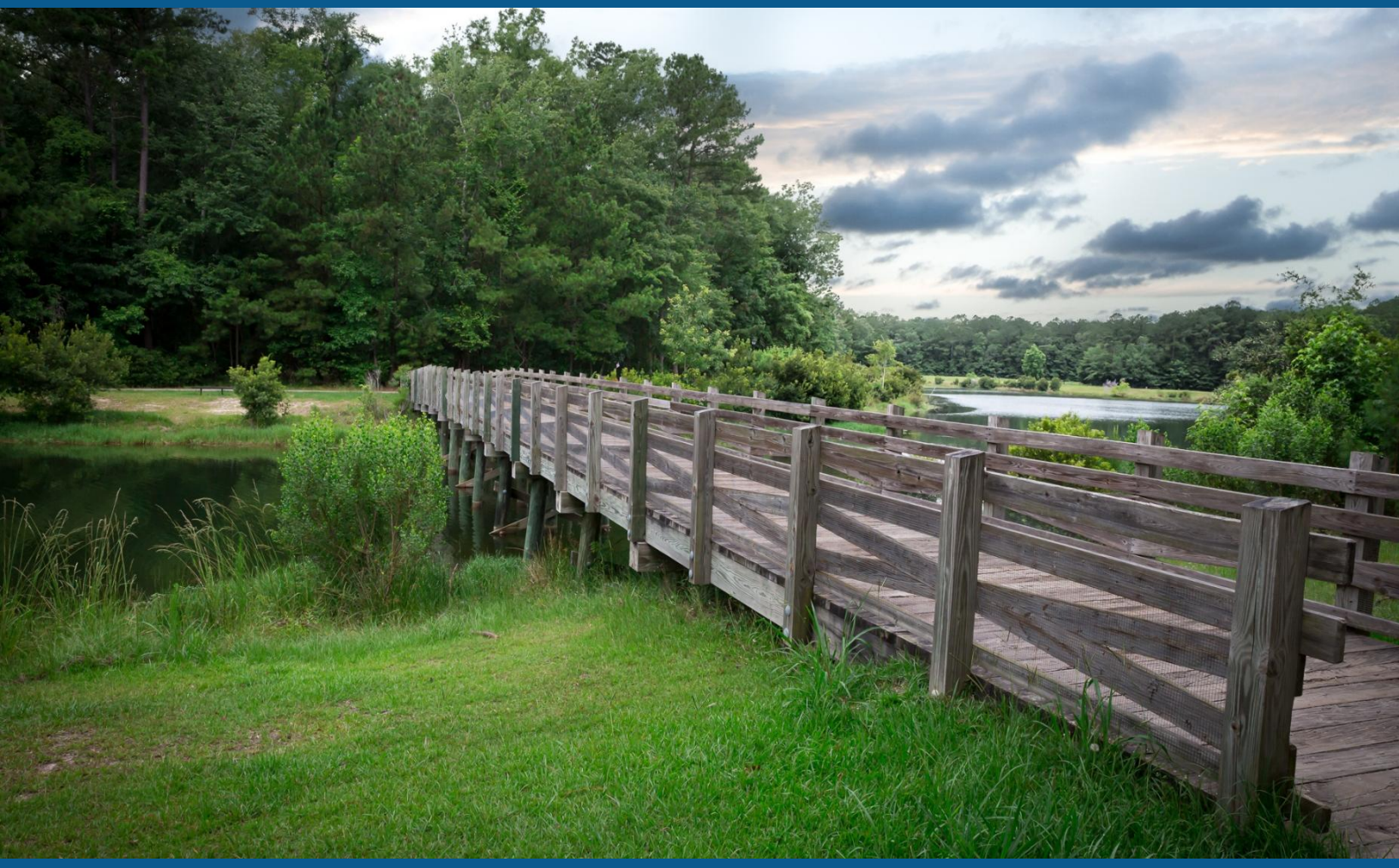
Although the Moving Forward Together 2050 MTP's primary purpose is to identify affordable regionally significant projects that are consistent with local, state and national priorities, there is also an ongoing need for additional investments that just cannot be funded given the expected and reliable revenue sources.

Throughout the 2050 MTP 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 were incorporated into the Vision Plan project list. Many of the projects in the Vision Plan have been identified as needs from a variety of sources, including the following.

- 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
- CORE MPO Regional Freight Transportation Plan: capital and operational improvements
- Locally identified needs: Projects that arose out of a local agency's plans or identified needs
- Non-Motorized Transportation Plan (NMTP): All projects identified in the NMTP
- Throughfare plan: All projects identified in the Thoroughfare Plan
- Corridor and Sector studies: Project identified from specific corridor and sector studies (US 80 Corridor Study, SR 307 Corridor Study, SR 21 Access Management Study, etc.)

These improvements are important and will be built if more funding becomes available. They provide a source for project selection and implementation not only for the CORE MPO's Call for Projects process, but also to local agencies for national, state and regional grant funding applications. For the full list of 2050 MTP Vision Plan projects, please see ***Appendix I - Vision Plan***.

Section 7: Impact Analysis and Mitigation



Introduction

The Moving Forward Together 2050 MTP is a multi-modal plan that is based on the socio-economic development of the CORE MPO 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.

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 Moving Forward Together 2050 MTP was analyzed for potential adverse impacts within the context of environmental justice, equity, noise, and built and natural environment. Then potential mitigation strategies were explored.

Analysis of Potential Impacts

The Moving Forward Together 2050 MTP roadway projects from the financially constrained plan were evaluated for potential impacts upon roadway safety as well as natural and historic resources. **Table 7.1** shows which projects are located along roadway segments designated as high-crash areas; which projects have a potential impact on natural resources (wetlands); which projects have a potential impact on historic resources; and which projects have a potential impact on environmental justice areas.

- High crash areas were determined using crash data from the 2024 Congestion Management Process from 2021 to 2022. Projects that crossed through areas with 150 crashes or more were considered as high crash areas.
- Any projects within 100 feet of a wetland area as designated by the National Wetland Inventory were considered to have a potential impact on wetlands.
- Projects within 500 feet of a historic or cultural resources identified by Georgia's Natural, Archeological, and Historic Resources GIS database were considered to have a potential impact.
- Projects located in an environmental justice area of minority and/or low-income population were considered to have an EJ impact.

Managing Impacts

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 in this section. This list of potential activities is not all inclusive but provides examples of potential strategies available to CORE MPO.

The discussion on mitigation is at the planning level only. Any project in the 2050 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 (NEPA). 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.

Table 7.1: Moving Forward Together 2050 Roadway Projects and Potential Impacts

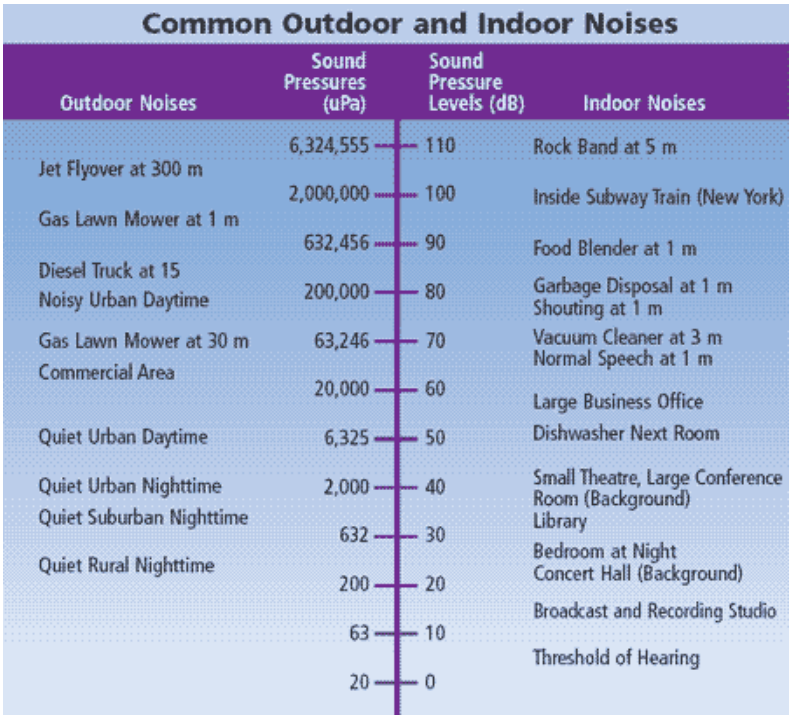
GDOT PI	Map ID	Project Name	High-Crash Area	Potential Impact on Wetlands	Potential Impact on Historic Resources	EJ Impact (Minority)	EJ Impact (Low Income)
0015704	1	SR 404 SPUR/US 17 @ BACK RIVER		yes		yes	yes
0015705	2	SR 404 SPUR/US 17 FM NE OF SAVANNAH HARBOR PKWY TO BACK RIVER		yes		yes	yes
0017411	3	I-95 FM FLORIDA STATE LINE TO S CAROLINA STATE LINE-ITS EXP					
0017414	4	SR 26/US 80 @ BULL RIVER		yes	yes		
0017415	5	SR 26/US 80 @ LAZARETTO CREEK		yes	yes		
0017515	6	I-16 @ SR 17 (Little Neck Road)		yes			
0018234	7	STILLWELL ROAD @ EBENEZER CREEK		yes			
0019186	8	CR 307/LONG BRIDGE RD @ EBENEZER CREEK 4 MI E OF SPRINGFIELD		yes			
511250	9	I-95 @ SAVANNAH RIVER @ SOUTH CAROLINA LINE		yes			
0008358	10	I-516 @ CS/1503/DeRenne Avenue (DeRenne Blvd. Option)	yes				yes
0010236	11	SR 21 from CS 346/Mildred Street to SR 204 (West DeRenne Avenue Improvements)	yes				
0008359	12	East DeRenne from SR 204 to Harry S Truman Parkway (East DeRenne Avenue Improvements)	yes	yes		yes	yes

