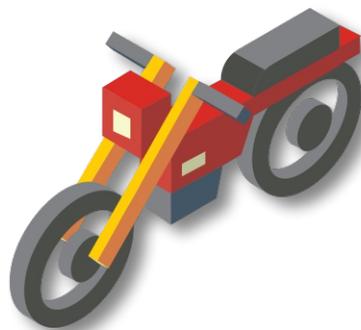
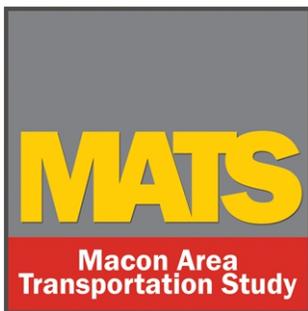
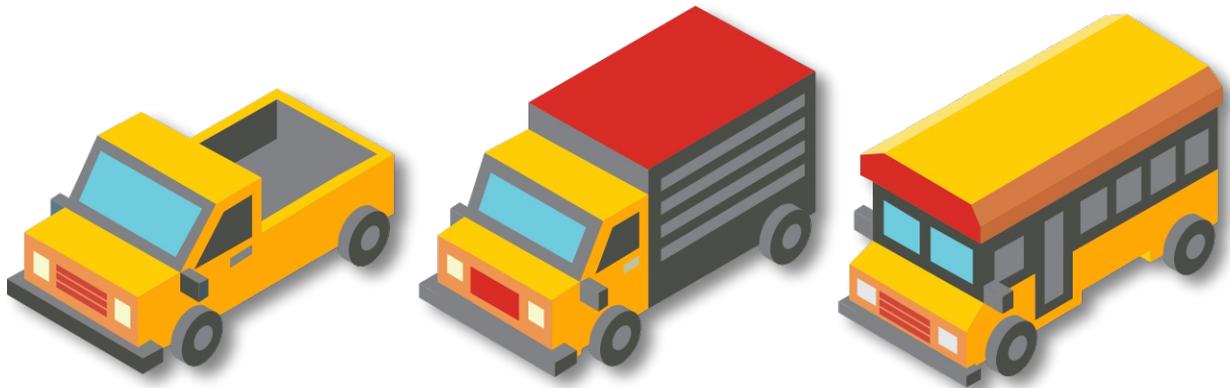


2050 Metropolitan Transportation Plan | MTP



Connect 2050



MACON AREA TRANSPORTATION STUDY

2050 METROPOLITAN TRANSPORTATION PLAN

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Chapter 1 | Introduction

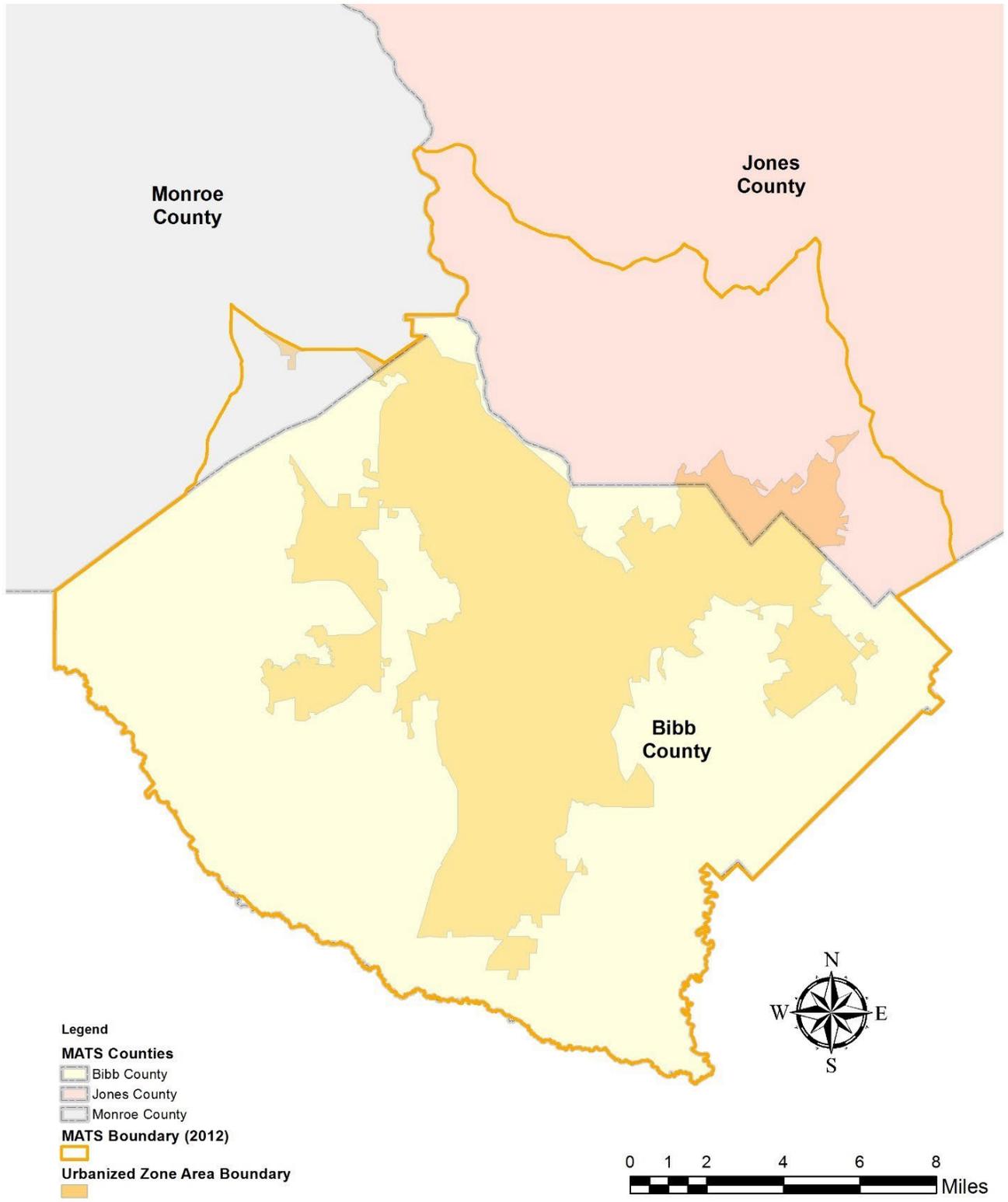
A Brief Introduction to Metropolitan Planning Organizations

Georgia is growing rapidly. Based on the 2020 U.S. Census, Georgia had just over 10.7 million people and the State is on pace to grow to almost 14 million by 2050. That's over 30% more people in 30 years!¹

More people mean more housing, more trips to work and school, and more trucks and trains keeping our store shelves stocked and sending things we make out to customers. But, how do we do that in a way that is environmentally friendly, and everyone has a chance to participate in the decision process?

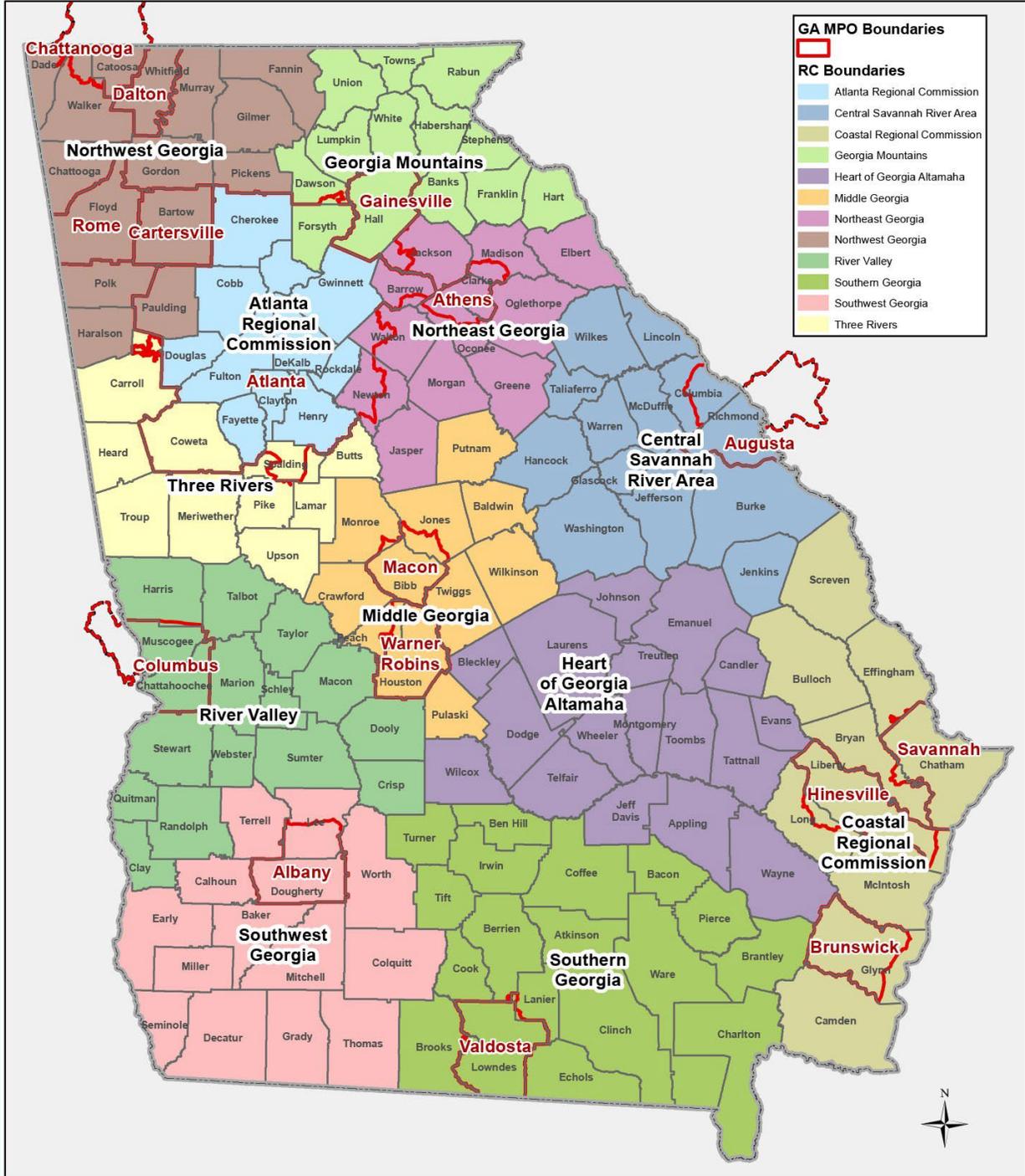
The solution is, to form an organization where elected officials, public agencies, and the people work together to plan for future traffic needs. This organization is called a Metropolitan Planning Organization (MPO).

MPOs are the forum where city and county governments, the State, and Federal agencies coordinate on regional transportation projects. This includes developing new transportation projects, serving as the forum for public participation, coordinating on environmental review, air quality and performing financial analysis. The Macon Area Transportation Study (MATs) is the MPO for Macon metropolitan area, covering all Macon-Bibb County, southwest Jones County, and a small portion of Monroe County. Figure 1-1 provides a map of the MATs MPO area, and Figure 1-2 shows all the MPOs across Georgia, as of 2012.

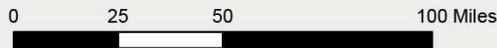


Source:
Macon-Bibb County Planning & Zoning Commission

Georgia Regional Commissions and Metropolitan Planning Organization (MPO) Boundaries



ARC
 Atlanta Regional Commission
 40 Courtland St. NE
 Atlanta, Georgia 30303
 404-463-3100
 www.atlantaregional.com



12/15/2015

MPOs aren't unique to Georgia; there are over 400 MPOs nationwide.² MPOs were created in response to the Federal Aid Highway Act of 1962. As a result of this act, all Urbanized Areas^[4] with populations exceeding 50,000 persons were required to maintain a “continuing, cooperative, and comprehensive” transportation planning process involving all the local, State and Federal government partners. Over time, this mandate has grown to include monitoring and mitigation of impacts from transportation projects (e.g., maintaining clean air and water, protection of endangered species, environmental justice, etc.). A detailed discussion on MPO roles and activities can be found in The Transportation Planning Process Briefing Book, published by U.S. Federal Highway Administration.

How Did the MATS MPO Get Started?

MATS was originally founded on February 21, 1964, by designation of the Governor and adoption of a Memorandum of Understanding (MOU) between The City of Macon, the County of Bibb, the Municipality of Payne City, the Georgia State Highway Department (now the Georgia Department of Transportation) and the Macon-Bibb County Planning and Zoning Commission. The roles and responsibilities of MATS are covered by the MOU.

Over the years, MATS has expanded geographically to include portions of Jones County and Monroe County as a result of the region's growth. Additionally, other agency partners such as the Middle Georgia Regional Commission and the Macon-Bibb County Transit Authority have also been added.

What Does the MATS MPO Do?

Federal regulations call for an MPO to carry out a process for the metropolitan planning area that provides for consideration and implementation of projects, strategies, and services that will:

- Support the economic vitality of the United States, the States, nonmetropolitan areas and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and nonmotorized users;
- Increase the security of the transportation system for motorized and nonmotorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes throughout the State for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system

As part of this process, MATS staff (with input from Georgia DOT, U.S. Federal Highway Administration, Macon Transit Authority, and U.S. Federal Transit Administration) develops the **Long-Range Transportation Plan (LRTP), the Transportation Improvement Program**

(TIP), and the **Unified Planning Work Program (UPWP)**. Figure 1-3 below provides a visual overview of the relationship between these documents.

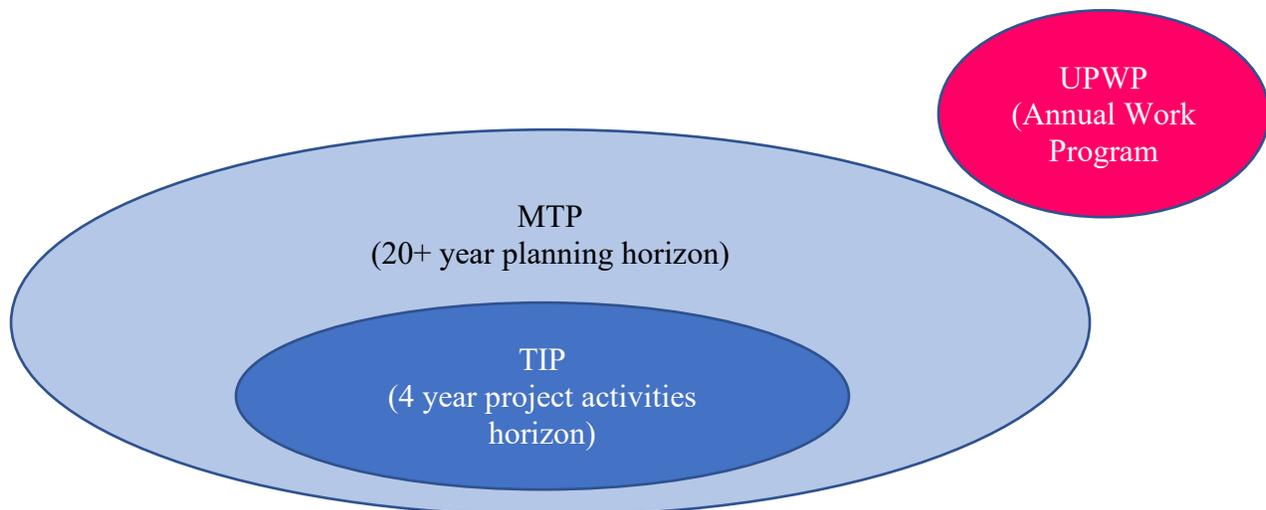


Figure 1-3: Relationship Between MTP, TIP and UPWP Planning Documents

The Metropolitan Transportation Plan (MTP) and the Transportation Improvement Program (TIP) are, respectively, long and short term lists of specific transportation projects for the MATS planning area. The MTP is designed to forecast demand for transportation services at least 20 years into the future, taking into account anticipated population growth, housing needs and employment goals for the region. The MTP serves as the official list of transportation projects and priorities eligible for federal support throughout the MPO region. The number and priority of projects on that list can be altered, based on the procedures laid out in the MATS Public Participation Plan.

At the State level, all MTP project lists throughout Georgia feed into the Statewide Strategic Transportation Plan (SSTP). As the name suggests, the SSTP is a statewide plan that addresses projected travel demand for at least 20 years, taking into account State policies and strategies for promoting efficient development, protection of natural resources, and employment.

In contrast to the 20-year time horizon, the Transportation Improvement Program (TIP) covers a period of 4 fiscal years. Any project that is listed in the TIP receiving federal funding must already be listed in the MTP. If a brand new project is to be added to the TIP, it must simultaneously be added to the MTP.

The main difference between the TIP and the MTP is that where the MTP is a list of all projects, TIP projects are active and at various stages of execution (i.e., Preliminary Engineering, Right Of Way acquisition, or Under Construction). The federally required update period for the TIP is every 4 years, although States and MPOs can have policies to update more frequently if they see fit.

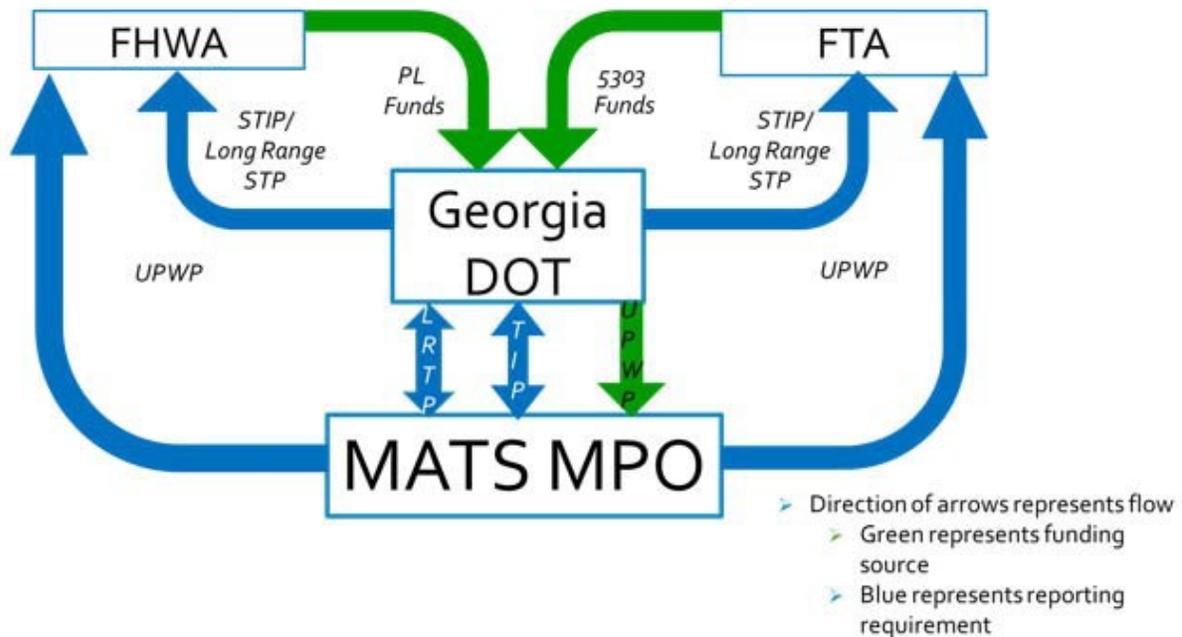
Finally, the Unified Planning Work Program (UPWP) is the list of federally funded studies and ongoing activities, plus any supplementary planning projects identified by Georgia DOT and the MATS board members. This set of planning projects is revised each fiscal year.³ Among the usual tasks supported in the UPWP, MATS develops demographic data, land use information, and analyses necessary for the development and monitoring of the Long-Range Transportation Plan and the Transportation Improvement Program.

The UPWP, TIP, and MTP are all public documents, available to the public on the MATS website (<https://www.maconmpo.com/>) and the Macon-Bibb Planning and Zoning Commission.

How is MATS Funded?

MATS is funded through local, State and Federal funding sources. At the Federal level, MATS is supported by annual grants from the Federal Highway Administration (through the “PL Grant” program) and the Federal Transit Administration (through the “5303 Grant” program).⁴ These funds are authorized by the U.S. Congress, administered locally through Georgia Dept. of Transportation (Georgia DOT), and constitute 80% of the MATS budget. The remaining 20% is made up through State and local matching funds. In the case of 5303 Grant funds, there is an additional requirement that the 20% local match be split evenly between the State and local government (i.e., 10% each).

As with any type of federal funding, MATS is required to report on its activities supported by the funds on a regular basis. Each quarter, MATS submits grant activity reports to the Georgia DOT. Figure 1-3 describes the relationships between Federal funding, MPO activities, and reporting requirements.



Who Runs MATS?

Since inception, MATS has been composed of three committees; the Policy Committee (PC), the Citizen Advisory Committee (CAC), and the Technical Coordinating Committee (TCC). The full MATS bylaws (and amendments) for all committees can be found on line at the main MATS website (www.maconmpo.com).

All MATS meetings are open to the public. Meeting notifications are posted on the MATS website, as well as at the Macon-Bibb Government Center, and the Macon-Bibb County Planning & Zoning Commission Office. Meetings are held quarterly, in the following sequence:

- CAC – Second Wednesday of the month immediately before a Policy Committee (PC) meeting;
- TCC – Third Wednesday of the month immediately before a Policy Committee (PC) meeting;
- PC – First Wednesday of the month in which the quarterly meeting is called

In addition to regularly scheduled meetings, specially called meetings may take place, at the discretion of the PC chair or the Director of the MPO. In the event of a special call meeting, notice will be posted on this website, as well as the Macon-Bibb Government Center and the Macon-Bibb County Planning & Zoning Commission Office.

The staff of the Macon-Bibb County Planning & Zoning Commission provides the technical support and planning expertise for MATS and its committees.

Policy Committee (PC) – The purpose of the PC is to “carry out a continuing, cooperative, and comprehensive multimodal transportation planning process that includes the development of the Long Range Transportation Plan and the Transportation Improvement Program which serve to develop a safe and efficient surface transportation system for all modes of travel.” The PC is the board that formally adopts the LRTP, TIP and any other documents or positions that officially lay out MATS policies or directs staff activities.

The voting membership of the PC is comprised of the following:

- Elected Officials
 - Macon-Bibb County – Mayor, plus 3 commissioners
 - Jones County – Commission Chair
 - Monroe County – Commission Chair
- Government Agency Representatives
 - Chairman, Macon-Bibb County Transit Authority
 - Chairman, Middle Georgia Regional Commission
 - Chairman, Macon-Bibb County Planning & Zoning Commission
 - Chairman, Macon-Bibb County Water Authority
 - Director of Planning, Georgia Department of Transportation
 - Chairman, Citizens' Advisory Committee (CAC)
 - Chairman, Macon-Bibb County Industrial Authority

In addition to the voting members, the following participants are ***non***-voting members:

- Eighth District Representative, Georgia State Transportation Board
- Second District Representative, Georgia State Transportation Board
- Executive Director, Macon-Bibb County Planning & Zoning Commission
- Division Administrator, Federal Highway Administration
- Chairman, Macon-Bibb County Urban Development Authority
- County Manager, Macon-Bibb County
- Macon-Bibb County Engineer
- Executive Director, Middle Ga. Regional Commission
- Local State Representative, State of Georgia

Regular meetings of the MATS Policy Committee are held quarterly. Meetings will be held on the first (1st) Wednesday of the month in which they are called. The usual meeting time and place for this meeting is:

Bibb County Engineering Annex Board Room

200 Cherry St., Suite 300

Macon, GA 31201

9:30 a.m.

Citizens Advisory Committee (CAC) – As the name suggests, this committee was created as the primary forum for citizen engagement, to gauge community values and public attitudes in the planning process. The membership of the CAC is currently set at 20 members:

- one from each of the 9 Macon-Bibb County Commission districts
- one member from Jones County
- one member from Monroe County
- one member from American Association of Retired Persons
- one member from Macon Housing Authority
- one member from Bibb County Board of Education
- one member from The League of Women Voters
- one member each from the following interest areas
 - Pedestrian/bike user
 - Transit user
 - Environmental interest group
 - Disabled population
 - Disabled transportation user

One special consideration of the CAC is that the chair of this committee also has a voting seat on the MATS Policy Committee (PC: described above), and a non-voting seat on the Technical Coordinating Committee (TCC: described below).

The regular meetings of the MATS CAC is the second (2nd) Wednesday of the month in which it is called. This is one week immediately preceding a normal Technical Coordinating Committee (TCC) meeting. The usual meeting time and place for this meeting is:

Macon-Bibb County Planning & Zoning Commission Office

200 Cherry St., Suite 300

Macon, GA 31201

6:00 p.m.

Technical Coordinating Committee (TCC) – This committee is comprised of agency staff from the MATS member jurisdictions, “to assist the MATS Policy Committee with collecting information, performing technical reviews, formulating recommendations, setting priorities, drafting MPO documents, maintaining MPO processes, and other matters as directed by the MATS Policy Committee.” The voting membership of the TCC is comprised of the following:

- Project Director, Macon Area Transportation Study
- Macon-Bibb County Planning & Zoning Commission - Planning Director
- Macon-Bibb County Planning & Zoning Commission - Transportation Planner
- Jones County Zoning Enforcement Officer
- Monroe County Zoning Enforcement Officer
- Macon-Bibb County Traffic Engineer
- Macon-Bibb County Sheriff's Department
- Macon-Bibb County Engineer
- Macon-Bibb County Attorney
- Manager of Middle GA Regional Airport
- Macon-Bibb County Director of Facilities Management
- Macon-Bibb County Director of Economic and Community Development
- Transportation Planner, Georgia DOT Planning Office
- Transportation Planner, Georgia DOT Intermodal Office
- Pre-Construction Engineer, Thomaston District Office, Georgia DOT
- Planning Director, Middle Georgia Regional Commission
- Executive Director, Middle Georgia Regional Commission
- Director, Macon-Bibb Co. Water Authority
- Executive Director, Macon-Bibb County Industrial Authority
- Director, Macon Transit Authority
- Executive Director, Macon-Bibb County Urban Development Authority
- Representative, Transportation Committee, Chamber of Commerce
- Executive Director, Macon-Bibb Co. Business Development Dept.
- Chief, Macon-Bibb Co. Fire Department

In addition to the voting members, the following participants are non-voting members:

- Intermodal Planning Engineer, Federal Highway Administration

- Area Engineer, Georgia DOT
- Chairman, Citizens Advisory Committee
- Urban Designer, Georgia DOT
- Division Administrator, Federal Highway Administration

The regular meetings of the MATS TCC is the third (3rd) Wednesday of the month in which it is called. This is two weeks immediately preceding a normal Policy Committee meeting. The usual meeting time and place for this meeting shall be:

Macon-Bibb County Planning & Zoning Commission Office

200 Cherry St., Suite 300

Macon, GA 31201

10:00 a.m.

Significant Changes Since the 2040 LRTP Adoption

The most significant change since the adoption of the original MATS 2040 LRTP is the improvement in our air quality status as determined by U.S. EPA and Georgia Environmental Protection Division (Georgia EPD).

The original MATS 2040 LRTP was adopted on November 20, 2013. At that time, the MATS area was already designated under the U.S. EPA 1997 National Ambient Air Quality Standards (NAAQS) as a “non-attainment” area, and subsequently a “maintenance” area, for ground-level ozone and fine particulate matter (PM 2.5) criteria pollutants. On April 6, 2015 the 1997 NAAQS for ozone was revoked and replaced with the new 2008 standard, and on October 24, 2016, the 1997 NAAQS for PM 2.5 was replaced with the 2012 NAAQS standards. U.S. EPA Division 4 office notified MATS staff via e-mail on October 24, 2016, that the 1997 NAAQS PM 2.5 rule was no longer in effect, and that demonstration for transportation conformity for was no longer binding. The MATS 2040 LRTP Update was adopted on May 3, 2017, without the transportation conformity requirement for either ozone or PM 2.5.

Subsequent to these designations, on February 16, 2018, the United States Court of Appeals for the District of Columbia Circuit in *South Coast Air Quality Mgmt. District v. EPA* (“*South Coast II*,” 882 F.3d 1138) held that transportation conformity determinations must be made in areas that were either nonattainment or maintenance for the 1997 ozone national ambient air quality standard (NAAQS) and attainment for the 2008 ozone NAAQS when the 1997 ozone NAAQS was revoked. Since the MATS area was a “maintenance” area at the time of the 1997 ozone NAAQS revocation, the “maintenance” designation was administratively reinstated for the 1997 ozone NAAQS, pursuant the *South Coast II* decision.

Due to the progress MATS, GDOT and Georgia EPD had made under the State Implementation Plan (SIP), the MATS area meets even the newest (more stringent) 2015 NAAQS standards for ozone.

Organization of This Document

The remaining sections of this document are organized as follows:

[Chapter 2](#) describes the updated goals and objectives for the 2050 MTP, in relation to the new federal emphasis on performance measures. This section provides an overview of relevant federal legislation and anticipated metrics that will be used to evaluate specific types of projects.

[Chapter 3](#) describes the population and land use forecasts used to identify and prioritize transportation projects throughout the region. This section includes identification of zones where future population and job growth are anticipated.

[Chapter 4](#) describes the public participation processes employed and observations collected as part of this LRTP Update process.

[Chapter 5](#) describes the operations and management strategies employed throughout the MATS area, to make the most efficient and safe use of existing road infrastructure.

[Chapter 6](#) describes lists the prioritized **Road and Bridge** projects identified in this 2050 MTP update. This includes estimates of project costs and anticipated revenue sources, and demonstration of fiscal balancing

[Chapter 7](#) describes the **Transit** projects identified in this 2050 MTP update. This includes estimates of project costs and anticipated revenue sources, and demonstration of fiscal balancing.

[Chapter 8](#) provides a detailed fiscal plan for the projects identified in Chapter 6 and 7.

At this time, the **Road and Bridge projects** account has an identified **surplus of \$153,736,961.38**. The **Transit projects** account has an identified **surplus of \$8,298,818.36**

[Chapter 9](#) describes the Safety assessment of the MATS travels network in the 2050 MTP update. This includes discussions of forthcoming safety performance measures.

[Chapter 10](#) describes the bicycle and pedestrian strategies identified in the 2050 MTP update.

[Chapter 11](#) describes the freight improvement and aviation projects identified in the 2050 MTP.

[Chapter 12](#) describes the Planning Considerations applicable to this 2050 MTP update for minority and disabled communities. This includes identification of populations which have been marginalized historically (e.g., Environmental Justice population groups, Limited English Proficiency) and discussion of all relevant civil rights legislation and Executive Orders bearing on protections for these groups.

[Chapter 13](#) describes how MATS reflects the Performance Based Transportation Planning and Programming described in the FAST Act, including adoption of the Statewide Performance Measure targets set annually by Georgia Dept. of Transportation.

¹ Based on population values from the U.S. 2020 Census [Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2021 \(NST-EST2021-POP\)](#) and Georgia Governor's Office of Planning and Budget [State and Residential Population Projection, 2020 - 2065](#)

² <https://www.planning.dot.gov/mpo/>

³ MATS fiscal year (FY) runs from July 1 of the previous year through June 30 of the current year. For example, FY 2022 runs from July 1, 2021, through June 30, 2022. FY 2023 will begin July 1, 2022.

⁴ "PL Grant" and "5303 Grant" are shorthand for the federal processes that guide how MATS is funded. "PL" indicates that the funding is tied to the Public Law process, meaning the funding is part of Congress passing a new federal transportation bill or re-authorizing an existing law. "5303" is a reference to U.S. Code Title 49, Sub. III Sec. 5303, which covers planning for public transportation systems as they relate to national policy goals.

Chapter 2 | Goals & Objectives

Introduction

This section provides an overview of the goals and objectives adopted for the updated MATS 2050 Metropolitan Transportation Plan (MTP). It discusses the emphasis on performance measures, which are quantifiable metrics of how well MATS is progressing towards the adopted goals and objectives. As discussed in greater detail below, and in Chapter 13, the emphasis on performance measures is an outcome of the two most recent federal highway acts, Moving Ahead for Progress in the 21st Century (MAP-21, adopted in 2012), and the Fixing American's Surface Transportation Act (FAST Act, adopted in 2015).

MATS 2050 – A Metropolitan Transportation Plan for the Macon Area

The purpose of a MTP is to assess future transportation infrastructure needs and opportunities over a minimum 20-year planning horizon for an urbanized area known as a metropolitan planning area. The MTP planning process helps coordinate how the region addresses transportation needs with the end goal of fostering an efficient, convenient, safe, secure, and sustainable transportation system.

Recognizing both the challenges and opportunities that the region faces, the *MATS 2050 Metropolitan Transportation Plan* anticipates future conditions and outlines issues that should be considered when confronting those conditions. Most importantly, the plan identifies broad policy goals and objectives associated with strategic actions to improve accessibility, mobility, and regional connectivity in ways that support sustainability and economic growth.

As a community transportation policy document, the *MATS 2050 Metropolitan Transportation Plan* will help set the direction for future transportation investments in our region, and coordinate them with the goals and objectives expressed in the *Georgia 2050 Statewide Transportation Plan* and *2021 Statewide Strategic Transportation Plan*. The *MATS 2050 Metropolitan Transportation Plan* continues the previous work done under the *MATS 2040 Long Range Transportation Plan*, building on the public input received at that time to define the region's transportation issues and identify a future vision along with strategies to realize it.

The *MATS 2050 Metropolitan Transportation Plan* was developed by the Macon Area Transportation Study (MATS) - the Metropolitan Planning Organization (MPO) for the Macon urbanized area, which includes all of Macon-Bibb County, a small

GOALS, OBJECTIVES AND PERFORMANCE MEASURES

A GOAL is a broad statement that describes a desired end state:
"Foster livable communities that increase transportation choices."

AN OBJECTIVE is a specific, measurable statement that supports achievement of a goal:
"Increase access to jobs and housing via transit."

A PERFORMANCE MEASURE monitors progress toward long-term goals and objectives: "Have additional transit routes been implemented."

(Source: FHWA (2014) Model Long Range Transportation Plans: A Guide for Incorporating Performance-Based Planning)

portion of southern Monroe County and the southern half of Jones County. Full details of the area covered by MATS and how MATS is organized can be found in Chapter 1.

Origins of Performance-Based Transportation Planning

In 2012, Congress passed the **Moving Ahead for Progress in the 21st Century (MAP-21) Act**. MAP-21 introduced a new emphasis in the MPO transportation planning process, towards measurable performance and outcome-based metrics in the evaluation of projects and programs receiving federal support. MAP-21 focuses on 7 performance goal areas:

- Safety
- Infrastructure Condition
- Congestion Reduction
- System Reliability
- Freight Movement and Economic Vitality
- Environmental Sustainability
- Reduced Project Delivery Delays

Since there are always more projects than funding, MATS must prioritize transportation projects. One of the first questions asked is whether and how a proposed project addresses federal, state and regional transportation goals.

Setting Our Transportation Goals

The *MATS 2050 Metropolitan Transportation Plan* supports national transportation planning factors and goals, state transportation goals, and local economic and community development priorities. These goals, planning factors, and priorities help prioritize projects and assess progress in implementing the transportation vision outlined in *MATS 2050 Metropolitan Transportation Plan*.

Fixing America's Surface Transportation Act (FAST Act)

On December 4, 2015, President Obama signed the **Fixing America's Surface Transportation (FAST) Act** into law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act maintained the Federal Highway Authority's (FHWA) focus on safety, kept intact the established structure of the various highway-related programs managed by FHWA, continued efforts to streamline project delivery, and, for the first time, provides a dedicated source of federal dollars for freight projects.

In addition, the FAST Act continued the emphasis raised in MAP-21 on performance-based outcomes, requiring that the metropolitan transportation planning process “*shall be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the following factors:*”

- *Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;*
- *Increase the safety of the transportation system for motorized and non-motorized users;*
- *Increase the security of the transportation system for motorized and non-motorized users;*
- *Increase accessibility and mobility of people and for freight;*
- *Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;*
- *Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;*
- *Promote efficient system management and operation;*
- *Emphasize the preservation of the existing transportation system;*
- *Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and*
- *Enhance travel and tourism."* [23 USC 450.306]

The FAST Act also requires federally funded transportation projects to support national goals for the transportation system by focusing on projects that:

- Achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- Maintain the highway infrastructure asset system in a state of good repair.
- Achieve a significant reduction in congestion on the National Highway System.
- Improve the efficiency of the surface transportation system.
- Improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- Enhance the performance of the transportation system while protecting and enhancing the natural environment.
- Reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices. [23 U.S. Code § 150]

Georgia 2050 Statewide Transportation Plan & 2015 Statewide Strategic Transportation Plan

The 2050 Statewide Transportation Plan (SWTP) and 2021 Statewide Strategic Transportation Plan (SSTP) provide a comprehensive look at transportation issues and investment needs in Georgia now and through the year 2050. It forecasts available funding for transportation investment and develops a set of strategic, financially constrained investment recommendations to meet the transportation demands of the State.

Georgia's transportation system is planned and constructed by several agencies across the State, including the Georgia Department of Transportation (GDOT), individual cities and counties, and port, airport, and transit authorities. GDOT shares responsibility for planning and programming transportation funding with 16 Metropolitan Planning Organizations (MPO) in urbanized areas

across the State. GDOT has the responsibility to maintain and operate the roadways that it owns in urban areas.

While the 2050 SWTP/2021 SSTP focuses on the transportation assets owned and operated by GDOT, it touches upon all of the transportation facilities in the State, which include roadways, public transportation, railroads, airports, marine ports, and bicycle/pedestrian facilities. It presents statewide economic and transportation demand forecasts given expected population and employment growth and assesses the current and future performance of all these modes over the planning horizon.

The 2050 SWTP/2021 SSTP continues the practices first established in the 2040 SWTP/2015 SSTP combines the traditional transportation analyses of the federally required metropolitan transportation plan with the strategic business case for transportation investment required by the State. The plan strategic goals include:

- Building on prior performance-based approaches and continue to incorporate Federal TPM requirements;
- Highlighting catalytic investments in system expansion for economic development, including deployment of new technologies and adoption of innovative business practices, including public/private partnerships;
- Increase rural broadband access;
- Improve safety and security;

Previous 2040 LRTP Goals

In addition to federal and state transportation goals, MATS is guided by local transportation goals and recommendations included in the *MATS 2040 Long Range Transportation Plan*, which was adopted in 2017. The *MATS 2040 Long Range Transportation Plan* included broad goals to guide transportation and land use planning, improve bicycle and pedestrian amenities, and a recommendation to incorporate Complete Streets concepts into all MATS region roads (see column).

Integrating Federal, State, and Local Priorities into the LRTP

The vision, goals, objectives, and performance measures developed for the *MATS 2050 Metropolitan Transportation Plan* reflect national and state transportation goals and planning factors, local development needs, and input from the public. Furthermore, as a “living document” the MTP is developed and updated in the context of the social, financial, and political environment, through which local planning officials and other decision-makers must constantly navigate in a way that respects and supports the overarching framework of democratic governance while striving to fulfill the best interests of the local community that the plan is based on. Some current challenges facing the Macon region include:

- Pressures from sprawling development and population movement within the MPO and private economic disinvestment in large portions of the historic core of Macon result in a mismatch of infrastructure capacity and maintenance

- Community expectations for economic development which are integrally tied to transportation improvements
- Fulfilling important investment commitments in the context of fiscal strain at all levels of government
- Unresolved transportation funding challenges within national, state, and local political environments.

2050 MTP Goals and Objectives

As part of the 2050 MTP, MATS staff reviewed the originally adopted 2040 LRTP goals and reconciled them with the national and state goals identified in the FAST Act and the Georgia 2050 SWTP, respectively. The MATS staff also proposed transportation related objectives for which future performance measures can be developed. Table 2-1 shows how the updated goals and objectives approved by the MATS Policy Committee build upon the general goals areas specified in MAP-21, FAST Act, the Georgia 2040 Statewide Transportation Plan and 2015 Statewide Strategic Transportation Plan, and the MATS specific goals and objectives adopted as part of the original 2040 LRTP. These goals and objectives are summarized individually below.

Table 2-1: Comparison of Transportation Planning Goals & Objectives Under FAST Act, Georgia 2050 Statewide Transportation Plan, and MATS 2050 MTP DRAFT

Table 2-1: Comparison of Transportation Planning Goals & Objectives Under FAST Act, Georgia 2050 Statewide Transportation Plan, and MATS 2050 MTP				
FAST Act National Planning Factors	FAST Act National Goals	MATS 2040 LRTP Update/ 2050 MTP Goals	MATS 2040 LRTP Update/ 2050 MTP Objectives	Related GA 2050 SWTP/ 2021 SSTP State Strategies
Increase the accessibility and mobility of people and for freight	<p>To achieve a significant reduction in congestion on the National Highway System</p> <p>To improve the efficiency of the surface transportation system</p>	Promote Multimodal and Affordable Travel Choices	<p>A. Enhance transit services, amenities and facilities</p> <p>B. Improve bicycle and pedestrian facilities</p> <p>C. Increase utilization of affordable non-auto travel modes</p> <p>D. Improve efficient movement of goods and services within and through the region</p> <p>E. Support the development of</p>	Continue strategic coordination with MPOs and regional commissions on expanding capacity and connecting investments to support economic development in emerging metros and rural areas.
Promote efficient system management and operation	<p>To achieve a significant reduction in congestion on the National Highway System</p> <p>To improve the efficiency of the surface transportation system</p> <p>To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.</p>	Manage Congestion & System Reliability	<p>A. Allow people and goods to move with minimal congestion and time delay, and greater predictability.</p> <p>B. Promote ride sharing, such as carpool, vanpool and park-and-ride.</p> <p>C. Enhance Intelligent Transportation Systems (dynamic signal phasing and vehicle detection systems)</p>	Provide planning support for rural infrastructure investments, including exploring State-provided technical support to rural communities modeled after the U.S. DOT's "ROUTES" initiative.
Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth patterns.	To enhance the performance of the transportation system while protecting and enhancing the natural environment.	Improve Air Quality, Protect the Environment, Improve Quality of Life, and Promote Good Land Use Planning	<p>A. Reduce mobile source emissions, GHG, and energy consumption</p> <p>B. Reduce the impact on the natural and cultural environment</p> <p>C. Link land use and transportation</p>	Finalize multi-agency assessment regarding Georgia's level of risk and resiliency to natural, technological, and manmade disasters, and use the results of the assessment to inform future statewide planning decisions. 18

Table 2-1 (Cont.): Comparison of Transportation Planning Goals & Objectives Under FAST Act, Georgia 2050 Statewide Transportation Plan, and MATS 2050 MTP

				Build on the work of GDOT's Interagency Office of Environmental Quality and Planning and Environmental Linkages Task Force to enhance environmental review processes and promote environmental stewardship as part of future investment planning.
Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	<p>To achieve a significant reduction in congestion on the National Highway System</p> <p>To improve the efficiency of the surface transportation system</p>	Access to Essential Services	A. Connect people to jobs, education and other important destinations using all modes	<p>Evaluate Georgia Ready for Accelerated Development (GRAD) sites for their ability to support targeted industries; identify connectivity needs to meet Rural Strike Teams' timelines.</p> <p>Identify high priority rural corridor projects, drawing from the Governor's Road Investment Program (GRIP), freight corridors, and evacuation route networks.</p>
Emphasize the preservation of the existing transportation system.	To maintain the highway infrastructure asset system in a state of good repair.	Improve Infrastructure Condition	<p>A. Increase proportion of highways and highway assets in 'Good' condition</p> <p>B. Maintain transit vehicles, facilities and amenities in the best operating condition.</p> <p>C. Improve the condition of bicycle and pedestrian facilities and amenities</p> <p>D. Improve response time to infrastructure repairs</p>	
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.	<p>To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.</p> <p>To achieve a significant reduction in congestion on the National Highway System</p> <p>To improve the efficiency of the surface transportation system</p>	Support Economic Vitality	<p>A. Improve freight movement</p> <p>B. Increase funding and funding sources for all transportation modes</p> <p>C. Improve project delivery for all modes</p>	

Table 2-1 (Cont.): Comparison of Transportation Planning Goals & Objectives Under FAST Act, Georgia 2050 Statewide Transportation Plan, and MATS 2050 MTP

		Ensure Equity	A. Ensure transportation needs are met for all populations (especially the aging and youth, economically disadvantaged, mobility impaired, and minorities). B. Enhance public participation among	Explore potential GDOT partnerships for strategic investments on regional Transportation Investment Act (TIA) project lists. Strengthen the emphasis on rural safety including support for local road safety plans and rail grade crossing action plans.
Increase the safety of the transportation system for motorized and nonmotorized users. Increase the security of the transportation system for motorized and nonmotorized users.	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	Increase Safety, Health and Security	A. Increase safety of travelers and residents B. Promote public health through transportation choices (particularly for school age populations)	
Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.	To maintain the highway infrastructure asset system in a state of good repair. To enhance the performance of the transportation system while protecting and enhancing the natural environment.	Improve Resiliency and Reduce Storm Water Impacts	A. Reduce the number of bridges and roadways vulnerable to natural disaster. B. Enhance environmental mitigation related to storm water management and habitat connectivity.	Finalize multi-agency assessment regarding Georgia's level of risk and resiliency to natural, technological, and manmade disasters, and use the results of the assessment to inform future statewide planning decisions.
Enhancing travel and tourism	To improve the national freight network, strengthen the ability of rural communities to access national and international trade	Enhance Travel and Tourism	A. Increase funding and identify greater variety of funding sources for transportation projects such as pedestrian and bicycle facilities,	The 2050 SWTP/2021 SSTP does not directly address this National Planning Factor.

Goal: Promote Multimodal and Affordable Travel Choices

The MATS 2050 Metropolitan Transportation Plan recognizes that the region's transportation network is intended to equitably serve all of the region's residents and visitors whether walking, bicycling, riding public transit, driving or riding in a private automobile, or hauling freight.

Objectives

1. Enhance transit services, amenities, and facilities
2. Improve bicycle and pedestrian facilities
3. Increase utilization of affordable non-auto travel modes
4. Improve efficient movement of goods and services within and through the region
5. Support the development of passenger rail between downtown Macon and Atlanta

Goal: Manage Congestion & System Reliability

The MATS 2050 Metropolitan Transportation Plan implements cost-effective strategies to reduce unproductive congestion.

Objectives

1. Allow people and goods to move with minimal congestion and time delay, and greater predictability
2. Promote ride sharing, such as carpool, vanpool, and park-and-ride.
3. Enhance Intelligent Transportation Systems (dynamic signal phasing and vehicle detection systems)

Goal: Improve Air Quality, Protect the Environment, Improve Quality of Life, and Promote Good Land Use Planning

The MATS 2050 Metropolitan Transportation Plan supports coordinating land use planning with transportation planning to help improve air quality and the environment as well as the quality of life for all of the region's residents.