0017183	13	SR 404 SPUR/US 17 @ SAVANNAH RIVER CROSSING		yes		yes	yes
0018402	14	I-95 at Airways Avenue	yes			yes	
0011744	15	I-16 Exit Ramp Removal	yes		yes		yes
TBA	16	Voltera Electrification of American Ports (VEAP)					
TBA	17	Port of Savannah Renewable Fuel Project					
0020351	18	I-16 FROM W GWINNETT STREET TO CHATHAM PKWY – NEVI Charging Station					
TBA	19	SR 21 Widening	yes	yes	yes	yes	
TBA	20	SR 21 Widening	yes	yes	yes		
TBA	21	SR 204/Fort Argyle Rd Widening 2 to 4 lanes	yes	yes	yes		yes
TBA	22	US 80 Widening		yes	yes		
0013160	23	I-516 / Lynes Parkway Widening	yes	yes		yes	yes
TBA	24	I-516 / Lynes Parkway at I-16 Interchange Reconstruction	yes	yes		yes	yes
TBA	25	I-516 / Lynes Parkway Widening		yes		yes	yes
TBA	26	SR 307 Grade Rail Separation and Operational Improvements	yes				
0017271	27	I-95 Interchange Reconstruction	yes				
TBA	28	SR 307 Grade Separation		yes			
0015528	29	I-16 Widening	yes	yes		yes	
TBA	30	President Street Grade Separation				yes	yes
TBA	31	Belfast Keller Widening		yes			
TBA	32	Old River Road Widening		yes			yes
0017975	33	Chevis Road Improvements	yes	yes	yes	yes	yes
0017976	34	Garrard Avenue Improvements		yes		yes	yes
0019015	35	Green Island Road Multipurpose Path off Diamond Causeway		yes			

Noise and Mitigation Strategies

FHWA defines noise as any undesirable and unwanted sound. **Figure 7.1** illustrates the common noise sources. The highway noise is defined as unwanted sound originating from motor vehicles - engine, cooling fan, exhaust system, and tires contribute primarily to the din heard along any heavily traveled highway.[58] 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. Railways can contribute to rolling noise, which is created by rough wheels and tracks.

Figure 7.1: Common Outdoor and Indoor Noises



(Source: FHWA Living with Noise, 2003)[59]

FHWA recommends a three-part approach to noise abatement:

1. Land use planning and control
2. Source control
3. Highway project noise mitigation

[58] https://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/visql/visql01.cfm
[59] https://highways.dot.gov/public-roads/julyaugust-2003/living-noise

Land use planning is a local responsibility, and there are several zoning and noise ordinances within the CORE MPO region. Local governments can regulate noise-sensitive land uses away from a busy road or require development standards to reduce noise through design and construction.

The Environmental Protection Agency (EPA) has the authority to establish noise regulations to control major sources of noise, including transportation vehicles and construction equipment, from the Noise Control Act of 1972. EPA is required to issue noise emission standards for motor vehicles used in Interstate commerce (vehicles used to transport commodities across State boundaries) and requires the Federal Motor Carrier Safety Administration (FMCSA) to enforce these noise emission standards.

EPA also regulates noise emission levels of new medium and heavy trucks with a gross vehicle weight rating (GVWR) of more than 10,000 pounds and are capable of operating on a highway or street (**Table 7.2**). The Federal government has the authority to regulate noise emissions of existing (in-use) medium and heavy trucks with a GVWR of more than 10,000 pounds engaged in interstate commerce (**Table 7.3**). Regulation of all other in-use vehicles must be done by State or local governments.

Table 7.2: Maximum Noise Emission Levels as Required by EPA for Newly Manufactured Trucks with GVWR Over 10,000 pounds

Effective Date	Maximum Noise Level 50 feet from Centerline of Travel
January 8, 1986	80 dBA

Source: FHWA Highway Traffic and Construction Noise - Problem and Response (2006)

Table 7.3: Maximum Noise Emission Levels as Required by EPA for In-Use Medium and Heavy Trucks with GVWR Over 10,000 pounds Engaged in Interstate Commerce

Effective Date	Speed	Maximum Noise Level 50 feet from Centerline of Travel
January 8, 1986	< 35 mph	83 dBA
January 8, 1986	> 35 mph	87 dBA
January 8, 1986	Stationary	85 dBA

Source: FHWA Highway Traffic and Construction Noise - Problem and Response (2006)

The Federal-Aid Highway Act of 1970 includes abatement of highway traffic noise and mandates FHWA to develop noise standards for mitigating highway traffic noise and required promulgation of traffic noise-level criteria for various land use activities. The FHWA regulations for mitigation of highway traffic noise in the planning and design of federally aided highways are contained in Title 23 of the United States Code of Federal Regulations Part 772. Further, the National Environmental Policy Act (NEPA) of 1969 provides broad authority and responsibility for evaluating and mitigating adverse environmental effects including highway traffic noise to promote the general welfare and foster a healthy environment.

Title 23 CFR 772 regulations require the following during the planning and design of a highway project:

- Identification of traffic noise impacts; examination of potential mitigation measures
- Incorporation of reasonable and feasible noise mitigation measures into the highway project
- Coordination with local officials to provide helpful information on compatible land use planning and control.

The regulations contain noise abatement criteria which represent the upper limit of acceptable highway traffic noise for different types of land uses and human activities. The regulations do not require that the abatement criteria be met in every instance. Rather, they require that every reasonable and feasible effort be made to provide noise mitigation when the criteria are approached or exceeded. Compliance with the noise regulations is a prerequisite for the granting of Federal-aid highway funds for construction or reconstruction of a highway.[60]

Noise Abatement Strategies

Noise abatement is any positive measure undertaken to reduce the undesirable noise emanating from a source or to reduce the noise level at a receiver. In highway noise abatement, the path between source and receiver is blocked by the installation of a noise barrier which reduces the amount of noise reaching the receiver. To be acoustically effective, a noise barrier must interrupt the line-of-sight between source and receiver and be placed as close as possible to the source to achieve maximum noise reduction.[61] Noise barriers can be quite effective in reducing noise for receptors within approximately 200 feet of a highway (**Table 7.4**). Noise abatement measures also include traffic management measures, creating buffer zones, planting vegetation, installing noise insulation in buildings, and relocating the highway.[62]

Table 7.4: Barrier Abatement

Reduction in Sound Level	Reduction in Acoustic Energy	Degree of Difficulty to Obtain Reduction
5 dBA	70%	Simple
10 dBA	90%	Attainable
15 dBA	97%	Very Difficult
20 dBA	99%	Nearly Impossible

Source: FHWA Highway Traffic and Construction Noise - Problem and Response (2006)

[60] https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/probresp.cfm
[61] https://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/visql/visql01.cfm#hig
[62] https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/probresp.cfm

The American Association of State Highway and Transportation Officials (AASHTO) recommends the following to reduce highway traffic noise:

- Prohibiting certain vehicle types (usually trucks) from particular streets and roadways. This could be accomplished by way of traffic control devices and signing. The prohibition of trucks from a major roadway can produce up to an 8 dBA to 10 dBA noise reduction.
- Permitting certain vehicle types (typically trucks) to use certain streets and roads only during certain noise-sensitive periods, such as daylight hours.
- Timing traffic lights to achieve smooth traffic flow and to eliminate the need for frequent acceleration and deceleration.
- Reducing speed limits. About a 20 mile-per-hour reduction in speed is necessary for a readily perceptible decrease in noise levels.
- Separating noisier vehicles from other vehicles and placing them farther from the receivers (i.e., exclusive lane designation).[63]

Stormwater Management & Green Infrastructure

Stormwater Management

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. This runoff can pollute water bodies and cause them to overflow and flood.

The AASHTO Practitioner's Handbook: Developing and Implementing a Stormwater Management Program in a Transportation Agency

The AASHTO Practitioner's Handbook is a comprehensive guide for transportation agencies in developing and implementing effective stormwater management programs. The handbook provides recommendations and practical tips for compliance with the Clean Water Act (CWA) and National Pollutant Discharge Elimination System (NPDES) regulations. It covers various topics including program development, clean water regulations, public education and outreach, construction site compliance, roadway maintenance practices, and special requirements such as Total Maximum Daily Loads (TMDLs).

The handbook emphasizes the importance of compliance with stormwater NPDES permits and highlights the benefits of a well-designed stormwater management program, such as reduced infrastructure costs and improved water quality. It also provides guidance on managing the National Environmental Policy Act (NEPA) process and complying with other environmental regulations and

[63]https://environment.transportation.org/education/environmental-topics/traffic-noise/traffic-noise-overview/

policies relevant to transportation projects. Overall, the Practitioner's Handbook serves as a valuable resource for transportation agencies seeking to enhance their stormwater management practices and ensure the protection of water quality.

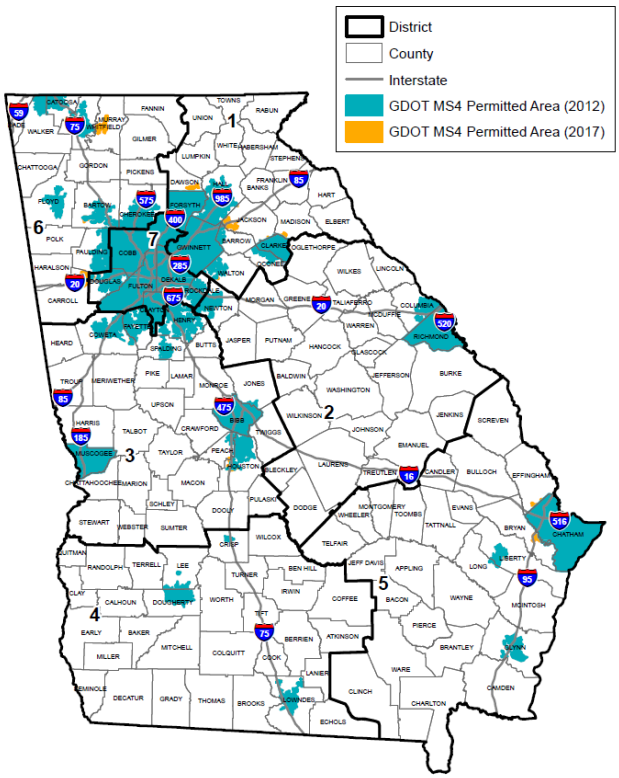
The NPDES program was developed to implement the requirements of the Clean Water Act (CWA). The 1987 amendments to the CWA required that municipal separate storm sewer systems (MS4s), including those owned by transportation agencies (i.e., DOTs and transit agencies), obtain stormwater permits, effectively designating them as "point source" discharges. Under the federal stormwater regulations, a transportation agency's properties, facilities, and activities fall under the jurisdiction of NPDES stormwater regulations for two primary reasons:

1. Highways, highway-related properties, transit facilities, and activities are served by storm drain systems, which are often connected to, and are considered comparable to, urban MS4s covered explicitly in the federal stormwater regulations.
2. Construction of highways and transit and related facilities often results in soil disturbance of areas greater than one acre, for which specific requirements are prescribed by the federal stormwater regulations.[64]

GDOT was issued a Municipal Separate Storm Sewer System (MS4) permit in January 2012 by the Georgia Environmental Protection Division (EPD). This permit was re-issued in January 2017 and again in January 2022; future renewals are anticipated every 5 years. The MS4 permit provides guidelines for agencies to prevent excessive stormwater discharges, dumping, spills, erosion and pollutants from contaminating nearby waterways. The MS4 permit program regulates the discharge of stormwater from the Georgia DOT roadways and properties designated by the EPD as "MS4 Permitted Areas" which include part of CORE MPO region (**Figure 7.2**). The MS4 permit activities are an integral part of Georgia DOT's commitment to be a good environmental steward.[65]

[64] AASHTO Practitioner Handbook: Developing and Implementing a Stormwater Management Program in a Transportation Agency (2009, pg. 3)
[65] https://www.dot.ga.gov/GDOT/Pages/StormWater.aspx

Figure 7.2: GDOT MS4 Permitted Areas (GDOT)



Compliance with stormwater NPDES permits is a requirement under federal law, but a well-designed stormwater management program also benefits a state highway system by supporting sustainability goals and reducing infrastructure costs.

- Use of vegetated conveyances can reduce capital as well as operation and maintenance (O&M) costs.
- Open-graded friction course overlays may improve water quality and safety; future permeable pavement systems could enhance these benefits further.
- Programs such as sweeping and trash pickup provide program benefits for safety and aesthetics, as well as NPDES program compliance.
- Reduction of pesticide use reduces chemical, training, and personnel costs.

Environmental benefits of highway stormwater quality enhancement include:

- Maintenance of beneficial uses of receiving waters;
- Maintenance or improvement of riparian habitat;
- Aesthetic improvements of waterways by reducing trash;
- Recharge of local aquifers through increased infiltration; and
- Reduced flood potential in conveyances.

Structural BMPs are facilities or devices engineered and built to capture and treat stormwater runoff (also called "treatment" BMPs), while non-structural BMPs include a variety of non-constructed measures or activities to reduce the generation of pollutants from highways and related facilities. A transportation agency may develop an approval process for BMPs that are shown to be effective for the constituents of concern in its runoff, and compatible with its facility operations and maintenance practices. This approval process could also apply to construction site BMPs. The selection of structural BMPs for highways is different from that for municipal systems since there is generally less right-of-way, and maintenance access is more difficult. Controls that can operate passively and where deferred maintenance is not a problem are preferred.

Examples of structural BMPs include:

- **Stormwater Retention/Detention BMPs:** Retention or detention BMPs control stormwater by gathering runoff in wet ponds, dry basins, or multi-chamber catch basins and slowly releasing it to receiving waters or drainage systems. These practices can be designed to both control stormwater volume and settle out particulates (i.e., separate them from the water by causing them to sink to the bottom) for pollutant removal.
- **Infiltration BMPs:** Infiltration BMPs are designed to facilitate the percolation of runoff through the soil to ground water, thereby resulting in reduced stormwater runoff quantity, flows, and mobilization of pollutants. Examples include infiltration basins/trenches, dry wells, and porous pavement.
- **Vegetated BMPs:** Vegetated BMPs are landscaping features that, with optimal design and go soil conditions, remove pollutants and facilitate percolation of runoff, thereby maintaining natural site hydrology, promoting healthier habitats and increasing aesthetic appeal. Examples include grassy swales, filter strips, artificial wetlands, and rain gardens.