Objectives

1. Reduce mobile source emissions, GHG, and energy consumption
2. Reduce the impact on the natural and cultural environment
3. Link land use and transportation

Goal: Access to Essential Services

The MATS 2050 Metropolitan Transportation Plan recognizes that mobility of people and freight is the backbone of economic development and private investment in the community.

Objectives

1. Connect people to jobs, education and other important destinations using all modes

Goal: Improve Infrastructure Condition

The MATS 2050 Metropolitan Transportation Plan recognizes the tremendous value of the region's existing transportation assets and prioritizes the improvement and maintenance of these existing assets.

Objectives

1. Increase proportion of highways and highway assets in 'Good' condition
2. Maintain transit vehicles, facilities and amenities in the best operating condition.
3. Improve the condition of bicycle and pedestrian facilities and amenities
4. Improve response time to infrastructure repairs

Goal: Ensure Equity

The MATS 2050 Metropolitan Transportation Plan focus on the transportation needs of the region's most vulnerable populations is a critical element of the MATS 2050 Metropolitan Transportation Plan.

Objectives

1. Ensure transportation needs are met for all populations (especially the aging and youth, economically disadvantaged, mobility impaired, and minorities).
2. Enhance public participation among all communities

Goal: Increase Safety, Health and Security

The MATS 2050 Metropolitan Transportation Plan identifies the safety of the transportation system as of utmost importance and recognizes the value of a transportation system that can help improve the community's health by providing easily accessible active transportation opportunities.

Objectives

1. Increase safety of travelers and residents
2. Promote public health through transportation choices

Goal: Support Economic Vitality

The MATS 2050 Metropolitan Transportation Plan promotes workforce mobility, efficient movement of freight, and timely implementation of transportation improvement projects.

Objectives

1. Improve freight movement
2. Increase funding and funding sources for all transportation modes
3. Improve project delivery for all modes

Goal: Improve resiliency and reduce stormwater impacts

The MATS 2050 Metropolitan Transportation Plan recognizes that the long-term economic health and welfare of the region demands transportation infrastructure with minimal exposure to natural and man-made hazards and that mitigates the negative stormwater impacts that degrade the region's valuable gray and green infrastructure.

Objectives

1. Reduce the number of bridges and roadways vulnerable to natural disaster

Goal: Enhance travel and tourism

Attractive travel corridors enhance the travel experience for residents and visitors alike and can support economically beneficial tourism in the region.

Objectives

1. Increase funding and funding sources for transportation enhancement projects

Chapter 3 | Sociodemographics and Forecasting

INTRODUCTION

This section of the Macon Area Transportation Study (MATS) 2050 MTP describes the sociodemographic profile of the MATS region. Based on the observed historic population and employment patterns of the 2010 and 2020 U.S. Census, and the predicted trends through the 2050 plan year, this MTP also addresses anticipated development scenarios for the region. These anticipated development scenarios guide the assessments of the transportation needs and opportunities for the MATS region.

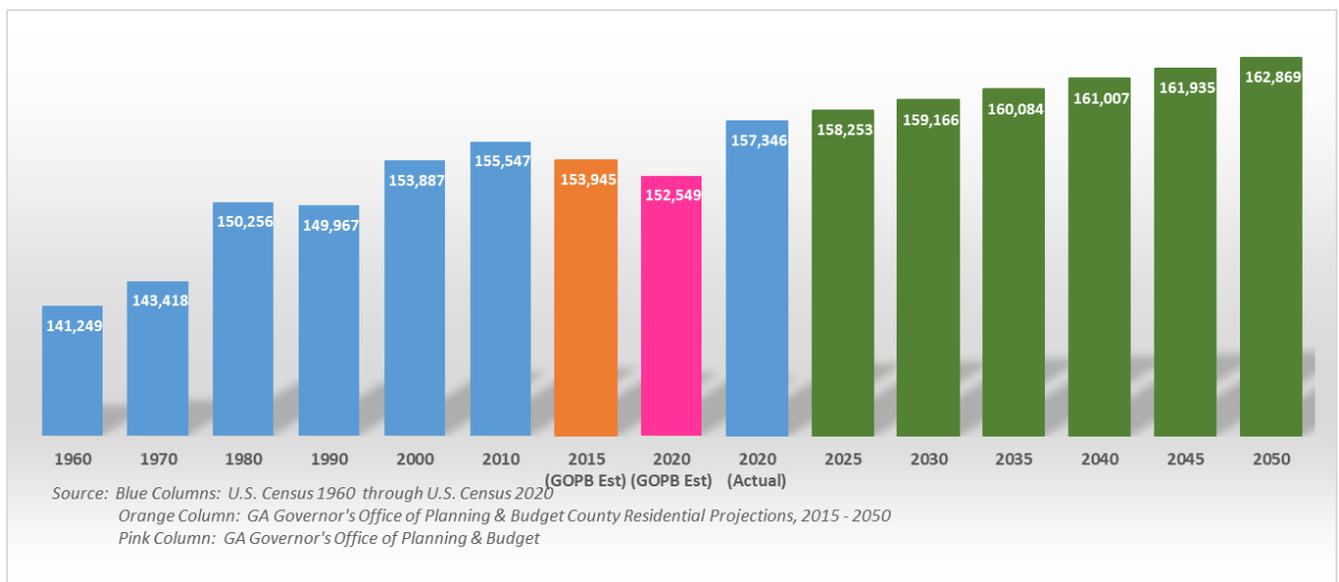
Due to the unavailability of the 2020 Census results during the development of the 2050 MTP, and the use of the 2015 base year for as per guidance from Georgia Dept. of Transportation, the reference years for the discussion below will either be the 2015 base year or the 2050 planning horizon year, unless specifically otherwise noted.

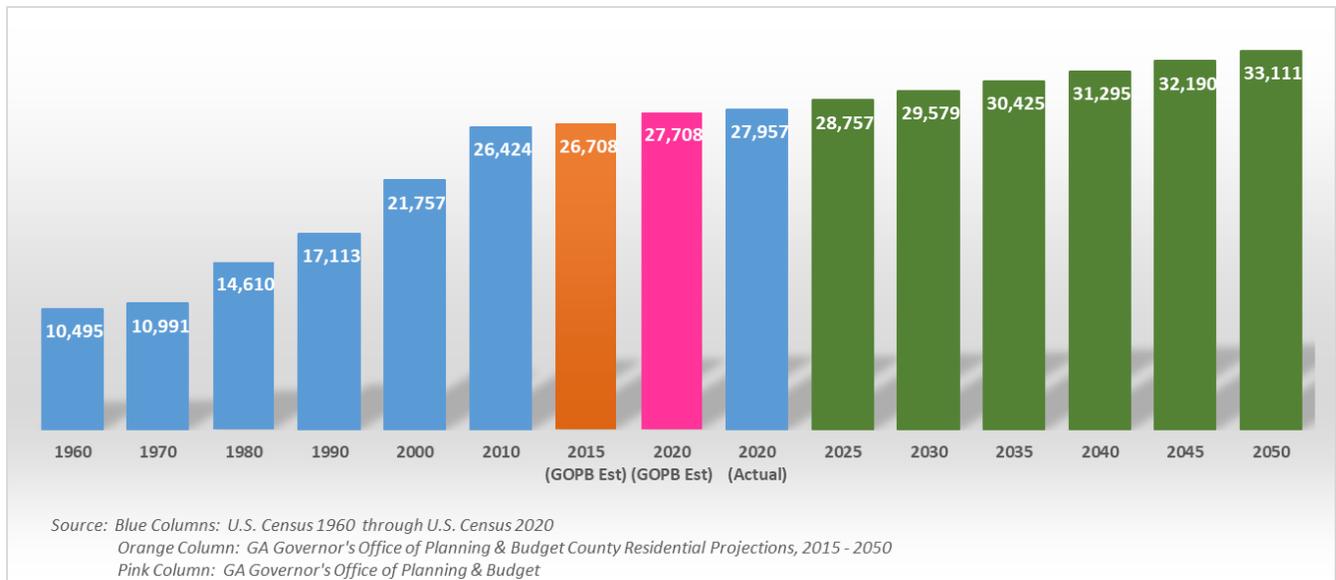
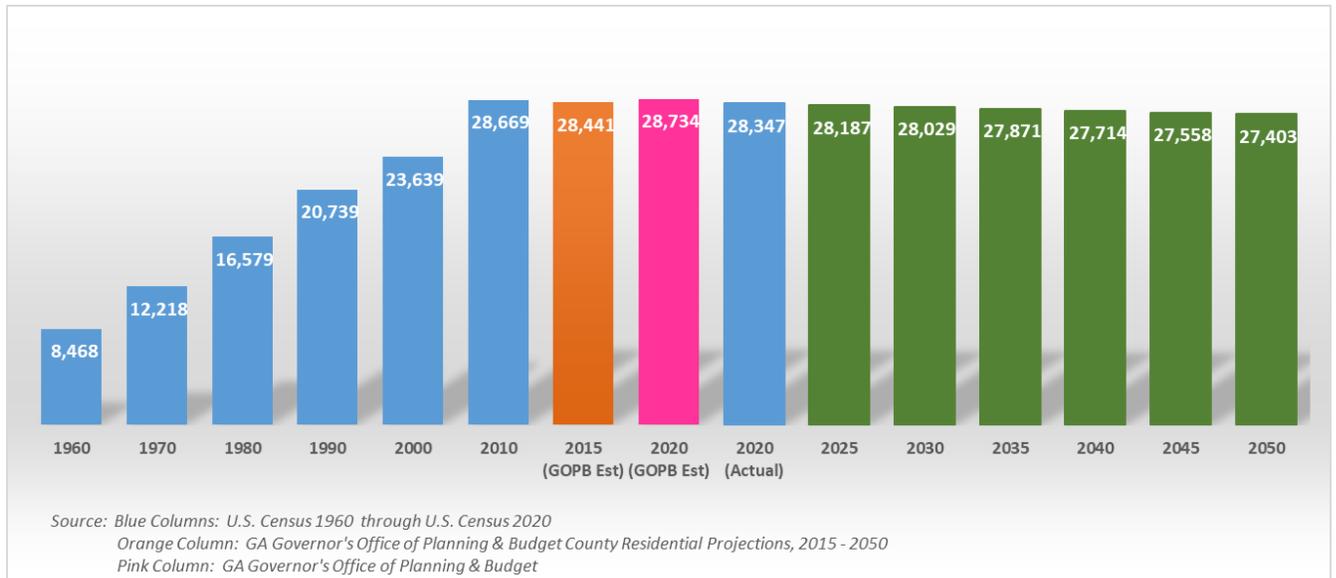
HISTORIC POPULATION TRENDS

Figures 3-1 through 3-3 demonstrate the anticipated general countywide population trends in Macon-Bibb, Jones and Monroe Counties, starting in 1960 and continuing through to the plan year of 2050. The orange and pink columns are projected total population values for each county from the estimates produced by the Governor’s Office of Planning and Budget for the plan horizon year 2015 (Population Projection 2015 – 2050) or 2020 (Population Projection 2020 – 2065). The estimated population for 2020 (in pink) stands in contrast to the actual population value for 2020 from the decennial U.S. Census (in blue).

For years 2025 through 2050, population values are projected based on the annualized growth rate observed between the 2010 and 2020 U.S. Census. For details on how this rate was calculated, please see Appendix XX

Figure 3-1: Bibb County Population Trends, 1960 – 2050





As of the 2020 U.S. Census, the total population of the MATS area is 171,285. In terms of ethnographic composition, the three counties vary significantly. Macon-Bibb County has the highest composition of the non-white population in all ethnic categories (except American Indian/Alaskan Native, where Jones County has the highest proportion). Macon-Bibb County is an African-American majority county. This pattern is maintained when focusing on just that sub-area of each county that is covered by the MATS jurisdiction. One notable change is that in Jones County, the proportion of the population that is served by MATS that is African American is noticeably higher than Jones County as a whole.

Table 3-1: Total Population, by Race of Bibb, Jones and Monroe Counties for 2010, 2015 (Estimated) and 2020

Area	Bibb County			Jones County			Monroe County		
	2010	2015 (Est)	2020	2010	2015 (Est)	2020	2010	2015 (Est)	2020
Total Population	155,547	153,945	157,346	28,669	28,441	28,347	26,424	26,708	27,957
Percentage	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
African American	80,744	83,756	85,234	6,977	6,993	6,739	6,249	6,241	6084
Marginal %	51.91%	54.41%	54.17%	24.34%	24.59%	23.77%	23.65%	23.37%	21.76%
American Indian/ Alaskan Native	287	364	281	61	82	46	64	65	34
Marginal %	0.18%	0.24%	0.18%	0.21%	0.29%	0.16%	0.24%	0.24%	0.12%
Asian	2,492	2,909	3,209	186	159	138	209	235	239
Marginal %	1.60%	1.89%	2.04%	0.65%	0.56%	0.49%	0.79%	0.88%	0.85%
Native Hawaiian/ Pacific Islander	74	122	42	2	1	7	4	0	0
Marginal %	0.05%	0.08%	0.03%	0.01%	0.00%	0.02%	0.02%	0.00%	0.00%
White (non- Hispanic)*	65,494	62,383	56,787	20,830	20,746	20,074	19,101	19,584	19,954
Marginal %	42.11%	40.52%	36.09%	72.66%	72.94%	70.82%	72.29%	73.33%	71.37%
Other	215	1,958	602	25	97	73	14	220	86
Marginal %	0.14%	1.27%	0.38%	0.09%	0.34%	0.26%	0.05%	0.82%	0.31%
2 or more races	1,852	2,595	4,454	273	357	794	248	354	846
Marginal %	1.19%	1.69%	2.83%	0.95%	1.26%	2.80%	0.94%	1.33%	3.03%
Hispanic/ Latino*	4,389	4,737	6,737	315	396	476	535	613	714
Marginal %	2.82%	3.08%	4.28%	1.10%	1.39%	1.68%	2.02%	2.30%	2.55%

Source: U.S. Census 2010 SF 1 Dataset, Table P9: Population-Hispanic or Latino, And Not Hispanic or Latino, By Race

U.S. Census 2020 Redistricting Dataset, Table P2: Population-Hispanic or Latino, And Not Hispanic or Latino, By Race

* 2015 marginal populations values will not sum to exact population totals, due to double counting of Hispanic/Latino populations in other race categories.

Table 3-2: U.S. Census 2020 Total Population, by Race of MATS Area

Area	Bibb County			Jones County			Monroe County		
	2010	2015 (Est)	2020	2010	2015 (Est)	2020	2010	2015 (Est)	2020
Total Population	155,547	153,945	157,346	11,800	11,700	12,244	1,707	1,749	1,695
Percentage	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
African American	80,744	83,756	85,234	3,549	3,522	3,729	80	80	102
Marginal %	51.91%	54.41%	54.17%	30.08%	30.10%	30.46%	4.69%	4.57%	6.02%
American Indian/ Alaskan Native	287	364	281	24	34	16	8	5	3
Marginal %	0.18%	0.24%	0.18%	0.20%	0.29%	0.13%	0.47%	0.29%	0.18%
Asian	2,492	2,909	3,209	104	84	82	27	27	47
Marginal %	1.60%	1.89%	2.04%	0.88%	0.72%	0.67%	1.58%	1.54%	2.77%
Native Hawaiian/ Pacific Islander	74	122	42	-	-	2	-	-	-
Marginal %	0.05%	0.08%	0.03%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%
White (non- Hispanic)*	65,494	62,383	56,787	7,861	7,856	7,794	1,560	1,613	1,482
Marginal %	42.11%	40.52%	36.09%	66.62%	67.15%	63.66%	91.39%	92.22%	87.43%
Other	215	1,958	602	15	39	38	-	12	2
Marginal %	0.14%	1.27%	0.38%	0.13%	0.33%	0.31%	0.00%	0.69%	0.12%
2 or more races	1,852	2,595	4,454	126	178	354	9	13	26
Marginal %	1.19%	1.69%	2.83%	1.07%	1.52%	2.89%	0.53%	0.74%	1.53%
Hispanic/ Latino*	4,389	4,737	6,737	121	155	229	23	25	33
Marginal %	2.82%	3.08%	4.28%	1.03%	1.32%	1.87%	1.35%	1.43%	1.95%

Source: U.S. Census 2010 SF 1 Dataset, Table P9: Population-Hispanic or Latino, And Not Hispanic or Latino, By Race

U.S. Census 2020 Redistricting Dataset, Table P2: Population-Hispanic or Latino, And Not Hispanic or Latino, By Race

* 2015 marginal populations values will not sum to exact population totals, due to double counting of Hispanic/Latino populations in other race categories.

The results of the above tables support the following conclusions:

- The population growth in Bibb and Monroe Counties was stronger than originally projected. Where Bibb County was anticipated to lose population, it actually saw a small, but non-trivial increase from the previous decade. Monroe County actually significantly exceeded expected growth as a whole, although it lost a small amount of population in the MATS area. For reasons that will be discussed later, this loss is likely to be reversed before the 2050 plan horizon is reached.
- The vast majority of the population in each county continue to fall into either White or African American ethnic groups. This is a continuation of a trend observed in the MATS 2040 LRTP/2010 U.S. Census
- For all the counties, and the MATS sub areas, there has been a reduction in the percentage of population classified as Non-Hispanic White. Upon further review of the marginal percentages for each group in the U.S. Census 2010 vs. 2020:
 - Bibb County (the largest component of the MATS jurisdiction) has increased the proportion of the population identifying as African American. Still, that does not mean all the growth since 2010 has come from that demographic cohort. Substantial population increases are evident in the Hispanic/Latino community (+2,348), the Asian community (+717), and those persons identifying as belonging to Two or More Races (+2,602). Indeed, without the growth in these communities, the growth in the African American population (+4,490) would not have been able to offset the loss of Non-Hispanic White population (-8,707).
 - In Jones County, for groups other than African American and/or Non-Hispanic White, the net effect of the absolute growth is effectively to offset any minor losses in the African American and Non-Hispanic White groups. While the net result is slightly negative (i.e., -322, or -0.11% per annum) for the county as a whole, the difference is so small as to be effectively “noise.” In addition, the 2020 Census indicates that there was actually substantial growth (+424; 0.37% per annum) in the MATS portion of Jones County during the same 10 year period.
 - For Monroe County, the observed growth between the 2010 and 2020 Census appears to be primarily due to increases in the Non-Hispanic White and/or Two or More Races groups (+853 and +598, respectively). The Hispanic/Latino population is small in absolute terms, but increasing substantially. While traditionally the MATS portion of Monroe County is significantly more Non-Hispanic White than the rest of the County generally, the area reported actually losing population in this group between the 2010 and 2020 Census (-78); the differences are almost total counterbalanced by growth in the African American (+22), Asian (+20), Two or More Races (+17) and Hispanic/Latino (+10) groups.

Overall, the Census results indicate that the MATS area is starting to grow, and becoming more ethnographically diverse in the process.

BASE YEAR DEMOGRAPHIC ANALYSES

This section describes some basic parameters of the MATS Metropolitan Planning Area (MPA) for the 2015 planning base year, using data from the American Community Survey (ACS).

Unlike the U.S. Census, the ACS is a sample of a population, rather than a full 100% count. Samples, by definition, contain variability (i.e., mathematically quantified levels of instability) in their estimates. This variability can, in some cases, make it difficult to draw definitive conclusions about differences or patterns between population groups (e.g., Counties) and sub-groups (e.g., ethnic groups, or sub-areas vs. Counties as a whole).ⁱ

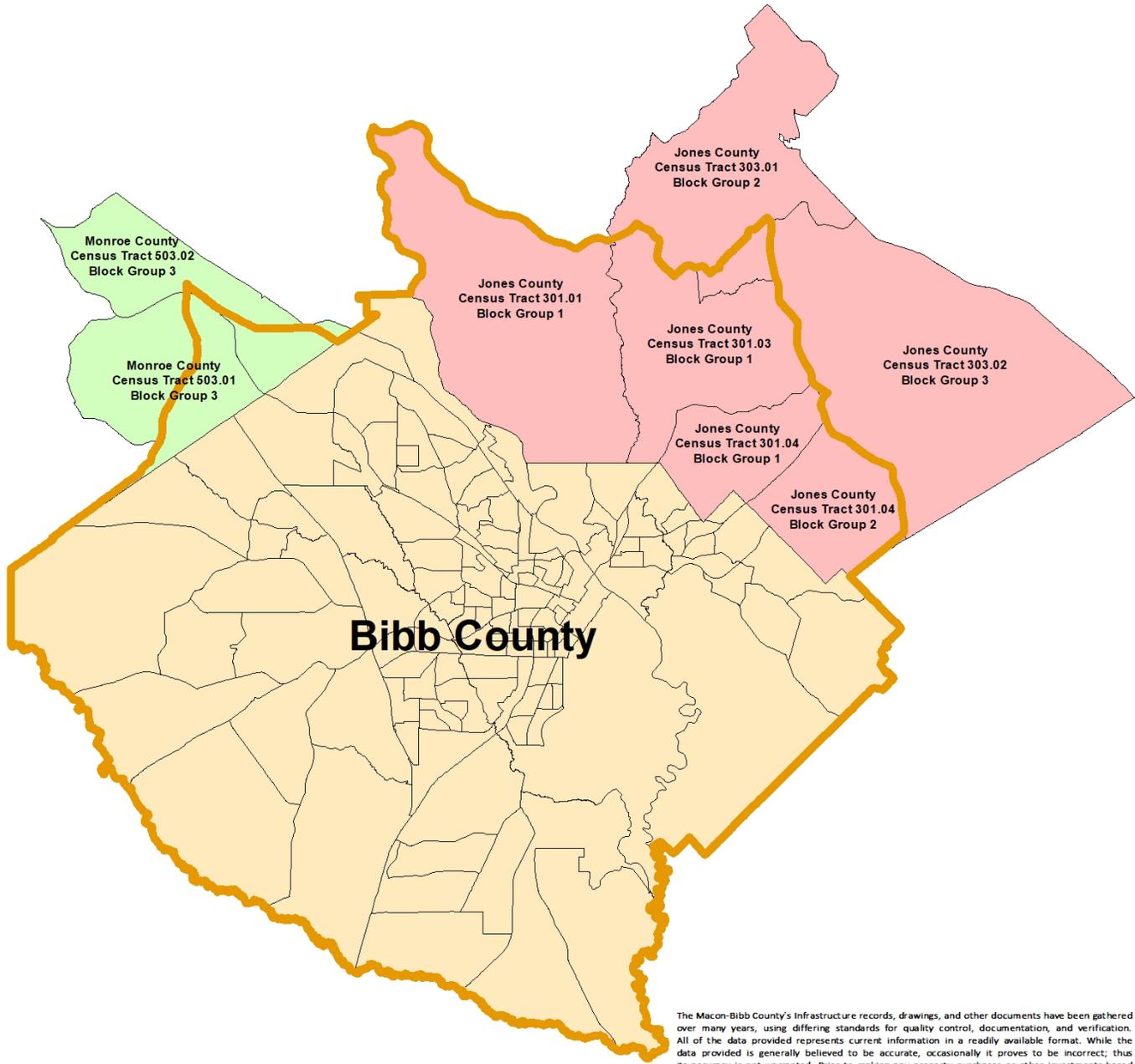
An important distinction should be noted up front about the data sources used in this discussion. Unless otherwise noted:

- the source data for the Macon-Bibb County portion of the MATS MPA area comes from the 2015 ACS 1-Year Estimate;
- the source data for the Jones County and Monroe County portions of the MATS MPA come from the 2011-2015 ACS 5-Year Estimate;

The distinction between the two data sources is that the ACS 5-Year Estimates use a 5 year rolling average for the various parameter measures, whereas the 1-Year Estimates are a true annual estimate. The reasons for the use of two separate datasets are:

- The ACS does not provide population measures based on the MPO boundaries, but rather on Census supported geographies like Counties, Census Tracts and Census Block Groups.
- ACS 1-Year Estimates are not available for areas with populations under 50,000; neither Jones County nor Monroe County meet that threshold (see Figures 3-2 and 3-3 above). And even if they were, the MATS MPA only contains portions of Jones and Monroe Counties;
- Data for areas below the County level of geography (i.e., Census Tracts and Census Block Groups) are only released as part of the ACS 5-Year Estimates

Using the two separate data sources helps ensure that the ACS data for the various planning areas is as contemporary as possible with the 2015 Base Year for all MATS MPA sub areas. Figure 3-4 shows the overlap between the 2010 Census Block Groups and the current MATS Boundaries.



The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/17/2022

Legend

MATS Boundary


County

-  Bibb County
-  Jones County
-  Monroe County

1 inch = 20,334 feet

Map Maker: Michael J. Greenwald, Ph.D., AICP



Figure 3-4: MATS Area Census Block Groups (2010), by County

Age Distribution

Figures 3-5 through 3-7 show the distribution of age by gender for Bibb County and the MATS sub-areas for Jones and Monroe County. All age information values are taken from the American Community Survey, Tables B01002 (for County overall values) and Tables B01002B through B01002I (for values associated with individual ethnic groups).

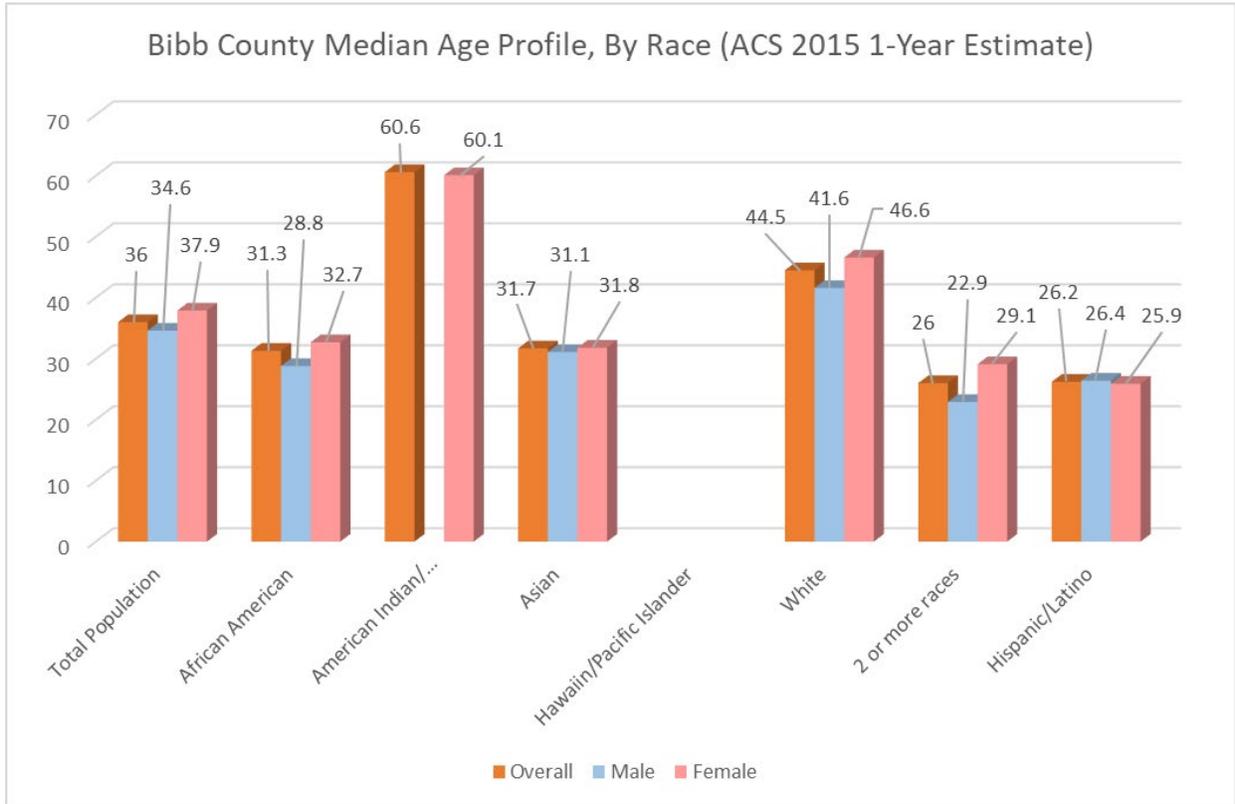
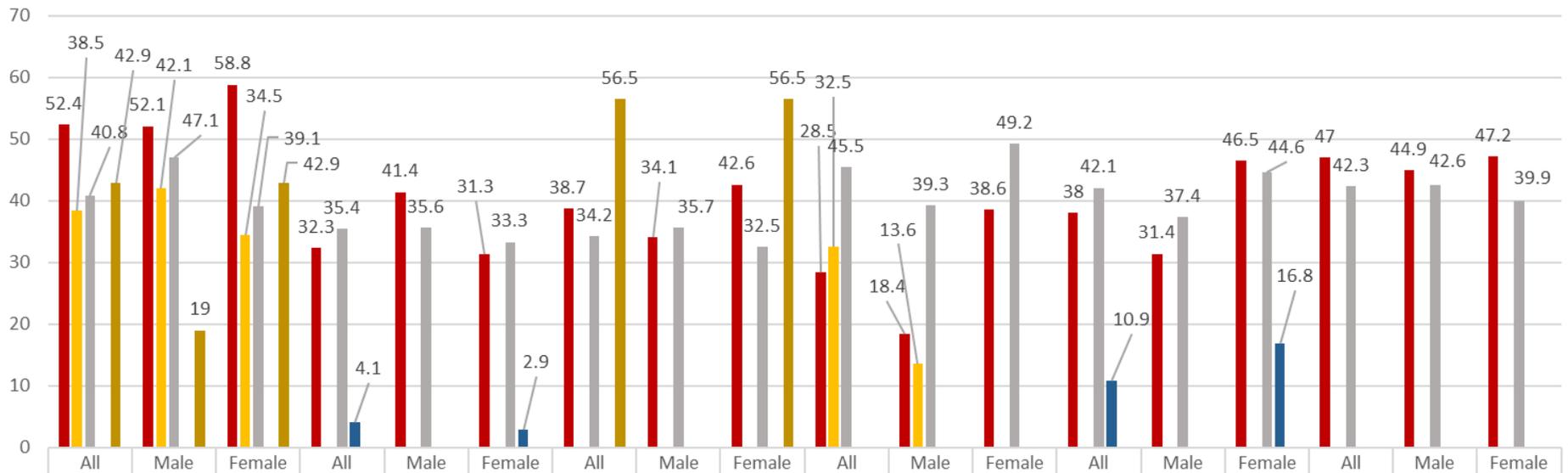


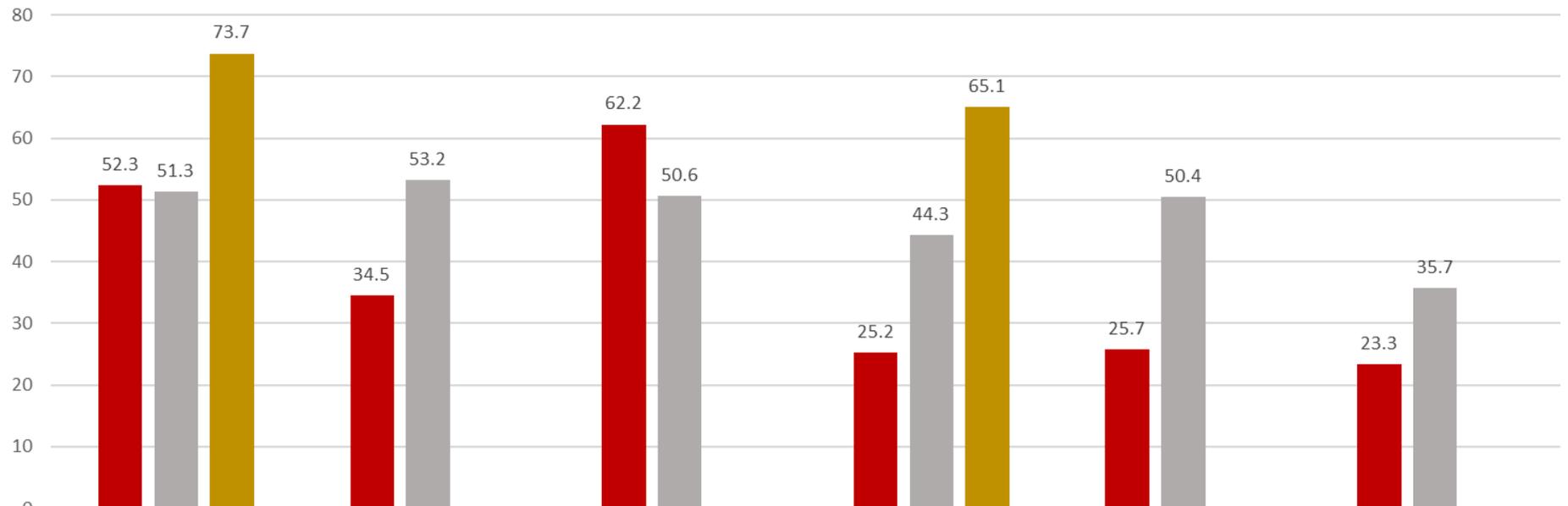
Figure 3-5: Bibb County Median Age Profile, By Race

Jones County Median Age Profiles, By Race for MATS Area (ACS 2015 5-Year Estimates)



■ African American ■ Asian ■ White ■ 2 or more races ■ Hispanic/Latino

Monroe County Median Age Profiles, By Race for MATS Area (ACS 2015 5-Year Estimates)



■ African American	52.3	34.5	62.2	25.2	25.7	23.3
■ White	51.3	53.2	50.6	44.3	50.4	35.7
■ Hispanic/Latino	73.7			65.1		

■ African American ■ White ■ Hispanic/Latino

Comparing the median ages by racial group in Bibb County, it appears that the median age for both men and women in the African American, Asian and Hispanic/Latino communities are all lower than the median age for Bibb County population overall (Population Overall: 36 years old; Men: 34.6; Women 37.8) . For the MATS area population in Jones County (Population Overall: 39.4 years old; Men: 37.8; Women 40.7), the African American, Non Hispanic White, and Hispanic populations skew older than the county population as a whole, The Asian population diverges; it skews slightly younger overall and for women in particular, but slightly older for men.

In Monroe County, ((Population Overall: 41.9 years old; Men: 39.9; Women 43.9) the MATS area population is decidedly older for the Non Hispanic White and Hispanic populations overall. For African Americans in the MATS portion of Monroe County, the general trend is for the population to be younger than the county overall.

Household Income

Figure 3-8 shows the median household incomes in Bibb, Jones and Monroe counties, both overall and by racial sub-groups (where available). All income values are taken from the American Community Survey 2015, Tables B19013 (for County overall values) and Tables B19013B through B19013I (for values associated with individual ethnic groups).

The results show that in Bibb County, African American households continue to have median incomes well below the county as a whole ($\$27,486 \pm \$2,892$ vs. $\$38,605 \pm \$3,220$), while Non-Hispanic White ($\$55,626 \pm \$5,521$) and Asian households ($\$81,059 \pm \$39,484$) have household incomes substantially higher than the county median. However, the 90% confidence interval for each estimate (represented by the red error bars) indicates which estimates can be said to be statistically significantly different from each other; where bars overlap between two estimates, they cannot be reliably said to be different from each other.

When examining the block groups for the MATS areas specifically, several additional pieces of information come to light:

- The northwest section of the Jones County MATS area have *higher* median incomes (Tract 301.01, Block Group 1 - $\$82,698 \pm \$5,561$; Tract 301.03, Block Group 1 - $\$79,792 \pm \$15,026$) than either Bibb County ($\$38,605 \pm \$3,220$) or Jones County ($\$51,857 \pm \$3,748$) in general.
The southeast section of the Jones County MATS area (Tract 301.04, Block Groups 1 and 2) have median incomes that are *lower* than Jones County in general ($\$38,303 \pm \$3,542$ and $\$36,412 \pm \$16,157$ respectively, vs. $\$51,857 \pm \$3,748$).
- The median incomes for the MATS areas of Monroe County (Tract 503.01, Block Group 3 - $\$66,528 \pm \$35,926$; Tract 503.02, Block Group 3 - $\$78,009 \pm \$39,753$) are substantially higher than for Monroe County overall ($\$48,744 \pm \$3,540$). However, the wide margins of error on these estimates indicate that these income values are likely driven higher by a few very high income household outliers in each sub-area. This would be consistent with the observed character of the area, which is populated with several

large single family households, and a few gated communities, in the middle of predominantly rural areas.

Median Household Income (in 2015 Inflation Adjusted Dollars), by MATS Sub Area and Race (Where Available)

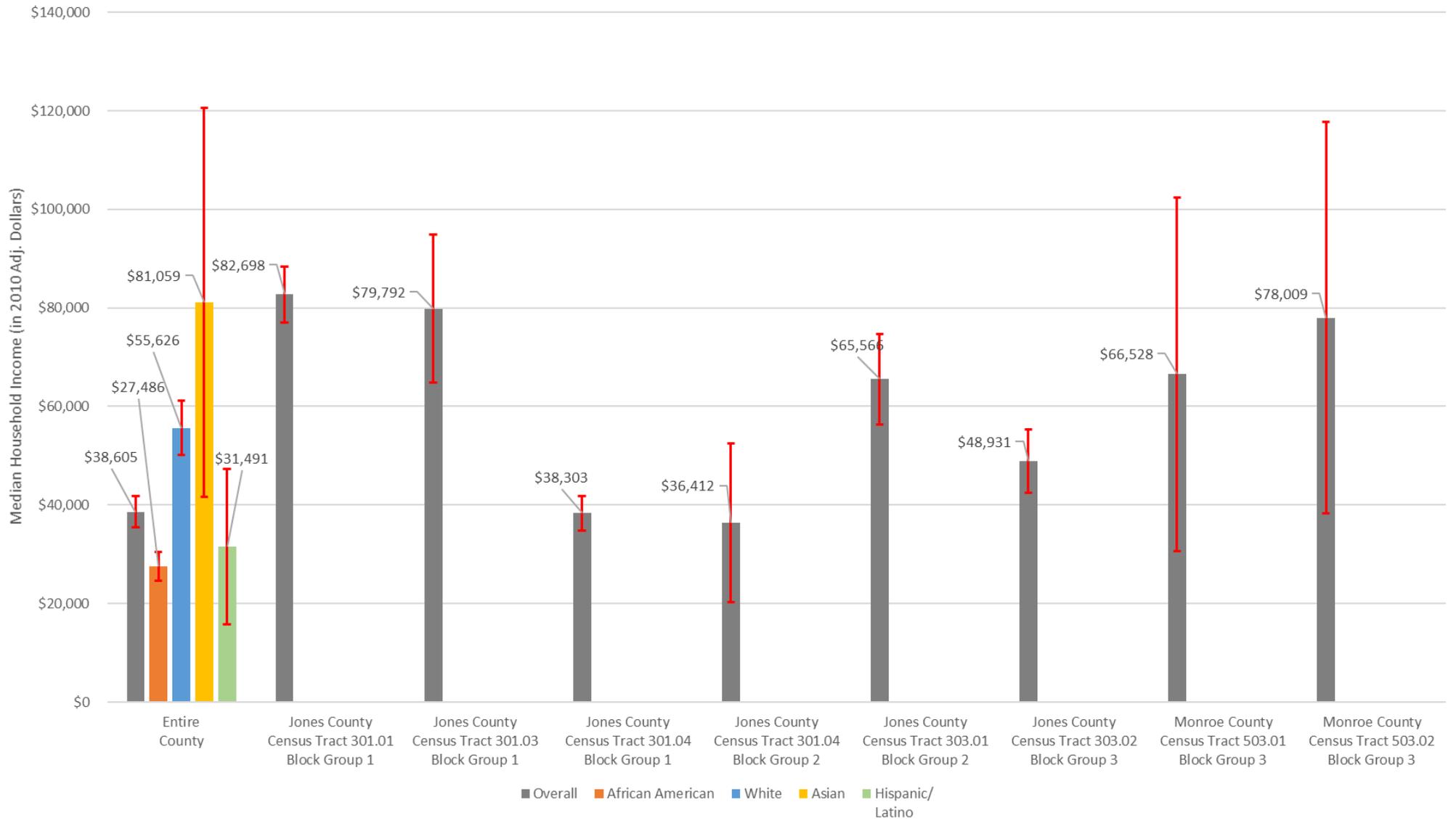


Figure 3-8: Median Household Income (In 2015 Inflation Adjusted Dollars), by MATS Sub Area and Race (Where Available)

Housing and household Characteristics

Figures 3-9 through and 3-13 show the household and housing stock characteristics for Bibb, Jones and Monroe counties, both by housing tenure (owner occupied vs. rental units) and by racial sub-groups. All age information values are taken from the American Community Survey, Tables B25002, B25064, B25077 (for County overall values) and Tables B25003B through B25003I (for values associated with individual ethnic groups).

The data supports the following observations about the general nature of housing tenure in the MATS Area for the 2015 Base Year:

- The median housing value are generally much higher in the Jones County portions of the MATS area (\$85,200 to \$198,000 median housing value) and Monroe County portions of the MATS area (\$216,700 to \$231,800 median housing value) than in Macon-Bibb County (\$106,600).
- The median gross rents for Macon Bibb County (\$755) are in the middle of the range for median rents across all MATS areas (\$487 to \$959). In Jones County, the pattern in higher rental prices is also consistent with the pattern of higher household incomes in the various block groups, as described in the previous section. However, in Monroe County, the MATS area has significantly lower rents than the income would predict.
- Within Macon-Bibb County, the housing tenure rate overall is roughly 53.82% homeowner and 46.18% renters. However, this general number masks significant variability within different ethnic groups. African American and Hispanic households are more likely to be renters (61.35% and 64.24% renter occupied, respectively) than Non-Hispanic White or Asian (26.36% and 42.17% renter occupied, respectively)
- The rates of household home ownership in the Jones County and Monroe County portions of the MATS area are significantly higher than in Macon-Bibb County overall. Since this finding maintains across the various ethnic groups for which household data is available for comparison, this finding is a function of specific housing stock composition and availability in the different Census Block Groups.