Examples of non-structural BMPs include:

- **Implement street sweeping:** Curb systems act as traps for particulates and other pollutants. If they are properly maintained via regular vacuum street sweeping, then they are less likely to become sources of pollutants.
- **Consider alternatives to curbs:** As a design alternative, eliminating curbs from roads and highways allows runoff to be filtered through vegetated shoulders or medians and infiltrate to the ground. Where curbs are necessary for traffic control, guardrails, or other reasons, curb breaks can be incorporated to disconnect the impervious surface and direct runoff to pervious areas. This may not be feasible for streets with high traffic volume and/or on street parking demand.
- **Control litter and debris on roadsides:** Roadside litter control practices that have traditionally been implemented to address health and aesthetic concerns can also improve runoff quality by limiting trash in runoff conveyance and treatment systems and receiving water bodies.
- **Manage pesticide use**: Over-application of pesticides may cause excess chemicals to leach to ground waters or flow into surface waters. Pesticides have the same toxic effect on aquatic

plants and organisms as they do on the terrestrial plants and organisms to which they were applied.

- **Reduce fertilizer use:** Improper application of fertilizers along roadsides can result in excess nutrients being transported to surface waters or leaching to ground water.

Both structural and non-structural BMPs are important components of a comprehensive stormwater management program. They work together to reduce the quantity and improve the quality of stormwater runoff, protecting water resources and promoting environmental sustainability. Highways that incorporate stormwater quality features for conveyance may be better able to adapt to climate change. For example, vegetated channels may be able to convey surface flows while surcharged, with less flooding on adjacent facilities, and they can be modified with less cost compared to underground and open channel systems with rigid linings.[66]

Green Infrastructure

US DOT defines natural or green infrastructure as "infrastructure that uses, restores, or emulates natural ecological processes and - (A) is created through the action of natural physical, geological, biological, and chemical processes over time; (B) is created by human design, engineering, and construction to emulate or act in concert with natural processes; or (C) involves the use of plants, soils, and other natural features, including through the creation, restoration, or preservation of vegetated areas using materials appropriate to the region to manage stormwater and runoff, to attenuate flooding and storm surges, and for other related purposes." Nature-based solutions are defined as "sustainable planning, design, environmental management and engineering practices that weave natural features or processes into the built environment to promote adaptation and resilience. (Often used synonymously with natural infrastructure.)" [67] Several reports summarize the benefits of green infrastructure and NBS in the transportation system and stormwater management.

Enhancing Coastal Resilience with Green Infrastructure

The value of natural and nature-based features in communities is increasingly represented in the concept of green infrastructure, which provide numerous benefits to communities and the environment. These include:

- Increased property values
- Increased water supply
- Lower ambient temperatures
- More walkable communities
- Reduced water treatment costs
- Cost savings

[66] AASHTO Practitioner Handbook: Developing and Implementing a Stormwater Management Program in a Transportation Agency (2009, pg. 14-15)

[67] https://www.transportation.gov/priorities/climate-and-sustainability/definitions

- Improved air quality
- Increased community resilience
- Increased biodiversity
- Habitat improvement and connectivity
- Healthier communities
- Improved water quality
- Reduced flooding

Impervious surfaces such as pavement, asphalt, and rooftops contribute to increasing runoff from rain events, which causes flash flooding and increases the height of other downstream flood events. Limiting the amount of ground in a watershed that is covered by impervious surfaces will reduce potential damage from flooding. In addition, limiting impervious cover has been shown to have positive impacts on downstream water quality. Limiting impervious cover is a valuable design policy that should be implemented in suburban and rural settings, and in any area except the urban core where urban density is the overriding consideration. Examples include:

- Mandate or promote Green Streets practices;
- Mandate or promote practices that result in less area covered by impervious surfaces;
- Include pre-application meetings in the community design review process; and
- Require green infrastructure practices to offset impervious areas that exceed that maximum.

The following resources are recommended for further information:

- Green Streets
    - US EPA: Managing Wet Weather with Green Infrastructure Municipal Handbook: Green Streets
    - National Association of City Transportation Officials: Urban Street Stormwater Guide
    - Environmental Law Institute: Giving Green Streets the Green Light: Improving Water Quality Through Capital Improvement Policies
- Infiltration and Evapotranspiration Practices
    - Coastal Supplement to the Georgia Stormwater Management Manual
    - Coastal Resources Division of the Georgia Department of Natural Resources, Green Growth Guidelines
- Better Site Design Techniques
    - Coastal Supplement to the Georgia Stormwater Management Manual:
        - Reduce lengths and widths of roadways, driveways, and sidewalks
        - Use fewer or alternative cul-de-sacs
        - Reduce parking lot footprints
        - Create landscaped areas in parking lots
        - Reduce building footprints[68]

[68] Enhancing Coastal Resilience with Green Infrastructure (pg. 46-47)

FHWA Nature-Based Solutions for Coastal Highway Resilience: An Implementation Guide

Nature-based solutions use natural materials and processes to reduce erosion, wave damage, and flood risks, serving as alternatives to, or ecological enhancements of, traditional shoreline stabilization and infrastructure protection techniques. Examples include conservation, restoration, or construction of beaches, dunes, marsh, mangroves, maritime forests, and reefs.

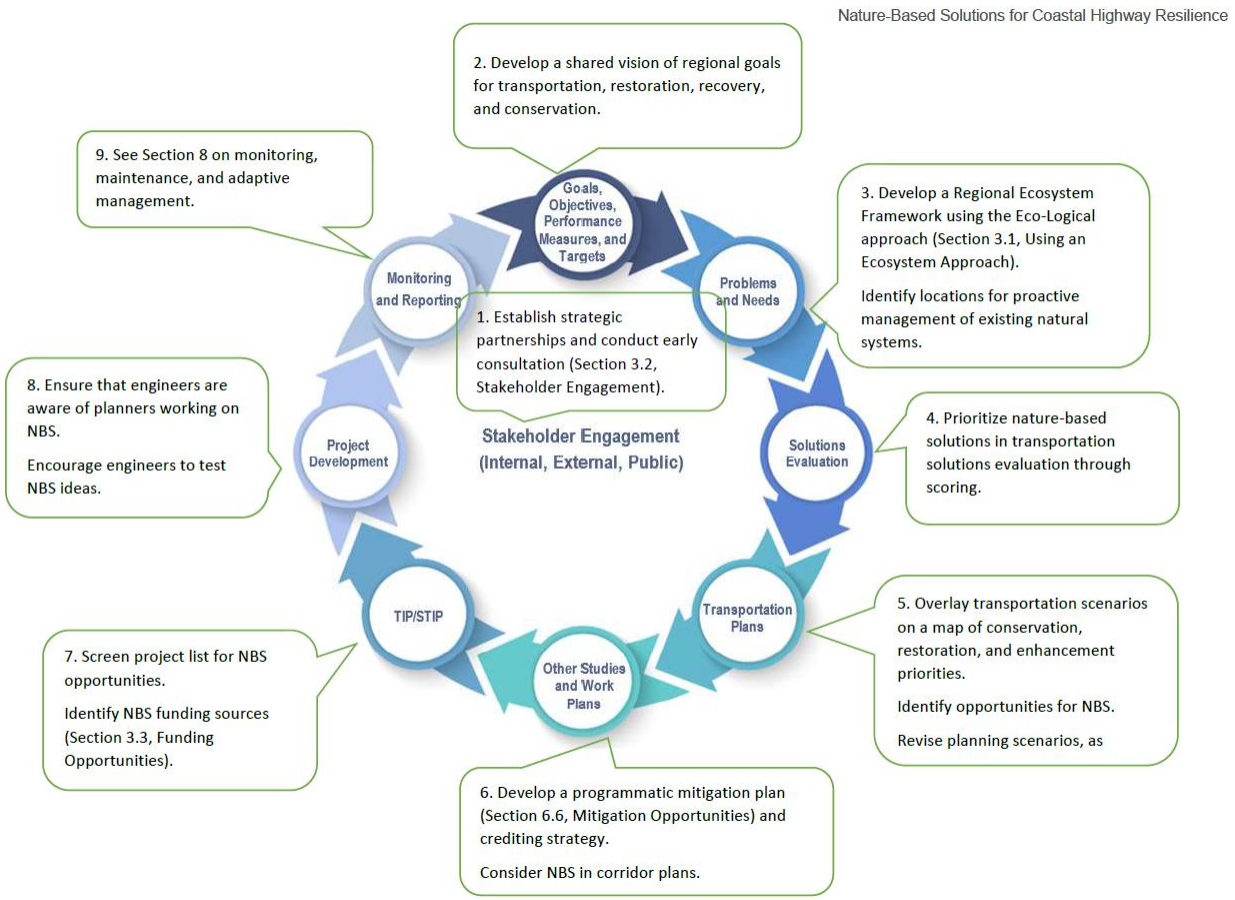
Nature-based solutions can serve as a first line of defense and improve the resilience of coastal highways. FHWA developed Nature-Based Solutions for Coastal Highway Resilience: An Implementation Guide to help transportation professionals understand when, where, and which nature-based solutions may work for them. The guide follows the project implementation process from planning all the way through construction and maintenance. It provides technical factsheets for select nature-based solutions which can be helpful to practitioners considering implementing one of these strategies. The factsheets cover the following solutions:

- Marsh Vegetation
- Marsh Breakwater
- Marsh Sill
- Beach Nourishment
- Pocket Beach
- Dune Restoration

Incorporating nature-based solutions into transportation planning enables systematic consideration across a planning area or state and allows for identification of opportunities at an early stage. Transportation planners can facilitate coordination and collaboration with key stakeholders to mobilize larger projects, which increases the project benefits and can reduce costs. Potential partners include state coastal zone management programs, natural resource agencies, national estuarine research reserves, U.S. Army Corps of Engineers District Offices, and non-profit organizations. Coordination includes early engagement with the public as well as appropriate regulatory professionals. Transportation agencies can leverage Eco-Logical, an ecosystem-based approach to transportation planning developed by FHWA and stakeholders, to pre-identify locations where nature-based solutions may be appropriate given existing natural resources and ecological priorities.

Planners can align the Eco-Logical framework with the transportation planning process to help identify locations for consideration of nature-based solutions. This integration encourages consideration of both large-scale projects, and smaller projects that can be used to reduce erosion or increase storm resilience at a particular transportation project site. The transportation planning process consists of nine major steps that repeat as a (frequently non-linear) cycle (**Figure 7.3**). Stakeholder engagement occurs at every stage of the planning process. Although integrating nature-based solutions into each step of the transportation planning process is not required, this guide provides options that transportation agencies may consider, if appropriate.

Figure 7.3: Approaches for considering nature-based solutions in the transportation planning process



Source: FHWA Nature-Based Solutions for Coastal Highway Resilience, 2019, Page 49

FHWA Case Studies in Realizing Co-Benefits of Multimodal Roadway Design and Gray and Green Infrastructure

This report provides information to encourage agencies interested in making improvements to their pedestrian and bicycle networks that also provide gray and green infrastructure and resiliency benefits. The discussion of stormwater and mobility benefits will help communities better understand the variety of goals and outcomes they can achieve through their projects. FHWA identified and evaluated projects that focused on mitigating flood risk. Flood mitigation involves the management and control of floodwater movement, such as redirecting flood run-off through the use of floodwalls and flood gates, rather than trying to prevent floods altogether. These projects were implemented to address local flooding and minimize future flood damage.[69]

[69] FHWA Case Studies in Realizing Co-Benefits of Multimodal Roadway Design and Gray and Green Infrastructure (2018)

Examples of projects include:

- Implementation of permeable pavers to transform a street into a bicycle- and pedestrian-friendly green street and address the flooding risk and compliance with the City's stormwater mandate.
- Green street that included a day-lit channel and underlying infiltration trench in the median supported by deepened curbs, impermeable liners, trench dams installed adjacent to bioretention areas in the bulbouts and sidewalk borders, striped, on-road bicycle lanes, ADA-compliant sidewalks, two pedestrian-activated flashing yellow lights at the highest volume intersections, seating, 81 street trees, high-efficiency lighting, bicycle racks, and informational signage about the transformation.
- A public-private partnership downtown eight-mile trail as a loop with shared space for bicyclists and pedestrians and 25,000 square feet of bioswales, adding eight acres of green space and 500 trees.

Green infrastructure and NBS can be employed at multiple levels in varying forms to address stormwater management and mobility, while also building a more resilient transportation network.

Biodiversity and Wildlife Conservation

Ecological biodiversity and wildlife conservation should be a key component of all transportation projects. Implementing best management practices that consider the landscape, and the flora and fauna which inhabit it, in addition to complying with local, state, and federal regulations, will promote more sustainable practices that benefit surrounding communities. Practitioners can consult the *Georgia State Wildlife Action Plan* for a comprehensive list of southern coastal plain high priority animals and plants, prioritized conservation goals, and strategies.[70]

Wildlife Corridors and Crossings

Incorporating native plants, pollinator habitat, and wildlife crossings into project planning and design can reduce long-term costs from wildlife vehicle collisions, crashes caused by drivers avoiding wildlife, habitat fragmentation, genetic isolation of wildlife populations, and decreases in wildlife population.

An FHWA study estimated that Georgia had an annual average of 14,489 animal-vehicle crashes (3.77% of total crashes) that resulted in a societal cost of $851,731,800 using the state's crash cost methodology. Mitigation actions may include a wildlife-vehicle crash data hotspot analysis, collaboration with wildlife agencies, integration into the long-term planning process, dedicated funding, and environmental stewardship education.[71] The US Fish and Wildlife Service published *Roadway Design Guidelines* for

[70] https://georgiawildlife.com/WildlifeActionPlan#explore
[71] https://highways.dot.gov/public-roads/winter-2023/04

National Wildlife Refuges. This can help to better understand wildlife considerations for planning and design.

Pollinator Habitat

Transportation project design should seek to include best management practices for pollinators. Pollinator species, such as bees, wasps, flies, beetles, butterflies, and moths, hummingbirds, and nectar-feeding bat species, are at risk due to habitat loss, insecticide exposure, and disease. Roadsides can provide an extensive linear network of habitat for pollinators with the correct management practices such as adjusting, enhancing, and restoring vegetation to meet pollinator resource needs and habitat. The *FHWA Roadside Best Management Practices that Benefit Pollinators: Handbook for Supporting Pollinators through Roadside Maintenance and Landscape Design* is a helpful tool to reference to promote pollinators' habitat and wellbeing.[72]

Tools and Resources

Several resources for identifying wildlife and plant species, wildlife corridors, and conservation areas include:

- GDNR Georgia State Wildlife Action Plan: https://georgiawildlife.com/WildlifeActionPlan#explore
- GDNR Georgia Rare Species and Natural Community Data: https://georgiawildlife.com/conservation/species-of-concern
- Southeast Conservation Adaptation Strategy Blueprint: https://secassoutheast.org/blueprint
- USFWS Information for Planning and Consultation (IPaC): https://ipac.ecosphere.fws.gov/

Historic and Cultural Resources

Historic and cultural resource reviews during the project development phase are designed to comply with federal and state laws. Transportation planning must consider the following laws and regulations regarding historic and cultural resources:

- National Historic Preservation Act (NHPA)
- Section 4(f) of the U.S. Department of Transportation Act
- National Environmental Policy Act of 1969 (NEPA)
- Archaeological Resources Protection Act of 1979 (ARPA)
- Native American Graves Protection and Repatriation Act of 1990 (NAGPRA)
- Geogia code and regulations

[72] https://www.environment.fhwa.dot.gov/env_topics/ecosystems/Pollinators_Roadsides/BMPs_pollinators_landscapes.aspx

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 FHWA, Advisory Council on Historic Preservation (ACHP), State Historic Preservation Office (SHPO), local historic preservation groups, local public officials, and the public.

Section 106 of NHPA requires federal agencies to account for the effects of actions on historic properties and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. AASHTO defines historic properties as sites, buildings, districts, structures, or objects listed in or eligible for listing in the National Register of Historic Places. The National Register is used as the standard for defining those historic places worthy of preservation and protection. These historic places include archeological sites, bridges and roads, buildings, designed landscapes such as parks, and places of religious and cultural significance to Native American tribes, Native Hawaiian organizations, and other traditional communities.