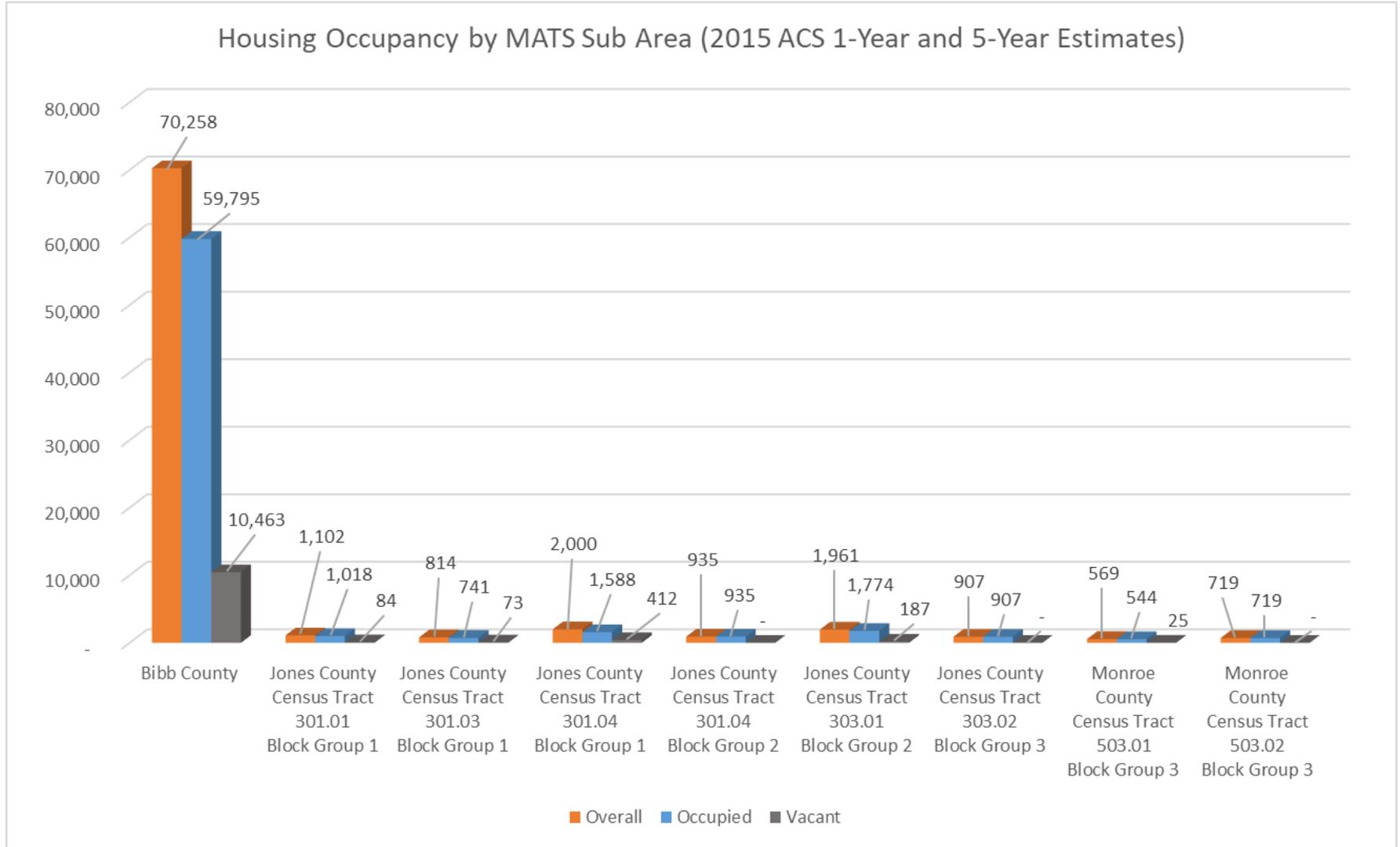


Figure 3-9: Housing Occupancy by MATS Sub Area

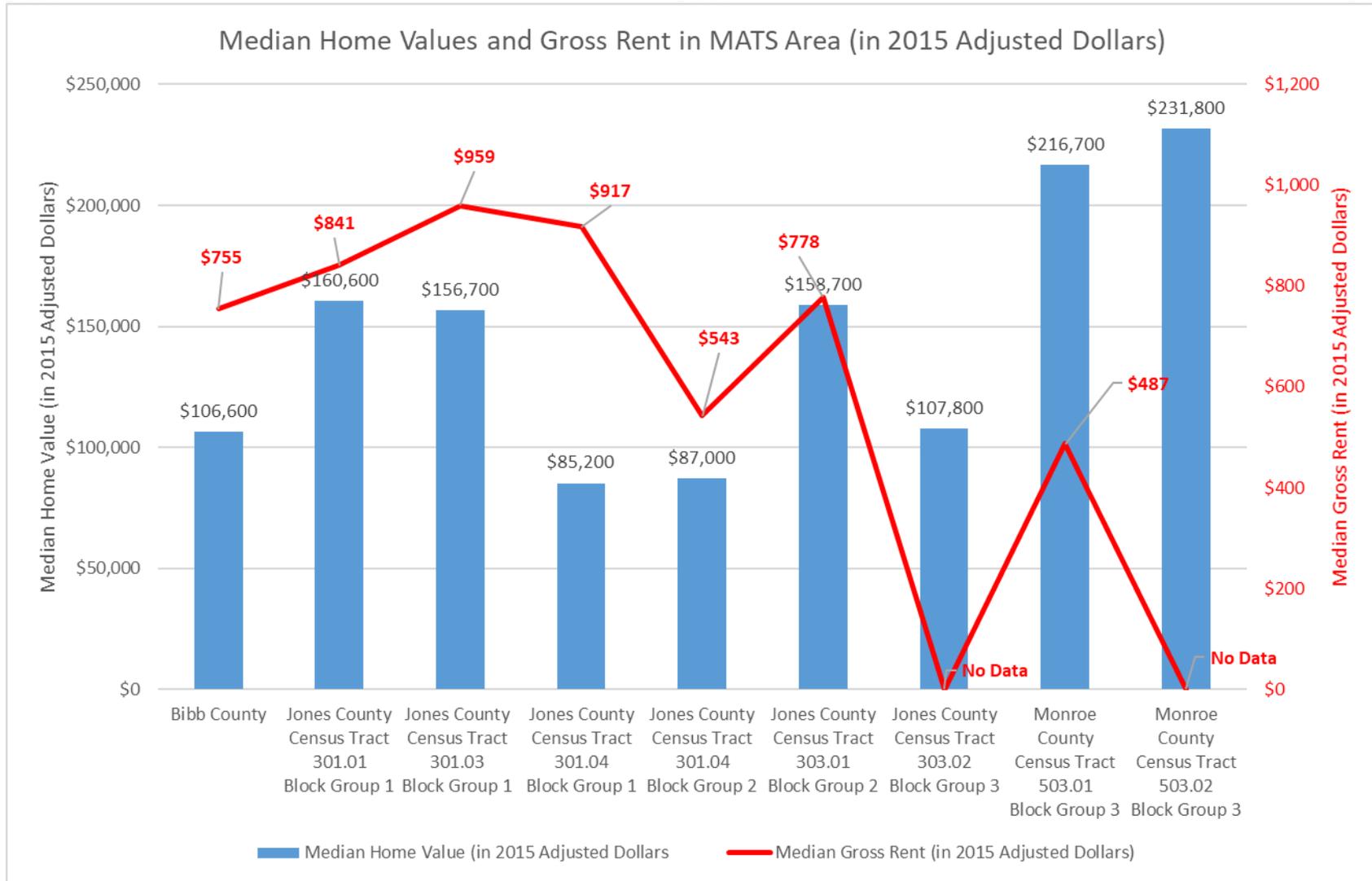


Figure 3-10: Median Home Values and Median Gross Rents in MATS Areas

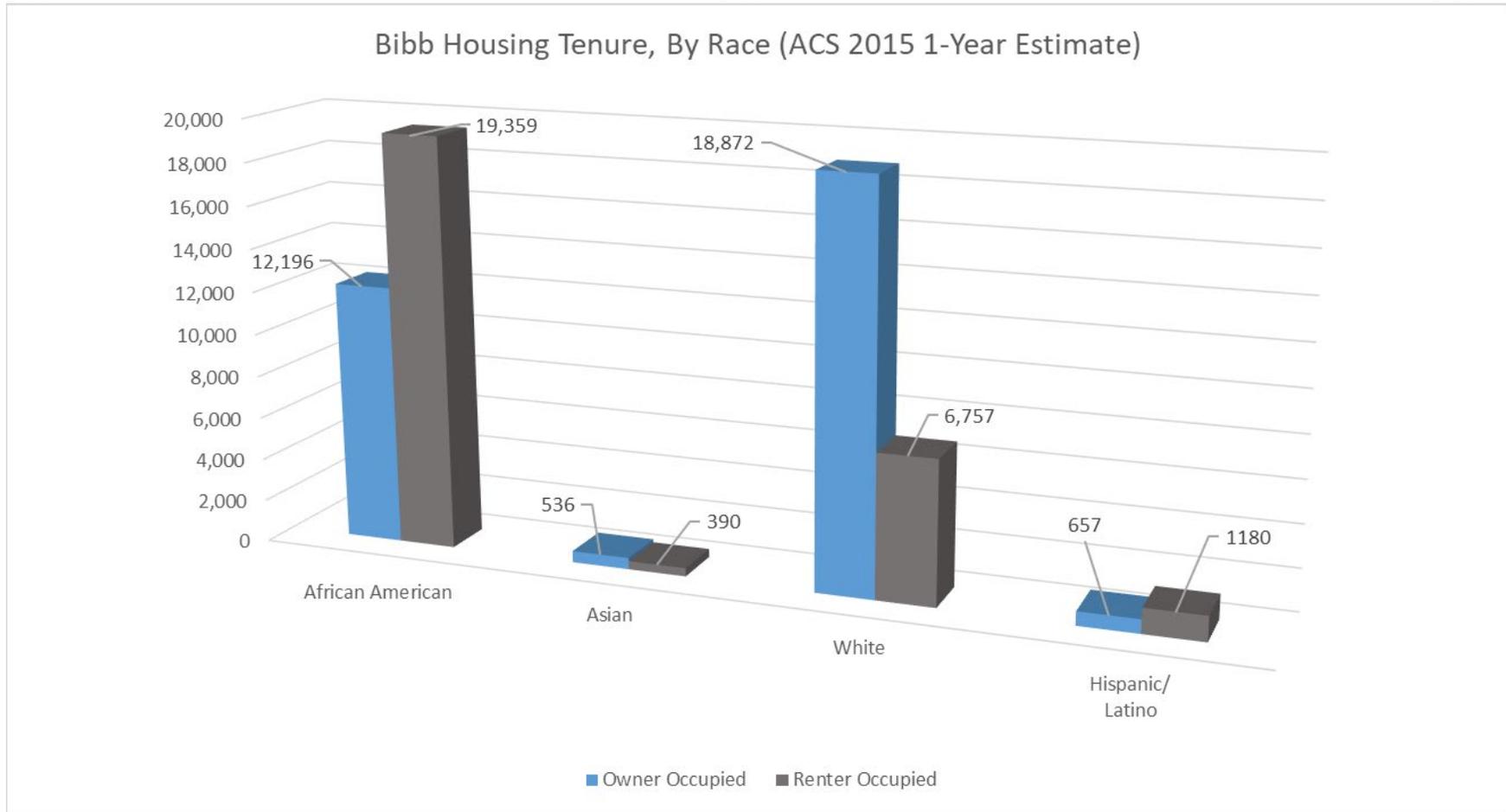
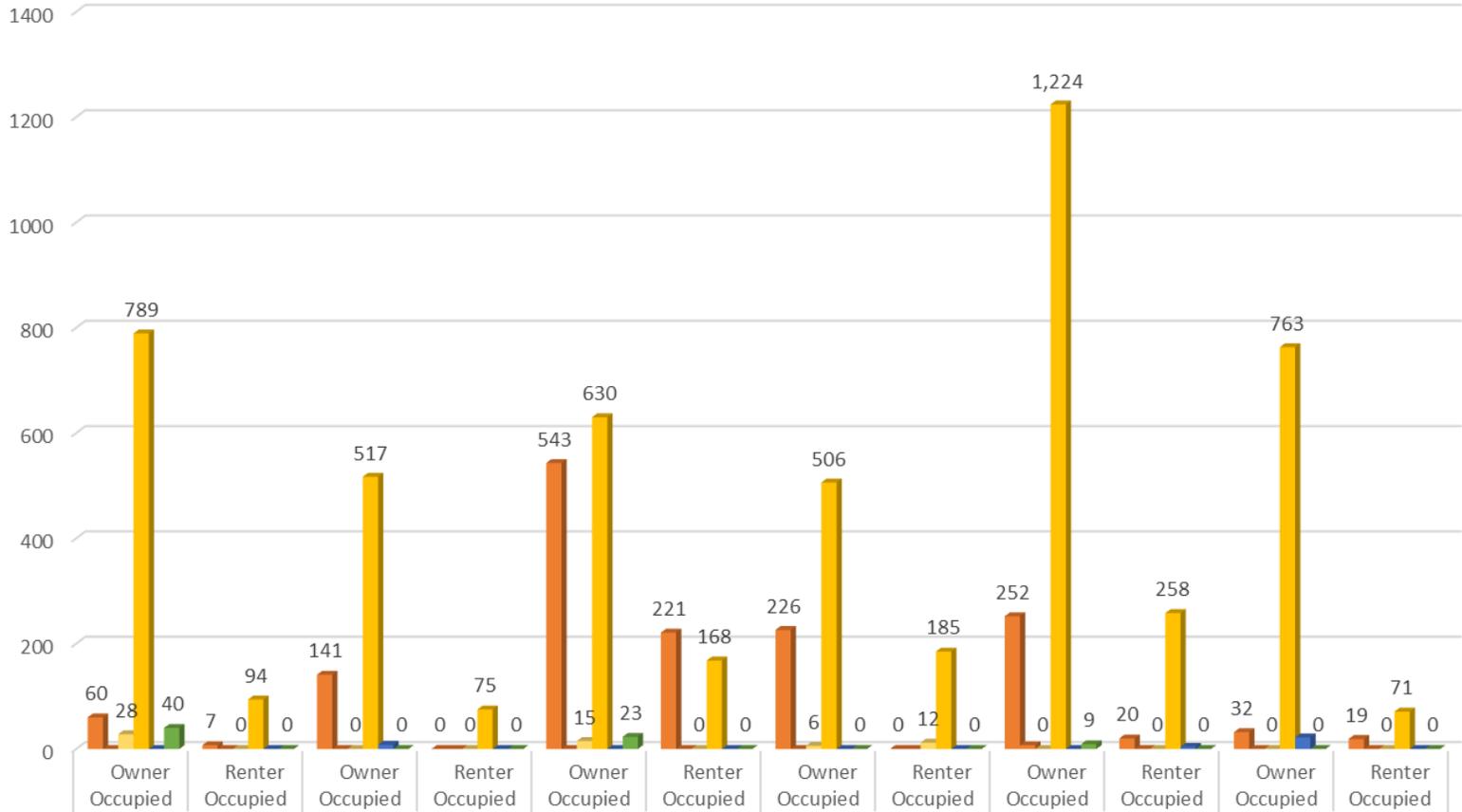


Figure 3-11: Bibb County Housing Tenure, by Race

Jones County Housing Tenure, By Race, MATS Sub Area (ACS 2015 5-Year Estimate)



	Owner Occupied	Renter Occupied										
African American	60	7	141	0	543	221	226	0	252	20	32	19
American Indian/ Alaskan Native	0	0	0	0	0	0	0	0	7	0	0	0
Asian	28	0	0	0	15	0	6	12	0	0	0	0
White	789	94	517	75	630	168	506	185	1,224	258	763	71
2 or more races	0	0	8	0	0	0	0	0	0	4	22	0
Hispanic/ Latino	40	0	0	0	23	0	0	0	9	0	0	0

Figure 3-12: Jones County Housing Tenure, by Race, MATS Sub Area

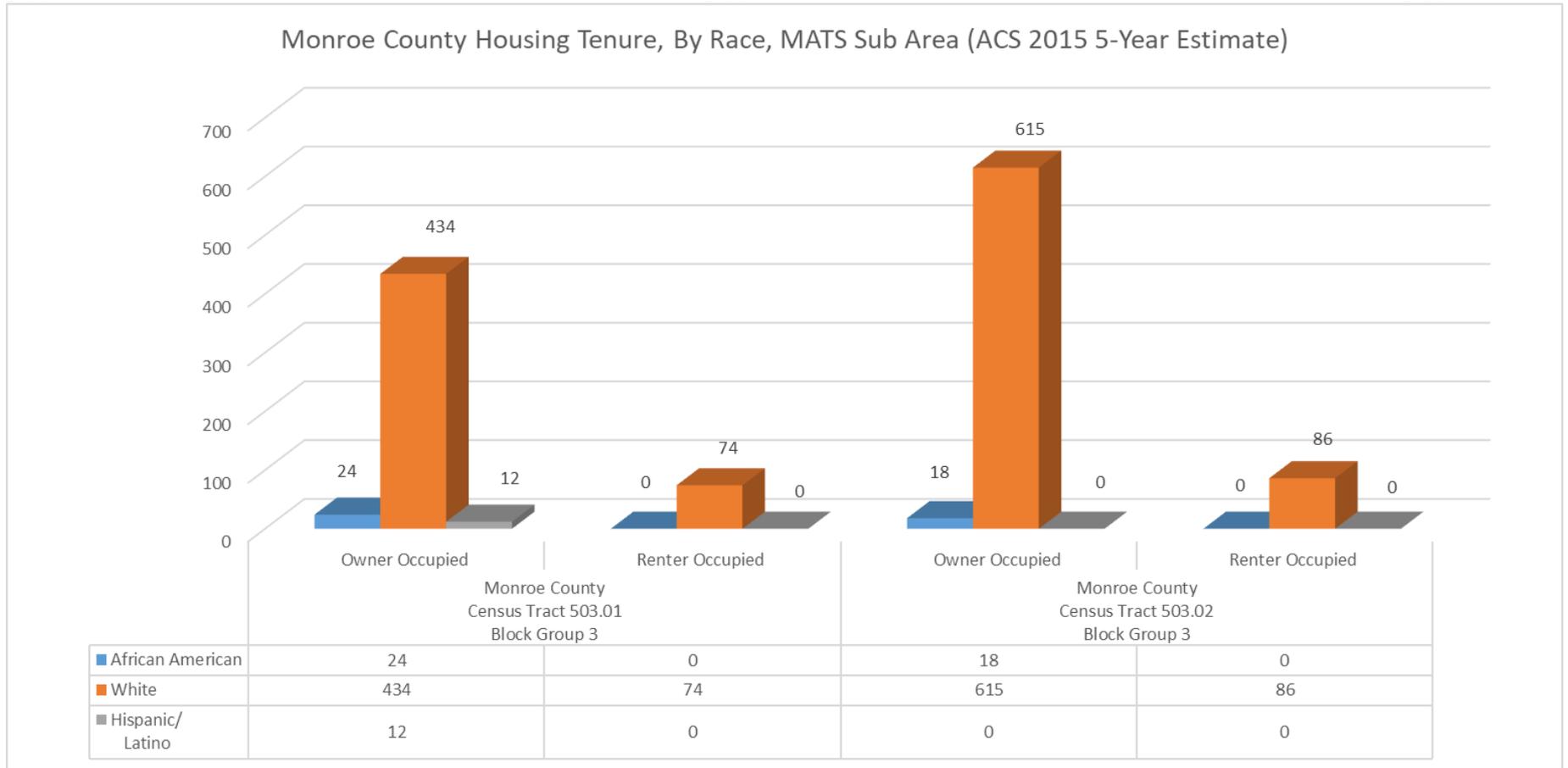


Figure 3-13: Monroe County Housing Tenure, by Race, MATS Sub Area

Educational Attainment and English Proficiency

Figures 3-14 and 3-15 show, respectively, the level of educational achievement and proportions of the population with limited English speaking capacity. Table 3-3 summarizes the general nature of educational attainment in the MATS Area for the 2015 Base Year. Values are based on data from the American Community Survey, Tables B15003.

Table 3-3: Marginal Percentages of Educational Attainment in 2015 for the MATS Area Population Age 25 and Over, Overall, and by MATS Sub Area

	MATS Area Overall	Bibb County	Jones County Census Tract 301.01 Block Group 1	Jones County Census Tract 301.03 Block Group 1	Jones County Census Tract 301.04 Block Group 1	Jones County Census Tract 301.04 Block Group 2	Jones County Census Tract 303.01 Block Group 2	Jones County Census Tract 303.02 Block Group 3	Monroe County Census Tract 503.01 Block Group 3	Monroe County Census Tract 503.02 Block Group 3
Total:	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
No schooling completed	1.29%	1.40%	0.21%	0.00%	2.61%	0.00%	0.27%	0.00%	0.00%	0.29%
Nursery school	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kindergarten	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
1st grade	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2nd grade	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3rd grade	0.06%	0.06%	0.00%	0.00%	0.00%	0.67%	0.00%	0.00%	0.00%	0.00%
4th grade	0.29%	0.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5th grade	0.21%	0.17%	0.47%	0.00%	0.49%	2.70%	0.00%	0.00%	0.00%	0.00%
6th grade	0.52%	0.56%	0.78%	0.00%	0.00%	0.00%	0.36%	0.00%	0.56%	1.08%
7th grade	0.50%	0.52%	0.78%	0.00%	0.00%	1.46%	0.12%	0.62%	1.13%	0.00%
8th grade	0.58%	0.53%	0.00%	0.00%	1.76%	2.75%	0.33%	0.96%	0.00%	0.57%
9th grade	2.43%	2.40%	3.70%	0.93%	1.99%	3.60%	0.51%	2.66%	1.31%	8.97%
10th grade	2.84%	2.83%	3.86%	0.53%	2.16%	8.43%	1.72%	2.60%	3.66%	1.58%
11th grade	3.66%	3.56%	3.39%	4.99%	6.21%	5.17%	1.36%	8.95%	2.44%	2.08%
12th grade, no diploma	1.68%	1.84%	0.00%	0.27%	1.11%	2.59%	0.88%	0.00%	0.00%	0.00%
Regular high school diploma	27.80%	27.46%	18.93%	30.45%	34.89%	36.37%	25.18%	30.52%	38.46%	28.91%
GED or alternative credential	4.96%	4.75%	2.45%	9.77%	10.52%	3.09%	3.47%	12.57%	4.22%	2.65%
Some college, less than 1 year	5.40%	5.15%	7.98%	6.52%	5.91%	6.30%	7.76%	9.40%	3.10%	7.10%
Some college, 1 or more years, no degree	16.40%	16.69%	17.00%	16.49%	13.49%	14.22%	16.94%	12.40%	16.98%	7.17%
Associate's degree	6.69%	6.46%	7.04%	12.63%	6.83%	6.07%	9.00%	11.27%	5.72%	6.60%
Bachelor's degree	14.80%	15.02%	22.37%	12.63%	6.21%	3.99%	21.44%	5.04%	9.57%	24.25%
Master's degree	6.11%	6.18%	8.97%	3.26%	5.82%	2.59%	7.76%	0.74%	9.01%	5.52%
Professional school degree	1.89%	1.98%	0.94%	1.53%	0.00%	0.00%	2.32%	2.27%	2.06%	1.79%
Doctorate degree	1.88%	2.09%	1.15%	0.00%	0.00%	0.00%	0.57%	0.00%	1.78%	1.43%

Across the MATS area overall, for persons age 25 or over

- 14.08% of all persons had not completed high school;
- 32.76% had a high school degree or equivalent;
- 21.80% had some form of college education, but had not yet completed an undergraduate degree;
- 21.49% had either an Associate's or Bachelor's degree;

- 9.87% had a graduate or professional degree

Overall, the median level of educational attainment is having had some college training, but not yet having completed a degree. Although this is fairly consistent across all MATS sub areas, there are significant differences between the MATS sub areas in terms of percentage of population with college degrees:

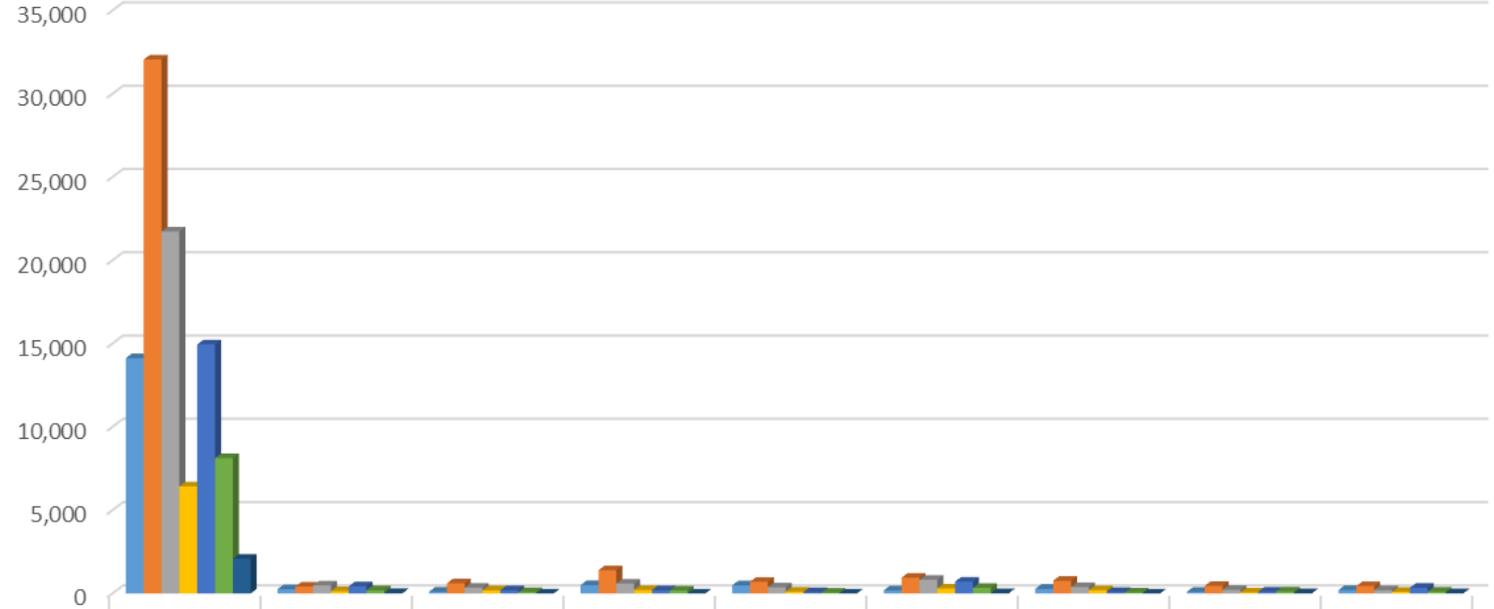
- The Northwest and Southeast portions of the MATS Area of Jones County (Tract 301.01 Block Group 1, Tract 301.03, Block Group 1, and Tract 303.01, Block Group 2) have substantially higher proportions of their population age 25 and older with an Associates or Bachelor's Degree (29.41%, 25.27%, and 30.44% respectively) compared to the MATS Area overall (21.49%)
- The Northwest and Southeast portions of the MATS Area of Jones County (Tract 301.01 Block Group 1, and Tract 303.01, Block Group 2) and the Western portion of the Monroe County MATS Area (Tract 503.01, Block Group 3) all have proportions of population who have Master's Degrees (8.97%, 7.76% and 9.01%, respectively) that are higher than the MATS Area overall (6.11%).
- The highest concentration of population with Professional or Doctoral Degrees are concentrated in Macon Bibb County or the Monroe County MATS Area. This is consistent with the fact that Macon-Bibb contains the regional medical centers, universities, as well as the regional State and Federal courthouses.

The proportion of Limited English Proficiency (LEP) population in the MATS Area is a significant considerations in determining the scope and methods most appropriate to meet the requirements for public participation, as set forth under Title VI of the Civil Rights Act of 1964, Executive Order 13166, FTA Circular 4702.1B and the FAST Act. The current MATS strategies for engagement with the general public (including LEP populations) are detailed in the MATS Public Participation Plan (most recently updated in September, 2020). The LEP population is defined as those persons who speak English either "Not well" or "Not at all" according to the U.S. Census. Following that definition, the data for Figure 3-14 on LEP population for the 2015 Base Year comes from the American Community Survey, Tables B16004.

Under the rules set forth in FTA Circular 4702.1B, if a LEP population of 1,000 persons or 5% of the area population (whichever threshold is lower) exists in a transit service area, then a formal Language Assistance Program (LAP) needs to be established to support the specific LEP population. Based on the data presented in Figure 3-14, the only portion of the MATS area where this might be a concern is Bibb County.

Focusing on Bibb County, although none of the identified language groups meet either the 1,000 person or 5% thresholds, the Spanish speaking population is getting close; as of 2015, the estimated number of Spanish speaking population who spoke English either "Not well" or "Not at all" was 837. That number increased to 862 by the 2015-2019 American Community Survey (i.e., the latest information available as of the writing of this report). It is possible that, as a result of the 2020 Census, the 1,000 person threshold may be exceeded, at which point a formal LAP will need to be developed. MATS staff will continue to monitor this trend, and update the strategies in the MATS Public Participation Plan as necessary.

DRAFT Educational Attainment for Population in MATS Area Age 25 Years and Over (ACS 2015 1-Year and ACS 2015 5-Year) DRAFT



	Bibb County	Jones County Census Tract 301.01 Block Group 1	Jones County Census Tract 301.03 Block Group 1	Jones County Census Tract 301.04 Block Group 1	Jones County Census Tract 301.04 Block Group 2	Jones County Census Tract 303.01 Block Group 2	Jones County Census Tract 303.02 Block Group 3	Monroe County Census Tract 503.01 Block Group 3	Monroe County Census Tract 503.02 Block Group 3
■ Less Than High School Completion	14,132	253	101	500	487	184	279	97	203
■ High School Degree or Equivalent	32,057	410	605	1,390	702	949	761	455	440
■ Some College, No Degree	21,733	479	346	594	365	818	385	214	199
■ Associate's Degree	6,426	135	190	209	108	298	199	61	92
■ 4 Year Bachelor's Degree	14,947	429	190	190	71	710	89	102	338
■ Master's Degree or Professional School Degree	8,126	190	72	178	46	334	53	118	102
■ Doctorate Degree	2,084	22	0	0	0	19	0	19	20

Figure 3-14: Educational Attainment for Population in MATS Area Age 25 Years and Over

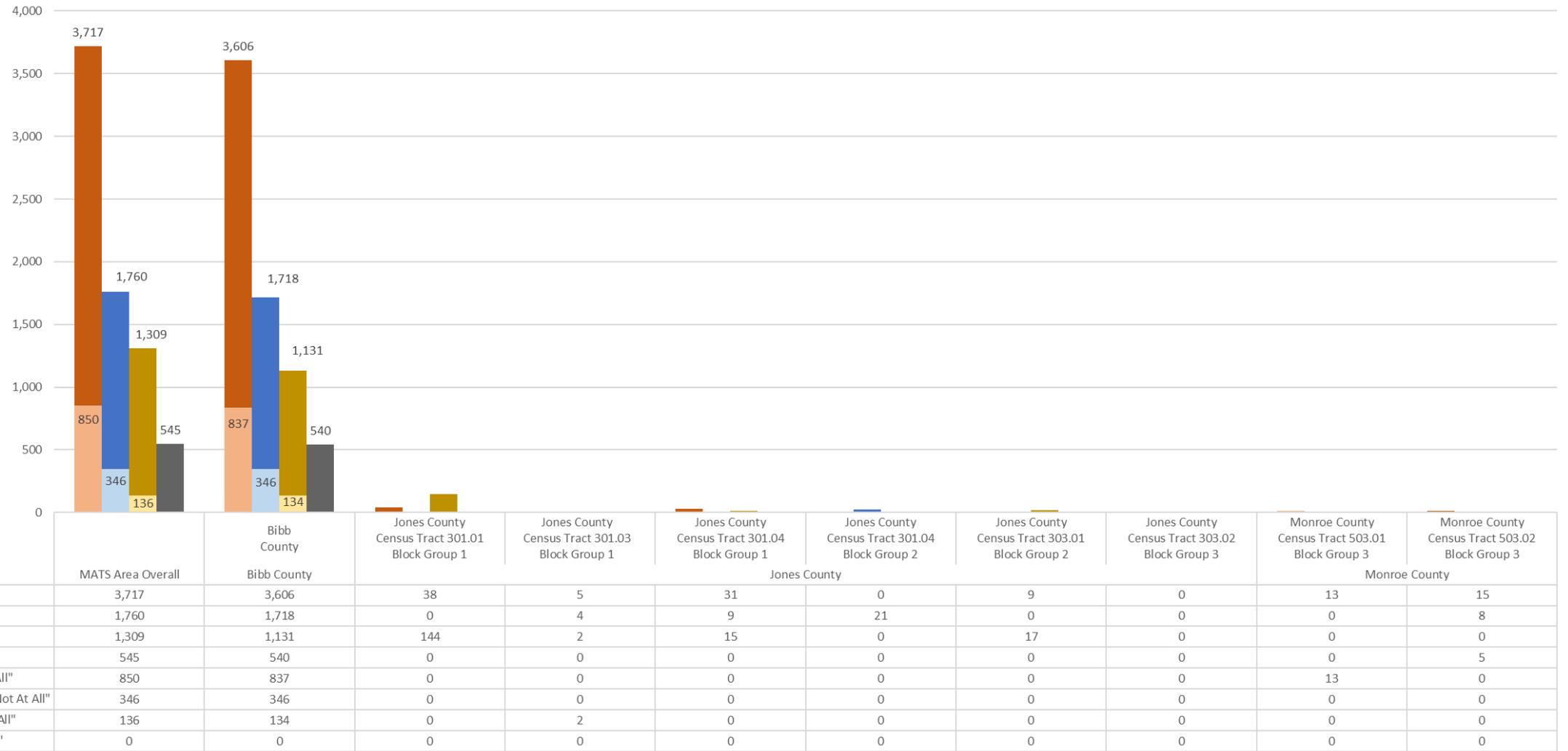


Figure 3-15: Summary of Non English Speaking Populations Age 5 and Older, by Language Group, per MATS Area

Means of Travel to Work

Figures 3-16a through 3-21 summarize the commuting behavior observed in the MATS Area around 2015. For this particular parameter, the data come from the American Community Survey 2013 – 2017 5 Year dataset. The reason for using this particular dataset, as opposed to the 2015 vintage, is that the tables in this topic area did not exist uniformly across all data tables until after 2015. This discrepancy stems from the privacy and minimum data cell size requirements that must be met before the American Community Survey will produce a dataset on a particular topic. Since data was not available for the 2015 base year, the 2013 – 2017 period was chosen because the 2015 planning base year sits in the middle of the time period covered by that particular dataset.

Values for the charts and tables below come from ACS 2013 - 2017 Tables B08007 (Sex of Workers By Place of Work – State and County Level) Table B08301 (Means of Transportation to Work), and Tables B08134 (Means of Transportation to Work by Travel Time to Work).

The data supports the following conclusions for the 2013 to 2017 period:

- The MATS area is a regional employment destination, focusing primarily on Bibb County. Approximately 74.30% of persons who worked in the MATS area also live within the MATS planning area. However, that percentage varies substantially by particular sub area:
 - 82.60% of persons who work in Bibb County also resided in Bibb County
 - In the Jones County portion of the MATS area, the percentage of workers who both work and live in Jones County varies from 11.94% (Census Tract 301.03, Block Group 1) to 35.15% (Census Tract 301.04, Block Group 2)
 - For the two census block groups in the Monroe County portion of the MATS area, the percentage of workers who both work and live in Monroe County are 16.52% (Census Tract 503.02, Block Group 3) and 20.81% (Census Tract 503.01, Block Group 3)
- The predominant mode for travel to work is single occupancy vehicle.
 - For the MATS Area overall, the percentage of workers who drove alone to work was 82.57%; by carpool, 9.68%; by Public Transportation, 0.90%
 - For Bibb County, the percentage of workers who drove alone to work was 81.96%; by carpool, 9.86%; by Public Transportation, 1.01%
 - For the Jones County portion of the MATS area, the percentage of workers who drove alone to work vary from 80.85% (Census Tract 303.02, Block Group 3) to 89.46% (Census Tract 301.03, Block Group 1); by carpool, 5.61% (Census Tract 303.01, Block Group 2) to 13.39% (Census Tract 303.02, Block Group 3); by Public Transportation, 0.13% (Census Tract 303.02, Block Group 3) to 1.02% (Census Tract 301.04, Block Group 1)
 - For the two census block groups in the Monroe County portion of the MATS area, the percentage of workers who drove alone to work were 81.31% (Census Tract 503.01, Block Group 3) and 91.89% (Census Tract 503.02, Block Group 3); by carpool, 11.46% and 3.62% (respectively). Neither block group in the Monroe County portion of the MATS area had any recorded use of public transport for commute to work. This is not surprising, given that Monroe County was not served by any public transport system in 2015.

- Commute times vary across the area:
 - For the MATS area overall, the median commute time by private car is approximately 20 minutes. For Bibb County in particular, the median commute time is slightly lower: 19.36 minutes for single occupancy vehicle, and 19.45 minutes for carpool.
 - For Jones County, the median commute time can vary widely. For single occupancy vehicle commutes, the median travel time can vary from a low of 21.94 minutes (originating from Census Tract 301.04, Block Group 2) to a high of 34.78 minutes (originating from Census Tract 303.01, Block Group 2)
For carpool commutes, the median travel time from Jones County can vary from a low of 17.54 minutes (originating from Census Tract 301.03, Block Group 1) to a high of 35.39 minutes (originating from Census Tract 303.01, Block Group 2)
 - For Monroe County, single vehicle occupancy commutes are slightly longer (20.96 to 22.42 minutes compared to 19.36 minutes in Bibb County and 20.04 minutes for MATS area overall), while carpool commutes are substantially longer (45.23 to 60+ minutes, compared to 19.45 minutes in Bibb County and 19.94 minutes for MATS area overall). This discrepancy can most likely be explained by two facts:
 - The Monroe County portion of the MATS area is on the Northern border of the MATS MPO planning area. To the extent that any of the work commutes involve traveling into or through downtown Macon/central Bibb County, they are commuting from longer distances than most residents in the Macon-Bibb or Jones County area.
 - The Monroe County portion of the MATS area is served by the I-75 and I-475 corridors. It is reasonable to anticipate most work commutes will be directed onto these interstate corridors during rush hour.
 - The median travel time for work commutes involving public transport in the MATS area is approximately 46 minutes (i.e., more than twice as long as the time for either commuting alone or by carpool).
Discussion of this finding should be restricted to the Bibb County area, since in 2015 Jones County only has demand response rural transit provision under the FTA 5311 program; Monroe County had no transit service provision of any kind at that time.

Workers By Place of Work - State and County Level: MATS Area Overall, and Bibb County (2017 ACS 5-Year Estimate)

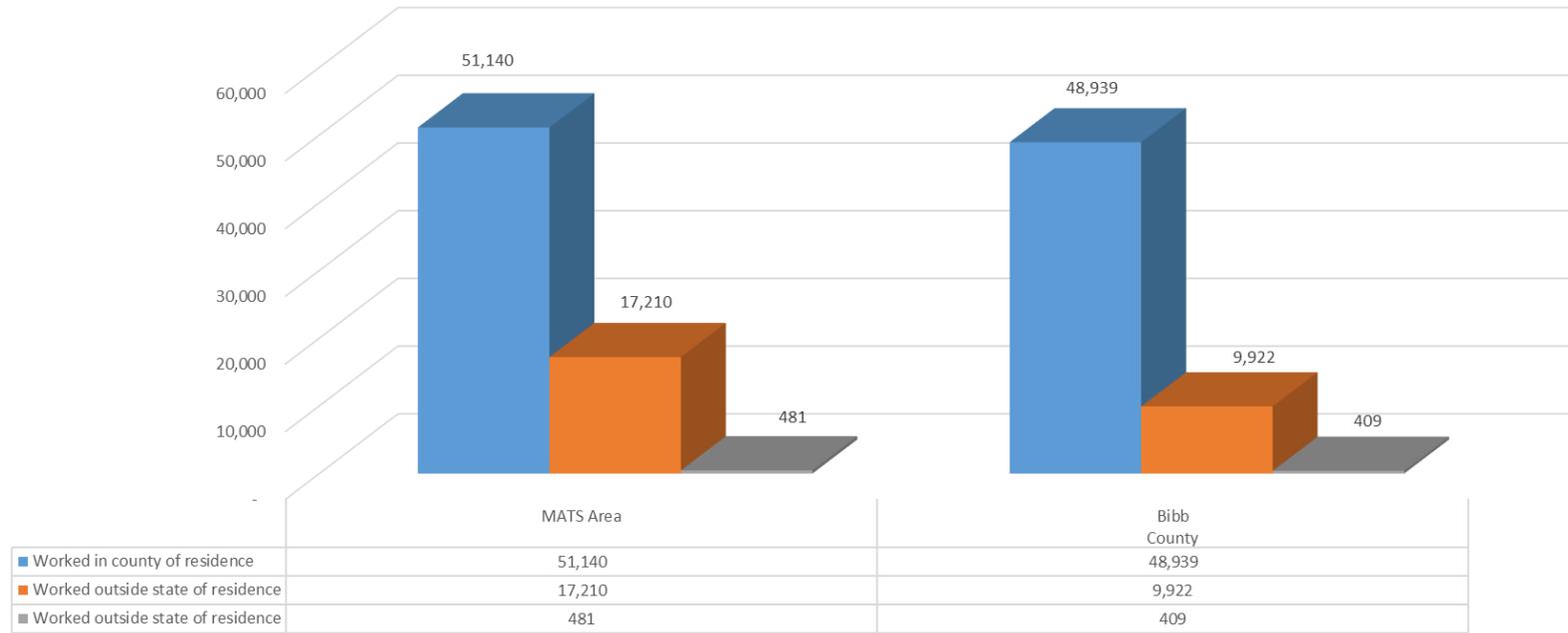


Figure 3-16a: Workers By Place of Work – State and County Level: MATS Area Overall, and Bibb County

Workers By Place of Work - State and County Level: Jones County MATS Area (2017 ACS 5-Year Estimate)

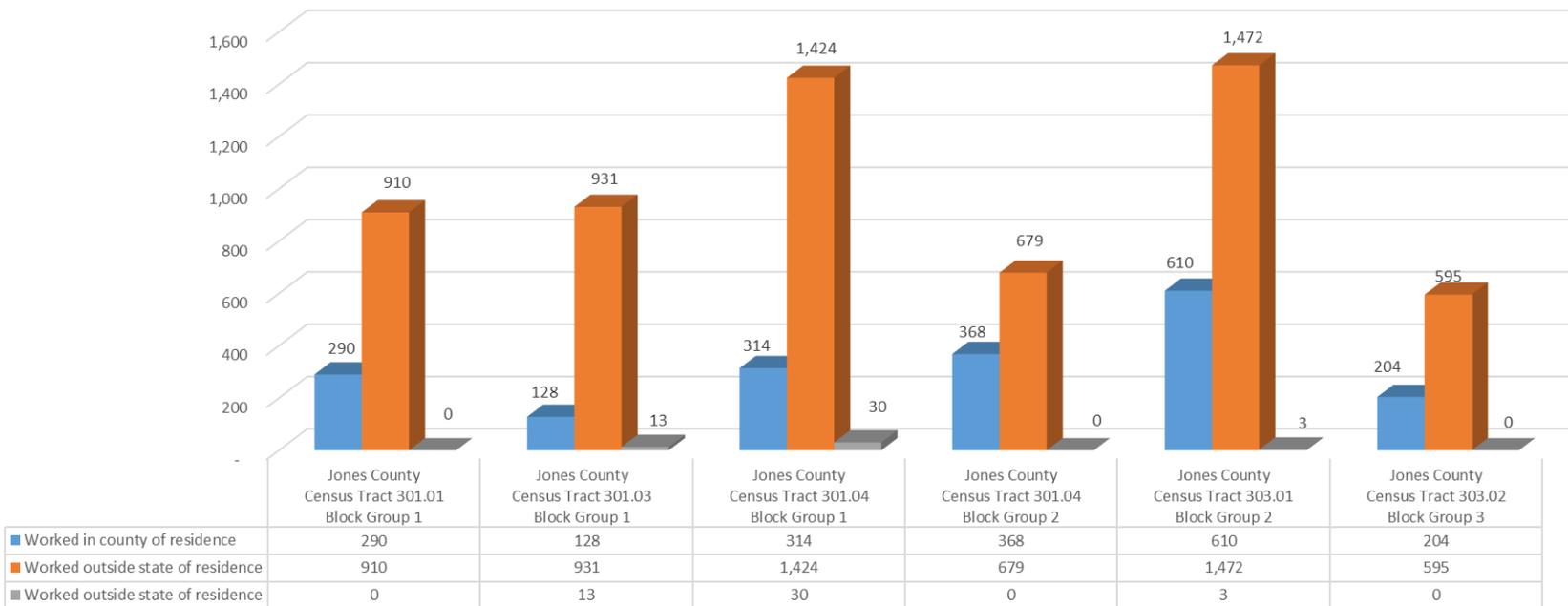


Figure 3-16b: Workers By Place of Work – State and County Level: Jones County MATS Area

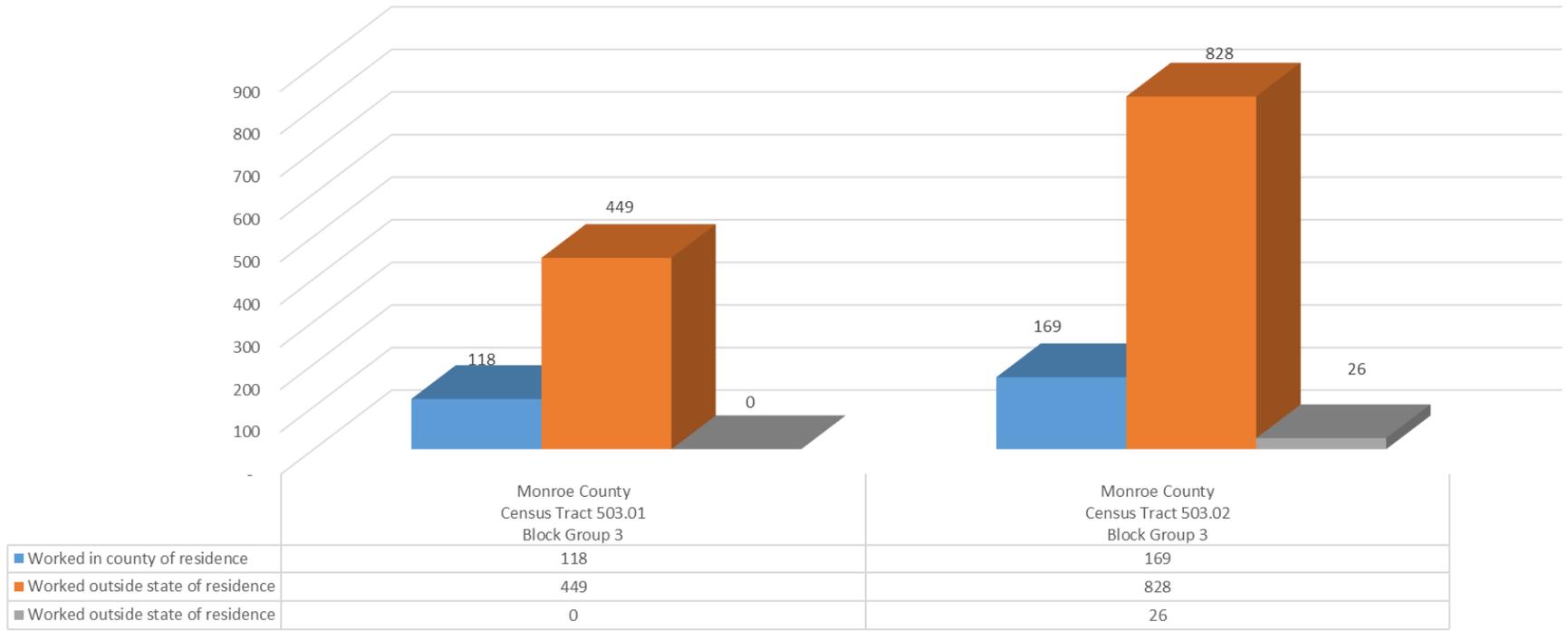
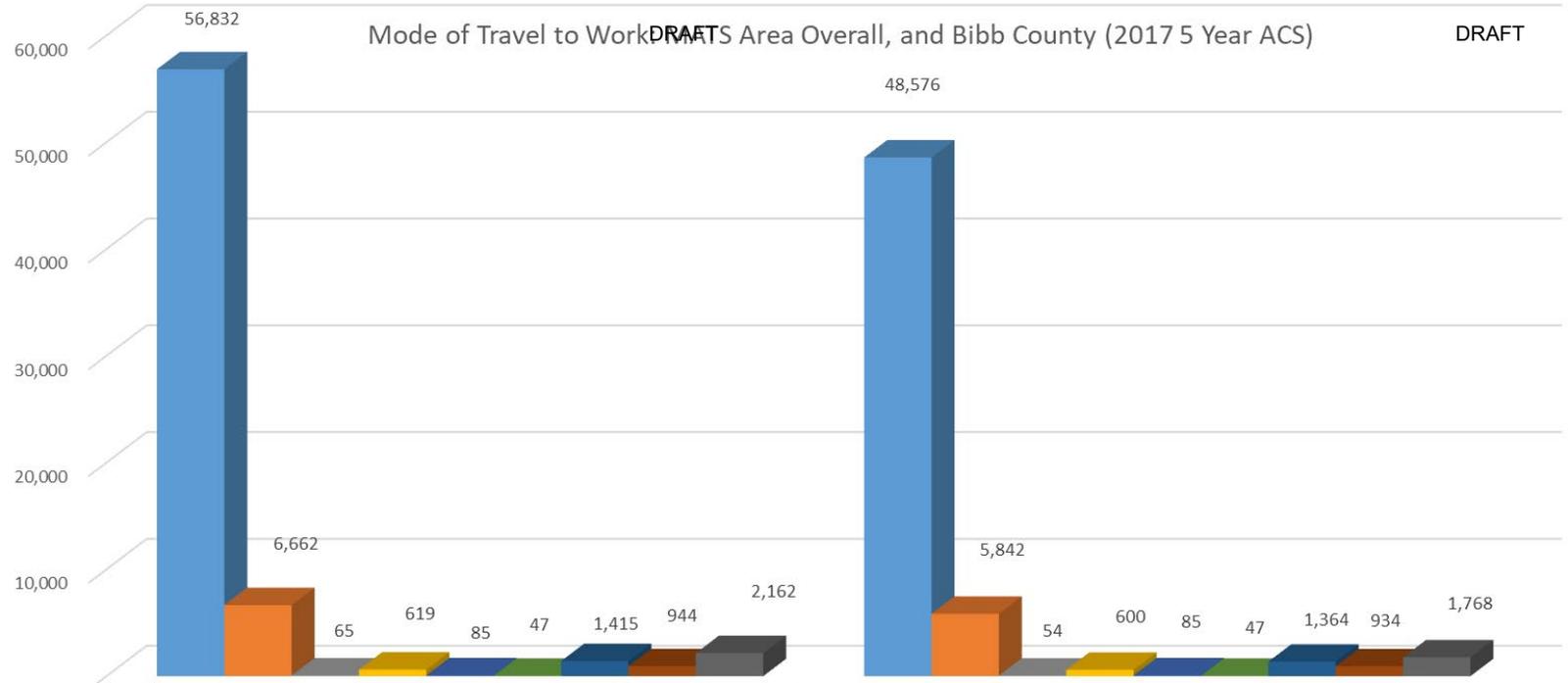