FHWA is typically the federal agencies charged with the responsibility of carrying out the Section 106 process for highway projects. FHWA can only assign its responsibility and authority to a state following the assumption of responsibility provisions established in the transportation legislation. Under Section 4(f) of the Department of Transportation Act, FHWA and other federal transportation agencies are prohibited from using land from a historic site of national, state, or local significance (in addition to publicly owned parks, recreation areas, and wildlife and water fowl refuges) unless there is no feasible and prudent alternative to the use of this land, and the action includes all possible planning to minimize harm to the property, resulting from this use. FHWA policy defines an historic site as a property listed in or eligible for listing in the National Register of Historic Places. Section 4(f) applies to archeological sites that are on or eligible for the National Register and that warrant preservation in place, including those sites discovered during construction.[73]

NEPA established national environmental policy goals, created the Council on Environmental Quality (CEQ), and created a process for implementation for federal agencies. Federal agencies must consider the potential environmental consequences of their proposals, consult with other interested agencies, document the analysis, and make this information available to the public for comment before the implementation of the proposals.[74]

[73]https://environment.transportation.org/education/practical-applications/protecting-cultural-resources/protecting-cultural-resources-transportation/

[74]https://environment.transportation.org/education/practical-applications/nepa-process/nepa-process-overview/

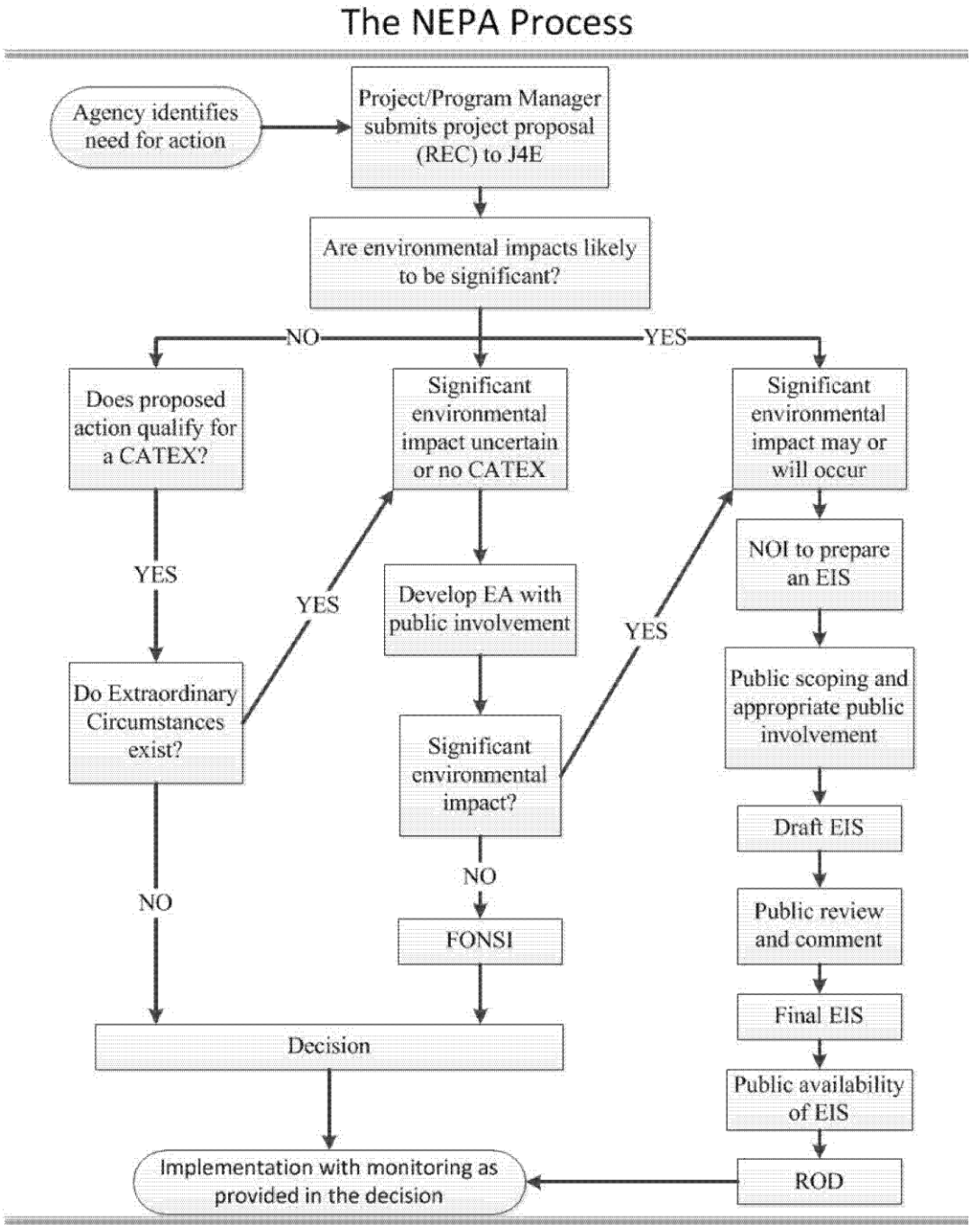
The NEPA decision-making framework and action forcing processions are established in CEQ regulations (40 CFR §§ 1500-1508). These include:

- Assessment of the social, economic, and environmental impacts of a proposed action or project
- Analysis of a range of reasonable alternatives to the proposed project, based on the applicants defined purpose and need for the project
- Consideration of appropriate impact mitigation: avoidance, minimization and compensation
- Interagency participation: coordination and consultation
- Public involvement including opportunities to participate and comment
- Documentation and disclosure.

The NEPA process depends on if an action significantly impacts the environment, which will result in either a categorical exclusion (CE), environmental assessment (EA) or environmental impact statement (EIS). The process is outlined in **Figure 7.4**. FHWA adopted a NEPA process that allows transportation officials to make project decisions that balance engineering and transportation needs with social, economic, and natural environmental factors. Public participation is a key part of NEPA requirements and begins early in the scoping process. More information on the FHWA NEPA process can be found in FHWA's Environmental Review Toolkit.[75]

[75] https://www.environment.fhwa.dot.gov/nepa/trans_decisionmaking.aspx

Figure 7.4: National Environmental Policy Act Implementing Procedures



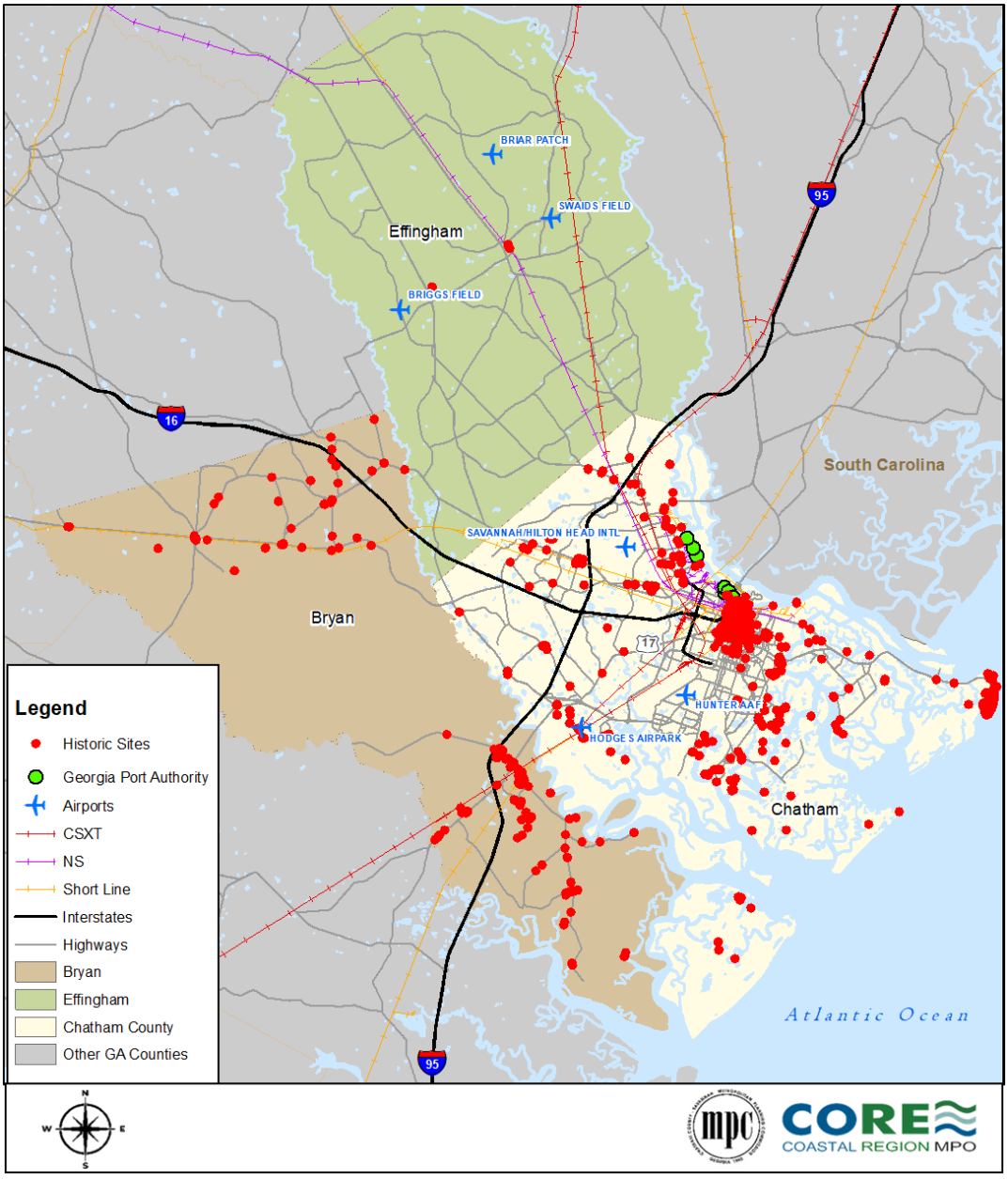
Source: 81 FR 27107 [76]