Figure 3-16c: Workers By Place of Work – State and County Level: Monroe County MATS Area

Mode of Travel to Work: MATS Area Overall, and Bibb County (2017 5 Year ACS)



	MATS Area	Bibb County
■ Drove alone	56,832	48,576
■ Carpooled:	6,662	5,842
■ Motorcycle	65	54
■ Public transportation (excluding taxicab):	619	600
■ Taxicab	85	85
■ Bicycle	47	47
■ Walked	1,415	1,364
■ Other means	944	934
■ Worked at home	2,162	1,768

Figure 3-17a: Mode of Travel to Work: MATS Area Overall, and Bibb County

Mode of Travel to Work: Jones County MATS Area (2017 5 Year ACS)

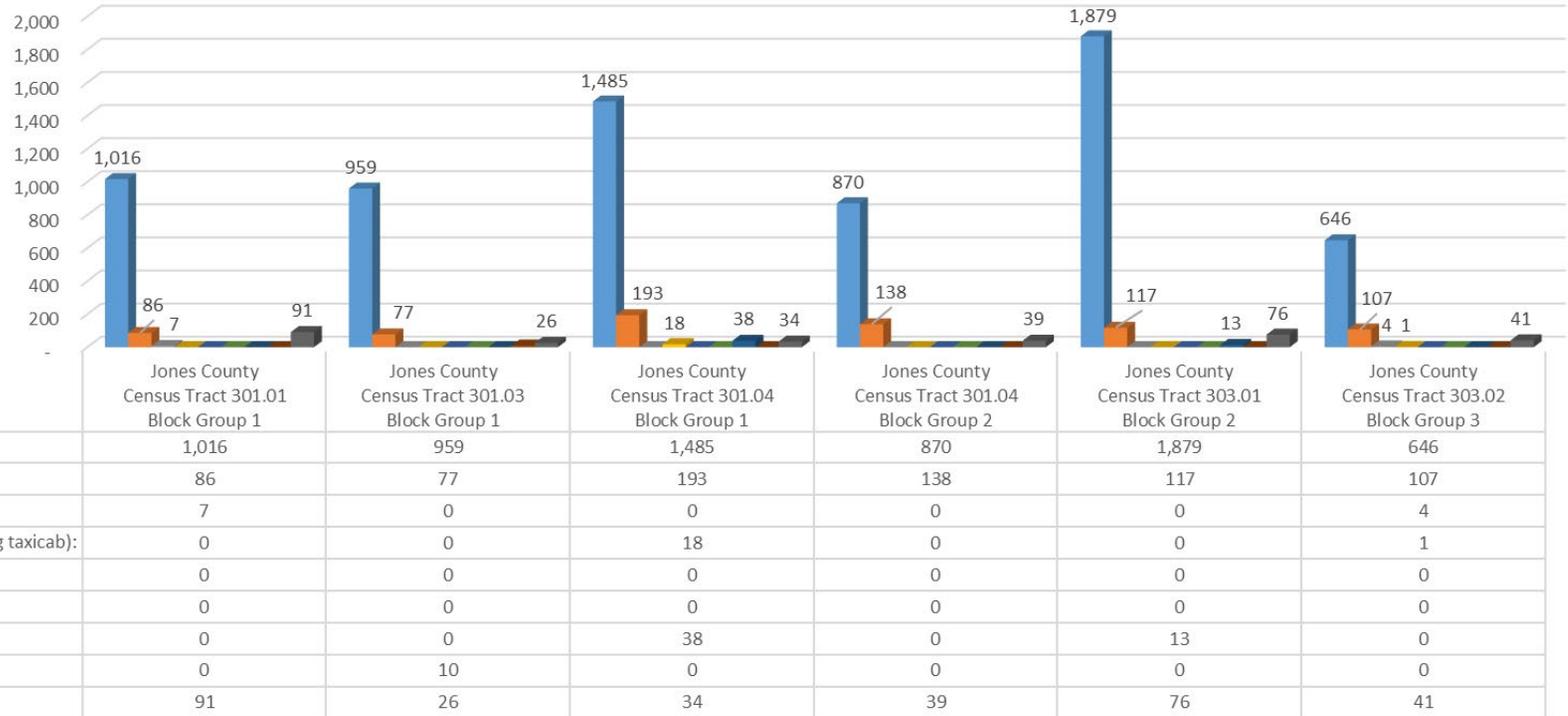


Figure 3-17b: Mode of Travel to Work: Jones County MATS Area

Mode of Travel to Work: Monroe County MATS Area (2017 5 Year ACS)

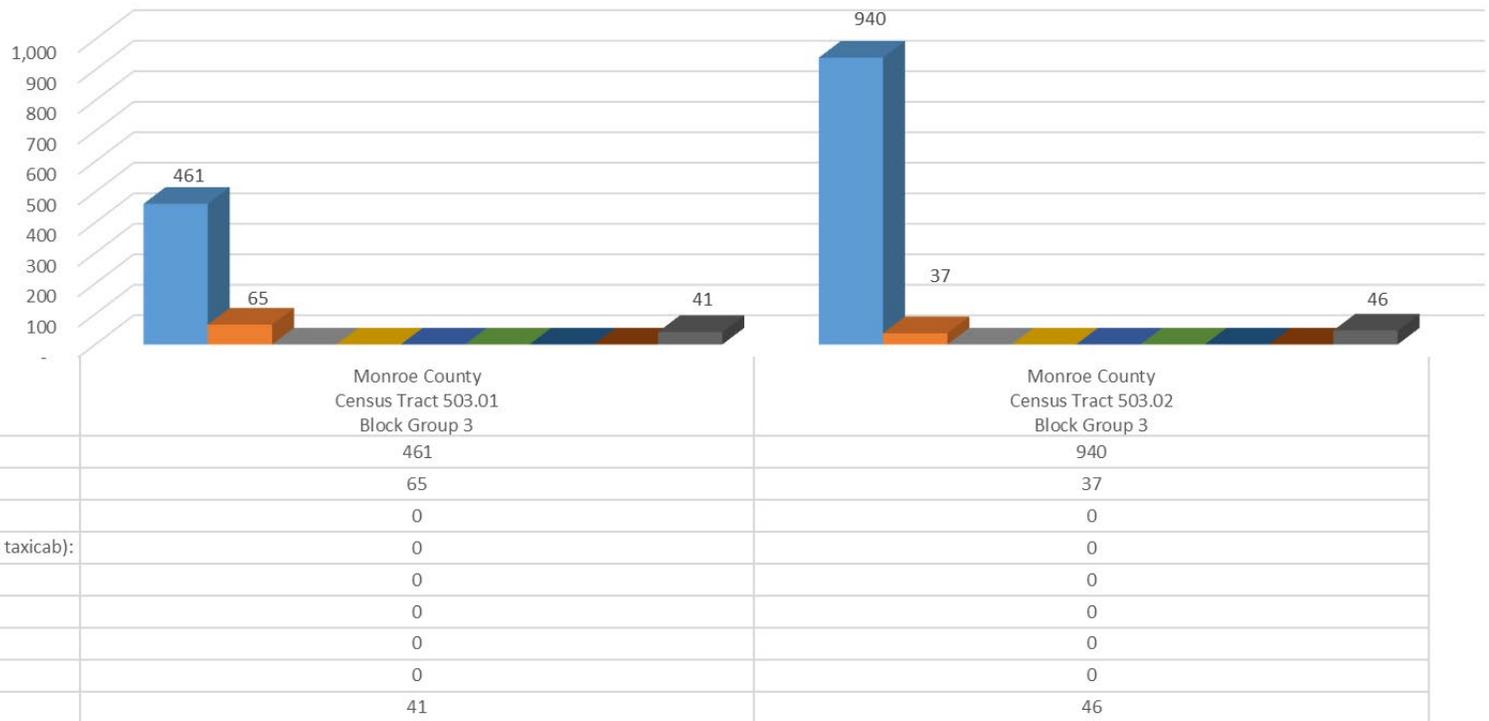


Figure 3-17c: Mode of Travel to Work: Jones County MATS Area

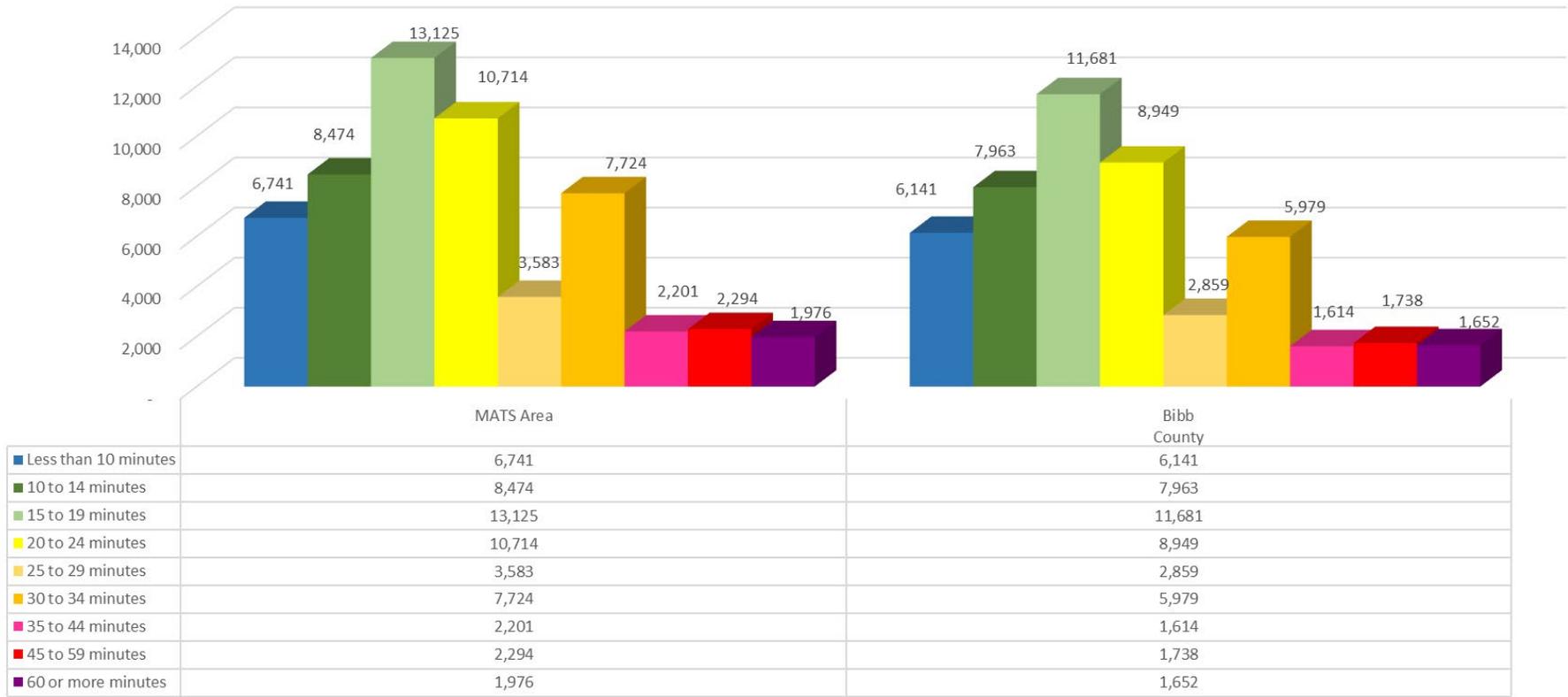


Figure 3-18a: Distribution of Commute Times for Persons Who Drove Alone: MATS Area Overall, and Bibb County

Distribution of Commute Times for Persons Who Drove Alone: Jones County MATS Area (2017 5 Year ACS)

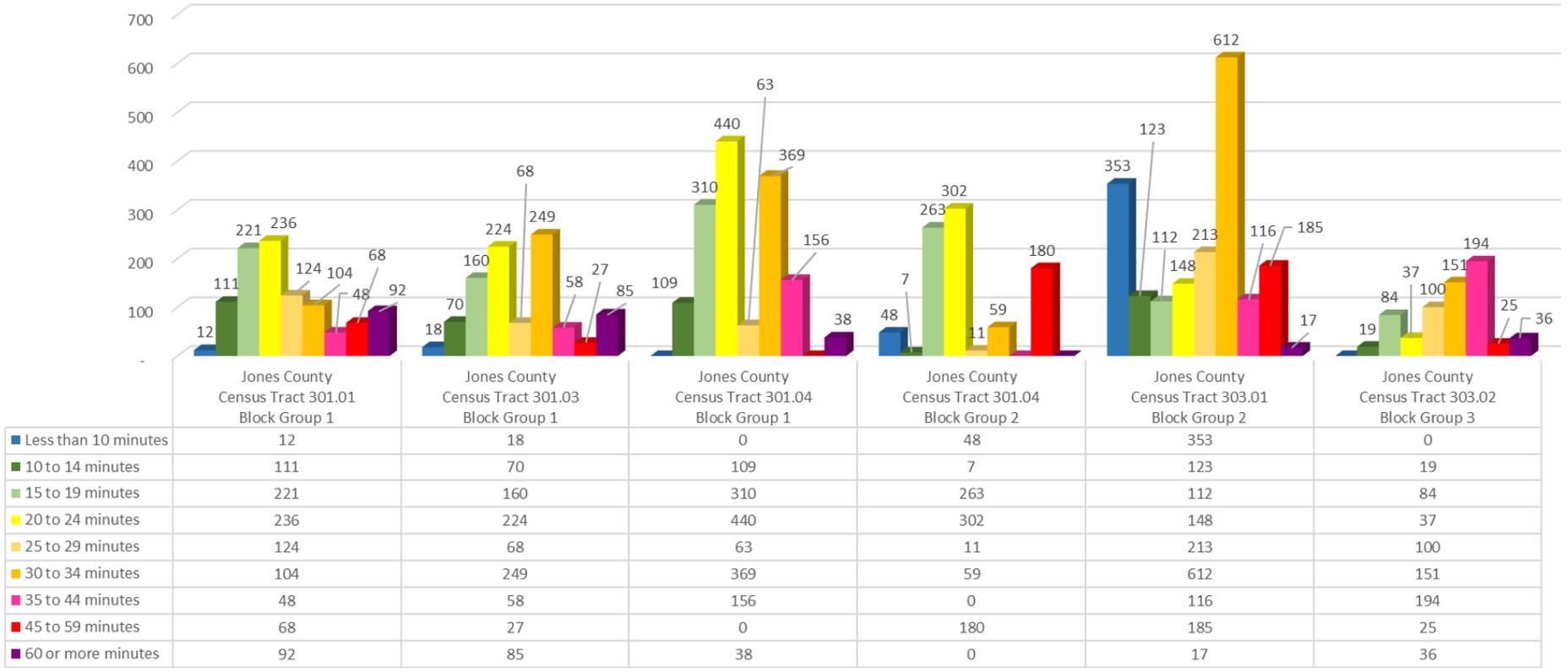


Figure 3-18b: Distribution of Commute Times for Persons Who Drove Alone: Jones County MATS Area

DRAFT Distribution of Commute Times for Persons Who Drove Alone: Monroe County MATS Area (2017 5 Year ACS) DRAFT

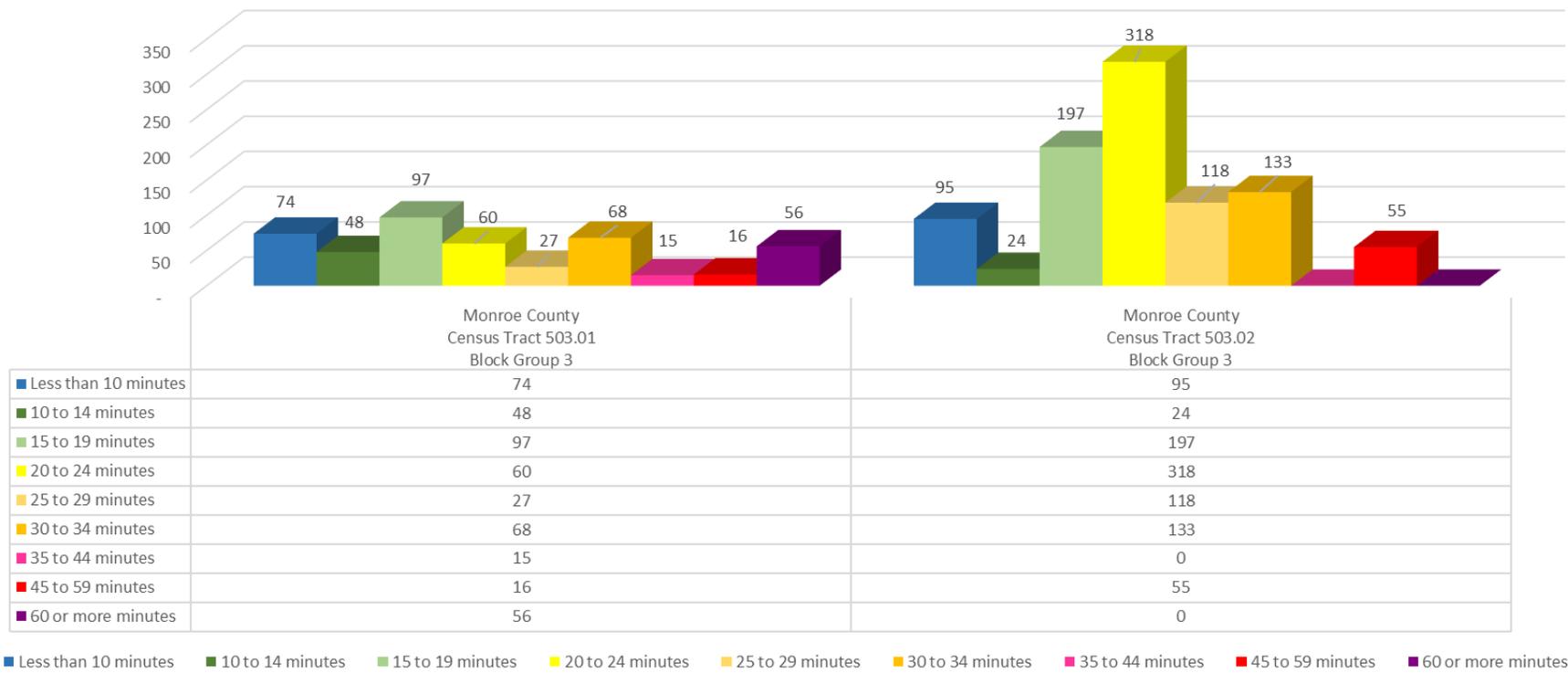


Figure 3-18c: Distribution of Commute Times for Persons Who Drove Alone: Monroe County MATS Area

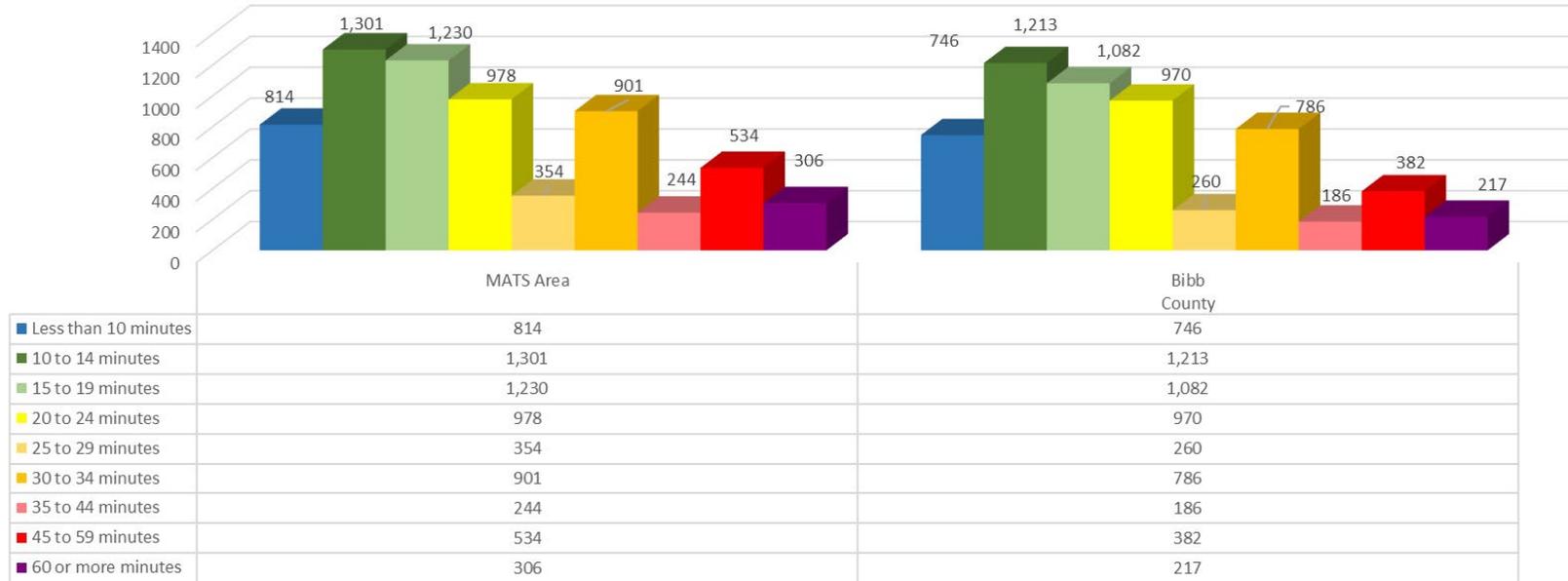


Figure 3-19a: Distribution of Commute Times for Persons Who Carpooled: MATS Area Overall, and Bibb County

Distribution of Commute Times in for Persons Who Carpooled: Jones County MATS Area (2017 5 Year ACS)

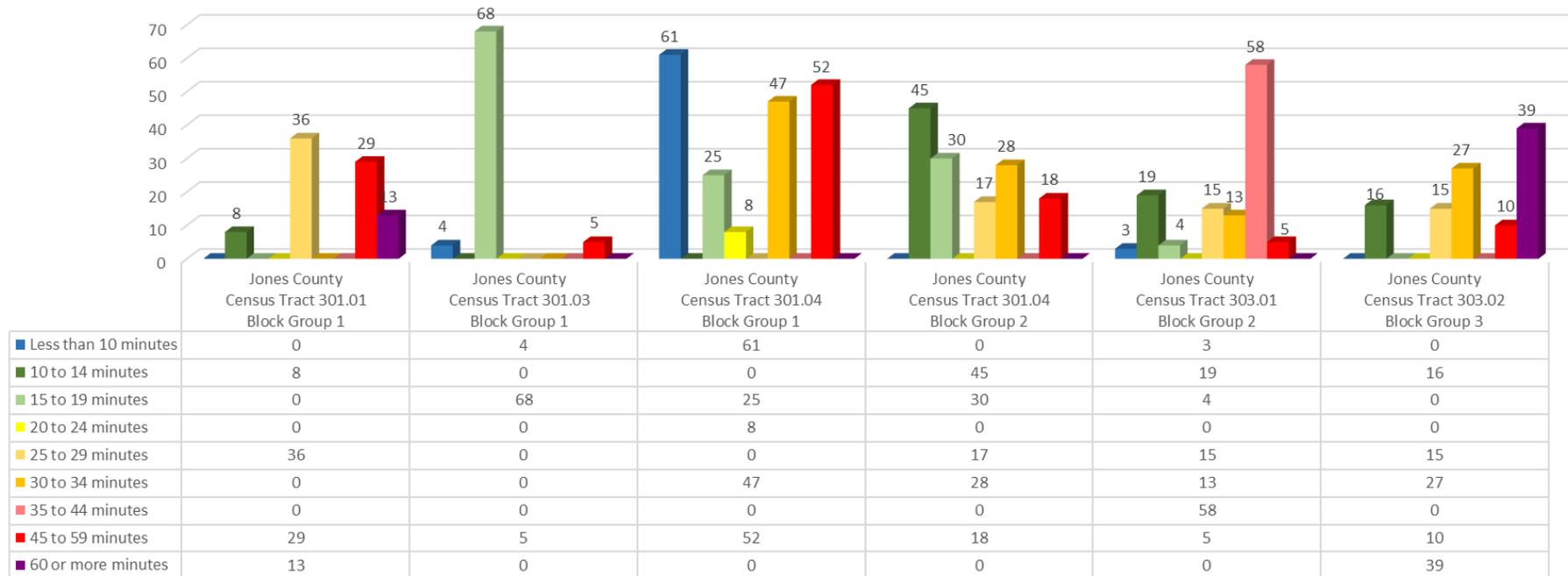


Figure 3-19b: Distribution of Commute Times for Persons Who Carpooled: Jones County MATS Area

Distribution of Commute Times for Persons Who Carpooled: Monroe County MATS Area (2017 5 Year ACS)

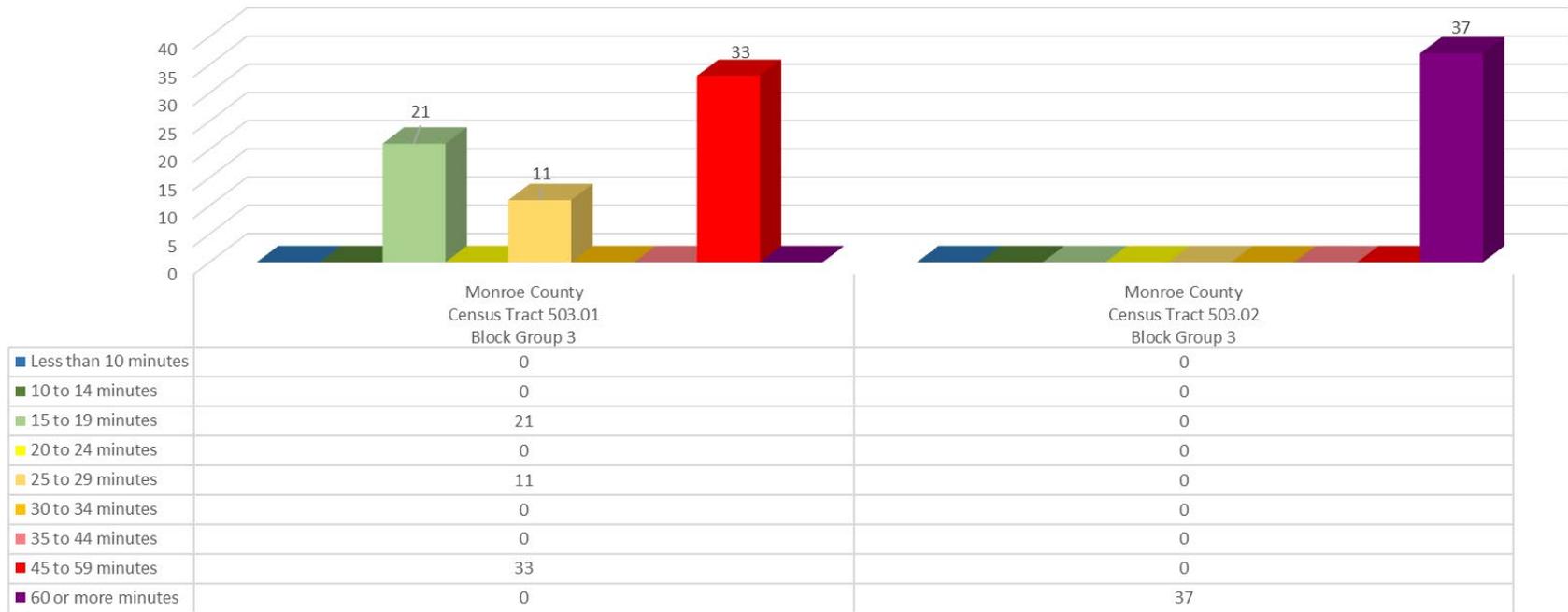


Figure 3-19c: Distribution of Commute Times for Persons Who Carpooled: Monroe County MATS Area

Distribution of Work Commute Times in MATS Area for Persons Who Used Public Transportation (2017 5 Year ACS)

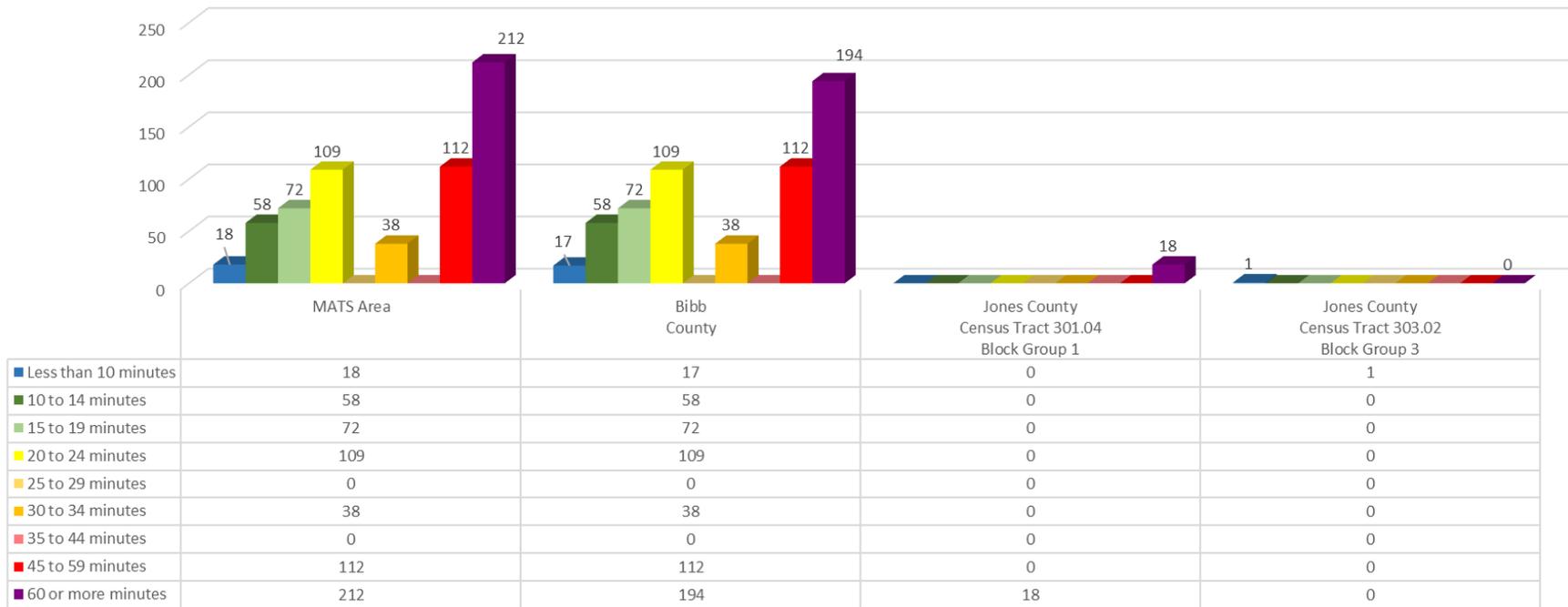


Figure 3-20: Distribution of Commute Times for Persons Who Used Public Transportation: MATS Area Overall, and Bibb County

Median Work Commute Times by Major Travel Modes: MATS Area Overall, and Bibb County (2017 5 Yr ACS)

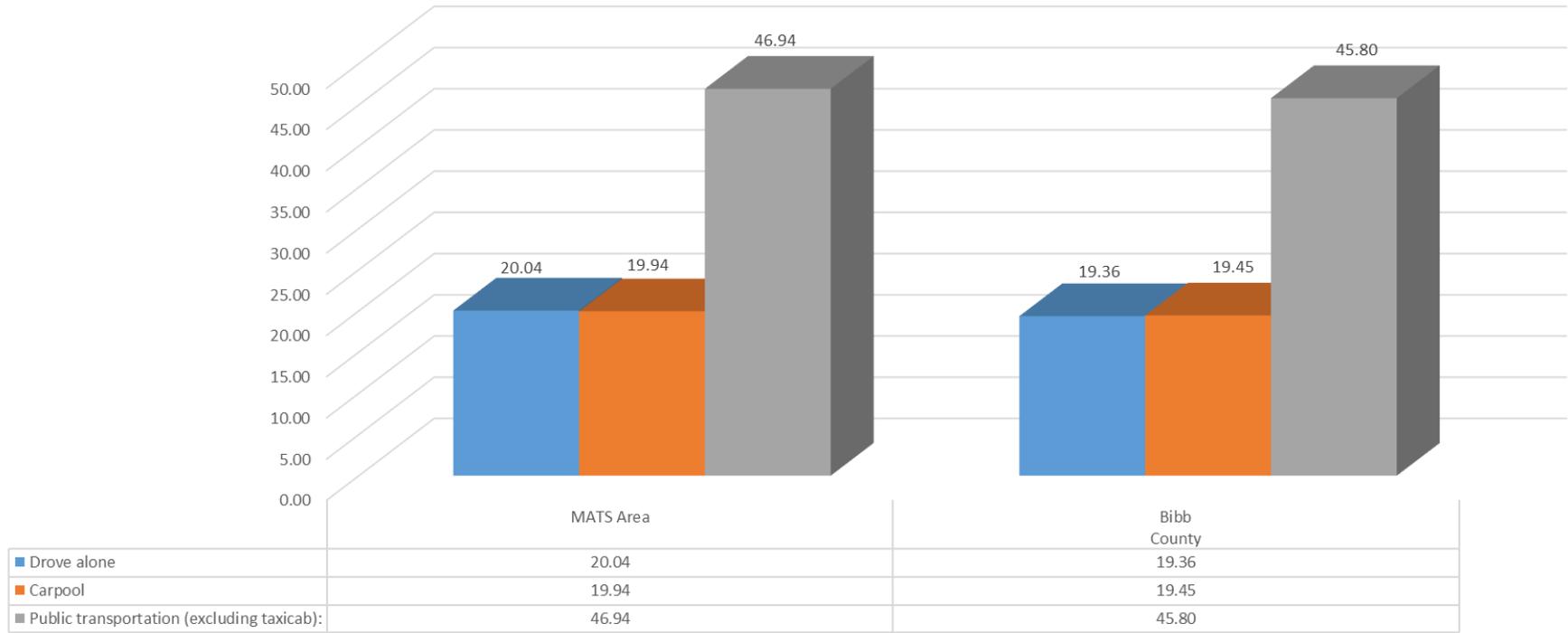


Figure 3-21a: Median Work Commute Times by Major Travel Modes: MATS Area Overall, and Bibb County

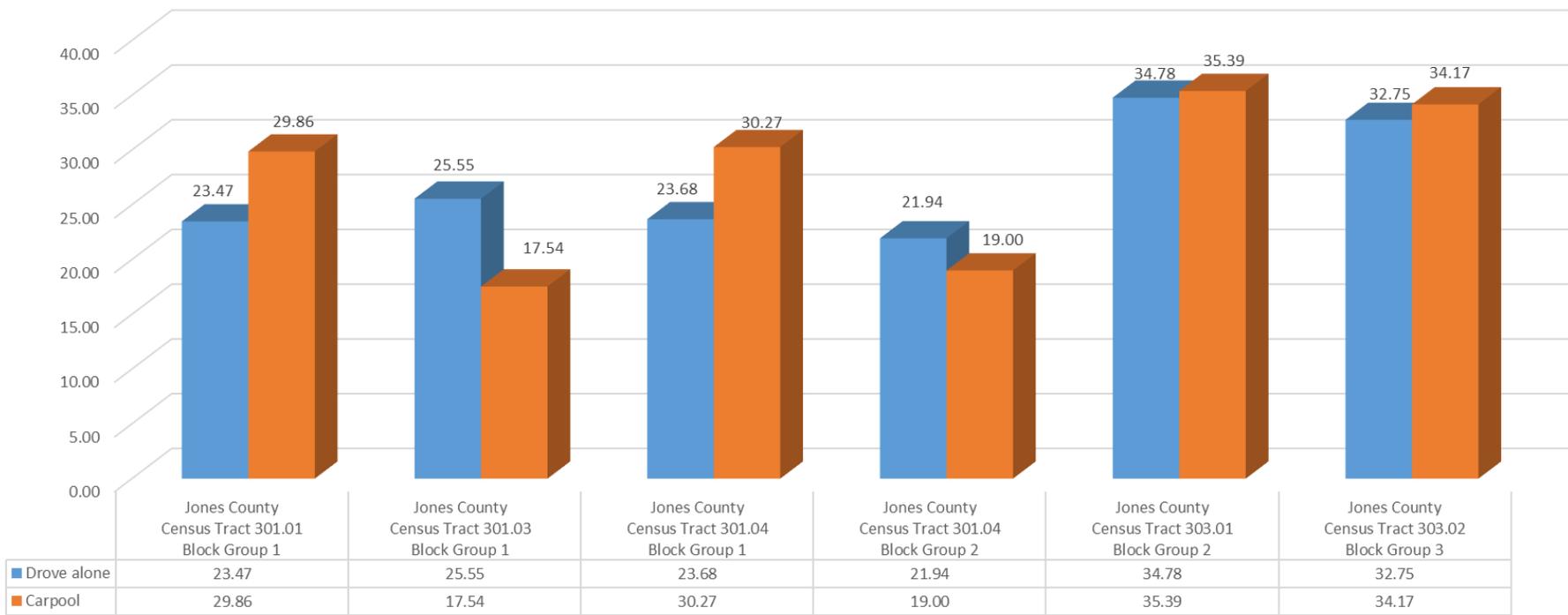


Figure 3-21b: Median Work Commute Times by Major Travel Modes: Jones County MATS Area

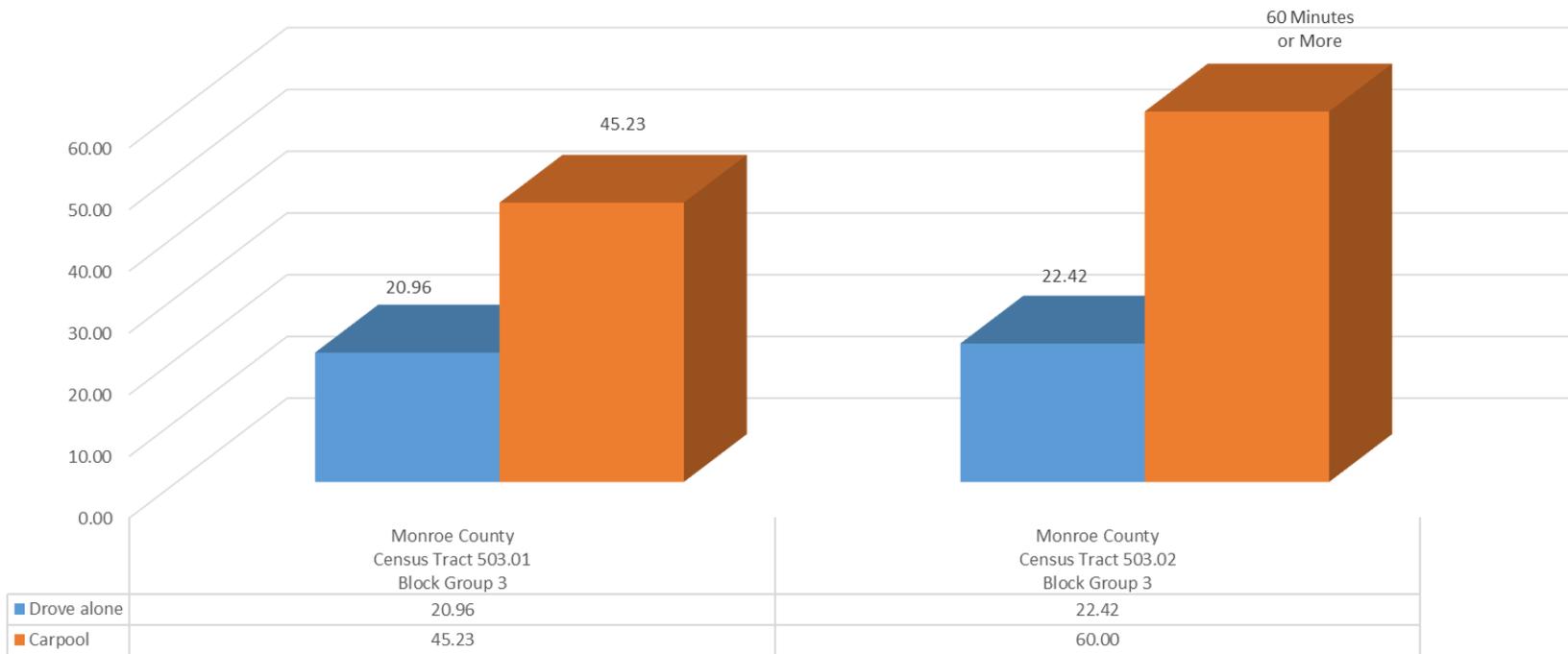


Figure 3-21c: Median Work Commute Times by Major Travel Modes: Monroe County MATS Area

Employment

As of 2015, there were approximately 119,613 jobs in the MATS areas. All employment data for the 2015 base year are collected from the National Establishment Time-Series Database, 2019 Release (NETS 2019), produced by Walls & Associates.

Figures 3-22a through 3-22c aggregate these jobs according to the categories specified in the *Georgia MPO Travel Demand Models Socio-Economic Data Development Guides (2018)*, prepared by HNTB Corporation and adopted by Georgia Dept. of Transportation (GDOT) Table 3-4 (next page) summarizes the 2015 employment counts by North American Industrial Classification (NAICS) category (2 digit level) by County for Bibb, Jones and Monroe Counties, by County and MPO area

In 2015, the vast majority of jobs (116,592 out of 119,613; 97.47%) were concentrated in the Macon-Bibb area. As the largest population center for the MATS area, this concentration would be consistent with expectations. The largest employment categories in all MATS areas are classified under the GDOT Modeling system as Service (n=83,970) and Retail (n=15,108). The high proportions concentrations of Manufacturing and Wholesale employment in the area Macon-Bibb sub-area reflect the fact that Macon-Bibb serves as a rail and logistics hub for the Norfolk-Southern Rail Road.