[76] https://www.federalregister.gov/d/2016-10376

Historic and Cultural Resource Mitigation

Figure 7.5 displays the identified historic and cultural resources in the CORE MPO region.

Figure 7.5: Historic and Cultural Resources in CORE MPO Region



Mitigation measures for historic and cultural resources 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 the 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.

Environmental Justice

As part of the transportation planning process, any adverse impacts to the defined Environmental Justice (EJ) populations must be considered. 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 in the 2050 MTP. The locations of the environmental justice communities and low income and minority populations were mapped along with the 2050 MTP financially constrained projects 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.

Environmental Justice

Environmental Justice (EJ) is a federal requirement of federal, state, and local agencies and has legal basis in Title VI of the Civil Rights Act of 1964, Executive Order 12898 of 1994, and National Environmental Policy Act (NEPA). These regulations require that all agencies receiving federal assistance demonstrate compliance with related laws and regulations so that all the populations in the agency's study area enjoy the same benefits of the federal investments, bare the same burdens resulted from the federal projects, and have equal participation in the local and state issues.

The U.S. EPA Office of Environmental Justice (EJ) defines EJ as "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including racial, ethnic, or socio-economic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local and tribal programs and policies."

In general, this means that for any program or activity for which any federal funds will be used, the agency receiving the federal funds:

1. Must make a meaningful effort to involve low-income and minority populations in the processes established to make the decision about the use of the federal funds; and

2. Must evaluate the nature, extent, and incidence of probable favorable and adverse human health or environmental impacts of the program or activity upon minority or low-income populations.

Recognizing that the impacts of federal programs and activities may raise questions of fairness to affected groups, President Clinton in 1994 signed Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations. This Order served to amplify the provisions of Title VI of the Civil Rights Act of 1964. Title VI of the 1964 Civil Rights Act states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Title VI bars intentional discrimination as well as disparate impact discrimination (i.e. a neutral policy or practice that has a disparate impact on low income and minority groups). The Environmental Justice Executive Order amplifies Title VI by providing that "each Federal agency shall make achieving Environmental Justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations."

In compliance with the Executive Order, the U.S. Department of Transportation (USDOT) issued the Departmental Order 5610.2(a) - Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The DOT Order 5610.2(a) was published on April 15, 1997 and revised on October 30th, 1997. It sets forth the U.S. DOT policy to consider environmental justice principles in all (U.S. DOT) programs, policies, and activities. It describes how the objectives of environmental justice will be integrated into planning and programming, rulemaking, and policy formulation. The Order sets forth steps to prevent disproportionately high and adverse effects to minority or low-income populations through Title VI analyses and environmental justice analyses conducted as part of Federal transportation planning and NEPA provisions. It also describes the specific measures to be taken to address instances of disproportionately high and adverse effects and sets forth relevant definitions.

In response, the Federal Highway Administration (FHWA) issued its action statement to address Environmental Justice in 1998, outlining specific issues to be addressed about EJ to assure that States and MPOs are in compliance with EJ guidelines.

In response to the USDOT Order 5601.2(a) and the FHWA guidelines, the Georgia Department of Transportation (GDOT) developed Environmental Justice Planning Guidelines to guide GDOT and the local transportation planning agencies in the State of Georgia to address EJ issues.

The Coastal Region Metropolitan Planning Organization (CORE MPO) is responsible for transportation planning and project selection in the Savannah region. CORE MPO was designated a Transportation Management Area (TMA) in 2002 and is subject to the FHWA/FTA certification review process. As a sub-recipient of FHWA and FTA funds, the CORE MPO's transportation planning process is required to comply with Title VI of the 1964 Civil Rights Act, the President's Executive Order on Environmental Justice, and

related nondiscrimination statutes, executive orders, and federal regulations. CORE MPO prepares an Environmental Justice Plan not only in response to the federal and state requirements, but also to facilitate the fair transportation planning process in the CORE MPO region. The primary function of the CORE MPO's Title VI/Nondiscrimination Program is to address Title VI and Environmental Justice principles and requirements as they apply to the CORE MPO's transportation planning process. CORE MPO is compliant with Title VI of the Civil Rights Act of 1964, 49 CFR Part 21, and the guidelines of FTA Circular 4702.1B, published October 1, 2012.

Environmental Justice Populations

CORE MPO includes the following in Environmental Justice populations:

- **Low-Income** means a person whose median household income is at or below the Department of Health and Human Services poverty guidelines.
- **Low-Income Population** means any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed /transient persons who will be similarly affected by a proposed USDOT program, policy or activity.
- **Minority** means a person who is: (1) Black (a person having origins in any of the black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); (4) American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition); and (5) Native Hawaii or Other Pacific Islanders (a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands). Additionally, any person who responded to the US Census as being either solely or a mix of one of these minority groups qualifies as being in the minority population.
- **Minority Population** means any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed USDOT program, policy or activity.
- **Disabled Population** includes people with mobility limitation, self-care limitation, or people with both mobility limitation and self-care limitation.
- **The Elderly Population** refers to the people that are 65 years and older.
- **Children** refer to the people who are 10 years and younger.

In addition, the CORE MPO's transportation planning process takes into consideration one particular segment of the minority population – the people with Limited English Proficiency (LEP) in its Language Assistance Plan (LAP), which is a separate document available for review on the MPO's website at https://www.thempc.org/Core/TitleVi.

In the CORE MPO Environmental Justice Plan, three principles were identified to ensure that Environmental Justice considerations are properly integrated into the transportation planning process.

1. Adequate public involvement of the target populations (low-income, minority, the disabled, the elderly, and children) in regional transportation decision-making.
2. Assess whether there are disproportionately high and adverse impacts on the target populations resulting from federal programs.
3. Assure that the target populations receive a proportionate share of benefits of federal transportation investments.

Environmental Justice Analysis for 2050 MTP

Highway Project Impacts

CORE MPO has undertaken a GIS screening analysis to determine the potential impacts of 2050 MTP highway projects on environmental justice (**Figure 7.6**). The EJ analysis for highway element of the 2050 MTP was then performed by reviewing the highway investments of the financially constrained plan that includes high priority projects. The category expenditures for Maintenance (resurfacing or repaving) and operational improvements were 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 2050 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 7.5**. The results show that the EJ areas in the CORE MPO region share proportionate transportation investments.

Figure 7.6: 2050 MTP Highway Projects and Environmental Justice

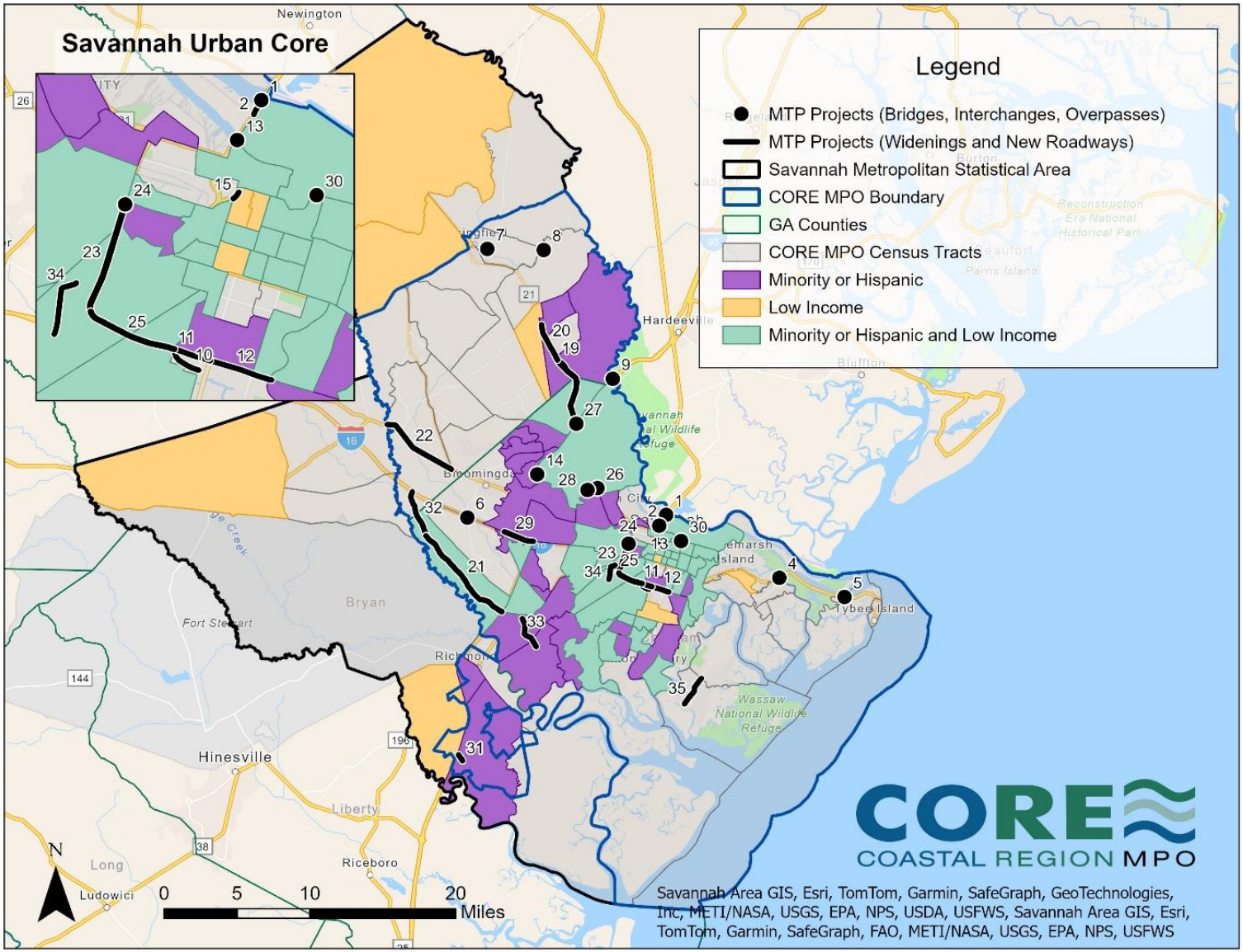


Table 7.5: 2050 MTP Financially Constrained Plan Construction Costs in Neighborhoods

	Number of Projects	Population of Census Tracts	% of Population of Census Tracts in Savannah MSA	% of Total Dollars Cost Band 1	% of Total Dollars Cost Band 2	% of Total Dollars Cost Band 3
Projects in EJ Target Area	17	42,497	10.50%	$276,775,459	$293,288,833	$477,384,308
Projects out of EJ Area	14	22,438	5.54%	$107,101,796	$160,153,839	$633,68,583
Projects with Location TBD	4	0	0	$66,215,360	$0.00	$0.00
Total	35	64,935	16.04%	$450,092,615	$453,442,672	$540,752,891

Transit Project Impact

Often low-income populations and some of the minority populations do not have access to motor vehicles, so 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.

As indicated in the System Performance Report in ***Section Six***, the transit investment is 14.47% of the total 2050 MTP investments 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.

Non-Motorized Transportation Impact

The Non-Motorized Transportation Plan is an important part of the CORE MPO's 2050 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/pedestrian/trail improvements in the Non-Motorized Transportation Plan are located in EJ target areas.

The 2050 MTP financial plan includes a category expenditure of around $75 million to help implement the bike/pedestrian/trail needs identified in the Non-Motorized Transportation Plan, 3.43% of total investments which is much higher than the region's bike/ped travel mode.

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; and
3. 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 benefit s 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.

CORE MPO follows the process from the federal and state EJ planning guidelines to address the Environmental Justice issues in the CORE MPO transportation planning area. The process includes the following procedures:

- Identify the potential burdens and benefits;
- Identify the target populations within the study area;
- Correlate the identified burdens and benefits to the target populations;
- Note possible mitigation strategies for identified disproportionate burdens;
- Determine which public participation methodologies to use;
- Make Environmental Justice recommendations; and
- Evaluate the implementation of the EJ process.

Table 7.6 lists some of the potential benefits and burdens and possible mitigation strategies identified by CORE MPO for various project types.

Table 7.6: Potential Benefits and Burdens

Table 2.1: Potential Benefits and Burdens

Proposed Project Type	Possible Benefits	Possible Burdens	Possible Mitigation Strategies
Highway System			
New Road	Enhance accessibility and mobility; Promote economic development; Improve safety; Improve operational efficiency.	Limited to populations with motor vehicles; Increase in noise and air pollution; Might impact existing neighborhoods.	Signal synchronization, pedestrian crosswalks, bike lanes, bus route addition, etc.; Select Rights-of-Way (ROW) for minimum impacts; Try to incorporate context-sensitive design to maintain the neighborhoods.
Resurface/Upgrade of existing roadways Operational improvements	Promote system preservation; Improve safety; Improve operational efficiency.	Expansion of shoulder width impinges on residential property; Diverted traffic during project construction causes heavy traffic and dangerous conditions on city streets; Noise and air pollution during construction.	Build curbing and sidewalks rather than shoulders; Close large section of roadways on weekends to increase resurfacing productivity; Reroute traffic to major streets if possible.
Public Transit			
Fixed Route Bus Service and Water Ferry Service	Enhance accessibility by transit to EJ populations; Reduce reliance on motor vehicles and improve air quality; Increase mobility to EJ populations.	Bus environment is not always maintained in a good condition; Bus headways in certain routes might be too long; Possible capacity problems with ferry boats; Some bus shelters are not wheelchair accessible.	Try to create a comfortable environment for the bus and ferry boat riders; Improve transit frequency if possible; Bus routes should be within walking distance of EJ populations; Install bus shelters accessible by wheelchairs.

Paratransit Service and Van Pool	Provide transportation for people with mobility limitations; The service can be enjoyed by the EJ target populations not living in the EJ target areas.	There might be problems with ride reservation /cancellation; Riders are sensitive to driver's comments and behavior; Very expensive to operate.	Improve the ride reservation system; Provide appropriate training to both drivers and riders; Provide appropriate training to riders so that those who can will use the fixed route services instead.
Pedestrian and Bicycle Projects/Features			
Addition of Pedestrian Amenities and / or Safety Provisions; Addition of Bike Routes to Existing Roads	Improve quality of life, health and environment by encouraging people to use the bike/pedestrian facilities; Improve safety to pedestrians and bike riders; Provide an alternative to motor vehicles.	"Bump-outs" and traffic calming measures make commercial deliveries difficult; Bike routes takes space for passing turning cars at intersections and reduce on-street parking.	Need to come up with some original improvement plans to accommodate both motor vehicle traffic and bike/pedestrian usage.
Other Transportation Projects			
Multi-modal connections ITS improvements CMP strategies	Enhance mobility and accessibility; Improve safety; Enhance system preservation and operational efficiency.	Some ITS projects might be expensive to implement.	Multi-modal incorporates transit stations and other modes; Have a comprehensive design before any ITS projects are implemented.

Source: CORE MPO Environmental Justice Plan (2019)

mpc | CORE
COASTAL REGION MPO

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