Table 3-4: Distribution of Employment by NAICS Category and GDOT Travel Demand Modeling Category, by County, across the MATS Area

NAICS Category	GDOT Model Category	MATS Area	Bibb County	Jones County		Monroe County	
				MATS MPO	Outside MPO Boundary	MATS MPO	Outside MPO Boundary
11 - Agriculture, Forestry, Fishing and Related Activities	Agriculture, Mining & Construction	268	221	35	88	12	643
21 - Mining	Agriculture, Mining & Construction	183	183	-	56	-	5
22 - Utilities Service Employment	Agriculture, Mining & Construction	401	371	30	54	-	212
23 - Construction	Agriculture, Mining & Construction	4,547	4,175	244	346	128	454
31 - Manufacturing	Manufacturing & TCUW	1,048	1,041	6	5	1	382
32 - Manufacturing	Manufacturing & TCUW	2,583	2,570	13	59	-	237
33 - Manufacturing	Manufacturing & TCUW	2,076	2,052	11	19	13	107
42 - Wholesale Trade	Manufacturing & TCUW	3,949	3,829	86	122	34	328
48 - Transportation and Warehousing	Manufacturing & TCUW	2,298	2,250	44	187	4	266
49 - Transportation and Warehousing	Manufacturing & TCUW	825	822	1	19	2	44
44 - Retail Trade	Retail	10,682	10,553	89	409	40	542
45 - Retail Trade	Retail	4,606	4,555	32	64	19	348
51 - Information	Services	2,429	2,381	37	17	11	66
52 - Finance and Insurance	Services	5,187	5,098	28	139	61	376
53 - Real Estate and Rental and Leasing	Services	2,947	2,851	64	86	32	240
54 - Professional, Scientific and Technical Services	Services	5,725	5,572	91	185	62	460
55 - Management of Companies and Enterprises	Services	107	105	2	-	-	4
56 - Administration and Waste Services	Services	10,388	9,895	318	468	175	795
61 - Educational Services	Services	12,113	11,841	233	1,039	39	1,213
62 - Health Care and Social Assistance	Services	19,691	19,252	94	583	345	1,499
71 - Arts, Entertainment and Recreation	Services	1,334	1,293	36	97	5	152
72 - Accommodation and Food Services	Services	11,670	11,489	142	419	39	938
81 - Other Services, except Public Administration	Services	6,098	5,848	211	350	39	525
92 - Government and Government Enterprises	Services	8,458	8,345	10	821	103	2,317

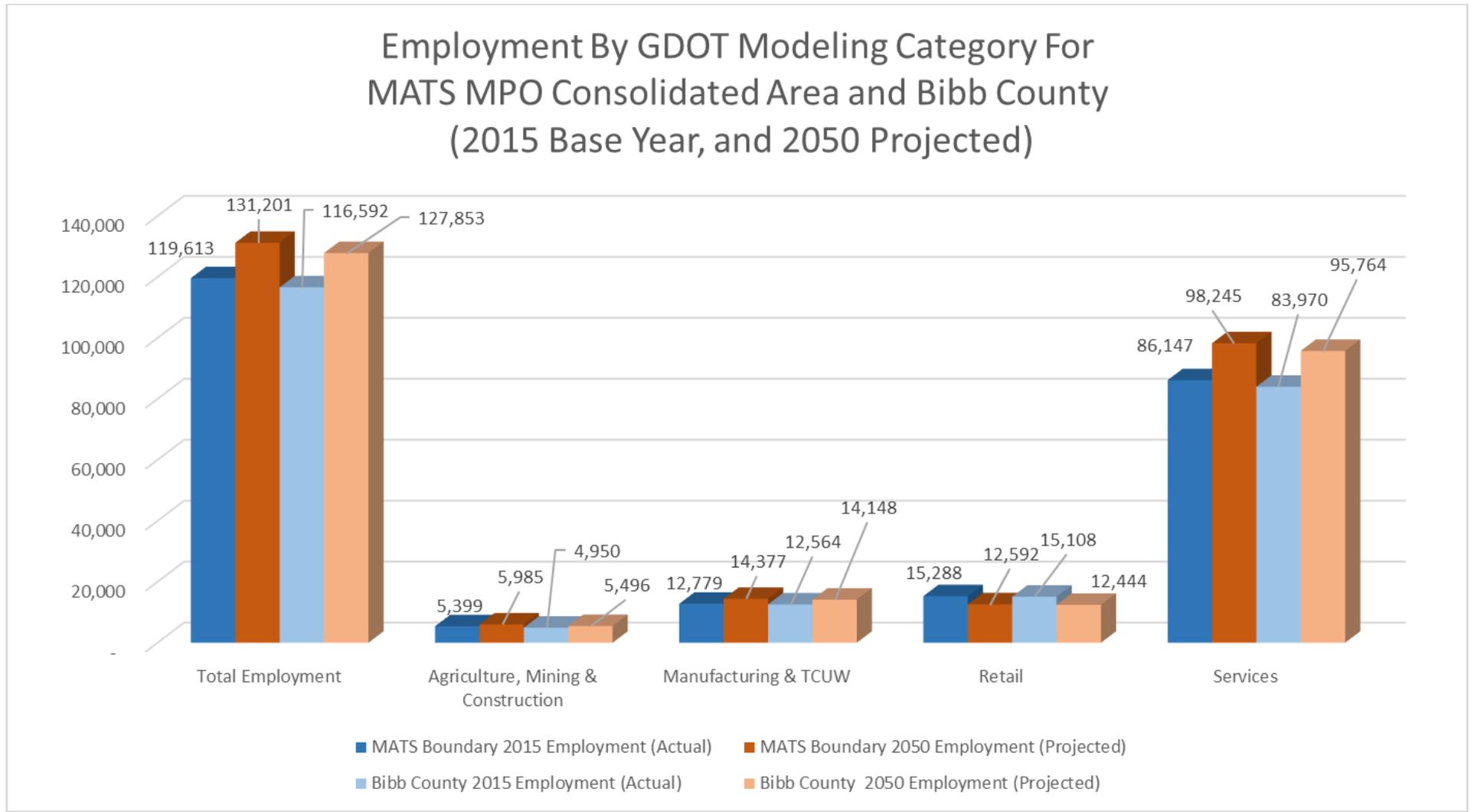


Figure 3-22a: Employment by GDOT Modeling Category for MATS MPO Consolidated Area and Bibb County (2015 Base Year, and 2050 Projected)

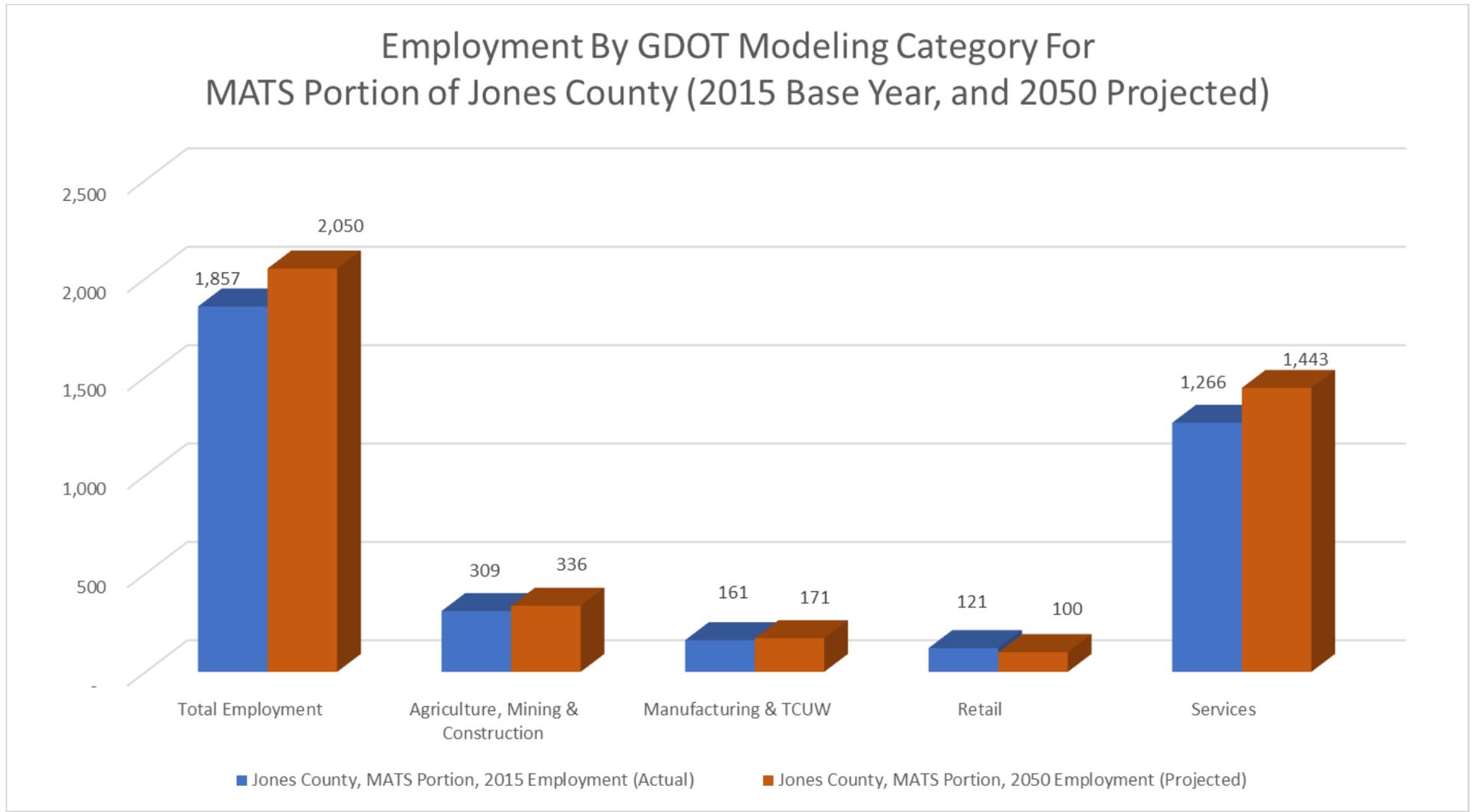


Figure 3-22b: Employment by GDOT Modeling Category for MATS Portion of Jones County (2015 Base Year, and 2050 Projected)

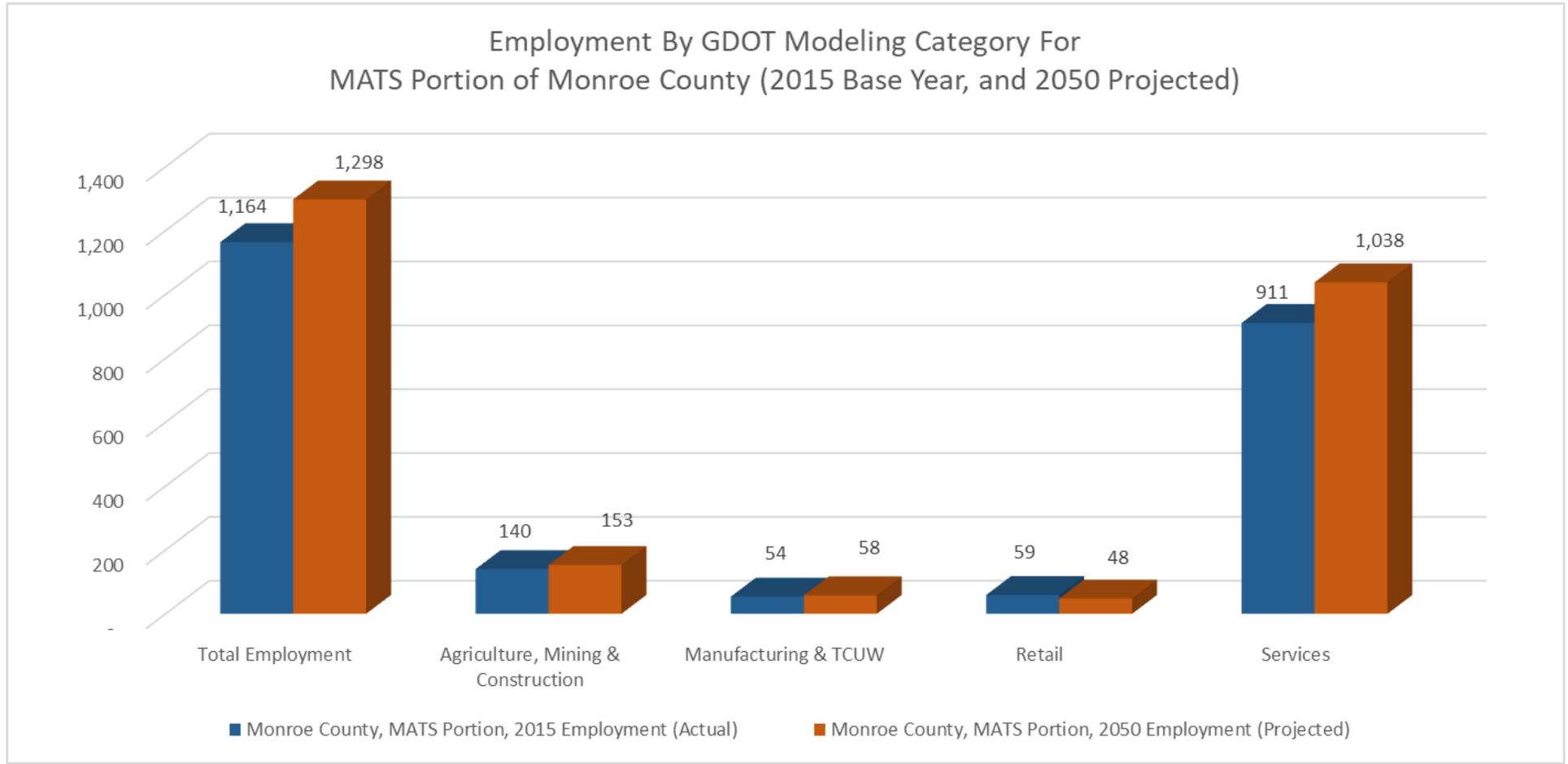


Figure 3-22c: Employment by GDOT Modeling Category for MATS Portion of Monroe County (2015 Base Year, and 2050 Projected)

GROWTH PROJECTIONS AND FUTURE LAND USE

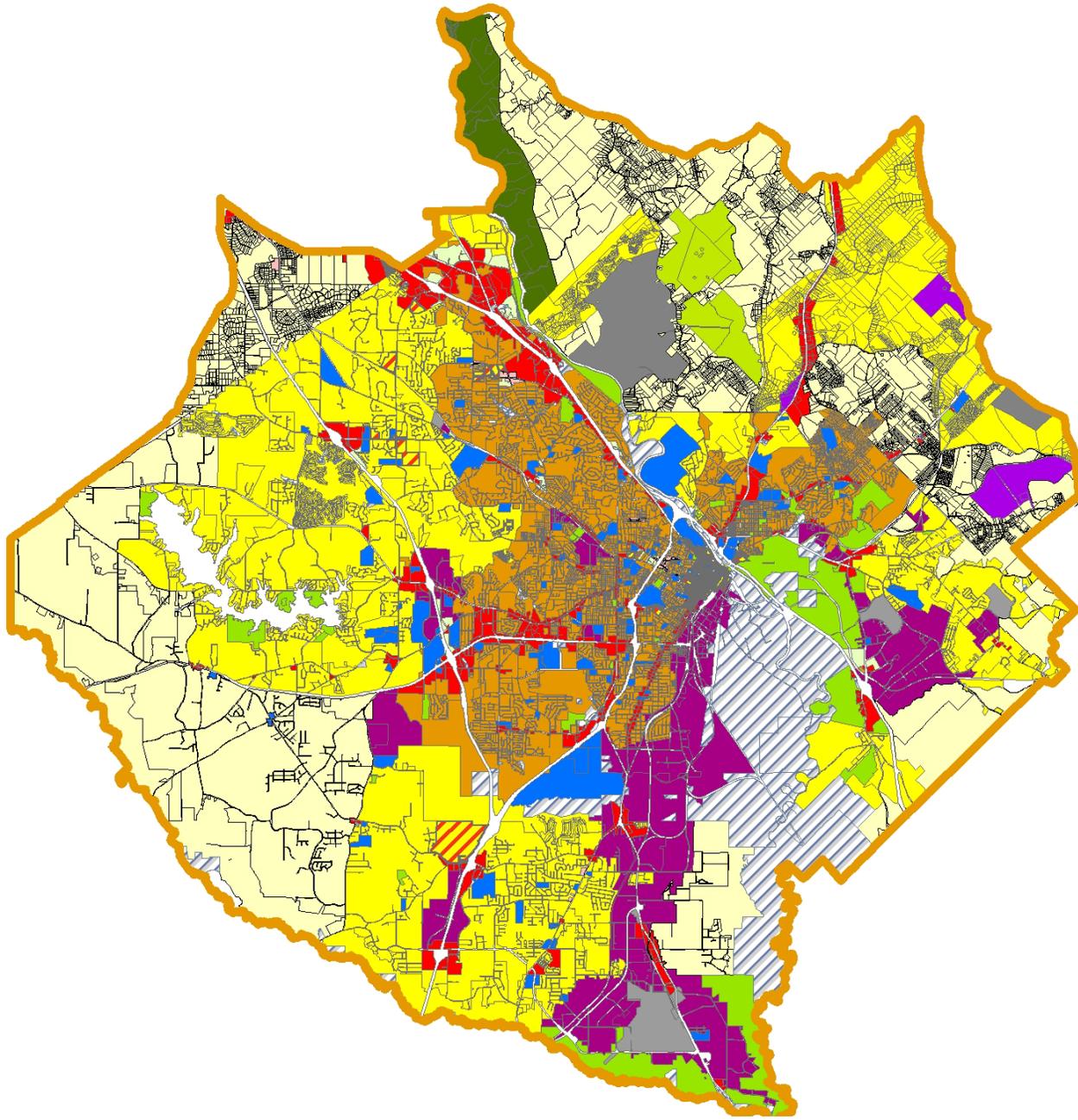
The profile of the MATS region described in the previous section for the 2015 base year period establishes the assumptions for anticipated growth patterns through the 2050 plan year. The working assumption is that whatever population and employment growth comes about between 2015 and 2050 will follow similar marginal distributions as the 2010 Census. This assumption will need to be re-examined at each new census, or as new data becomes available, to identify population trends and emerging opportunities or challenges.[\[4\]](#)

Population Growth and Distribution

Table 3-5 and Figure 3-15 show the anticipated future land use for the MATS area and the total acreage in each category. Future land use was obtained by reviewing the Macon-Bibb County 2040 Future Land Use Plan, the Middle Georgia Regional Commission 2017 Comprehensive Plan for Jones County, and the Middle Georgia Regional Commission 2007 Comprehensive Plan for Monroe County. Middle Georgia Regional Commission conducts comprehensive plan updates for Jones and Monroe Counties based on the schedules specified by Georgia Dept. of Community Affairs and uses a 20-year time horizon for future land use planning. Therefore, the Jones and Monroe County future land use time horizons extend only to 2037. All acreage is calculated as net acres, after removing the street right of way and the 100-year floodplain (i.e., areas not available for construction).

Bibb County		Acres
Urban Residential		20486.26
Suburban Residential		46382.97
Rural Residential		30771.86
Mixed Use		1363.93
Community Commercial		6117.69
Neighborhood Commercial		125.37
Office/Service		732.55
Industrial		14061.36
Transportation/Communication/Utilities		1624.43
Institutional		5479.39
Parks/Recreation/Open Space		6936.63
Jones County		Acres
Urban Residential		724.73
Suburban Residential		11879.77
Rural Residential		20129.89
Commercial		686.37
Industrial		1464.88
Public/Institutional		134.54
Transportation/Communication/Utilities		3252.69
Agriculture/Forestry		3432.79
Park/Recreation/Cons		2733.65
Monroe County		Acres
Residential		4777.99
Mixed Use		24.51
Commercial		257.64
Commercial-Light		64.87
Public / Institutional		3.25

Table 3-5 MATS Area Future Land Use Net Acreage, by County, by Category



The Macon-Bibb County's infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/20/2022

Legend

MATS Boundary

Bibb County Floodplain

Parcels Completely In Floodplane

Bibb County Future Land Use

Urban Residential

Suburban Residential

Rural Residential

Mixed Use

Community Commercial

Industrial

Institutional

Parks/Recrea...

Open Space

Jones County Future Land Use

Urban Residential

Commercial

Industrial

Agriculture/F...

Park/Recreati...

Public/Institut...

Monroe County Future Land Use

Residential

Commercial

Commercial...

Mixed Use

Public / Institutional

1 inch = 17,863 feet

Map Maker: Michael J. Greenwald, Ph.D., AICP



Figure 2-14 MATS MPO Future Land Use

DRAFT
 Table 3-6: Anticipated Population Growth in Bibb, Jones and Monroe Counties, and Subtotals for MATS Area Portions

DRAFT

County	2010 Census Totals		2020 Redistricting File		Annualized Growth Rate (over 10 years)		Projected 2050 Population (Based on Annualized Growth Rate Carried Forward over 30 Years)		Percentage Growth from 2020 Census	
	Total Pop	MATS MPO	Total Pop	MATS MPO	Total Pop	MATS MPO	Total Pop	MATS MPO	Total Pop	MATS MPO
Jones County	28,669	11,800	28,347	12,244	0.998871	1.00370048	27,403	13,679	-3.33%	11.72%
Macon-Bibb County	155,547	155,547	157,346	157,346	1.001151	1.00115059	162,869	162,869	3.51%	3.51%
Monroe County	26,424	1,707	27,957	1,695	1.005655	0.99929478	33,111	1,660	18.44%	-2.06%

Table 3-7: Breakdown of Anticipated Population Growth in Bibb, Jones and Monroe Counties, and for MATS Area Portions, By Age Group

Area	Age Group									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	
Bibb County	9,530	9,952	9,827	10,425	10,227	10,368	10,863	10,612	10,495	
Jones County	1,226	1,370	1,539	1,660	1,637	1,680	1,563	1,704	1,869	
MATS Area Proportion	612	684	768	829	817	839	780	851	933	
Monroe County	1,740	1,849	1,896	2,052	2,246	2,141	2,091	2,083	2,124	
MATS Area Proportion	87	93	95	103	113	107	105	104	106	
	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	
Bibb County	9,552	10,318	11,365	10,028	8,178	6,981	6,857	5,521	1,770	
Jones County	1,871	1,642	1,656	1,507	1,528	1,562	1,562	1,401	425	
MATS Area Proportion	934	820	827	752	763	780	780	699	212	
Monroe County	2,119	1,904	1,648	1,822	1,628	1,587	1,649	1,600	931	
MATS Area Proportion	106	95	83	91	82	80	83	80	47	
	Total									
Bibb County	162,869									
Jones County	27,402									
MATS Area Proportion	13,680									
Monroe County	33,110									
MATS Area Proportion	1,660									

Building on the population projections discussed in Table 3-1 and 3-2 above, Table 3-6 and 3-7 (above) summarize the anticipated population changes by County, and by MATS area, and by age group. Full details on how these numbers were derived is available in [Appendix XX](#)

By 2050, the MATS MPO is anticipated to grow by 15.76%, to a total population of 178,208. However, that figure is tentative, given that the MATS MPO planning area borders may be expanded as a result of the 2020 Census. Figure 3-23 below shows where the growth is anticipated to be distributed throughout the MATS region. These areas were identified and prioritized through consultation with the Zoning Director for Macon-Bibb County Planning & Zoning Commission, the Planning Director for Jones County, and field review of the Monroe County portion of the MATS area. The zone numbers represented on the map correspond to specific Transportation Analysis Zones (TAZs), which are the geographic unit used by GDOT to conduct travel demand modeling. TAZs are comprised of Census Blocks, meaning it is possible to calculate housing attributes for TAZs by aggregating the data from the relevant Census Blocks, assuming the data is available at the Census Block level from the U.S. Census.

While the exact calculations for future residential capacities are detailed in Appendix XX, the basic process of assigning population was as follows:

- Using the most recent future land use plans available for each county, the amount of new residential acreage available for development was calculated by subtracting acreage already encumbered in 2015 from the future planned acreage.
- The amount of new acreage was multiplied by existing housing densities per acre in 2010 (using U.S. Census 2010 household counts and 2010 encumbered residential acreage), and adjusting for the observed 2010 housing vacancy rate, to estimate the number of new households in each zone.
- The number of new households was then multiplied by the average household size for each TAZ to estimate the amount of new population in each zone. (Note: TAZ level average household size values were based on weighted sums of 2010 Census household information. This is because Census 2010 was the most current available at the required level of geographic detail).
- A running population growth total is calculated so that it may be measured against the anticipated population growth for the MATS region of each county.

The results from the supporting calculations indicate that Macon-Bibb and Jones County are capable of absorbing all the anticipated population growth within their MATS areas under existing land use plans; Macon-Bibb has capacity for 12,228 new residents, but is only anticipated to receive 8,924; Jones County has capacity for 48,761 new residents in its MATS area, but is only anticipated to receive 1,979.

Employment Growth

As described above, Figures 3-22a through 3-22c describe projected future employment by 2050. The results in these tables are based on employment projection factors based on REMI forecasts provided through the Georgia Dept. of Transportation. Specific expansion factors were calculated for each employment category (Agriculture, Mining & Construction, Manufacturing/Transportation/Communications/Warehousing (Manufacturing & TCUW), Retail, and Services). Refer to Table 3-4 above to see how each category correlates to the North American Industrial Classification system, which serves as the basis for the 2015 base year estimates for employment.

The results indicate that the MATS area can anticipate approximately 11,588 additional jobs by the target year of 2050. Consistent with the observations from the 2015 base year (see Table 3-6 above), the vast majority of this job growth (11,261 out of 11,588; 97.18%) will accrue to the Macon-Bibb area. Exploring the changes by sector, across the entire MATS region, net job losses are anticipated in the Retail sector (-2,696 jobs), while Service and Manufacturing & TCUW are expected to see significant gains (i.e., +12,101 jobs and +1,598 jobs, respectively). Significant gains are expected in the Retail (+1,230 jobs) and Service (+11,329 jobs) sectors.

SUMMARY

The MATS region is likely to experience moderate population growth through 2050. In particular, if the trends observed between the 2010 and 2020 Census are maintained, the MATS region can anticipate a significant increase of Hispanic/Latino and Asian American population groups into the region, concentrated primarily in the Bibb County region.

Total population increase for the MATS region between the 2015 base year and the 2050 plan horizon year is anticipated to be approximately 24,263 residents and 11,588 new jobs. Even with that growth, MATS would still be under the 200,000 population threshold that would designate MATS as a Transportation Management Area (TMA), pursuant to the requirements of the Federal Highway Act of 1964. However, given that MPO boundaries are subject to change after every decennial U.S. Census, it is entirely possible that the MATS region could be expanded or altered in such a way that it could reach that designation before the 2050 plan horizon is reached.

ⁱ The variability in the estimates used here is found in the Margin of Error (MOE) associated with each data point. For full details on how MOEs are developed and used in the American Community Survey, please refer to the technical documentation at:
https://www.census.gov/content/dam/Census/library/publications/2020/acs/acs_state_local_handbook_2020.pdf

Chapter 4 - Public Involvement

INTRODUCTION: MATS PUBLIC PARTICIPATION PLAN OVERVIEW

The Macon Area Transportation Study (MATS) 2050 Metropolitan Transportation Plan (MTP) was updated and developed through two key elements: *widespread public involvement and detailed technical work*. The public involvement process was guided by the MATS Participation Plan, which was adopted by the MATS Policy Committee on May 13, 2015, and amended November 4, 2020. The requirements for the Public Participation Plan were established by the Moving Ahead for Progress in the 21st Century Act (MAP-21) which sets regulations for Metropolitan Planning Organizations (MPOs) to include public participation in the transportation planning process. Public participation is a critical component of the continuous, cooperative, and comprehensive Metropolitan Transportation Planning process as well as community ownership of the 2050 MTP. The Participation Plan defines the process for ensuring that citizens from all segments of the public including, but not limited to, users of pedestrian and bicycle facilities, representatives of the disabled, the poor, and minority communities has an opportunity to be involved in the MTP update. This also includes public agencies, providers of public transportation, providers of non-emergency transportation services, providers of freight transportation services, entities responsible for safety and security operations including fire and police, and other interested parties. One of the goals of the Participation Plan is that input into the transportation planning process should be accessible and reasonable to those willing to participate. Furthermore, the public should be involved early in the participation and decision making process. Participants should be provided with the information they need to participate in a productive and beneficial manner. Measures should be developed to provide information to those groups who are traditionally underserved such as low income and minority groups. The input and the concerns of the public should be considered and included in the final outcome.¹



PUBLIC OUTREACH STRATEGIES

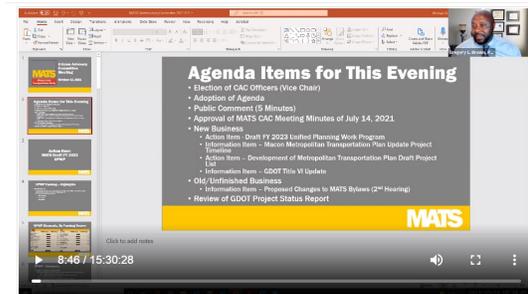
¹ MATS: Macon Area Transportation Participation Plan – May 2015/Admin Mod. Oct. 2021

This section describes public outreach strategies and stakeholder involvement that supports the development of MATS *Connect 2050* Metropolitan Transportation Plan Update. Understanding the importance to gain meaningful input from the public to be inclusive of all residents in the MATS study area, MPO staff strived to go beyond what is required to seek engagement from all sections of the study area.

Stakeholder Involvement

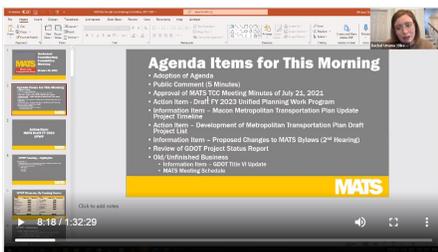
The development of a transportation plan should be inclusive of the needs and desires of all populations to create access to opportunity for people of all ages, incomes, and abilities. MATS MPO made a concerted effort to engage stakeholders and the public through the MATS Committee process, a series of traditional public meetings, and via the Connect 2050 online Transportation Survey. The stakeholder outreach process involved key policy and decision-making groups operating within the MATS Committee structure. Stakeholders represented a broad cross section of the MATS area to include:

representatives of local governments (Macon-Bibb, Jones, Monroe Counties), Regional Commission, Transit Authority, Water Authority, Industrial Authority, GDOT, County Department Heads, and local citizens representing special interest groups. Stakeholders were instrumental in guiding the development of the plan, as well as reviewing and approving the proposed project list during the MATS Committee process. Stakeholders met virtually, three times throughout the beginning of the project that were coordinated with regularly scheduled MATS committee meetings. The MATS CAC met on



MATSCitizenAdvisoryCommittee_20211013_SpeakerAndSharedScreen.mp4

Posted by Mike G. · October 17, 2021 · 2.24 GB



MATSTechnicalCoordinatingCommittee_20211020_SpeakerAndSharedScreen.mp4

Posted by Mike G. · October 25, 2021 · 440 MB

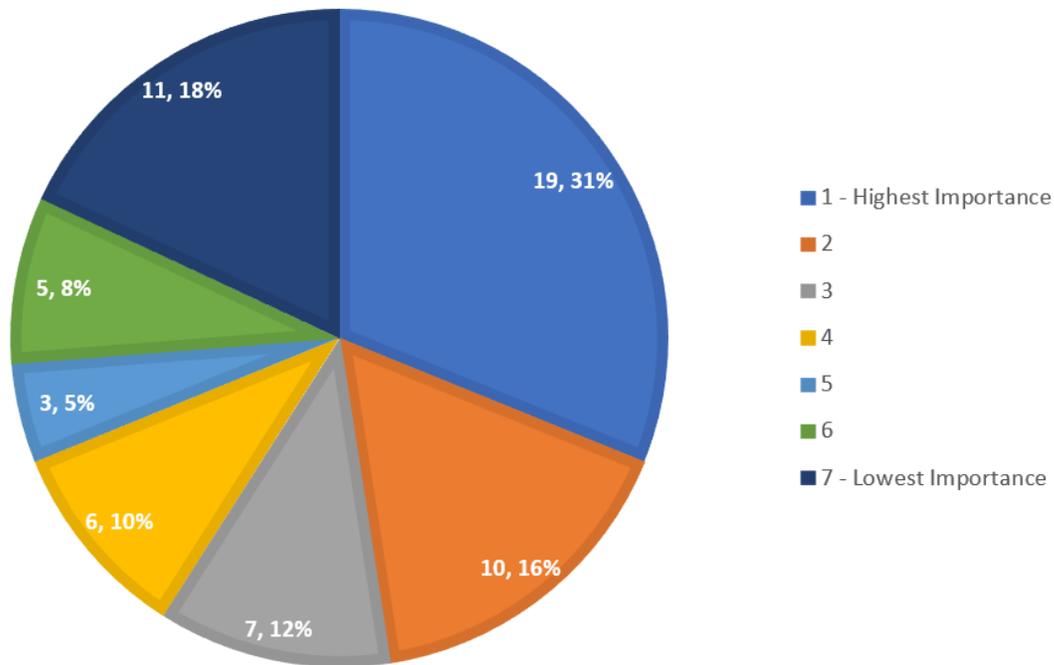
Online Survey

Wednesday, October 13, 2021, 6:00PM; MATS TCC met on Wednesday, October 20, 2021, 10:00AM; and MATS Policy Committee on Wednesday, November 4, 2021, 9:30AM.

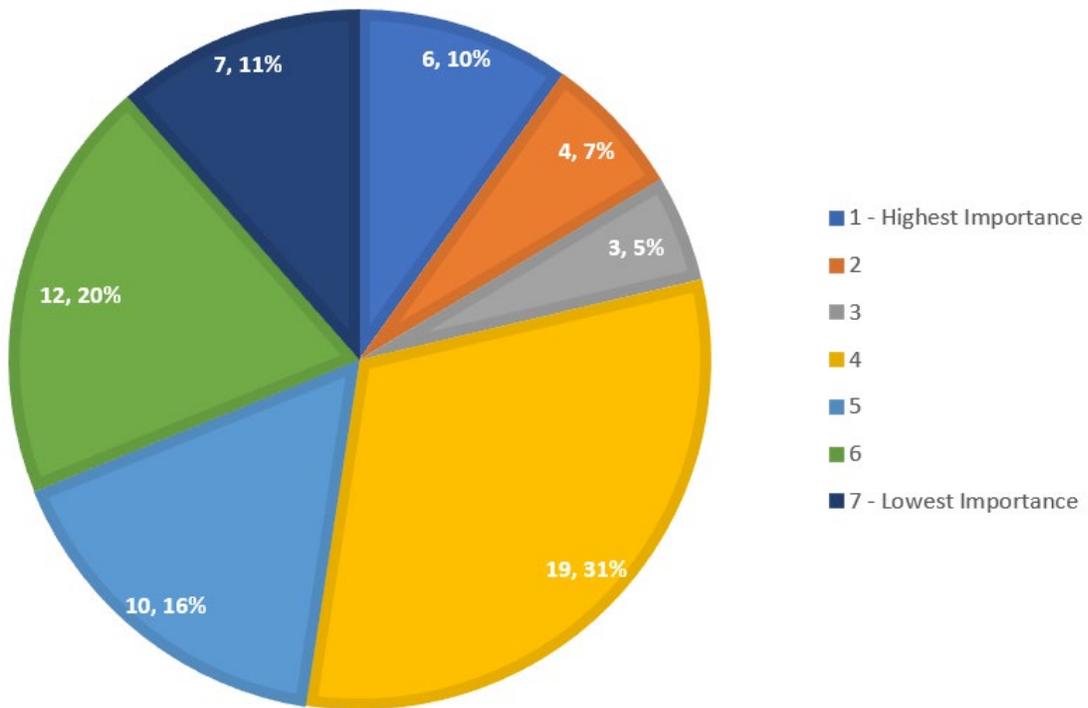
The meetings included formal presentations by the MPO staff, as well as opportunities for in depth discussion. The input received from stakeholders was incorporated into the planning process and provided guidance for the development of the plan update.

The MPO developed an online survey to reach a broad section of the community. The survey was designed to gather feedback on local and national transportation priorities, and the MPOs transportation project list. The survey was circulated through various platforms including email distribution, E-Newsletters campaigns, websites, and social media. The MPO also developed a QR code that provided access to the survey. The survey launched on November 1 – December 31, 2021, garnering a total of 61 responses. The survey included five (5) questions in addition to three (3) open ended questions. The following figures shows the preliminary feedback received from survey participants. The final report will have updated responses.

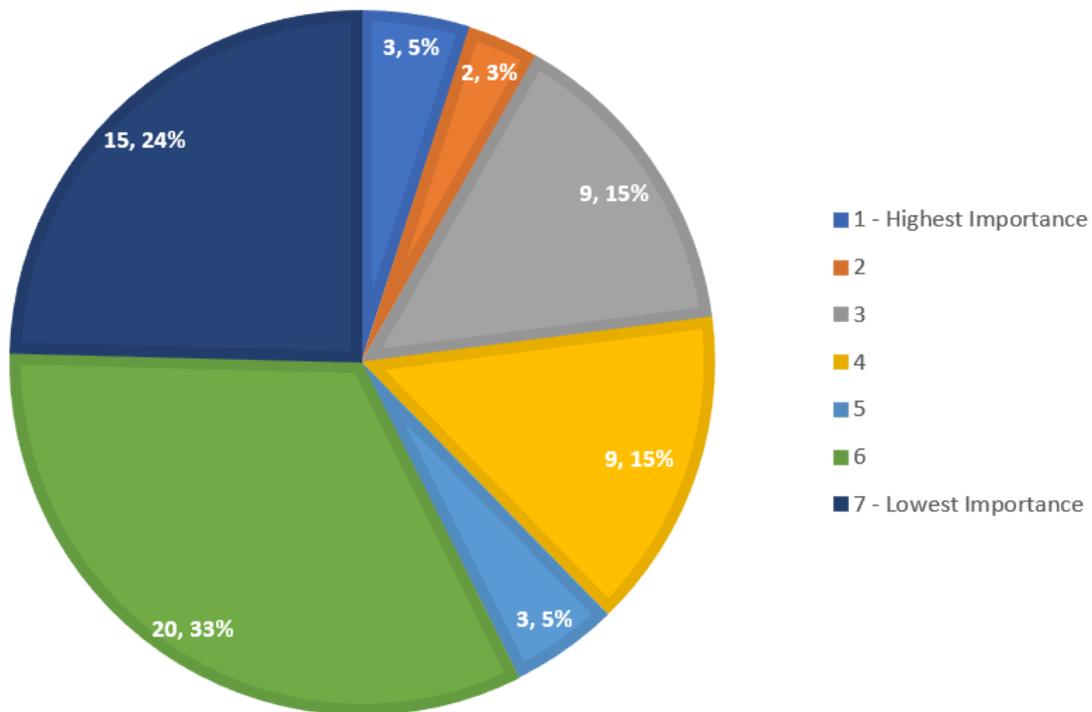
Add & Widen Roads (61 Responses)



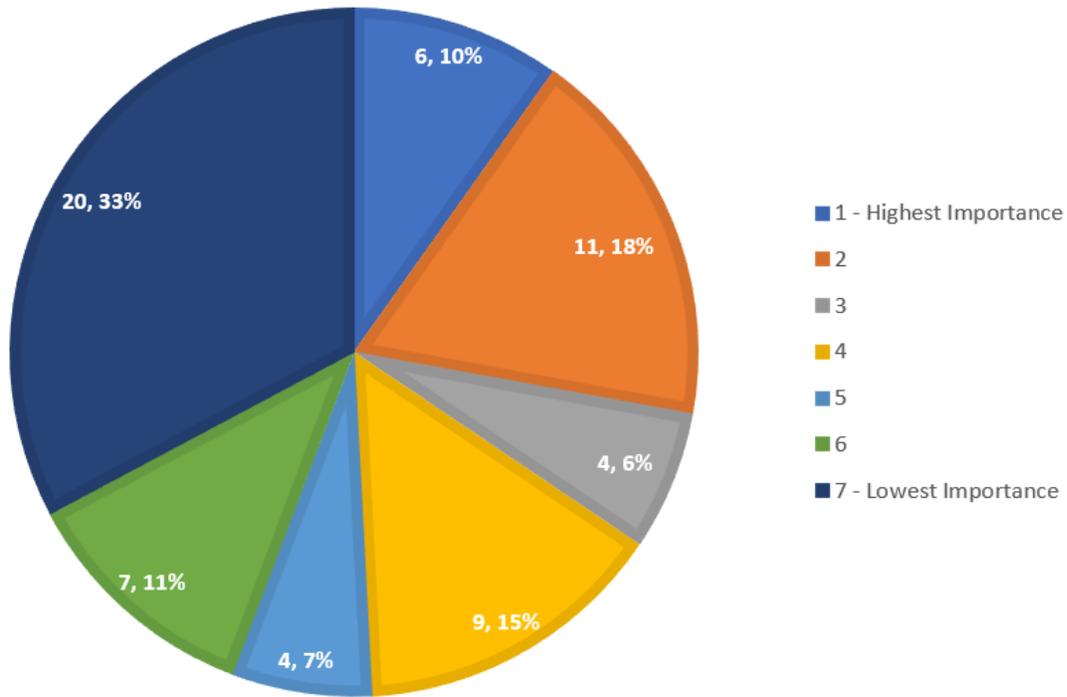
Enhance Bicycling & Walking (61 Responses)



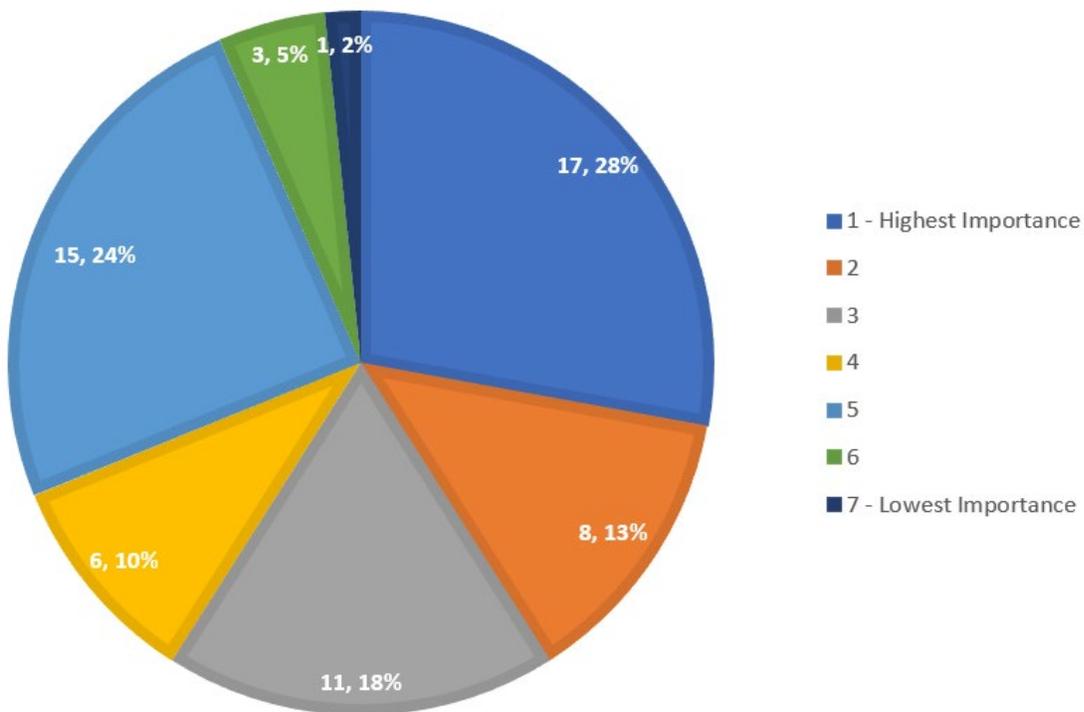
Enhance Public Transportation (61 Responses)



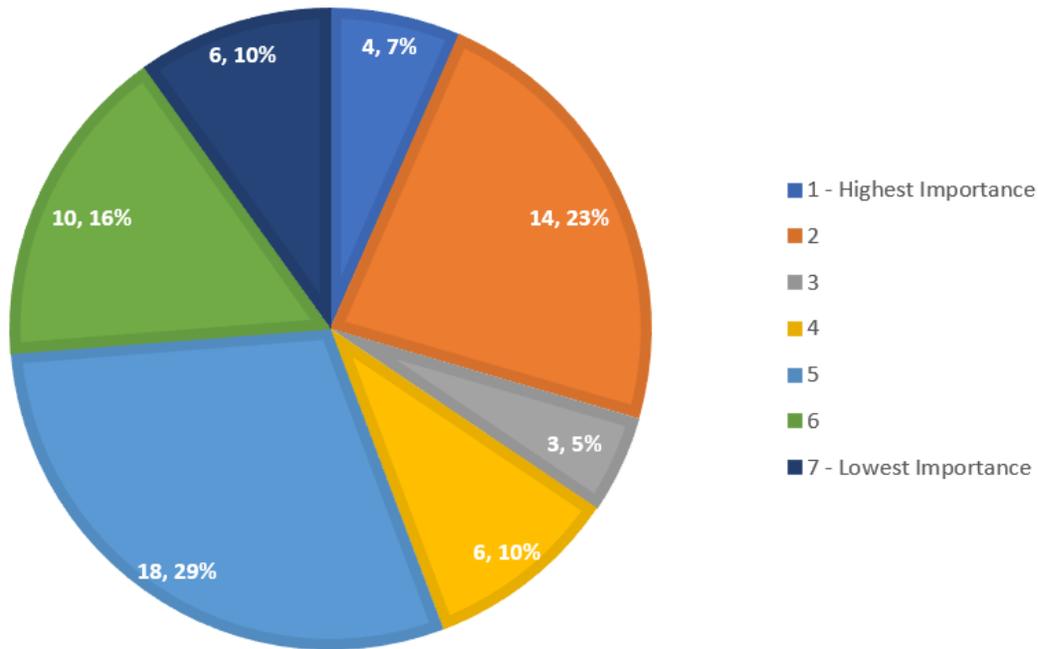
Enhance Travel Safety (61 Responses)



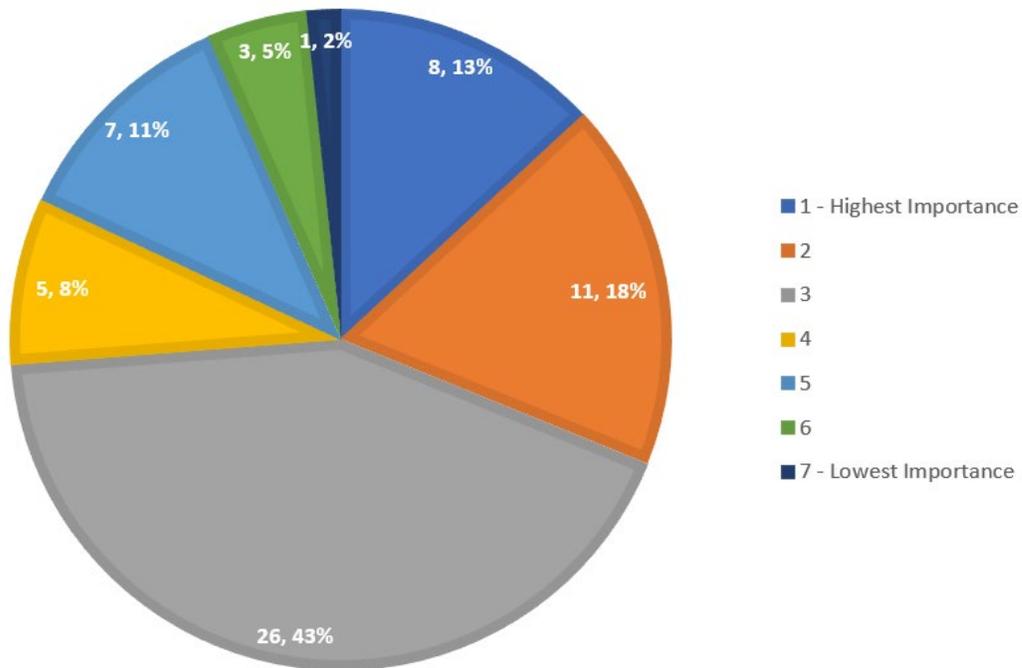
Improve and Maintain Road Surfaces (61 Responses)



Incorporate Smart Technology into Road Infrastructure (61 Responses)



Improve Travel Flows (61 Responses)



In-Person Public Engagement

Understanding the importance to reach a broad cross-section of the community, particularly those with no access to internet service, the MPO held eight (8) in-person public information open house meetings throughout each section of MATS area.

- **Monday, November 29, 2021, 5:30pm - 7:30:** Rosa Jackson Community Center, 1211 Maynard Street, Macon, Georgia 31216
- **Tuesday, November 30, 2021, 5:30pm - 7:30pm:** South Bibb Recreation Center, 7035 Houston Road, Macon, Georgia 31216
- **Wednesday, December 1, 2021, 5:30pm - 7:30pm:** Frank Johnson Community Center, 2227 Mercer University Drive, Macon, Georgia 31201
- **Thursday, December 2, 2021, 5:30pm – 7:30pm:** Jones County Government Center – Charlotte C. Wilson Conference Room, 166 Industrial Boulevard, Gray, Georgia 31032
- **Tuesday, December 7, 2021, 2:00pm - 4:00pm:** Elaine H. Lucas Senior Center, 132 Willie Smokie Glover Drive, Macon, Georgia 31201
- **Wednesday, December 8, 2021, 2:00pm - 4:00pm:** Bloomfield - Gilead Community Center, 1931 Rocky Creek Road, Macon, Georgia 31206
- **Thursday, December 9, 2021, 5:30pm - 7:30pm:** Lake Tobesofkee (Sandy Beach Pavilion), 6680 Moseley Dixon Road, Macon, Georgia 31220
- **Monday, December 13, 2021, 2:00pm - 4:00pm:** Macon Area GDOT Office (Auditorium), 4499 Riverside Drive, Macon, Georgia 31210

MATS staff had to change the format of the following public involvement session from in-person to an online discussion, due to conditions at the Theron Ussery Recreation Center.

- **Monday, December 6, 2021, 5:30pm - 7:30pm:** Theron Ussery Recreation Center, 815 N. Macon Park Drive, Macon, Georgia 31210

At each outreach session, participants were able to interact with planning staff to provide feedback on transportation planning improvements within the MATS area (*Macon-Bibb County and the southern portion of Jones and Monroe counties*). Staff members utilized visual aid boards to display: (1). Proposed projects list and map for the Metropolitan Transportation Plan; and (2). Macon Transit Authority Bus Routes. Attendees were able to provide written comments and scan the QR code to access the online survey. Participants were also encouraged to join the MATS Transportation Connection *E-Newsletter* mailing list and visit the project website www.maconmpo.com to stay abreast of project updates.

Overall, during the timeframe of the public outreach activities, staff recorded input from approximately 150 community members. The public provided feedback on road improvement projects, public transportation, active transportation projects such as walking and biking, safety improvement projects, freight and truck movement projects, location specific projects, rail projects and other projects.



Jeffersonville Road Improvement Project



I-16/I-75 Interchange

PUBLIC OUTREACH VENUE PARTNERS

Public Outreach Timeframe / Locations: November 29, 2021 – December 13, 2021

Monday, November 29, 2021, 5:30pm - 7:30: Rosa Jackson Community Center, 1211 Maynard Street, Macon, Georgia 31216



Tuesday, November 30, 2021, 5:30pm - 7:30pm: South Bibb Recreation Center, 7035 Houston Road, Macon, Georgia 31216



Wednesday, December 1, 2021, 5:30pm - 7:30pm: Frank Johnson Community Center, 2227 Mercer University Drive, Macon, Georgia 31201



Thursday, December 2, 2021, 5:30pm – 7:30pm: Jones County Government Center – Charlotte C. Wilson Conference Room, 166 Industrial Boulevard, Gray, Georgia 31032



Tuesday, December 7, 2021, 2:00pm - 4:00pm: Elaine H. Lucas Senior Center, 132 Willie Smokie Glover Drive, Macon, Georgia 31201



Wednesday, December 8, 2021, 2:00pm - 4:00pm: Bloomfield - Gilead Community Center, 1931 Rocky Creek Road, Macon, Georgia 31206



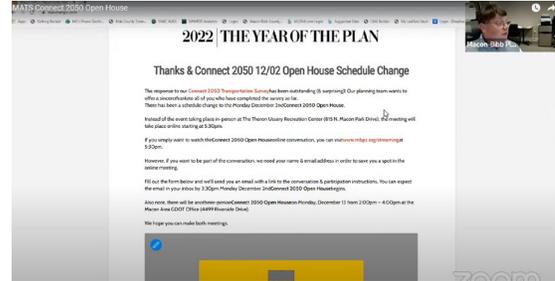
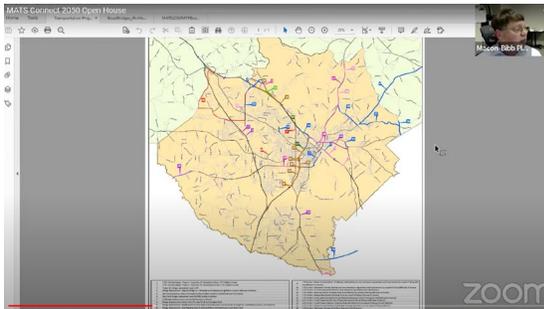
Thursday, December 9, 2021, 5:30pm - 7:30pm: Lake Tobesofkee (Sandy Beach Pavilion), 6680 Moseley Dixon Road, Macon, Georgia 31220



Monday, December 13, 2021, 2:00pm - 4:00pm: Macon Area GDOT Office (Auditorium), 4499 Riverside Drive, Macon, Georgia 31210



Monday, December 6, 2021, 5:30pm - 7:30pm: The format of the following public involvement session from in-person to an online discussion, due to conditions at the Theron Ussery Recreation Center.



PUBLIC OUTREACH PRESS / MEDIA PARTNERS

MATS MPO used various types of media across the Middle Georgia area to ensure that all residents were reached. Venturing into a new area of communication such as social media, staff went beyond mainstream media outlets to include blogs, community publications and government channels. Staff members created detailed graphics to be used by the media to brand and promote the outreach efforts. The outreach efforts targeted various media outlets, including television, blogs, radio and print, with special attention to underserved communities. Staff worked with local government public affairs office, minority newspapers such as the Middle Georgia Informer and Que Pasa, 13WMAZ; Fox24 NewsCentral; 41NBC; The Telegraph; Jones County News; Monroe County Reporter; Greater Macon Chamber of Commerce (*Website & E-Newsletter*);

PRESS RELEASE



MATS to Hold Public Information Open House meetings on 2050 Metropolitan Transportation Plan Update

Macon Area Transportation Study (MATS) staff of the Macon-Bibb County Planning & Zoning Commission is seeking public input during the update of the 2050 Metropolitan Transportation Plan (MTP) that will include over half a billion dollars of transportation projects.

The study will assess the existing transportation network, gather community feedback, update goals, objectives, & transportation priorities for Macon-Bibb County and parts of Jones & Monroe Counties.

The update will produce a report that includes a practical, cost-conscious list of projects that will be implemented over the next 25 to 30 years.

The **Connect 2050 Plan** guides future transportation improvements in the area, including transit opportunities, pedestrian & bike facilities, bridge replacement, safety & operational, as well as upgrades of existing transportation infrastructure.

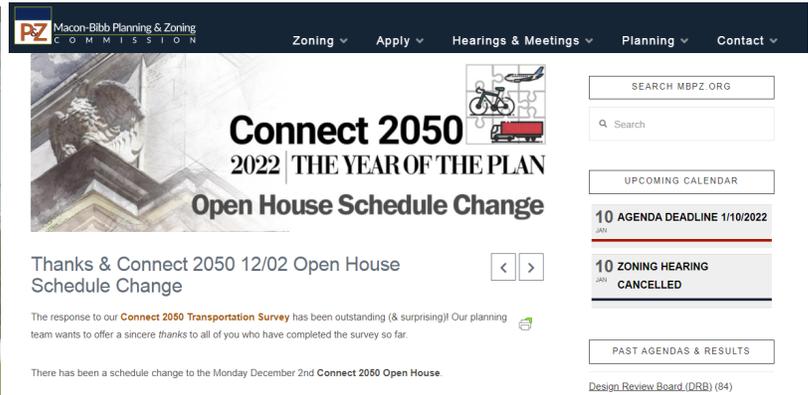
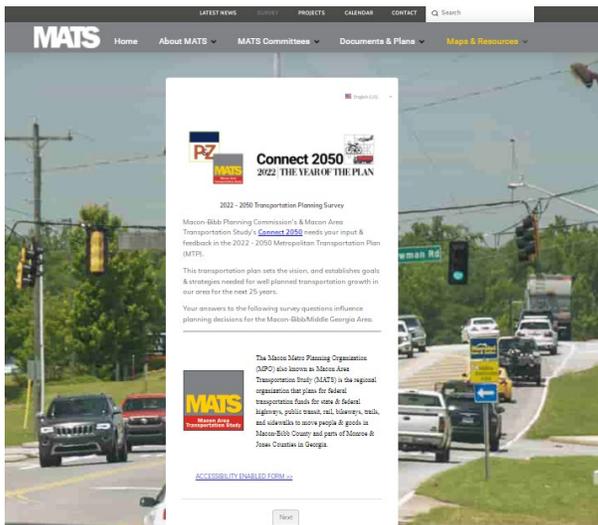
The update of the Metropolitan Transportation Plan process relies heavily on public participation and input. This is your opportunity to voice your opinions to help formulate the goals & objectives of our future transportation systems; help prioritize a list of proposed transportation projects; and propose transportation projects that you would like to see in the MATS study area.

Public Information Open House Schedule

- 11/29** Monday, November 29, 2021 | 5:30pm - 7:30pm
Bass Jackson Community Center
1211 Myward Street
- 11/30** Tuesday, November 30, 2021 | 5:30pm - 7:30pm
7055 Lawson Road
- 12/01** Wednesday, December 1, 2021 | 5:30pm - 7:30pm
Frank Johnson Community Center
2227 Jones University Drive
- 12/02** Thursday, December 2, 2021 | 5:30pm - 7:30pm
Jones County Government Center
Charles C. Wilson Conference Room
166 Industrial Boulevard, Gray
- 12/06** Monday, December 6, 2021 | 5:30pm - 7:30pm
Theron Ussery Recreation Center
315 N. Macon Park Drive
- 12/07** Tuesday, December 7, 2021 | 2:00pm - 4:00pm
Theron Ussery Recreation Center
132 Willie Soule Jr. Drive
- 12/08** Wednesday, December 8, 2021 | 2:00pm - 4:00pm
Brownsdale Global Community Center
1935 Ruddy Creek Road
- 12/09** Thursday, December 9, 2021 | 5:30pm - 7:30pm
Lula Hatcher Owsen House Park
6001 Mosley Dixon Road
- 12/13** Monday, December 13, 2021 | 2:00pm - 4:00pm
Macon Area GDOT Office (Audiobus)
4099 Riverside Drive

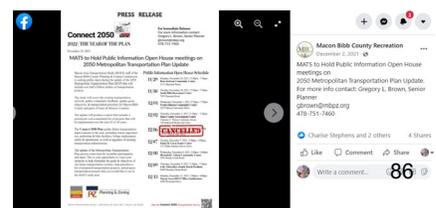


Middle Georgia CEO E-Newsletter; Macon-Bibb Parks and Recreation Department’s Facebook Page; Macon Area Transportation Study Website, E-Newsletter, Facebook, Twitter and Blogs; Macon Bibb County Consolidated Government – *The HUB E-Newsletter* to spread the word and to make the local news station aware of the need for media coverage on the metropolitan transportation plan and its related events. Staff members were interviewed by local TV news media and provided information to the newspaper, at times, leading up to various outreach activities. Staff was very persistent to ensure that all segments of the population were reached to become involved with the public involvement opportunities. Staff devised a strategy for submitting stories and purchasing ads in newspapers within the MATS area to make sure residents were aware of major public involvement opportunities, such as the interactive public information open house events and MATS Special Called meetings. The ads were placed in general circulation papers in Macon – Bibb, Monroe, and Jones counties, as well as a Spanish-language paper and a publication targeting the African-American community, as shown below. The original articles are included in the appendix.



Compilation of Public Outreach Comments

In closing, the appendix includes additional



public comments received during 30-day public review period before final adoption of the updated 2050 Metropolitan Transportation plan, as well as attendance sheets and documentation of recorded public comments on comment cards during the comment period from November 29, 2021 – March 17, 2022.

Chapter 5 | Operational & Management Strategies

Operational & Management Strategies

This section of the Macon Area Transportation Study (MATS) 2050 MTP provides an overview of the Operational and Management Strategies (OMS) recognized by MATS to improve the performance of existing transportation facilities in order to increase the safety and mobility of pedestrians and to relieve traffic congestion. OMS are important because they reflect the safe and efficient use of existing facilities, thereby mitigating the need for construction of new or expanded infrastructure. The following sections discuss a variety of OMS, specifically:

- Intelligent Transportation Systems;
- Incident Management; and
- Transportation Asset Management.

Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) are the application of advanced computer, electronic, and communication technologies used in an integrated manner to increase the safety and efficiency of the transportation network. Road and highway conditions can change suddenly and traffic delays can result from accidents, bad weather and broken down vehicles.

The Transportation Management Center (TMC), based in Atlanta, is an important part of the Intelligent Transportation Systems in Georgia. TMC covers the entire Interstate system throughout Georgia (including for the MATS area), enhancing travel safety and efficiency by monitoring incidents, controlling traffic and providing information through the following activities:

- TMC collects important information from closed circuit television cameras and video detection systems located along Interstates, providing “at the moment” reporting on speeds, vehicle volumes, traffic congestion and accidents;
- TMC confirms problems, establishes the cause, and analyzes the effect it will have on traffic. TMC also contacts the appropriate department to respond to the situation.
- TMC notifies travelers on affected Interstate segments via Changeable Message Signs. These signs relay updated information such as travel times and incident messages.

In addition to these reactive measures, there is a traffic information phone service (Georgia 511) that provides free travel information, allowing travelers to report an accident and to receive current traffic reports. Georgia 511 is an advanced phone service that provides assistance 24 hours a day. Travelers can use the phone system to do the following:

- Receive road construction or closure information
- Obtain estimated trip times
- Report a traffic accident or road hazard
- Receive road traffic conditions
- Obtain route specific information

Georgia 511 also provides information on the following:

- Transit service in the area
- Tourism information
- Rideshare information
- Travel Planning
- Air quality conditions

In addition to calling, the Georgia 511 website (www.511ga.org) provides real-time traveler information current travel conditions for roadways in the MATS area including:

- Weather conditions
- Location and scope of active road construction activities on Interstate and State highways
- Alerts and special events which might impact traffic flow (e.g., a parade shutting down a particular part of a State route)

Driver can also sign up for e-mail alerts to their mobile devices from the Georgia 511 system, which pushes travel updates to subscribers as they become available. These roadside ITS technologies allow the website to provide travelers with real time information on trip times, travel alerts, congestion levels and traffic accident locations. This information helps drivers dynamically optimize their route choices, which reduces the congestion levels on the regional road network.

Incident Management

Incident management deals with stalled vehicles, traffic accidents, roadway debris and spilled loads. A portion of traffic congestion is due to vehicle crashes or incidents but in some cases, the initial incident can be minor. However, there is also an increased risk of secondary crashes that result from a primary crash or incident. Subsequently, the secondary crash caused by the initial incident may be even more severe than the primary crash.

Improved incident management can increase the safety of the transportation system. The incident management program was initiated to develop and sustain a method to facilitate the safe and fast clearance of roadway incidents, thereby lessening the impact on emergency vehicles and the traveling public. Georgia DOT strives to improve incident response across the entire state. For the MATS area, the GDOT incident management program is the Coordinated Highway Assistance & Maintenance Program (CHAMP).

CHAMP was established as a result of the Georgia Transportation Funding Act of 2015 (GTFA: see [Ch. 8: Fiscal Assessment](#) for more details). CHAMP patrols Interstate segments outside the metropolitan Atlanta region, with the exception of I-59 and I-24 (neither of which are in the MATS service area). CHAMP has three main functions: roadway maintenance, motorist assistance, and emergency response. Their specific tasks include:

- Provide quick response to maintenance issues and enhance proactive major maintenance by providing immediate district notification about bridge/roadway damage, signs down,

markings missing, signal malfunction, commercial vehicle crashes and spills and other major maintenance concerns.

- Provide immediate resolution for minor maintenance needs such as vegetation issues, blocked drainage and debris removal (including abandoned or disabled vehicles).
- Offer motorist assistance and temporary traffic control, which helps to reduce secondary incidents and increase responder safety.
- As an on-scene incident responder, assist with emergency response and provide roadway clearance and coordinate long-term traffic control and traveler information.
- Detect, verify, report and provide assistance on traffic incidents to ensure safe, quick clearance on interstates outside of Metro Atlanta AND on non-interstate state routes within 10 miles on either side of interstates, when requested.
- Maintain and/or improve safe and efficient traffic flow.
- Assist the Department of Public Safety and other law enforcement agencies.
- Identify, verify and report maintenance issues and/or property damage to infrastructure to GDOT, TMC, and District staff.

CHAMP operates 7 days a week, 16 hours each day, with the remaining 8 hours covered on an “on-call” basis. CHAMP operators patrol a 50-mile section of Interstate highway during an 8-hour shift. In the MATS area, there are three active vehicles patrolling from 6:00 a.m. to 10:30 p.m. daily for the following routes;

- South on I-475 to the I-75 merge, then returning North on I-75 to the I-475/I-75 merge in Monroe County;
- East on I-16 from the I-75/I-16 out to the 50 mile limit, then returning West along I-16
- North from the I-475/I-75 merge to Exit 216 in Henry County, then returning South on I-75 back down to the I-475/I-75 merge (i.e., serving Monroe County, mostly outside the MATS area)

CHAMP patrols use one driver in a Ford F-250 pick-up truck on each route. In the event that an incident is beyond the capacity of a single patrol vehicle to respond, CHAMP operators in the MATS area contact the GDOT District 3 office located in Thomaston (outside the MATS area) for dispatch of additional maintenance personnel.

Transportation Asset Management

Transportation Asset Management (TAM) is a comprehensive, integrated and systematic method for cost effectively managing physical transportation assets through the use of strategic goals, performance measures and data. TAM is a simple concept which involves the preservation of transportation assets by strategically anticipating and reacting to problems before they occur rather than afterward. The most obvious example is the consistent prioritization and application of routine repairs to extend the life of existing infrastructure, rather than expensive asset replacement due to foregone maintenance.

An effective Transportation Asset Management (TAM) program requires the coordination of three factors; strategic planning, asset management, and performance management. Strategic planning identifies and documents goals and objectives. In addition, it also identifies short-term

business strategies and sets the direction. Asset management focuses on extending the life-cycle of an existing asset, using data in order to make informed decisions and encourages collaboration and coordination. Performance measures help to set performance management and targets based on objectives. It also helps to determine if progress is being made towards identified goals, and guides decisions in making adjustments. See Chapter 2, Table 2-1 for a detailed discussion on LRTP Goals and Objectives and Performance Measures as they related to TAM.

The TAM principles currently adopted by GDOT for pavements, bridges, and signs can be found in the 2019-2028 Transportation Asset Management Plan.[\[1\]](#) For pavement management, risk factors such as average daily traffic and truck traffic percentage are used along with the Computerized Pavements Condition Evaluation Systems to guide decisions regarding roadway improvements. Figure 5-1 (below) shows the locations in Bibb, Jones and Monroe Counties where GDOT traffic demand sensors are permanently located to collect vehicle counts (both total vehicles, and truck counts).

TAM is an important method to determine how to invest funding (and prioritize maintenance) for transportation projects. Preventive maintenance on assets will reduce life cycle costs and improve travel conditions, safety and reliability, resulting in an overall better-managed transportation system.

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Legend

GDOT Traffic Management Sensors, By County

- Bibb (n=3)
- Jones (n=7)
- Monroe (n=6)

MATS Boundary (2012)



MATS Interstates and State Highways

- Freeway
- State Trunk Highway

MATS Counties

- Bibb County
- Jones County
- Monroe County



Source: Macon-Bibb County Planning & Zoning Commission, Georgia Department of Transportation

[1] For full document, see <http://www.dot.ga.gov/IS/TAM>

Chapter 6 | Roads and Bridges Projects

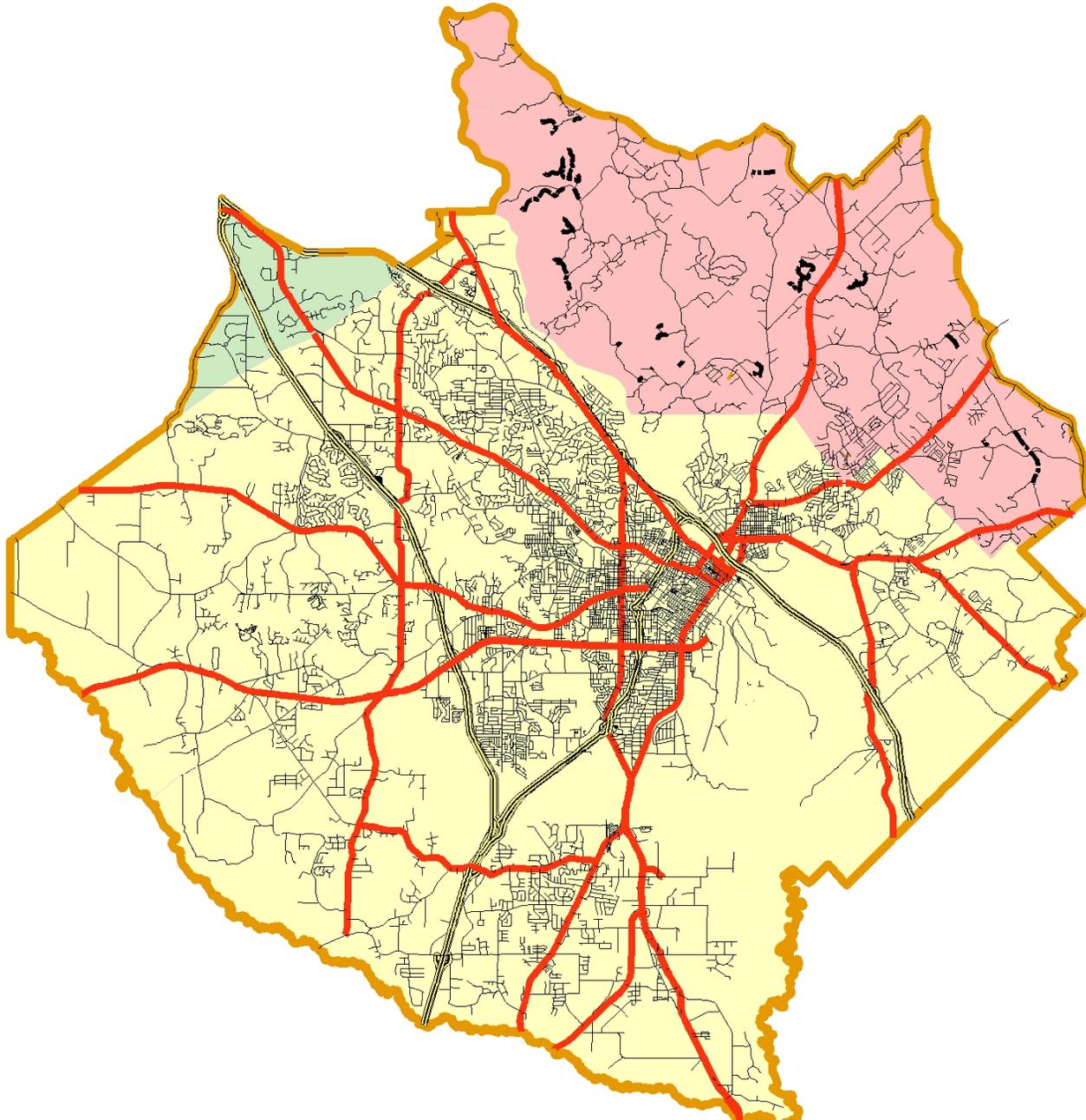
Introduction

This section addresses the anticipated roads and bridge projects identified in the updated **2050 Metropolitan Transportation Plan (MTP)**. The general goals of these proposed projects are defined under the [Moving Ahead For Progress in the 21st Century Act \(MAP-21\)](#) and [Fixing America Surface Transportation Act \(FAST Act\)](#), described in the [Goals and Objectives section](#). To facilitate these goals, the MTP is updated every 5 years, to account for changes in demographics, budgets and/or project prioritization at the State and local level. Table 6-1 describes in detail a number of road centerline miles in each major road category, and Figure 6-1 provides an overview of the regional road network across the MATS jurisdiction.

MATS Areas	Total Centerline Miles	Interstate Highways (Including Ramps)	State Trunk Highways, Major Arterials & Frontage Roads	Local Streets & Roads (including Private Roads)	Misc. Other (Alleys, 4WD Trails, Parking Lots, etc.)
Jones County	299.92	0.08	59.65	239.87	0.32
Macon-Bibb County	1693.34	109.01	344.95	1238.92	0.45
Monroe County	54.93	7.94	10.65	36.33	0.00

Table 6-1: Road Centerline Miles in MATS Area By Type, per County

MATS Roads by Type and Location



The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 11/27/2021

Legend

MATS Boundary



County

Macon-Bibb County

Monroe County

Jones County

Roads By Type

Interstate

U.S. Hwy/Arterial Street

Local St.

4WD Trail

Frontage Rd

Alleyway

1 inch = 17,863 feet

Map Maker: Michael J. Greenwald, Ph.D., AICP



Figure 6-1: Road Network for MATS MPO Service Area
Draft Date: 02/02/2022

Road and Bridge Projects

Table 6-2 below lists the road and bridge projects adopted by the MATS Policy Committee. The initial list for this LRTP Update was adopted on December 9, 2021. Projects on this list are in priority order, as decided by the MATS Policy Committee in consultation with Georgia Dept. of Transportation Office of Planning. The guidelines for setting road and bridge project prioritization are as follows:

1. **First Priority - Projects listed in the original MATS 2040 LRTP identified as ongoing (i.e., already underway or about to begin).** Delaying existing projects to promote others where plans have not been finalized would introduce logistical complications, and potentially create equity concerns
2. **Second Priority – Existing projects with higher need, as assessed by local planning and engineering staff and elected officials.** The operational definition of need used here prioritizes:

Safety and State of Good Repair – Projects which were determined as necessary to maintain or repair deficiencies in existing road and bridge infrastructure were prioritized above new projects. The specific order of prioritization among these projects was determined based on consultation with County engineering staff and GDOT Office of Planning.

Figures 6-2 through 6-6 below indicate the locations in the Statewide network identified by GDOT Office of Planning for capacity expansion, and as having insufficient Level of Service by 2050.

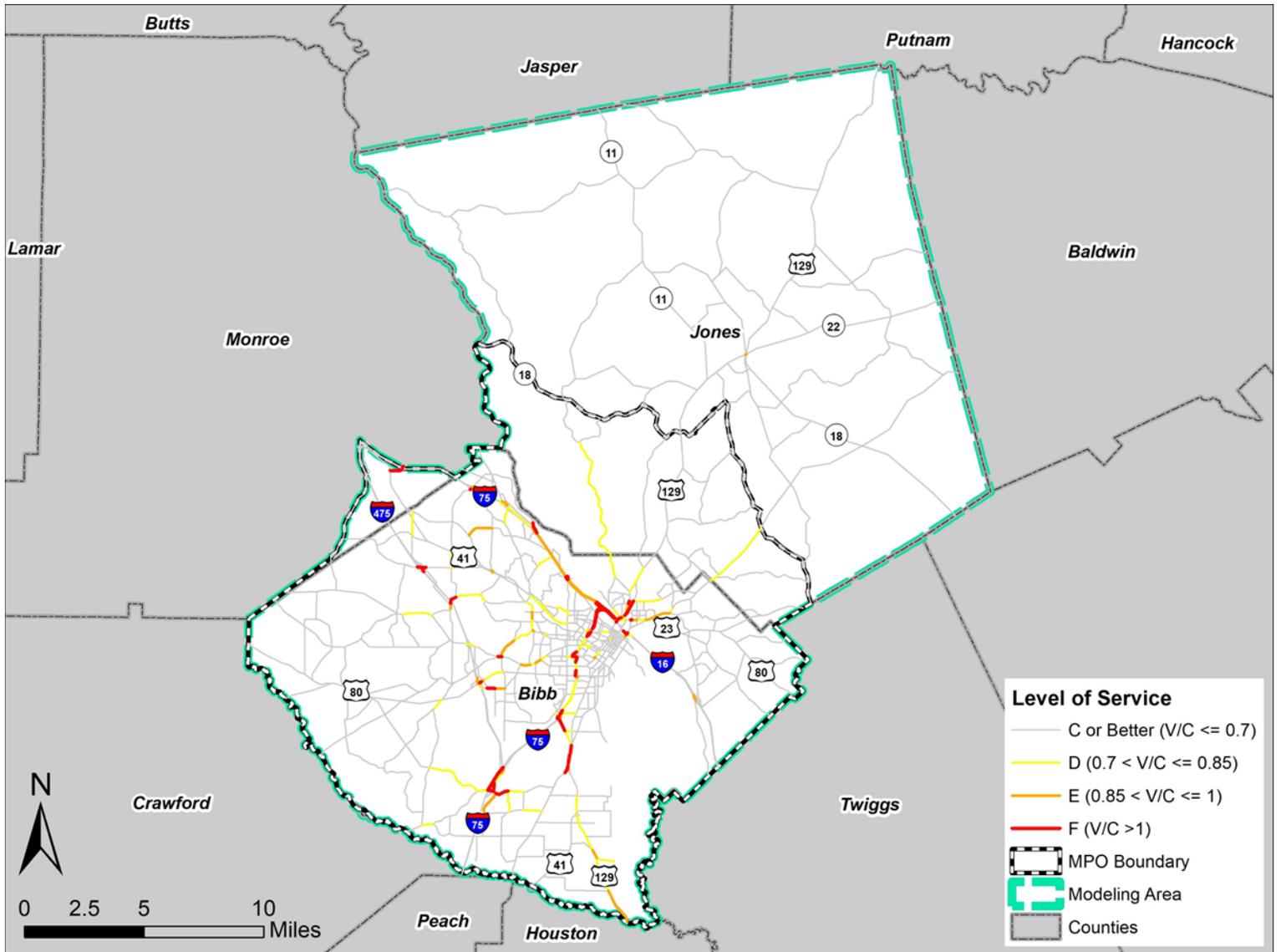
Economic Development Potential – This includes projects which improved freight movement, relieve congestion or coordinate travel infrastructure with anticipated economic development activities at regional activity centers.

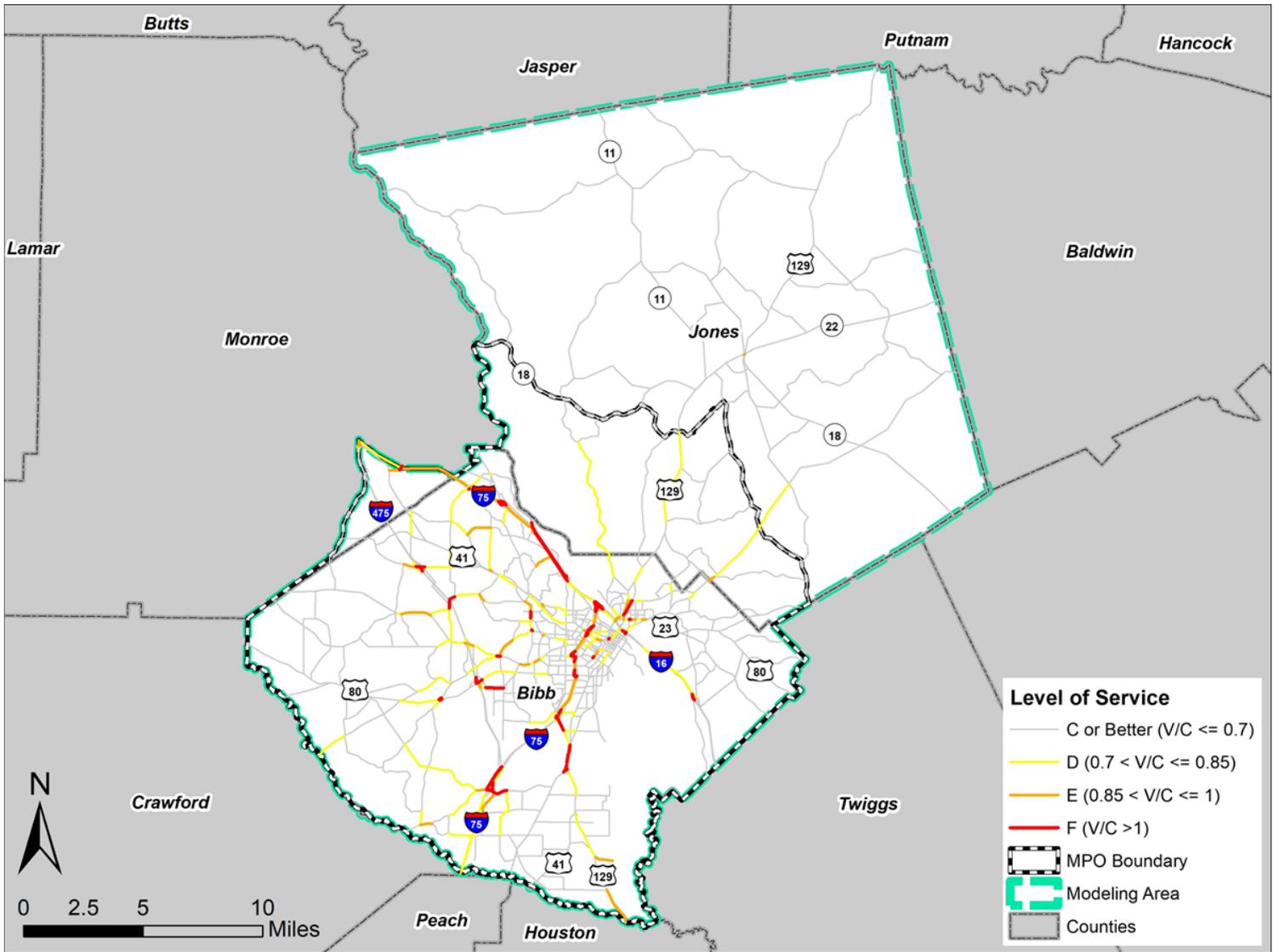
- **Third Priority - New projects identified by public input and recommendations from elected officials.** Projects in this category are primarily associated with pedestrian and bicycle infrastructure, and repair projects which were not otherwise prioritized as immediately critical to the state of good repair.

In addition to prioritizing the project list, Table 6-2 also provides the following information:

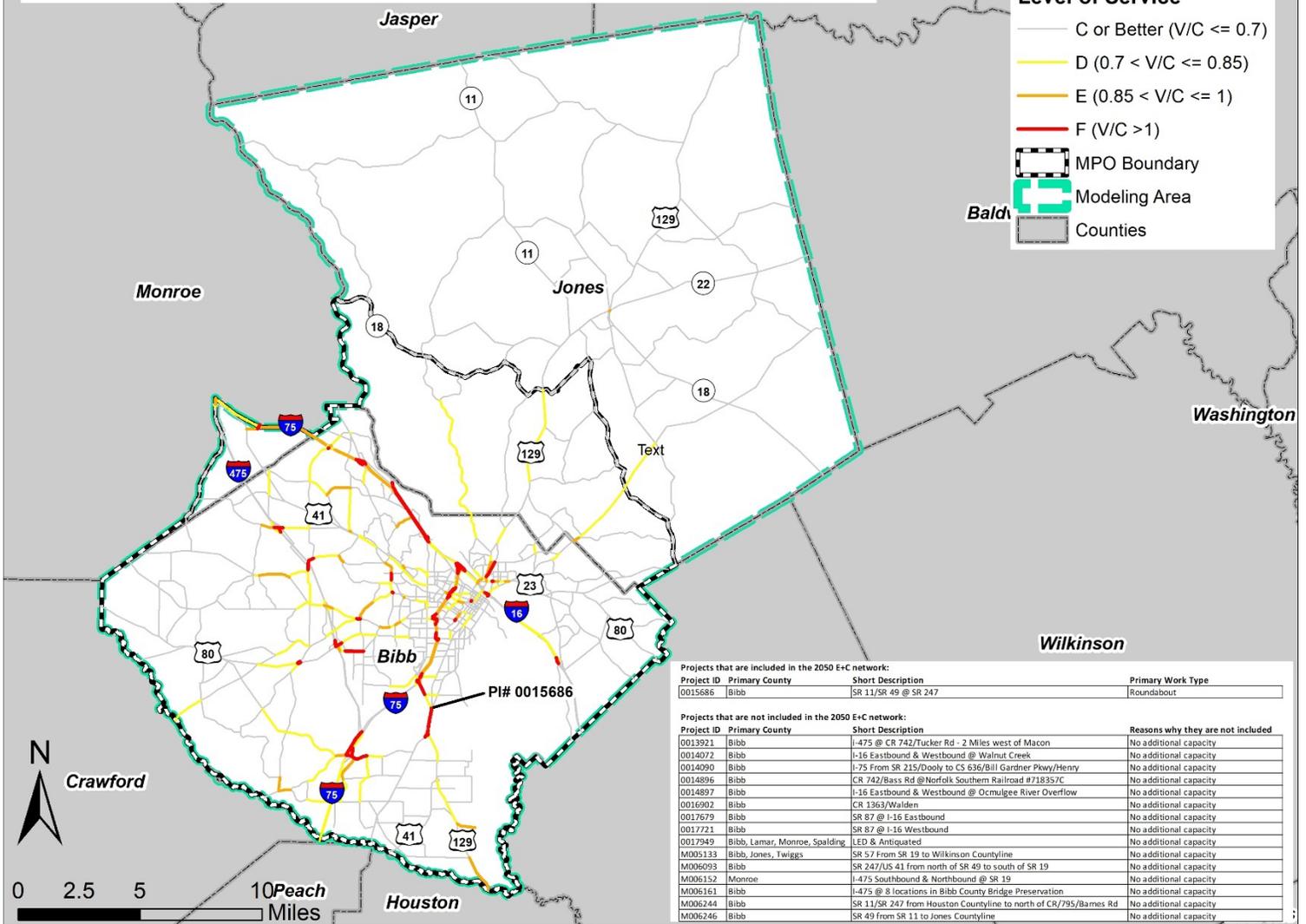
- The list identifies how many totals, and which specific, planning factors identified under the FAST Act are addressed by each project;
- Whether or not the project is part of the current Transportation Improvement Program (TIP) for the MATS region. A project that is part of the current TIP has at least begun the preliminary engineering and environmental assessments necessary to begin construction, and may already be under construction;
- The anticipated total project cost for each of the projects

Finally, Figure 6-7 provides a locational orientation to where the projects in Table 6-2 are located throughout the MATS region.





The 3rd Network - MATS 2050 E+C Scenario Daily Level of Service (LOS)



Projects that are included in the 2050 E+C network:			
Project ID	Primary County	Short Description	Primary Work Type
0015686	Bibb	SR 11/SR 49 @ SR 247	Roundabout

Projects that are not included in the 2050 E+C network:			
Project ID	Primary County	Short Description	Reasons why they are not included
0013921	Bibb	I-475 @ CR 742/Tucker Rd - 2 Miles west of Macon	No additional capacity
0014072	Bibb	I-16 Eastbound & Westbound @ Walnut Creek	No additional capacity
0014090	Bibb	I-75 From SR 215/Dooly to CS 636/Bill Gardner Pkwy/Henry	No additional capacity
0014896	Bibb	CR 742/Bass Rd @ Norfolk Southern Railroad #718357C	No additional capacity
0014897	Bibb	I-16 Eastbound & Westbound @ Ocmulgee River Overflow	No additional capacity
0016902	Bibb	CR 1363/Walden	No additional capacity
0017679	Bibb	SR 87 @ I-16 Eastbound	No additional capacity
0017721	Bibb	SR 87 @ I-16 Westbound	No additional capacity
0017949	Bibb, Lamar, Monroe, Spalding	LED & Antiquated	No additional capacity
M005133	Bibb, Jones, Twiggs	SR 57 from SR 19 to Wilkinson Countyline	No additional capacity
M006093	Bibb	SR 247/US 41 from north of SR 49 to south of SR 19	No additional capacity
M006152	Monroe	I-475 Southbound & Northbound @ SR 19	No additional capacity
M006161	Bibb	I-475 @ 8 locations in Bibb County Bridge Preservation	No additional capacity
M006244	Bibb	SR 11/SR 247 from Houston Countyline to north of CR/795/Barnes Rd	No additional capacity
M006246	Bibb	SR 49 from SR 11 to Jones Countyline	No additional capacity

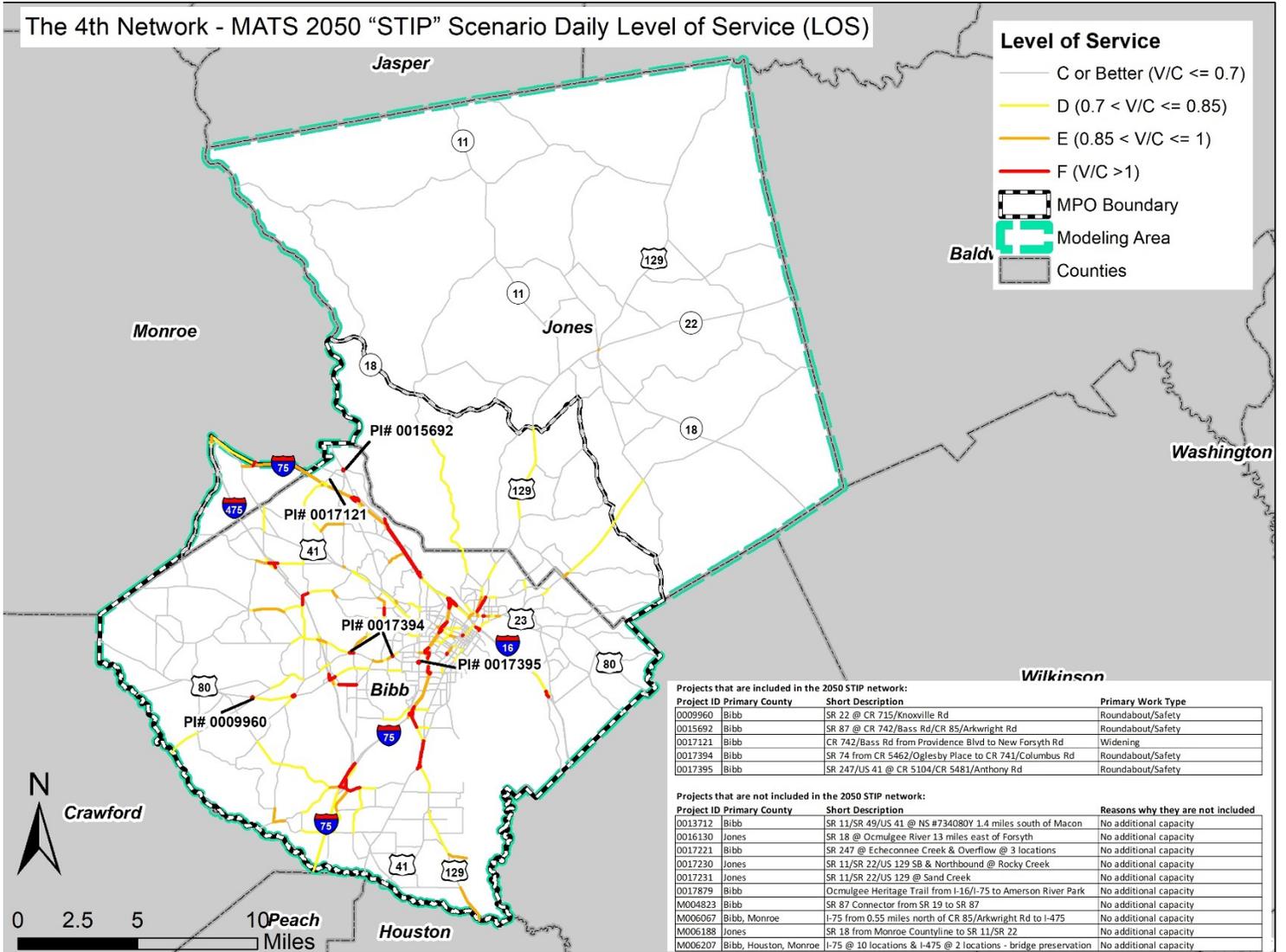


Figure 6-5 - MATS Area 4th Network: 3rd Network + Projects with Preliminary Engineering (PE) and/or Right of Way (ROW) Funded in STIP years 2021-2024 + Local Projects with PE and/or ROW Funded in the MATS Current TIP (FY 2021 – 2024)

Source: Georgia Dept. of Transportation, Office of Planning

The 5th/6th Networks - MATS 2050 "MTP" Scenario Daily Level of Service (LOS)

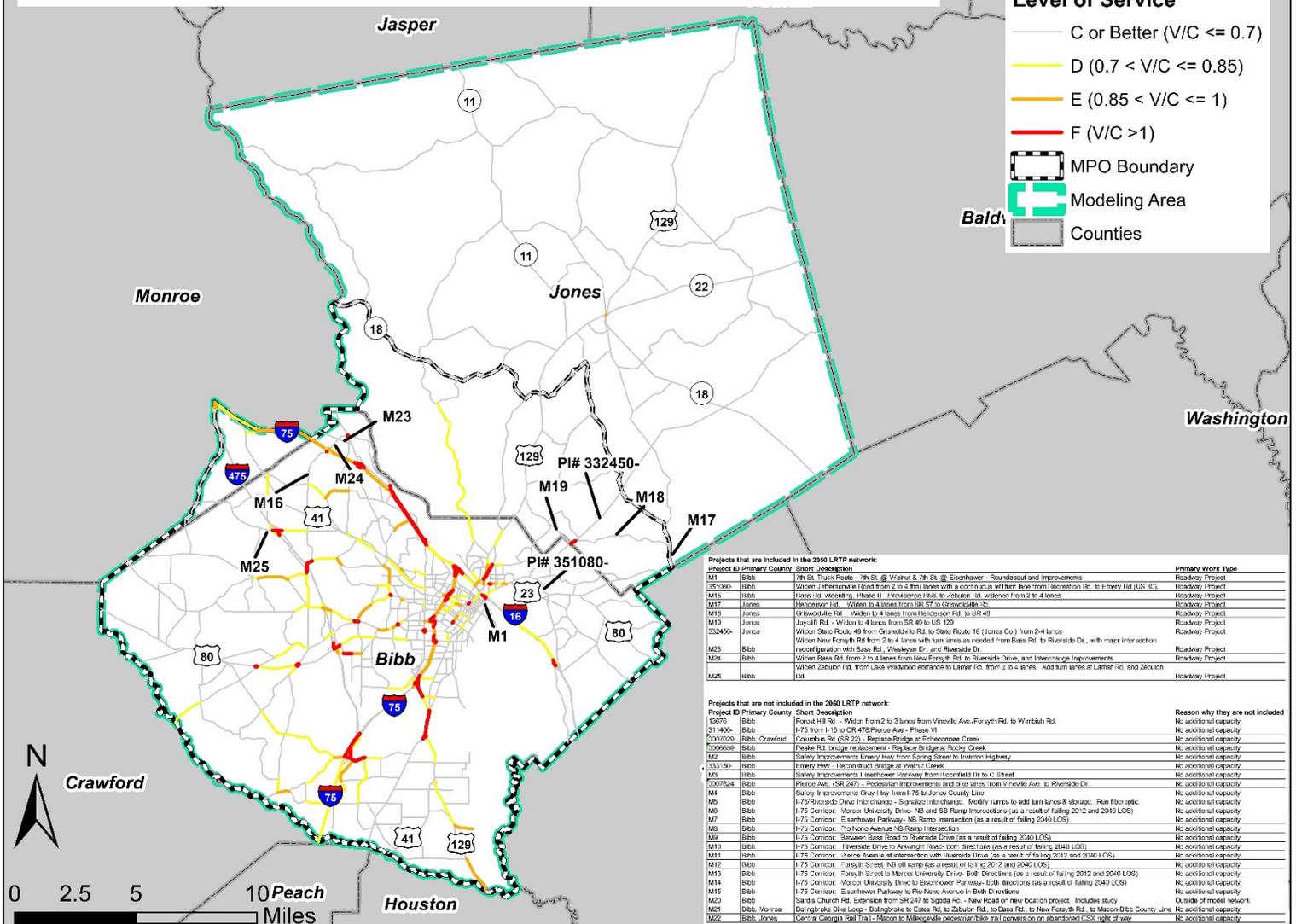


Figure 6-6 - MATS Area 5th Network: Completion of 4th Network + all projects To Address Future Transportation Needs Through 2050, As Identified Through the MATS MTP Process
 Source: Georgia Dept. of Transportation, Office of Planning

Priority Number	GDOT Project ID#	Description	Project Type	County	Number of L RTP Goals Addressed	Promote Multimodal and Affordable Travel Choices for people and freight?	Manage Congestion & System Reliability?	Improve Air Quality, Protect the Environment, Improve Quality of Life, and Promote Good Land Use Planning?	Connect People?	Improve Infrastructure Condition?	Ensure Equity?	Increase Safety, Health and Security?	Support economic vitality?	Improve resiliency and reduce stormwater impacts?	Enhance travel and tourism ?	In L RTP Update?	In FY 14-17 TIP?	In Current TIP?	Air Quality Modeling Status	Air Quality Network Modeling Year	Funding in the 14-17 TIP years	Funding in the 18-21 TIP years	Funding in the 21-24 TIP years (Current TIP)	Total Project Cost (Current Estimate)	Total Project Outstanding Balance (i.e., Total Cost - (Sum of Expended/Obligated Funds from all TIPs))
1.	311005-	I-16 Eastbound from I-75 to Walnut Creek-Phase IV	Bridge Reconstruction	Bibb	5	X	X		X	X		X				Yes	No	Yes	Non-Exempt	2030			\$143,904,602.00	\$148,790,063.24	\$4,885,461.24
2.	0012701	I-16 from I-75 to Walnut Creek-Phase V	Roadway Project	Bibb	5	X	X		X	X		X				Yes	No	Yes	Non-Exempt	2030			\$89,932,624.00	\$90,566,271.00	\$633,647.00
3.	0013921	Bridge Replacement - Replace Bridge on I-475 @ CR 742/Tucker Rd, 2 miles West of Macon.	Bridges	Bibb	2					X		X				No	Yes	Yes	Exempt		\$ 500,000.00		\$11,557,185.00	\$12,894,067.09	\$836,882.09
4.	0014072	Bridge Replacement - Replace Bridge on I-16 Eastbound & Westbound @ Walnut Creek 1 Mile East of Macon	Bridges	Bibb	2					X		X				Yes	Yes	Yes	Exempt		\$ 1,000,000.00		\$16,598,163.00	\$17,450,652.12	Fully accounted for in current or previous TIP to reflect total project costs
5.	0017121	CR 742/Bass Road from Providence Blvd to New Forsyth Road	Bridges & Roadway Project	Bibb	6	X	X	X		X		X	X				No	Yes	Non-Exempt	2027		\$2,092,635.00	\$5,387,700.00	\$35,823,137.00	\$28,342,802.00
6.	0014896	CR 742/BASS ROAD @ NS # 718357C 2 MI W OF MACON	Bridge Replacement	Bibb	4	X	X			X		X				Yes	Yes	Yes	Exempt		\$ 750,000.00	\$ 400,000.00	\$ 4,721,799.00	\$6,389,214.84	\$517,415.84
7.	0014897	I-16 EB & WB @ OCMULGEE RIVER OVERFLOW	Bridge Replacement	Bibb	3					X		X		X		Yes	Yes	Yes	Exempt		\$ 1,000,000.00	\$ 265,302.00	\$10,796,200.00	\$12,077,970.50	\$16,468.50
8.	0016130	SR 18 @ Ocmulgee River, 13 Miles East of Forsyth	Bridges	Jones	0													Yes	Exempt			\$112,000.00	\$42,000.00	\$154,000.00	Fully accounted for in current or previous TIP to reflect total project costs
9.	0017221	SR 247 @ Echeconne Creek & Overflow @ 3 Locations	Bridges	Bibb, Houston	1					x								Yes	Exempt				\$1,218,000.00	\$17,900,000.00	\$16,682,000.00
10.	0017230	SR 11/SR 22/US 129 Southbound & Northbound @ Rock Creek	Bridges	Jones	1					x								Yes	Exempt				\$1,500,000.00	\$10,386,748.00	\$8,886,748.00
11.	0017231	SR 11/SR 22/US 129 Sand Creek	Bridges	Jones	1					x								Yes	Exempt				\$1,100,000.00	\$3,945,066.00	\$2,845,066.00
12.	0013712	Replace Railroad Bridge on SR 11/SR 49/US 41 @ Norfolk Southern #734080Y, 1.4 Miles South of Macon	Bridges	Bibb	4	X				X		X	X			Yes	Yes	Yes	Exempt		\$ 500,000.00		\$ 1,458,600.00	\$13,126,275.00	\$11,167,675.00
13.	0013676	Forest Hill Rd. - Widen from 2 to 3 lanes from Vineville Ave./Forsyth Rd. to Wimbish Rd.	Roadway Project	Bibb	4		X		X	X		X				Yes	No	No	Non-Exempt	2030				\$14,114,015.00	\$14,114,015.00
14.	311400	I-75 from I-16 to CR 478/Pierce Ave - Phase VI	Roadway Project	Bibb	5	X	X		X	X		X				Yes	No	No	Non-Exempt	2030				\$72,044,929.08	\$72,044,929.08
15.	N/A	7th St. Truck Route - 7th St. @ Walnut & 7th St. @ Eisenhower - Roundabout and Improvements	Roadway Project	Bibb	7	X	X	X		x		X	X		X	Yes	No	No	Non-Exempt	2030				\$12,650,000.00	\$12,650,000.00
16.	0007029	Columbus Rd (SR 22) - Replace Bridge at Echeconne Creek	Bridges	Bibb, Crawford	2				X		X					Yes	No	No	Exempt					\$774,061.41	\$774,061.41
17.	0006659	Peake Rd. bridge replacement - Replace Bridge at Rocky Creek	Bridges	Bibb	5				X	X	X	X	X			Yes	No	No	Exempt					\$1,833,329.00	\$1,833,329.00
18.	N/A	Safety Improvements Emery Hwy from Spring Street to Irwinton Highway	Safety Project	Bibb	6	X		X	X	X	X	X				No	No	No	Exempt					\$1,000,000.00	\$1,000,000.00

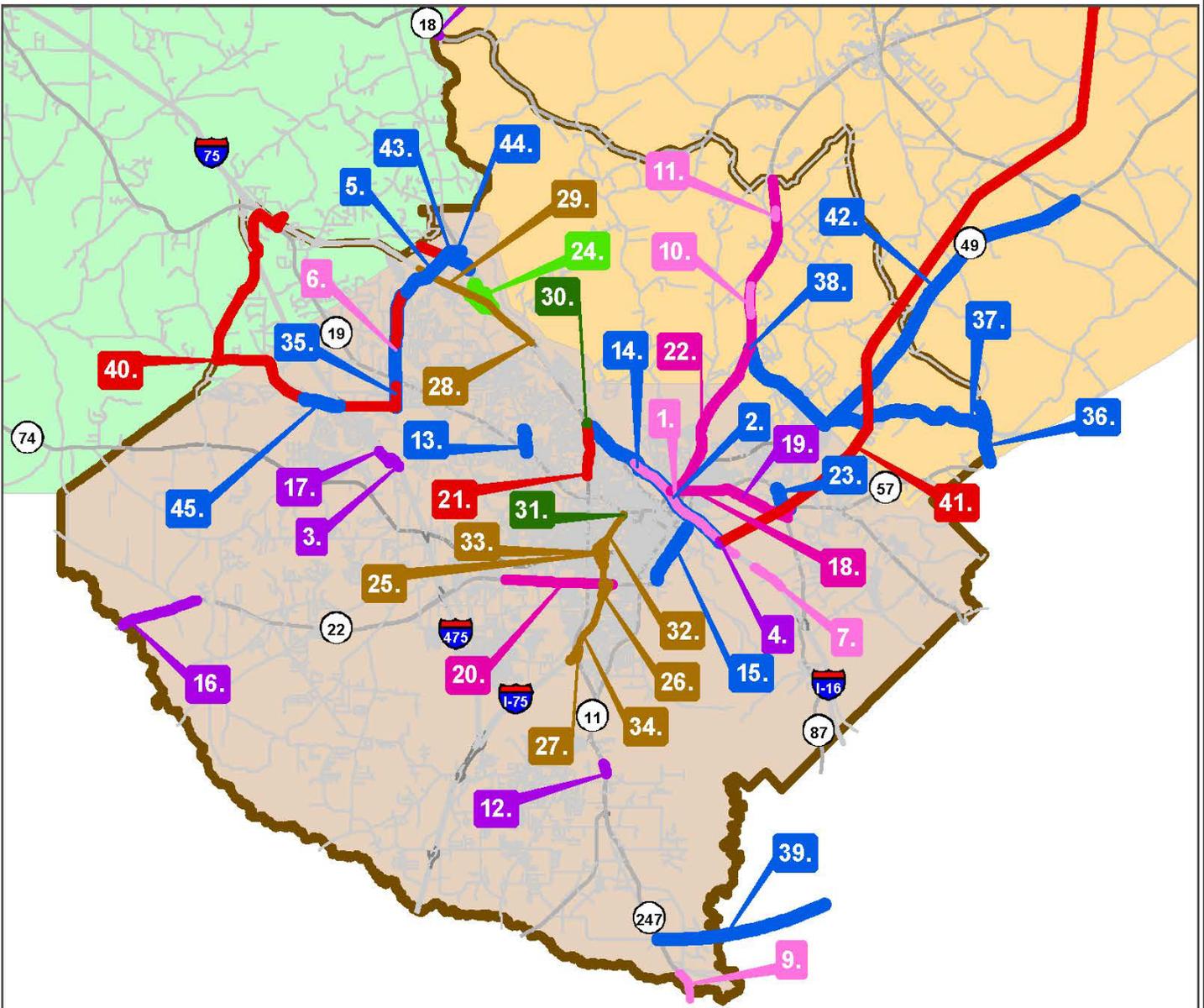
Priority Number	GDOT Project ID#	Description	Project Type	County	Number of LRTP Goals Addressed	Promote Multimodal and Affordable Travel Choices for people and freight?	Manage Congestion & System Reliability?	Improve Air Quality, Protect the Environment, Improve Quality of Life, and Promote Good Land Use Planning?	Connect People?	Improve Infrastructure Condition?	Ensure Equity?	Increase Safety, Health and Security?	Support economic vitality?	Improve resiliency and reduce stormwater impacts?	Enhance travel and tourism ?	In LRTP Update?	In FY 14-17 TIP?	In Current TIP?	Air Quality Modeling Status	Air Quality Network Modeling Year	Funding in the 14-17 TIP years	Funding in the 18-21 TIP years	Funding in the 21-24 TIP years (Current TIP)	Total Project Cost (Current Estimate)	Total Project Outstanding Balance (i.e., Total Cost - (Sum of Expended/Obligated Funds from all TIPs))
19.	333150	Emery Hwy - Reconstruct Bridge at Walnut Creek	Bridges	Bibb	3							X	X	X					Exempt					\$5,902,371.00	\$5,902,371.00
20.	N/A	Safety Improvements Eisenhower Parkway from Bloomfield Dr to C Street	Safety Project	Bibb	7	X		X	X	X	X	X	X			No	No	No	Exempt					\$1,000,000.00	\$1,000,000.00
21.	N/A	Pierce Ave. (SR 247) - Pedestrian improvements and bike lanes from Vineville Ave. to Riverside Dr.	TE/Bike/Ped	Bibb	5	X		X			X	X				No	No	No	Exempt					\$2,500,000.00	\$2,500,000.00
22.	N/A	Safety Improvements Gray Hwy from I-75 to Jones County Line	Safety Project	Bibb	6	X		X			X	X				No	No	No	Exempt					\$1,000,000.00	\$1,000,000.00
23.	351080-	Widen Jeffersonville Road from 2 to 4 thru lanes with a continuous left turn lane from Recreation Rd. to Emery Rd (US 80).	Roadway Project	Bibb	6	X			X	X	X	X	X			Yes	Yes	No	Non-Exempt	2050		\$ 6,821,701.57		\$9,070,702.00	\$2,249,000.43
24.	N/A	I-75/Riverside Drive Interchange - Signalize interchange. Modify ramps to add turn lanes & storage. Run fiberoptic.	Intersection/Signal/Safety	Bibb	2		X					X				No	No	No	Exempt					\$755,777.00	\$755,777.00
25.	N/A	I-75 Corridor: Mercer University Drive- NB and SB Ramp Intersections (as a result of failing 2012 and 2040 LOS)	Traffic Signals	Bibb	2		X					X						No	Exempt					\$200,000.00	\$200,000.00
26.	N/A	I-75 Corridor: Eisenhower Parkway-NB Ramp Intersection (as a result of failing 2040 LOS)	Traffic Signals	Bibb	2		X					X						No	Exempt					\$200,000.00	\$200,000.00
27.	N/A	I-75 Corridor: Pio Nono Avenue NB Ramp Intersection	Traffic Signals	Bibb	2		X					X						No	Exempt					\$200,000.00	\$200,000.00
28.	N/A	I-75 Corridor: Between Bass Road to Riverside Drive (as a result of failing 2040 LOS)	Auxiliary Lanes	Bibb	2		X					X						No	Non-Exempt	2040				\$6,200,000.00	\$6,200,000.00
29.	N/A	I-75 Corridor: Riverside Drive to Arkwright Road- both directions (as a result of failing 2040 LOS)	Auxiliary Lanes	Bibb	2		X					X						No	Non-Exempt	2040				\$6,800,000.00	\$6,800,000.00
30.	N/A	I-75 Corridor: Pierce Avenue at intersection with Riverside Drive (as a result of failing 2012 and 2040 LOS)	Turn Lanes	Bibb	2		X					X						No	Exempt					\$600,000.00	\$600,000.00
31.	N/A	I-75 Corridor: Forsyth Street- NB off ramp (as a result of failing 2012 and 2040 LOS)	Turn Lanes	Bibb	2		X					X						No	Exempt					\$300,000.00	\$300,000.00
32.	N/A	I-75 Corridor: Forsyth Street to Mercer University Drive- Both Directions (as a result of failing 2012 and 2040 LOS)	Auxiliary Lanes	Bibb	2		X					X						No	Non-Exempt	2040				\$10,700,000.00	\$10,700,000.00
33.	N/A	I-75 Corridor: Mercer University Drive to Eisenhower Parkway- both directions (as a result of failing 2040 LOS)	Auxiliary Lanes	Bibb	2		X					X						No	Non-Exempt	2040				\$2,600,000.00	\$2,600,000.00
34.	N/A	I-75 Corridor: Eisenhower Parkway to Pio Nono Avenue in Both Directions	Auxiliary Lanes	Bibb	2		X					X						No	Non-Exempt	2040				\$8,100,000.00	\$8,100,000.00
35.	N/A	Bass Rd. widening, Phase II - Providence Blvd. to Zebulon Rd. widened from 2 to 4 lanes	Roadway Project	Bibb	6	X	X	X				X	X			No	No	No	Non-Exempt	2040				\$21,942,036.00	\$21,942,036.00
36.	N/A	Henderson Rd. - Widen to 4 lanes from SR 57 to Griswoldville Rd.	Roadway Project	Jones	0											Yes	No	No	Non-Exempt	2050				\$11,089,192.00	\$11,089,192.00
37.	N/A	Griswoldville Rd. - Widen to 4 lanes from Henderson Rd. to SR 49	Roadway Project	Jones	0											Yes	No	No	Non-Exempt	2050				\$36,963,568.00	\$36,963,568.00
38.	N/A	Joycliff Rd. - Widen to 4 lanes from SR 49 to US 129	Roadway Project	Jones	0											Yes	No	No	Non-Exempt	2050				\$35,732,383.00	\$35,732,383.00

Priority Number	GDOT Project ID#	Description	Project Type	County	Number of L RTP Goals Addressed	Promote Multimodal and Affordable Travel Choices for people and freight?	Manage Congestion & System Reliability?	Improve Air Quality, Protect the Environment, Improve Quality of Life, and Promote Good Land Use Planning?	Connect People?	Improve Infrastructure Condition?	Ensure Equity?	Increase Safety, Health and Security?	Support economic vitality?	Improve resiliency and reduce stormwater impacts?	Enhance travel and tourism ?	In L RTP Update?	In FY 14-17 TIP?	In Current TIP?	Air Quality Modeling Status	Air Quality Network Modeling Year	Funding in the 14-17 TIP years	Funding in the 18-21 TIP years	Funding in the 21-24 TIP years (Current TIP)	Total Project Cost (Current Estimate)	Total Project Outstanding Balance (i.e., Total Cost - (Sum of Expended/Obligated Funds from all TIPs))
39.	N/A	Sardis Church Rd. Extension from SR 247 to Sgoda Rd. - New Road on new location project. Includes study	Roadway Project	Bibb	2	X						X				Yes	No	No	Non-Exempt	2040				\$62,409,791.00	\$62,409,791.00
40.	N/A	Bolingbroke Bike Loop - Bolingbroke to Estes Rd, to Zebulon Rd., to Bass Rd., to New Forsyth Rd., to Macon-Bibb County	TE/Bike/Ped	Bibb, Monroe	4	X		X		X	X					Yes	No	No	Exempt					\$946,843.64	\$946,843.64
41.	N/A	Central Georgia Rail Trail - Macon to Milledgeville pedestrian/bike trail conversion on abandoned CSX right of way	TE/Bike/Ped	Bibb, Jones	5	X		X	X			X			X	Yes	No	No	Exempt					\$7,077,123.90	\$7,077,123.90
42.	332450	Widen State Route 49 from Griswoldville Rd. to State Route 18 (Jones Co.)	Roadway Project	Jones	5	X			X	X		X			X	No	No	No	Non-Exempt	2050				\$60,457,495.21	\$60,457,495.21
43.	N/A	Widen New Forsyth Rd from 2 to 4 lanes with turn lanes as needed from Bass Rd. to Riverside Dr., with major intersection reconfiguration with Bass Rd., Wesleyan Dr. and Riverside Dr.	Roadway Project	Bibb	2		X					X				No	No	No	Non-Exempt	2040				\$7,500,000.00	\$7,500,000.00
44.	N/A	Widen Bass Rd. from 2 to 4 lanes from New Forsyth Rd. to Riverside Drive, and Interchange Improvements	Roadway Project	Bibb	6		X	X	X		X		X	X		No	No	No	Non-Exempt	2040				\$9,525,089.00	\$9,525,089.00
45.	N/A	Widen Zebulon Rd. from Lake Wildwood entrance to Lamar Rd. from 2 to 4 lanes. Add turn lanes at Lamar Rd. and Zebulon Rd.	Roadway Project	Bibb	3		X	X				X				No	No	No	Non-Exempt	2040				\$1,783,137.00	\$1,783,137.00

Project Balances	\$481,964,307.34
Total for TIP Obligated Projects	\$288,216,873.00
Grand Total	\$770,181,180.34

* Project priority numbers are indicators of relative priority within the MTP Project List. They do not indicate in which specific TIP period GDOT intends to include a specific project.

MPO Mats 2050 Transportation Projects



Priority	Project Description
1	I-75/I-16 Interchange - Phase 4- Expansion of I-16 eastbound from I-75 to Walnut Creek
2	I-75/I-16 Interchange - Phase 5- Expansion of I-16 westbound from I-75 to Walnut Creek
3	Tucker Rd. bridge replacement over I-475/Tucker Rd. bridge replacement over I-475
4	Bridge Replacement- Replace Bridge on I-16 Eastbound & Westbound @ Walnut Creek 1 Mile East of Macon
5	Bass Road widening, Phase 3 Providence Blvd to New Forsyth Rd (widening from 2 to 4 lanes)
6	Bass Road bridge replacement over Norfolk Southern railroad. Bass Road bridge replacement over Norfolk Southern railroad.
7	I-16 bridge replacements over Norfolk Southern railroad-I-16 bridge replacements over Norfolk Southern railroad
8	Bridge Replacement-Dames Ferry Rd. (aka SR 18) at Ocmulgee River Bridge Replacement-Dames Ferry Rd. (aka SR 18) at Ocmulgee River.
9	Bridge Replacement-Hawkinsville Rd. from Bibb County/Houston County border to Feagin Rd. (Northbound lanes), at 3 locations
10	Bridge Replacement-Gray Highway (aka US 129) Northbound & Southbound over Rock Creek
11	Bridge Replacement-Gray Hwy (aka US Hwy 129) over Sand Creek
12	Hawkinsville Road bridge replacement over Norfolk Southern railroad Hawkinsville Road bridge replacement over Norfolk Southern railroad.
13	Forest Hill Rd - Widening from 2 to 4 lanes from Vineville Ave. /Forsyth Rd. to Wimblish Rd.
14	I-75/I-16 Interchange - Phase 6- Expansion of I-75 from I-16 to Pierce Ave.
15	7th St. Truck Route - 7th St. @ Walnut & 7th St. @ Eisenhower - Roundabout and Improvements
16	Eisenhower Pkwy bridge replacement at Etchecoon Creek (Crawford Co. line)
17	Peake Rd. bridge replacement at Rocky Creek near Stratford Academy/Peake Rd. bridge replacement at Rocky Creek near Stratford Academy
18	Safety Improvements Emery Hwy from Spring Street to Irwinton Highway
19	Emery Hwy bridge replacement at Walnut Creek/Emery Hwy bridge replacement at Walnut Creek
20	Safety Improvements Eisenhower Parkway from Bloomfield Dr to C Street
21	Pierce Ave pedestrian and bicycle improvements from Ingelide Ave. to Riverside Dr.
22	Safety Improvements Gray Hwy from I-75 to Jones County Line Safety Improvements Gray Hwy from I-75 to Jones County Line
23	Jeffersonville Rd. widening - Norfolk Southern bridge replacement/Jefferosville Rd. widening - Norfolk Southern bridge replacement
24	I-75/Riverside Drive Interchange - Signalize interchange. Modify ramps to add turn lanes & storage. Run Fiberoptic.

25	I-75 Corridor- Mercer University Drive- Northbound and Southbound ramp Intersection signalization and improvement (as a result of falling 2040 Level of Service)
26	I-75 Corridor- Eisenhower Parkway- Northbound ramp intersection signalization and improvement (as a result of falling 2040 Level of Service)
27	I-75 Corridor- Pio Nono Avenue- Northbound ramp intersection signalization and improvement
28	I-75 Corridor- Riverside Drive to Arkwright Road- both directions (as a result of falling 2040 Level of Service)
29	I-75 Corridor- Between Bass Road to Riverside Drive (as a result of falling 2040 Level of Service)
30	I-75 Corridor- Pierce Avenue at intersection with Riverside Drive (as a result of falling 2012 and 2040 Level of Service)
31	I-75 Corridor- Forsyth Street- Northbound off ramp (as a result of falling 2012 and 2040 Level of Service)
32	I-75 Corridor- Forsyth Street to Mercer University Drive- Both Directions (as a result of falling 2012 and 2040 LOS)
33	I-75 Corridor- Mercer University Drive to Eisenhower Parkway- both directions (as a result of falling 2040 LOS)
34	I-75 Corridor- Eisenhower Parkway to Pio Nono Avenue in Both Directions
35	Bass Rd. widening, Phase II - Providence Blvd. to Zebulon Rd. widened from 2 to 4 lanes
36	Henderson Rd. - Widened to 4 lanes from SR 57 to Griswoldville Rd. Henderson Rd. - Widened to 4 lanes from SR 57 to Griswoldville Rd.
37	Griswoldville Rd. - Widened to 4 lanes from Henderson Rd. to SR 49/Griswoldville Rd. - Widened to 4 lanes from Henderson Rd. to SR 49
38	Joyce Rd. - Widened to 4 lanes from SR 49 to US 129/Joyce Rd. - Widened to 4 lanes from SR 49 to US 129
39	Sandis Church Rd. Extension from SR 247 to Seoda Rd. - New Road on new location project. Includes study
40	Bolingbroke Bike Loop - Bolingbroke to Estes Rd. to Zebulon Rd., to Bass Rd., to New Forsyth Rd., to Macon-Bibb County Line
41	Proposed pedestrian/bike trail from macon-bibb County to Millidgeville (Jones County)
42	Gray Hwy (aka State Route 491) widening from Griswoldville Rd. to State Route 38 (Jones Co.)
43	Widen New Forsyth Rd from 2 to 4 lanes with turn lanes as needed from Bass Rd. to Riverside Dr., with major intersection reconfiguration with Bass Rd., Widen Bass Rd. from 2 to 4 lanes from New Forsyth Rd. to Riverside Drive, and Interchange Improvements
44	Zebulon Rd. - Widen Zebulon Rd. from Lake Wildwood entrance to Lamar Rd. from 2 to 4 lanes. Add turn lanes at Lamar Rd. and Zebulon Rd.

Legend

- Traffic Signals
- Intersection/Signal/Safety
- Bridges
- Safety Project
- Bridge Replacement
- TEBike/Ped
- Auxiliary Lanes
- Roadway Project
- Turn Lanes
- MPO Boundary
- Bibb
- Jones
- Monroe

The Macon-Bibb County's infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records.

Date: 1/25/2022

1 inch = 20,000 feet
Map Meters: Leahy G. Hampton

Figure 6-7 Road and Bridges Projects Throughout MATS Area

Costs and Revenue Estimation

Costs

The total cost of all obligated road and bridge projects listed in Table 6-2 above is estimated at **\$770,181,180.34**. This value is based on the most current project cost estimates from GDOT and Macon-Bibb County Engineering Department. It includes an assumption of 2% increase in non-obligated project costs each year over the entire planning and construction duration of the project. This assumption is an average, based on GDOT's historic project management experience with road and bridge projects. While in any specific year this 2% assumption may be high or low, the expectation is that over the operational life of this MTP, individual years will balance out around a 2% inflation rate. This assumption is a continuation of the project cost inflation assumptions applied in the 2050 LRTP.

Of the \$770,181,180.34, the amount already obligated to these projects (as of December 16, 2019) is **\$288,216,873.00**. Reducing the total project costs by these expended or obligated amount leaves a net outstanding cost of **\$481,964,307.34**.

Revenues

Revenues for road and bridge projects were estimated using historic funding patterns. On June 21, 2021, GDOT Office of Planning provided MATS with estimates of revenues available for both new highway capital improvements (roads, bridges and bike/ped improvements) and highway maintenance expenditures, from 2015 through 2050. These estimates were further broken out by Federal, State, and Local funding sources. This table was adjusted to reflect only those revenues anticipated from FY 2021 through FY 2050, since the fiscal years prior to FY 2021 had already been closed out, and therefore should not be included in future year revenue projections. Table 6-3 below shows the anticipated revenues on a year by year basis for New Road & Bridge Projects and Maintenance Projects.

Table 6-3: Anticipated Revenues for New Road & Bridge Projects, and for Maintenance: FY 2021 - 2050

	<i>Annual Estimate of Funding Available for New Road & Bridge Projects</i>			<i>Maintenance Estimate</i>			<i>Total Estimate</i>
	<i>Project Cost Total</i>	<i>Federal Share</i>	<i>State & Local Sare</i>	<i>Project Cost Total</i>	<i>Federal Share</i>	<i>State & Local Share</i>	
2021	\$236,671,629	\$189,337,303	\$47,334,326	\$4,994,003	\$3,995,202	\$998,801	\$241,665,631
2022	\$17,716,085	\$14,172,868	\$3,543,217	\$4,524,994	\$3,619,996	\$904,999	\$22,241,079
2023	\$18,070,406	\$14,456,325	\$3,614,081	\$4,615,494	\$3,692,395	\$923,099	\$22,685,901
2024	\$18,431,815	\$14,745,452	\$3,686,363	\$4,707,804	\$3,766,243	\$941,561	\$23,139,619
2025	\$18,800,451	\$15,040,361	\$3,760,090	\$4,801,960	\$3,841,568	\$960,392	\$23,602,411
2026	\$19,176,460	\$15,341,168	\$3,835,292	\$4,897,999	\$3,918,400	\$979,600	\$24,074,459
2027	\$19,559,989	\$15,647,991	\$3,911,998	\$4,995,959	\$3,996,768	\$999,192	\$24,555,948
2028	\$19,951,189	\$15,960,951	\$3,990,238	\$5,095,879	\$4,076,703	\$1,019,176	\$25,047,067
2029	\$20,350,213	\$16,280,170	\$4,070,043	\$5,197,796	\$4,158,237	\$1,039,559	\$25,548,009
2030	\$20,757,217	\$16,605,773	\$4,151,443	\$5,301,752	\$4,241,402	\$1,060,350	\$26,058,969
2031	\$21,172,361	\$16,937,889	\$4,234,472	\$5,407,787	\$4,326,230	\$1,081,557	\$26,580,148

Table 6-3 (Cont): Anticipated Revenues for New Road & Bridge Projects, and for Maintenance: FY 2021 - 2050

2032	\$21,595,808	\$17,276,647	\$4,319,162	\$5,515,943	\$4,412,754	\$1,103,189	\$27,111,751
2033	\$22,027,725	\$17,622,180	\$4,405,545	\$5,626,262	\$4,501,009	\$1,125,252	\$27,653,986
2034	\$22,468,279	\$17,974,623	\$4,493,656	\$5,738,787	\$4,591,030	\$1,147,757	\$28,207,066
2035	\$22,917,645	\$18,334,116	\$4,583,529	\$5,853,563	\$4,682,850	\$1,170,713	\$28,771,207
2036	\$23,375,998	\$18,700,798	\$4,675,200	\$5,970,634	\$4,776,507	\$1,194,127	\$29,346,632
2037	\$23,843,517	\$19,074,814	\$4,768,703	\$6,090,047	\$4,872,037	\$1,218,009	\$29,933,564
2038	\$24,320,388	\$19,456,310	\$4,864,078	\$6,211,848	\$4,969,478	\$1,242,370	\$30,532,235
2039	\$24,806,796	\$19,845,436	\$4,961,359	\$6,336,085	\$5,068,868	\$1,267,217	\$31,142,880
2040	\$25,302,932	\$20,242,345	\$5,060,586	\$6,462,806	\$5,170,245	\$1,292,561	\$31,765,738
2041	\$25,808,990	\$20,647,192	\$5,161,798	\$6,592,062	\$5,273,650	\$1,318,412	\$32,401,053
2042	\$26,325,170	\$21,060,136	\$5,265,034	\$6,723,904	\$5,379,123	\$1,344,781	\$33,049,074
2043	\$26,851,673	\$21,481,339	\$5,370,335	\$6,858,382	\$5,486,705	\$1,371,676	\$33,710,055
2044	\$27,388,707	\$21,910,965	\$5,477,741	\$6,995,549	\$5,596,439	\$1,399,110	\$34,384,256
2045	\$27,936,481	\$22,349,185	\$5,587,296	\$7,135,460	\$5,708,368	\$1,427,092	\$35,071,941
2046	\$28,495,211	\$22,796,168	\$5,699,042	\$7,278,170	\$5,822,536	\$1,455,634	\$35,773,380
2047	\$29,065,115	\$23,252,092	\$5,813,023	\$7,423,733	\$5,938,986	\$1,484,747	\$36,488,848
2048	\$29,646,417	\$23,717,134	\$5,929,283	\$7,572,208	\$6,057,766	\$1,514,442	\$37,218,625
2049	\$30,239,345	\$24,191,476	\$6,047,869	\$7,723,652	\$6,178,921	\$1,544,730	\$37,962,997
2050	\$30,844,132	\$24,675,306	\$6,168,826	\$7,878,125	\$6,302,500	\$1,575,625	\$38,722,257
Grand Total	\$923,918,142	\$739,134,513	\$184,783,628	\$180,528,646	\$144,422,917	\$36,105,729	\$1,104,446,787

Summing the inflation adjusted values for the Federal, State and Local categories from FY 2021 through FY 2050, the total estimated revenue available for New Road and Bridge Projects is **\$923,918,142**. Assuming the standard 80%/20% cost sharing arrangement between Federal, State and Local partners (see full discussion, next section), this value breaks out to **\$739,134,513** in anticipated Federal funds, and **\$184,783,628** in State and Local cost share. For Highway Maintenance Projects, the corresponding total is **\$180,528,646** (\$144,422,917 Federal funds; **\$36,105,729** State & Local funding).

Statement of Fiscal Balancing

Pursuant to the requirements in 23 CFR §450.324(f)(11)(i-viii), this section demonstrates that the projects listed in this chapter are compliant with Federal requirements for being fiscally constrained. Comparing the net revenue and net cost estimates, the Roads and Bridges project list has an anticipated surplus of **\$153,736,961.38** for Highway Capital projects, and **\$174,067,645.71** remaining for Highway Maintenance projects, over the operating life of the 2050 MTP. Table 6-4 lays out the calculations, based on the most recent project cost estimates in each category.

These surpluses are the totals across all Federal, State and Local funding sources. How much of that surplus accrues to each level of government is, in part, dependent on the specific funding sources used to pay for the individual projects. Normal cost sharing arrangements for federally supported transportation projects involve the federal government paying up to 80% of the total

project cost, with the remaining 20% (commonly known as “match”) being the responsibility of the State and Local participants (23 US Code §120(b): <https://www.fhwa.dot.gov/map21/docs/title23usc.pdf>)

Table 6-4: Demonstration of Fiscal Balancing for Roads & Bridges Projects

Highway Capital Projects Revenue Estimates		Summed Estimates @ 2% Inflation
Federal		\$ 739,134,513.38
State & Local Match		\$ 184,783,628.34
Total Estimated Revenues		\$ 923,918,141.72
Finalized TIP Project Adjustments (as of 10/21/2021)		\$ 288,216,873.00
Net Highway Capital Revenues Available		\$ 635,701,268.72
Outstanding Road & Bridge Projects in LRTP		\$ 481,964,307.34
Capital Surplus (deficit)	<i>New Estimate (10/21/2021)</i>	<u>\$ 153,736,961.38</u>

Highway Maintenance Revenue Estimates		Summed Estimates @ 2% Inflation
Federal		\$ 144,422,916.57
State & Local Match		\$ 36,105,729.14
Total Estimated Revenues		\$ 180,528,645.71
FY 21-24 TIP Project Adjustments (as of 8/16/2021)		\$ 6,461,000.00
Net Maintenance Revenues Available (FY 2025 - 2050)		\$ 174,067,645.71

In addition to the recognized Federal revenue sources, since 2015 there have been significant updates to how the State and Local portion are being generated.

Georgia Transportation Funding Act Of 2015

On May 4, 2015, the Governor signed the Georgia Transportation Funding Act of 2015 (GTFA 2015: <http://www.legis.ga.gov/Legislation/en-US/display/20152016/HB/170>). This act provides for a variety of State funding sources (i.e., vehicle registration fees, hotel/motel occupancy taxes, a 1% sales tax on retail motor fuels up to \$3.00 per gallon) which are to be dedicated to funding transportation projects. Since passage of this act, the practical effect has been for GDOT to identify certain transportation projects of statewide significance, which are then fully funded in

their 20% match requirement by supplemental state funding. The result is that federally sponsored road and bridge projects which are matched with GTFA 2015 funds require significantly lower budget contributions from the local jurisdictions where the projects are located. In many cases, the local funding component is completely eliminated.

Local Revenue Options

Just as GTFA 2015 provides a mechanism for the State to assume the full match burden of road and bridge projects, there are policies in place by which Local partners can either assume the 20% match portion, or even fully assume the entire cost of the project (which would effectively remove the project from the MTP project list).

Special Purpose Local Option Sales Tax

The Special Purpose Local Option Sales Tax (SPLOST) is a mechanism under Georgia state law (Title 48, Ch. 8, Article 3, Part 1: <http://www.lexisnexis.com/hottopics/gacode/>), whereby voters within a county can, within certain limits, assign a self-imposed 1% sales tax for the purpose of funding for a variety of capital improvement projects. Originally passed in 1985, the legislation has undergone several legislative updates. The most recent SPLOST in the MATS region passed in the Macon-Bibb County consolidated government on November 8, 2016, authorizing \$35,000,000 for various transportation projects throughout the Macon-Bibb area. To the extent that projects are on the road and bridges projects list for this 2040 LRTP Update, these projects can have their match paid for through SPLOST funds, either in part or all the way up to the full 20% match requirement. Alternatively, if the MATS Policy Committee were to decide to accelerate a project faster than GDOT's timetable, they could use SPLOST funds to remove it from the LRTP project list entirely. This strategy would allow the jurisdiction sponsoring the project to proceed at their own pace, but it would also forego any opportunity for State or Federal support for the project.

Georgia Transportation Infrastructure Bank

Another local funding option is the Georgia Transportation Infrastructure Bank (GTIB). GTIB was established to provide a revolving loan fund (and in some cases, grant funding) for qualified eligible infrastructure projects, including mass transit and bicycle infrastructure (Title 32, Ch. 10, Article 2: <http://www.lexisnexis.com/hottopics/gacode/>)[1]. Because the GTIB program allows local units of government to borrow for project costs over the design life of a project, the effect of the GTIB program is to reduce the immediate budget impacts of coming up with the local match for large infrastructure and facilities projects. For example, if GTIB financing were used to meet local match requirements for a 5-year construction project for a bridge with a 30-year design life, the local jurisdiction could issue a bond to meet the match requirements and pay it back over a period no longer than 30 years. This has a less intense fiscal impact on the local government than financing the match requirement in each of the 5 budget years over which the bridge is being constructed.

SPLOST and GTIB are not mutually exclusive. A local jurisdiction could elect to use either, both or neither of these funding sources to address local match requirements for transportation projects.

Projects for Future Consideration and the MTP Amendment Process

Projects for Future Consideration

In addition to the projects in Table 6-2, several supplemental projects were identified through the public involvement and MATS committee processes. Table 6-5 below identifies these projects using the same evaluation criteria as was used in Table 6-2.

Unlike Table 6-2, the projects in Table 6-5 are not listed in any particular priority order. Many of these are new projects for consideration, and as of yet have not had any programmatic or fiscal evaluation. Any project costs associated with these projects are considered advisory, and subject to change.

<u>Unprioritized</u> Project Number	GDOT Project ID#	Description	Project Type	County	Promote Multimodal and Affordable Travel Choices for people and freight?	Manage Congestion & System Reliability?	Improve Air Quality, Protect the Environment, Improve Quality of Life, and Promote Good Land Use Planning?	Connect People?	Improve Infrastructure Condition?	Ensure Equity?	Increase Safety, Health and Security?	Support economic vitality?	Improve resiliency and reduce stormwater impacts?	Enhance travel and tourism?	<u>Proposed</u> Network Year	In MTP?	In FY 18-21 TIP?	Anticipated Budget
1.	N/A	<u>Lane reorientation on US 41/Pio Nono Ave. between Mercer Univ. Dr. and Anthony Rd. Add dedicated center left turn lane, crosswalk across Pio Nono, sidewalks on both sides</u>	Roadway Project	Bibb		X		X	X	X	X				2030	No	No	<u>New Project</u>
2.	N/A	<u>Lane reorientation on US 41/Pio Nono Ave. from Rolf Ave. to Hillcrest Ave. Add dedicated center left turn lane</u>	Roadway Project	Bibb		X			X	X					2030	No	No	<u>New Project</u>
3.	N/A	<u>Improvements at US 80/Eisenhower Pkwy and US 41/GA 247/Pio Nono Ave. Road maintenance and restriping, crosswalk improvements, improved transit access points, improve dedicated left turn lanes from US 80 eastbound to GA 247 northbound</u>	Roadway Project	Bibb	X	X			X	X		X			2030	No	No	<u>New Project</u>
4.	N/A	<u>Resurfacing of US 41/Pio Nono Ave. from I-75 to Hawkinsville Rd.</u>	Resurfacing/Maintenance	Bibb		X			X						2030	No	No	<u>New Project</u>
5.	N/A	<u>Extension of 2nd St. pedestrian improvements from Ash St./new bridge alignment down to Eisenhower Blvd. Possible new roundabout at intersection of 2nd St./Bowden St./Grants Chapel Alley.</u>	TE/Bike/Ped	Bibb	X	X			X	X					2030	No	No	<u>New Project</u>
6.	N/A	<u>Add sidewalks along Napier Ave. from Park St. to Forsyth Ave.</u>	TE/Bike/Ped	Bibb	X		X		X	X					2030	No	No	<u>New Project</u>
7.	N/A	<u>Replace existing crosswalk signals with new signals incorporating countdown clocks</u>	TE/Bike/Ped	Bibb	X	X			X	X	X				2030	No	No	<u>New Project</u>
8.	0006689	Houston Rd. - Widen from 2 to 4 lanes from north of Sardis Church Rd. Extension (approx. South Walden Rd.) to existing Sardis Church Rd./North Walden Rd.	Roadway Project	Bibb	X	X		X				X			2040	Yes	No	\$8,390,118.16
9.	331750	Houston Rd. - Standardize lanes from south of Sardis Church Rd. extension (South Walden Rd.) to US 41 in Houston County	Roadway Project	Bibb, Houston	X	X		X				X			2040	Yes	No	\$453,630.00
10.	Local	Tucker Rd. (Phase 2) - Resurfacing, striping, standardization, turn lanes, multi-use path from Foster to Idlewood. Phase I from Idlewood to Forsyth is complete	Roadway Project	Bibb	X	X			X		X				2040	Yes	No	\$1,320,171.00
11.	N/A	Widen Forest Hill Rd. from Hall to Northside Dr.	Roadway Project	Bibb	X	X	X	X	X			X	X		2040		No	New Project

Table 6-5: Projects Identified for Further Study and Future Consideration
Draft Date: 02/02/2022

MTP Amendments

From time to time it will be necessary to modify the financially constrained project list to reflect updated project costs, changes in project timetables, or add and remove projects from consideration. These actions require formal amendments to the MTP and possibly the TIP. Both the MTP and TIP can be amended at any time, in accordance with the procedures specified in the [MATS Public Participation Plan](#). The process for amending the MTP project list involves the following steps:

1. Updating and/or creating new project sheets for the current TIP, to reflect changes in any projects currently underway;
2. Updating the project tables in the relevant MTP chapters, to reflect the new projects and associated cost changes;
3. Updating the fiscal analysis in this MTP chapter to continue demonstrating fiscal constraint (i.e., that revenues are sufficient to cover anticipated costs), even with the proposed amendments
4. Soliciting public input in accordance with the approved MATS Public Participation Plan (last updated 11/4/2020, which involves;
 1. Completing a 15 day public review period with drafts of the proposed amended MTP project list and (if necessary) TIP, available for download from the MATS website
 2. Soliciting comments and recommendations from the MATS Citizen Advisory Committee and MATS Technical Coordinating Committee
5. After close of public comment period, formal adoption of the amended MTP project list and (if necessary) TIP by the MATS Policy Committee.

In accordance with these procedures, the following project list amendments have been made to the MTP Roads and Bridges Projects List:

[1] The full list of what is defined as an “eligible project” can be found in Title 32, Ch. 10, Article 2, Part 3, Sec. 122 of the 2016 GA State Code. See <http://www.lexisnexis.com/hottopics/gacode/> for specific definitions.

Chapter 7 | Public Transportation

Introduction

This section of the Macon Area Transportation Study (MATS) 2050 MTP Update provides an overview of the current transit system and ADA service in the MATS area, and any improvements planned in the next six fiscal years (i.e., FY 2018 through FY 2023, inclusive).

Background

The providers of public transit service for the MATS area include Jones County Transit (JCT) and the Macon-Bibb County Transit Authority (MTA). Currently, Monroe County does not have any form of public transit option anywhere within their jurisdiction.

Jones County

Jones County Transit system was originally commissioned in 1997. Due to the size, demographic composition and geographic distribution of the population of Jones County, JCT operates as a Coordinated Transportation System, which “combines all relevant personal transit needs in the County under a single provider who has direct control.”^[1] The JCT coordinates with the Georgia Dept. of Human Services (DHS), and the Georgia Dept. of Transportation Section 5311 (GDOT 5311) program to conduct their Coordinated Transportation System program.^[2]

Macon-Bibb County

Originally a privately owned concern, the City of Macon purchased their transit system from the private operator in 1973; MTA as an agency was formed in 1980 by an act of the Georgia legislature. MTA was first funded by local sources but finally applied for federal funding assistance in FY 2000. Currently, funding for the MTA system is provided by federal, state and local sources as well as system revenues.

Description of Service

Jones County

JCT operates on a reservation basis, Monday through Friday from 8:00 a.m. to 5:00 p.m. The system is run under sub-contracts with Quality Trans, Inc., administered by the Middle Georgia Regional Commission (for those trips associated with DHS supported activities), and with Middle Georgia Community Action Agency (MGCAA: for trips associated with the GDOT 5311 program).

For trips associated with GDOT 5311 activities, MGCAA charges the rider \$2.00 per round trip, plus \$0.50 per stop, up to a maximum of \$4.00 per day, for trips within Jones County. For trips that cross the Jones County boundary, the rider pays \$4.00 per round trip plus \$0.50 per stop, up to a maximum of \$6.00 per day. No discounts or coupons are available.

For trips associated with DHS supported activities, there is no charge to the passenger. Trips associated with DHS activities cover a variety of different programs, with different categories of eligibility. The categories for eligible trips are as follows:

- Division of Aging Services (DAS)
 - Trips to and from senior centers
 - Trips to and from medical appointments
 - Trips for shopping
 - Trips to and from work/employment
 - Field trips
 - Trips to pay bills
- Division of Family and Children Services (DFCS)
 - Trips in support of Temporary Assistance to Needy Families (TANF) recipients (employment, job training, job search, etc.)
 - Trips to and from technical schools and adult education classes
 - Trips to and from work experience sites for food stamp recipients
 - Trips to and from medical appointments
 - Trips to and from mental health centers
 - Other non-TANF trips
 - Trips to and from substance abuse treatment
 - Trips for social services
 - Miscellaneous trips
- Division of Behavioral Health and Developmental Disabilities (DBHDD)
 - Trips to and from employment locations
 - Trips to and from day centers
 - Trips to and from mental health appointments
 - Trips to and from community training and integration activities
 - Trips to and from job training
 - Trips to and from medical appointments
 - Trips for social services
 - Miscellaneous trips
- Division of Public Health (DPH)
 - Trips for immunizations
 - Trips to and from the public health clinic, and to and from stores
 - Trips for prenatal visits to clinics and other prenatal appointments
 - Trips to scheduled medical appointments
- Department of Labor Vocational Rehabilitation Services Program (DOL/VRS)
 - Trips to and from school
 - Trips to and from employment
 - Trips for job search and job placement
 - Trips to and from job training
 - Trips to and from workshops and assessment sites

Macon-Bibb

Currently, MTA operates twelve fixed bus routes in Bibb County. The service hours for the bus routes are currently from 5:25 a.m. to 9:00 p.m. Monday – Friday but on Saturdays, the hours are

from 5:25 a.m. to 7:00 p.m. The main transfer station for the transit system is presently located at 200 Cherry St., Macon GA (i.e., Terminal Station). This facility was originally constructed in 1916 as a hub for all 15 railroads (regional and national) operating in the Macon area. The station ceased rail operations in 1975 and was sold to private interests. It was finally purchased by City of Macon in 2002 through a TEA grant and converted into a mixed-use office, retail and multi-modal transportation center. In 2008, MTA moved their main office from the Riverside Drive garage location to the Terminal Station, and it is anticipated to be used as an intermodal regional commuter rail facility again in the future.

The regular fare for the MTA system is:

- \$1.25 for a one-way trip transfers for \$0.50
- Senior Citizens (age 62+): \$0.60
- Children and Under (with an adult) – Free
- Students Age 13 – 18: \$0.75

The Transit Authority sells various types of bulk passes at the Terminal Station for discounted and/or unlimited rides on the fixed route system (<https://www.mta-mac.com/how-to-ride/fares/>). There are also ticket vending machines available at the transfer station.

MTA also offers paratransit service, provided on demand with 24-hour prior notice via telephone appointment. Riders are charged \$2.50 one-way, \$5.00 round trip, with similar bulk passes available at discounted rates (<http://www.mta-mac.com/paratransit.html>)

A general description of each MTA route is provided below. The maps on the following pages show each route individually, and the full system operated by the Macon Transit Authority. All fixed routes for transit riders operated by MTA originate from Terminal Station.

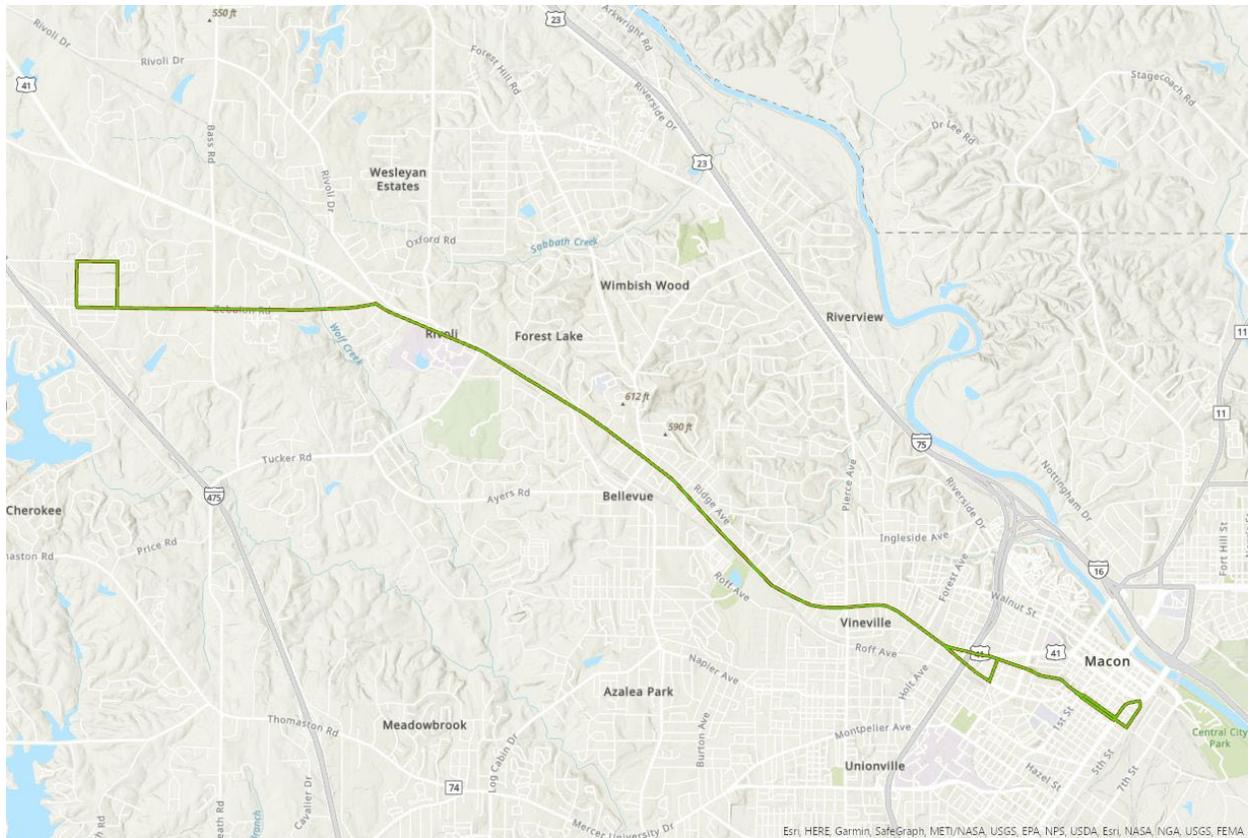
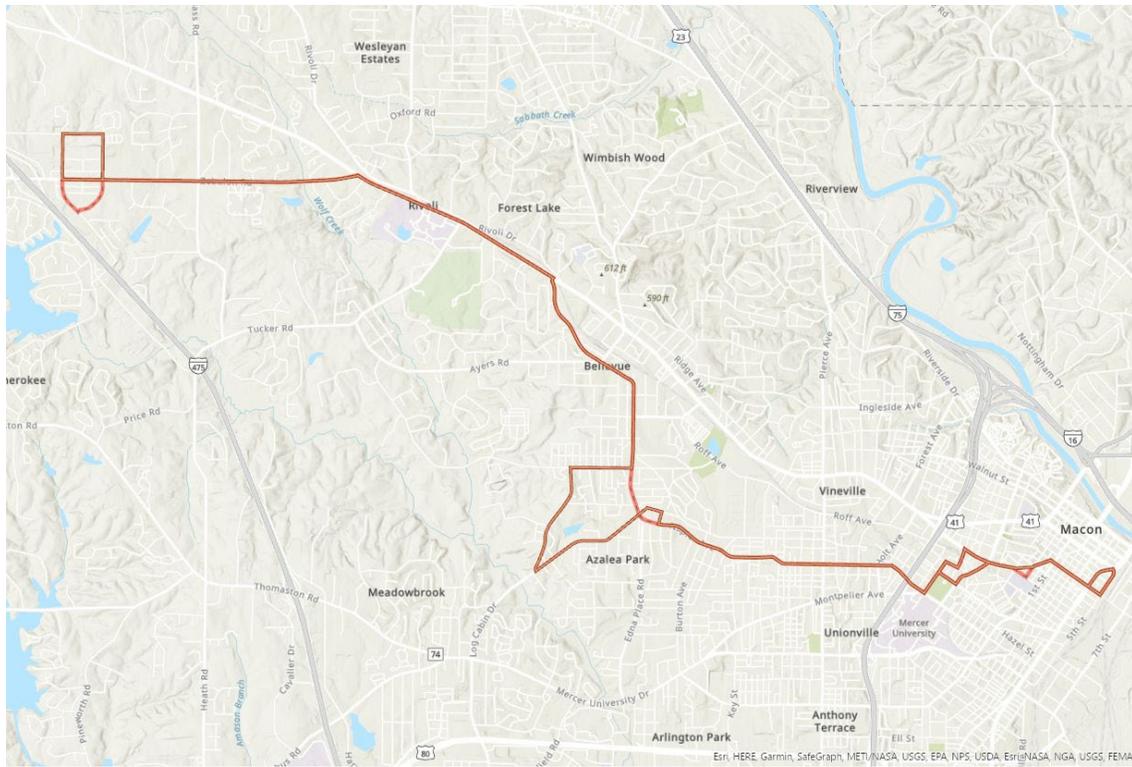


Figure 7-1: MTA Route 1 - Vineville Route/Zebulon Rd.

This route connects Northwest Bibb County, as well as the suburbs along Vineville Ave., to the Macon downtown. The route includes Washington Ave., Hardeman Ave., Vineville Ave./Forsyth Rd. (aka U.S. Hwy 41 and/or GA State Route 19), Zebulon Rd. and Plantation Dr. This route includes service to Piedmont Northside Hospital, Wesleyan College, and the shopping center on Zebulon Rd.. MTA operates one bus for this route, running Monday through Friday, 5:25 a.m. to 9:05 p.m., and on Saturday from 5:25 a.m. to 1:35 p.m.



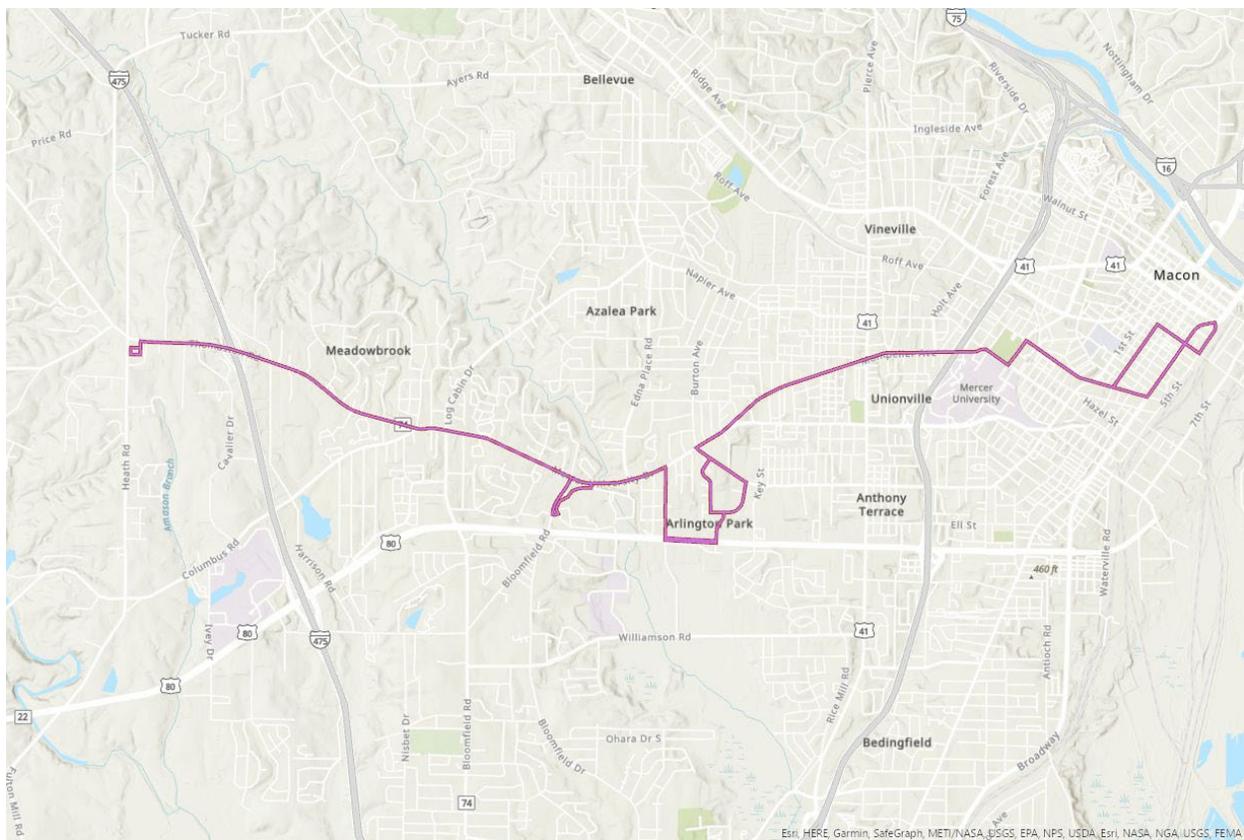
Like Route 1, this route connects Northwest Bibb County to the Macon Downtown, but deviates off of Vineville Ave./Forsyth Rd. Instead of serving the residents along Vineville Ave, this route serves the residents along Log Cabin Rd., Napier Ave., Forsyth Rd. and Hollingsworth Rd. This route runs Monday through Friday, 5:45 a.m. to 9:00 p.m., and Saturday 5:25 a.m. to 7:00 p.m. MTA operates two vehicles along this route on weekdays from 5:25 a.m. to 11:05 a.m., and one vehicle at all other times.



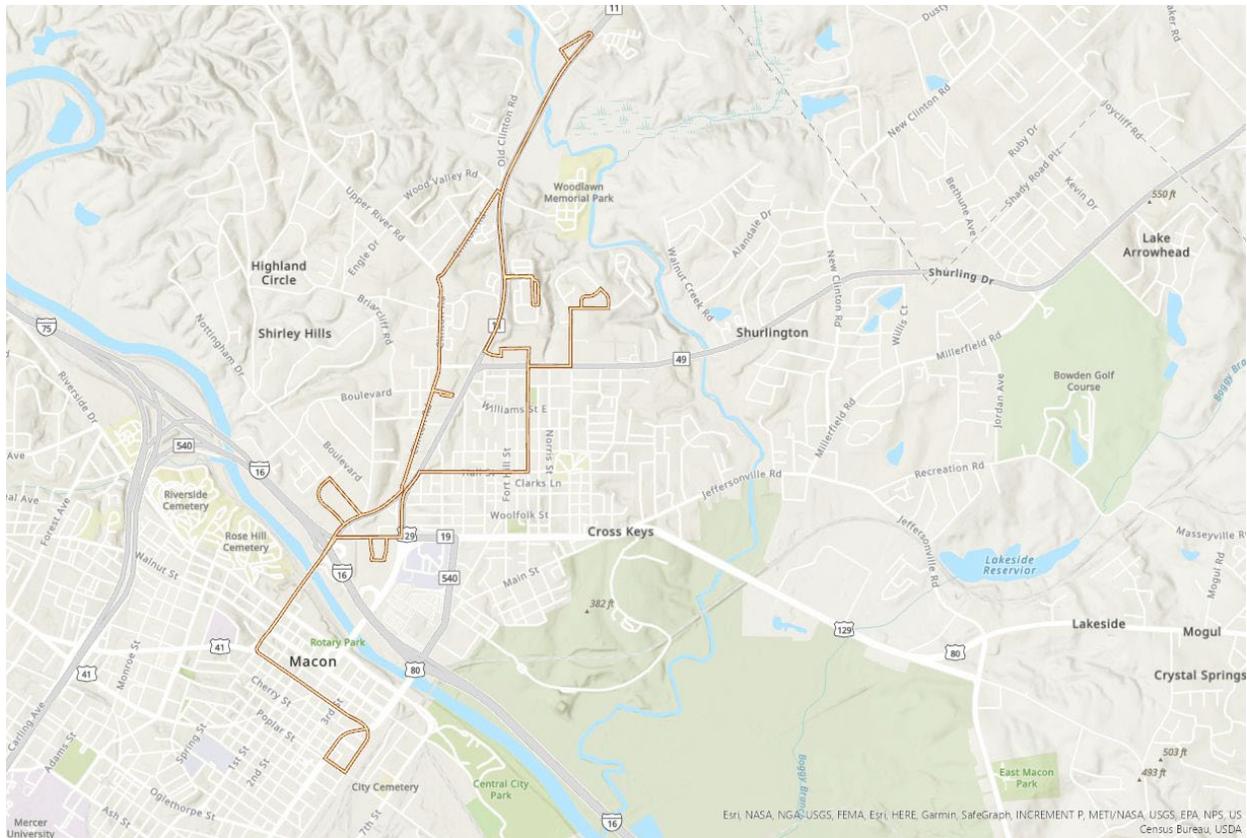
Figure 7-2b: MTA Route 2 – Bellevue vs. Bellevue Express Route

As shown in Figure 7-2b, the Bellevue route turns North from Napier Ave. onto Log Cabin Way, then West onto Hillcrest Rd. From Hillcrest Rd. the route joins Log Cabin Dr., traveling Southwest through the Log Cabin Dr./Napier Ave. intersection, then Northeast onto Hollingsworth Rd. at the Log Cabin Dr./Hollingsworth Rd. intersection, then East on Mumford Rd. at Hollingsworth Rd./Mumford Rd. intersection, and then rejoins Napier Ave. at the Mumford Rd./Napier Ave. intersection.

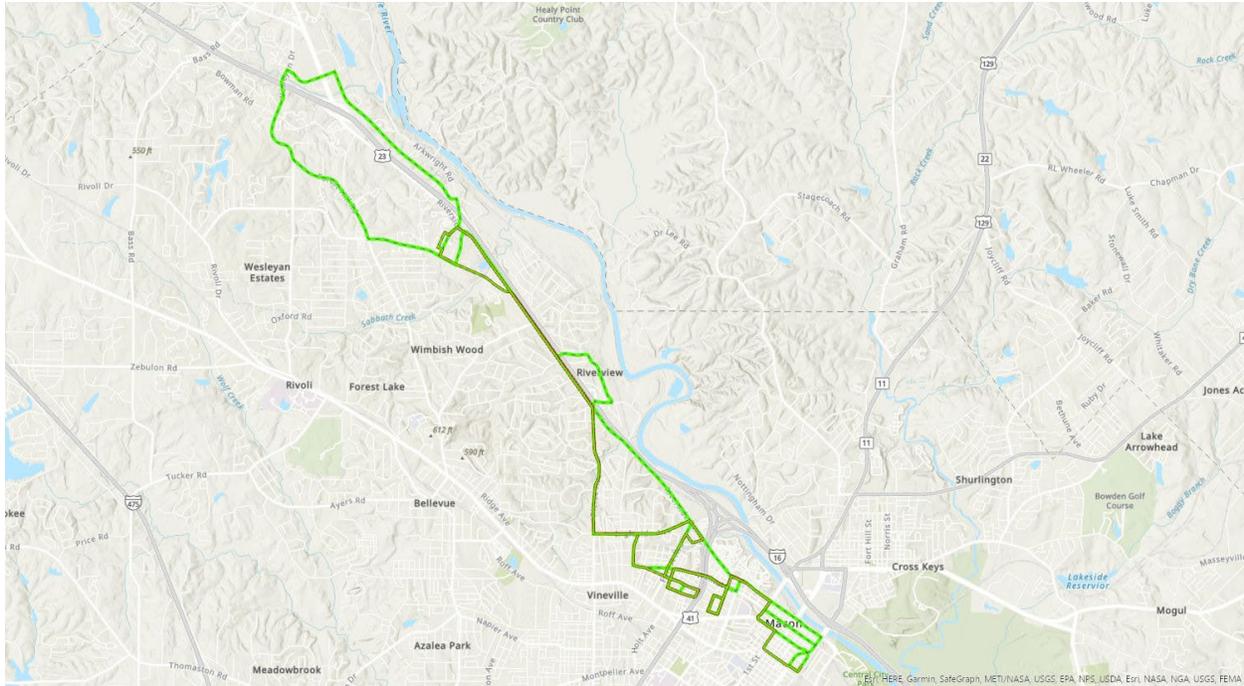
In contrast, the Bellevue Express route continues directly along Napier Ave. at the Hillcrest Rd. intersection, avoiding all subsequent route diversions. The Bellevue Express Route rejoins the regular Bellevue Route at the Mumford Ave./Napier Ave. intersection. MTA operates one vehicles along the Bellevue Express route on weekdays from 5:45 a.m. to 6:00 p.m., and on Saturdays from 5:45 a.m. to 4:45 p.m. The schedule for the Bellevue Express is offset so as minimize service overlap with the normal Bellevue Route.



This route serves the areas along Montpelier Ave., Columbus Road, Jackson St., Ash St. and Mercer University Drive. Stops along this route include service to the Elam Alexander II Elementary School, Mercer University, Anthony Homes public housing complex, the Macon Mall, the Georgia Dept. of Labor, and the Veteran’s Administration Clinic. This route runs Monday through Friday, 5:25 a.m. to 9:00 p.m., and Saturday 5:25 a.m. to 7:00 p.m. MTA operates two vehicles along this route on weekdays, and one vehicle on Saturdays.



Service is provided to various sites on Gray and Emery Hwy. including Baconsfield Shopping Center, the Macon-Bibb County Health Department, and the Georgia Dept. of Community Supervision day reporting field office. This route runs Monday through Friday, 5:25 a.m. to 9:00 p.m., and Saturday 5:25 a.m. to 6:50 p.m. MTA operates two vehicles along this route on weekdays, and one vehicle on Saturdays.



This bus operates along Riverside Dr., Pierce Ave., Ingleside Ave., and Northside Drive. The Ocmulgee – Tom Hill route runs to the Kroger Shopping Center on Tom Hill Sr. Blvd, by way of Ingleside Dr. and Pierce Ave.. In contrast, the Ocmulgee Express route avoids Ingleside Dr., continues North on Riverside Dr. up to Bass Rd and the Shops at River Crossing Shopping Center, and returns down Riverside Dr.

The Ocmulgee – Tom Hill route runs Monday through Friday, 5:25 a.m. to 9:00 p.m., and Saturday 5:25 a.m. to 7:00 p.m. MTA operates one vehicle along this route on weekdays, and one vehicle on Saturdays. Along the Ocmulgee Express Route, MTA operates one vehicle on weekdays from 5:45 a.m. to 6:00 p.m., and on Saturdays from 5:45 a.m. to 4:45 p.m. The schedule for the Ocmulgee Express is offset so as minimize service overlap with the normal Ocmulgee – Tom Hill Route.

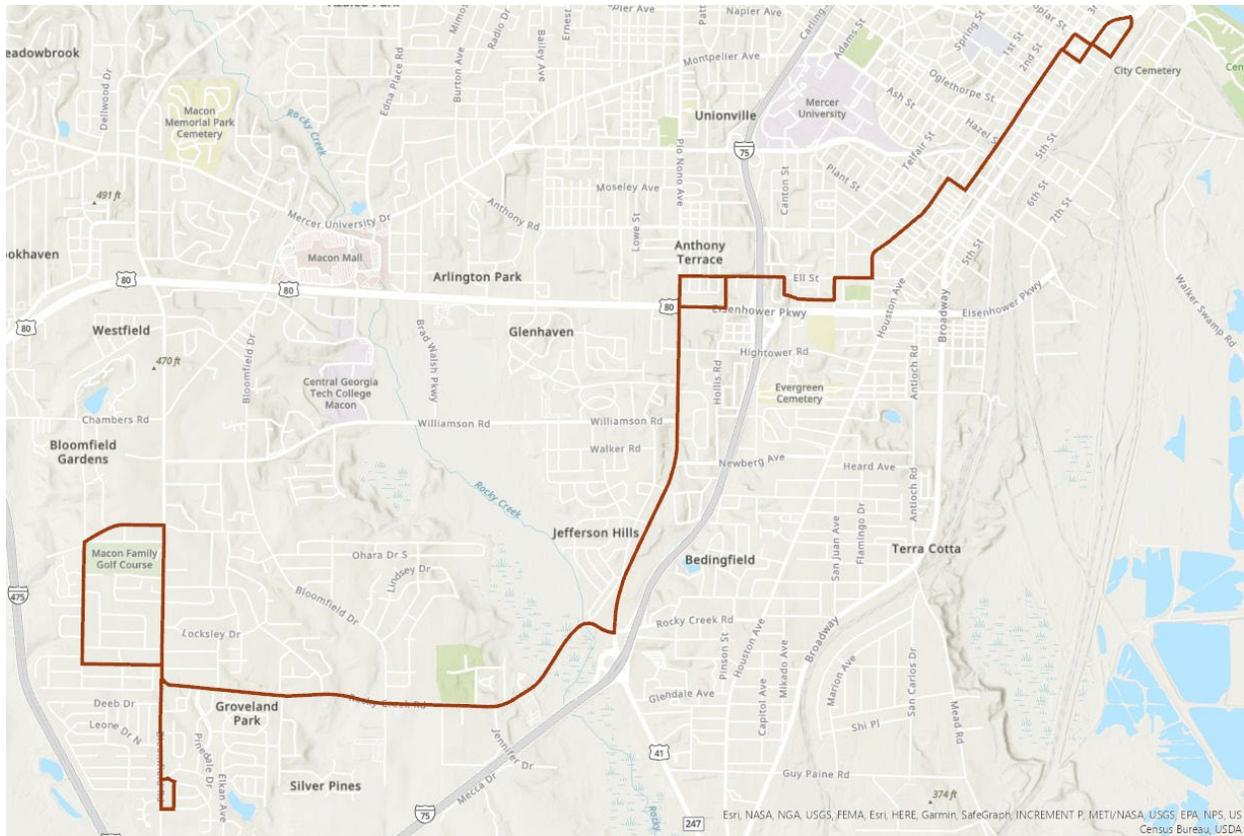


Figure 7-6: MTA Route 6 - Westgate/Bloomfield

This route consists of Eisenhower Pkwy., Pio Nono Ave., Bloomfield Rd., and Rocky Creek Road. The route serves the Murphey Homes public housing complex, the Rocky Creek Shopping Center, Bloomfield Park, and the Bloomfield and Barden Elementary Schools. MTA operates only one bus along the route, which runs Monday through Friday, 5:25 a.m. to 9:00 p.m., and Saturday 5:45 a.m. to 6:40 p.m.

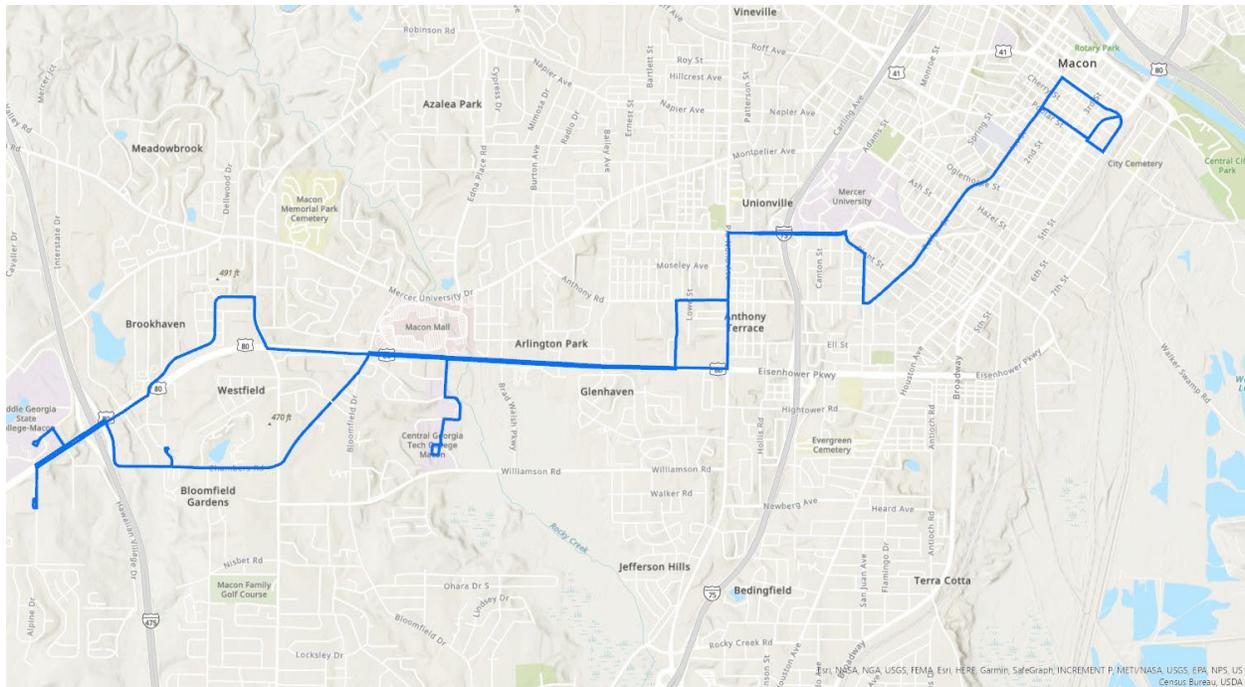


Figure 7-7: MTA Route 7 - Macon Mall/Chambers Road

This route offers service to Macon Mall, Eisenhower Crossing Shopping Center, Central Georgia Technical College, and Middle GA State University. Stops served along the route include the Atrium/Navicent Health Medical Center, the Felton Homes and Anthony Homes public housing complexes, Mercer University, the Frank Johnson Recreational Center, and the Goodwill/Amerson Center. The main components of this route consist of Telfair St., Pio Nono Ave., Ivey Rd., and Eisenhower Pkwy/U.S. Hwy 80. This route runs Monday through Friday, 5:25 a.m. to 9:00 p.m.. MTA operates three vehicles along this route on weekdays from 5:25 to 6:40 a.m., two vehicles from 7:00 a.m. to 4:30 p.m., and one vehicle from 5:00 p.m. to 9:00 p.m. On Saturdays, the MTA runs two vehicles from 5:50 a.m. to 7:00 p.m.

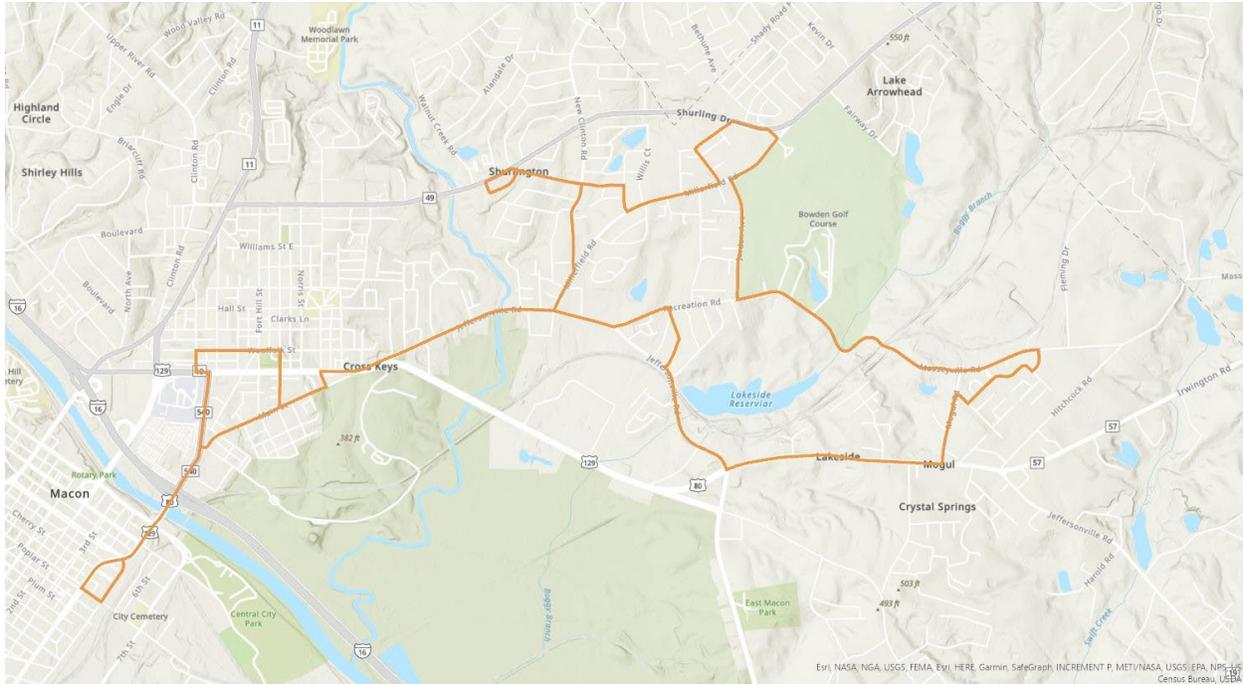


Figure 7-8: MTA Route 8 - East Macon/Kings Park

The East Macon – Kings Park route provides transportation to such sites as Macon Centerplex, Ocmulgee Mounds National Historic Park, Coliseum Hospital and Northeast Plaza Shopping Center. The main components for this route include Coliseum Drive, Shurling Drive, Old Clinton Rd., and Gray Highway. This route runs Monday through Friday, 5:25 a.m. to 9:05 p.m., and Saturday 5:25 a.m. to 6:55 p.m. MTA operates two vehicles along this route on weekdays from 5:25 a.m. to 11:05 a.m., one vehicle from 11:10 a.m. to 9:05 p.m., and only one vehicle on Saturdays.

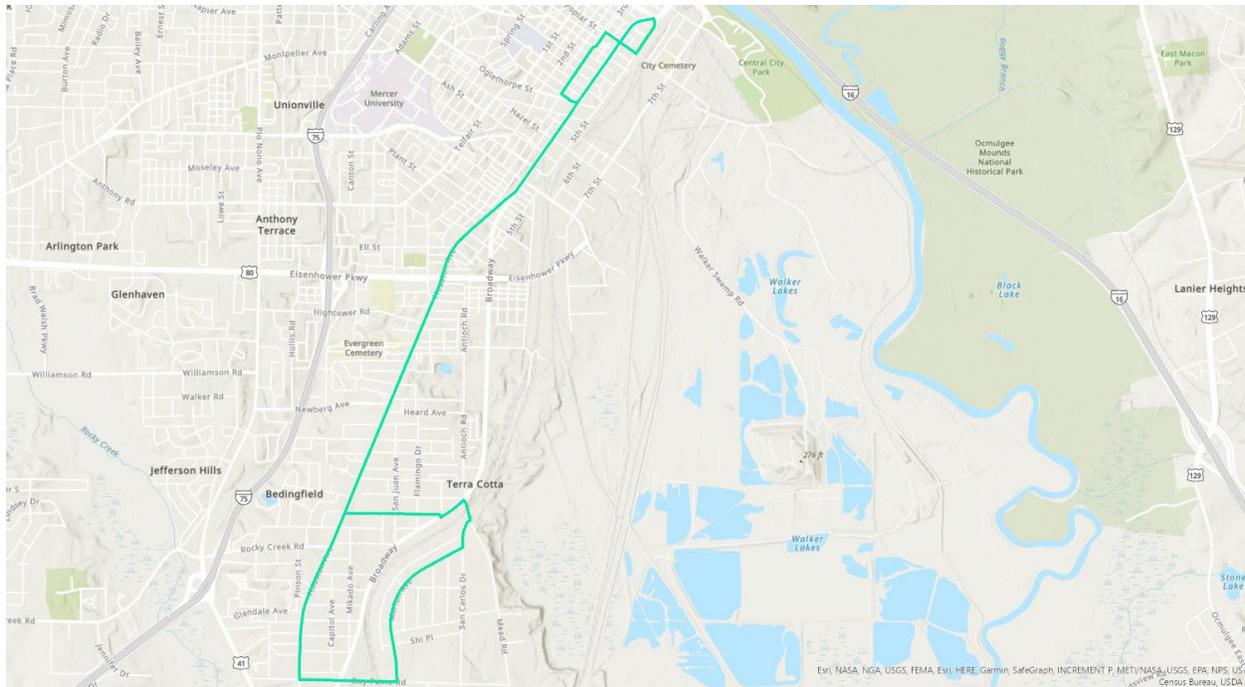
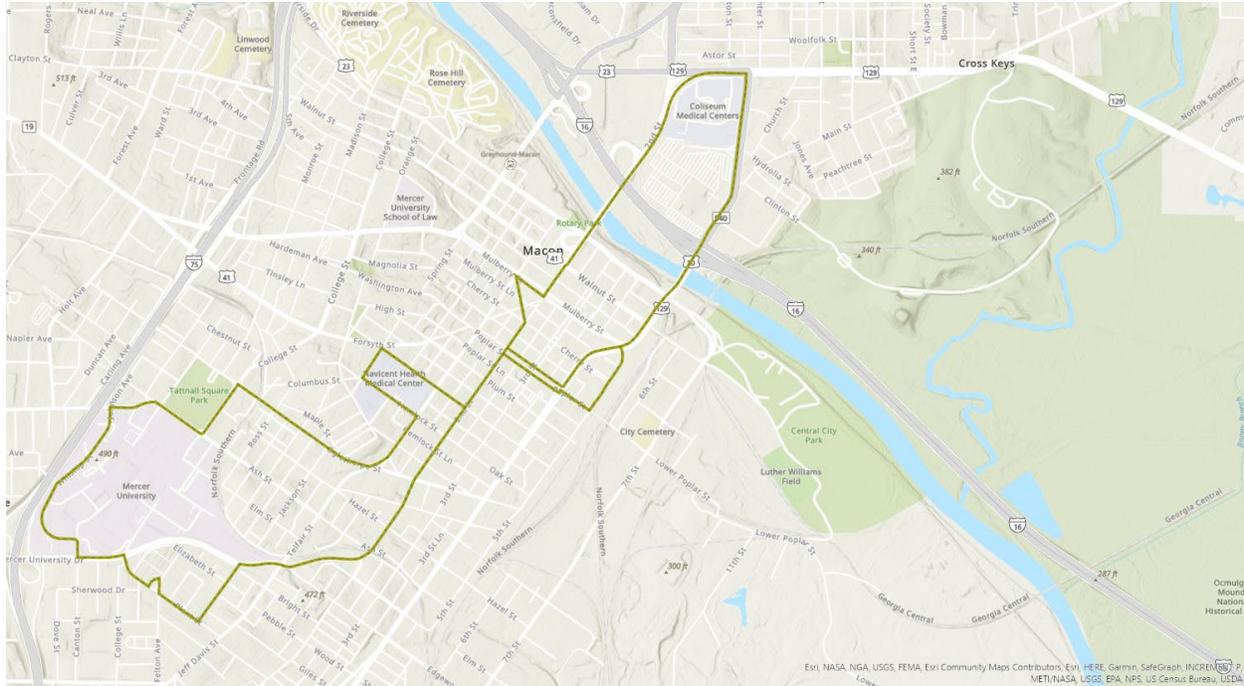


Figure 7-9: MTA Route 9 - Houston Ave/Peach Orchard

This route serves the Houston Ave. and Peach Orchard area of the city. Stops along this route include the Bowden Homes, Murphey Homes and Pendleton Homes public housing complexes. The Peach Orchard area consists of Guy Paine Rd., Marion Ave., Mead Rd., Carlos Dr., and a portion of Broadway. This route runs Monday through Friday, 5:25 a.m. to 9:00 p.m., and Saturday 5:50 a.m. to 6:45 p.m. MTA operates two vehicles along this route on weekdays from 5:25 a.m. to 9:25 a.m., one vehicle on weekdays from 9:30 a.m. to 9:00 p.m., and one vehicle on Saturdays.



This route was commissioned in October 2020, concurrent with the deployment of MTA’s first delivery of electric busses. Areas served by this route include the Tindall Heights apartment complex, the Tindal Heights Senior residential towers, Mercer University, Atrium/Navicent Health Center, Macon downtown, and Coliseum Health Center. MTA operates one vehicle along this route on weekdays from 6:00 a.m. to 6:55 p.m. There is no Saturday service on this route.

ADA Service

The American with Disabilities Act of 1990 (ADA) states complementary paratransit service must be provided to the disabled population who are not able to use the regular local transit system. In the Jones and Macon-Bibb County areas, ADA services are provided as a reservation service that picks up riders at their residence and takes them to their destination (i.e., door to door service). JCT meets the ADA requirement by having 25% of its total fleet wheelchair accessible (see below).

For its part, MTA maintains a fleet of thirteen operating vans as part of the requirements for the Americans with Disabilities Act (ADA). The table below describes the characteristics of the MTA ADA service. This service is important for the disabled population and conforms to all the requirements of the ADA legislation.

<u>SERVICE CHARACTERISTIC</u>	<u>WEEKDAY</u>	<u>SATURDAY</u>	<u>SUNDAY</u>
<i>SPAN OF SERVICE</i>	5:20 am – 9 pm	5:20 am – 7 pm	CLOSED
<i>DAILY VAN Hrs.</i>	8 hours per van	8 hours per van	CLOSED
<i>DAILY VAN MILES (Annual Averages)</i>			
2019	1,046.7 Miles/Day		CLOSED
2020	920.1 Miles/Day		
2021	1,115.1 Miles/Day		
<i>DAILY RIDERSHIP (Annual Averages)</i>			
2019	112.7 Passenger Trips/Day		CLOSED
2020	93.4 Passenger Trips/Day		
2021	116.9 Passenger Trips/Day		

Table 7-2 ADA Service Characteristics for Macon Transit Authority

Service and Operational Changes Since the 2040 LRTP Update

MTA periodically conducts ridership surveys to evaluate the effectiveness and productivity of the routes currently in operation, and to account for changes to agency budgets due to changes in local, State and/or Federal support. As a result of earlier analyses, MTA added service to the Second Street Corridor under a program that would allow the purchase of electric buses in late 2020. Currently, MTA is pursuing plans to begin additional routes that will serve the southern areas of Macon and Bibb County, to connect the industrial facilities around State Route 247 (Kuhmo Tire and Irving Paper), Interstate 75 (Tractor Supply Inc., Fed Ex, Amazon) and the Middle GA Regional Airport (First Quality Paper Products, Dean Baldwin Painting & Aircraft Maintenance) with potential employees who live in East and Central Bibb County. While the exact details of the route are still under development, it is anticipated that the route will be a special service, running in accordance with the shift changes at the various facilities. This may involve updating the general hours of operation for the Macon-Bibb Transit Authority.

In addition to the route expansion proposals, there is a general capital improvement program to increase and improve the overall number of bus shelters and benches throughout the MTA service area. MTA has also placed electronic kiosks at the Downtown Bus Transfer Center in order to provide the public with schedule and bus information.

With regards to the conditions and operations of Terminal Station, MTA continues to rent out space for corporate offices and special events, with the net proceeds (after maintenance expenses) being used to augment operational funds. Since the 2040 LRTP Update, MTA has also leased out a lot adjacent to the Terminal Station to an apartment complex, resulting in additional operational revenue.

Transit Vehicle Inventory

Jones County

There are currently 23 vehicles available in the JCT transit system, split between the Coordinated Transportation System and the GDOT 5311 program. The Coordinated Transportation System (CTS) program (run by Macon-Bibb County Equal Opportunity Council, Inc.) has 20 passenger vans (15 rider capacity), including 5 with wheelchair capabilities. Because the CTS program serves 11 counties in the area covered by the Middle GA Regional Commission (Baldwin, Bibb, Crawford, Houston, Jones, Monroe, Peach, Pulaski, Putnam, Twiggs and Wilkinson) vans are dispatched as needed (i.e., they do not run on a fixed route system). Thus, CTS fleet service is not apportioned to any particular county. While vehicles are regularly maintained as per recommendations in the owners' manuals, they not replaced on a regular schedule.

The GDOT 5311 program (administered by the Middle GA Regional Mobility Management Team) uses 3 mini-busses, owned by Jones County; 2 of these busses are wheelchair lift equipped. Each van is capable of carrying 11 passengers, with 2 spots for wheelchairs in each of the wheelchair accessible vehicles. The vehicles are on a 5 year/100,000 mile replacement schedule; 2 of the vehicles are the model year 2011, and 1 is the model year 2010. Replacement of all three vehicles is currently underway.

Macon-Bibb County

Currently, the MTA has an active total bus fleet of 29 passenger vehicles. The number of vehicles during peak usage is 18 vehicles for the transit route system. It is essential to replace the old buses for the MTA in order to maintain an efficient bus fleet. The MTA Bus Replacement Schedule for Transit and Paratransit vehicles for FY 2021 – FY 2030 (Table 7-2) is presented below. MTA plans to retire and replace 2 passenger buses each year. The bus replacement schedule also lists the number of passenger buses by model year. As part of that replacement strategy, MTA is actively looking at opportunities to convert the fleet to electric transit vehicles. MTA currently operates two electric transit busses (BYD Model K9S obtained under a Low Emission/No Emission EPA grant, awarded in 2017), and is looking to obtain two more of the same type, scheduled for delivery in FY 2023.

MTA has instituted a fleet management plan in order to decrease the overall spare ratio. In 2017, when the MATS 2040 LRTP update was produced, the spare ratio was 47%. As seen below, the spare ratio has been reduced to 38% (i.e., 11 vehicles), going forward.

MTA Transit Vehicle Replacement Schedule (FY 2021 - 2030)											
	Fiscal Year										
Model Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
2010	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0
2013	1	0	0	0	0	0	0	0	0	0	0
2014	1	1	1	0	0	0	0	0	0	0	0
2015	4	4	4	3	2	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0
2017	2	2	2	2	2	2	0	0	0	0	0
2018	7	7	7	7	7	7	7	5	6	4	
2019	8	8	8	8	8	8	8	8	8	8	
2020	3	3	3	3	3	3	3	3	3	3	
2021	3	3	3	3	3	3	3	3	3	1	1
2022	0	3	3	3	3	3	3	3	3	2	2
2023	0	0	1	1	1	1	1	1	1	1	1
2024	0	0	0	2	2	2	2	2	2	2	2
2025	0	0	0	0	1	1	1	1	1	1	1
2026	0	0	0	0	0	2	2	2	2	2	2
2027	0	0	0	0	0	0	2	2	2	2	2
2028	0	0	0	0	0	0	0	2	2	2	2
2029	0	0	0	0	0	0	0	0	0	0	2
Total Fleet	29	31	32	32	32	32	32	32	30	30	
Peak Period	18	16	18								
Spare	11	15	14	14	14	14	14	14	12	12	
MTA Para-Transit Vehicle Replacement Schedule (FY 2021 - 2028)											
	Fiscal Year										
Model Year	2021	2022	2023	2024	2025	2026	2027	2028			
2010	3	3	1	1	0	0	0	0			
2011	0	0	0	0	0	0	0	0			
2012	0	0	0	0	0	0	0	0			
2013	0	0	0	0	0	0	0	0			
2014	0	0	0	0	0	0	0	0			
2015	0	0	0	0	0	0	0	0			
2016	5	5	5	5	4	4	1	0			
2017	0	0	0	0	0	0	0	0			
2018	3	3	3	3	3	3	3	2			
2019	2	2	2	2	2	2	2	2			
2020	0	0	0	0	0	0	0	0			
2021	0	0	0	0	0	0	0	0			
2022	0	0	2	2	2	2	2	2			
2023	0	0	0	0	0	0	0	0			
2024	0	0	0	0	2	2	2	2			
2025	0	0	0	0	0	0	0	0			
2026	0	0	0	0	0	0	3	3			
2027	0	0	0	0	0	0	0	2			
2028	0	0	0	0	0	0	0	0			
Total Fleet	13	13	13	13	13	13	13	13			

Table 7-3 Macon Transit Authority Vehicle Replacement Schedule

Transit Ridership

Jones County

Table 7-4 shows the ridership trend for Jones County Transit from Fiscal Year 2011 through 2020 (the most recent data available). The total number of trips across both programs has been relatively stable around 10,520 overall (4,717 for the DHS Coordinated Trips Program; 5,803 for

the GDOT 5311 Rural Transit Program). The averages mask some significant variation due to changes in program delivery, specifically in the case of the DHS Coordinated Trips Program:

- The drop from 2012 to 2013 is due to the shut down of the Department of Behavioral Health & Developmental Disabilities program in November 2012 (FY 2013);
- The “0” value for 2017 is due to lost data from when the DHS program changed service providers, from Quality Transit, Inc. to Macon-Bibb County Economic Opportunity Council (i.e., current provider).
- The abnormally low trip totals for 2020 are likely a reflection of the Covid-19 pandemic, which started in late February/early March of 2020 (i.e., mid-way through FY 2020). As the pandemic recedes, it is anticipated that trip totals will rebound as discretionary travel returns to historic averages.

FY	DHS Coordinated Trips	GDOT 5311 Program	Total
2011	7,987	8,969	16,956
2012	8,168	7,745	15,913
2013	5,321	6,594	11,915
2014	3,783	6,000	9,783
2015	3,996	6,556	10,552
2016	3,196	4,696	7,892
2017	0	4,063	4,063
2018	4,471	4,913	9,384
2019	6,825	3,971	10,796
2020	3,422	3,123	6,545

Table 7-4: Jones County Yearly Transit Trip Totals, by Program

Macon-Bibb County

According to MTA's internal projections, the daily ridership will increase 92.41% by the year 2029 (see Table 7-5 below). This increase will occur as a result of increased demand served by the anticipated South Bibb County route, and the waning of the Covid-19 pandemic in the coming years. In terms of ridership characteristics, the majority of the transit users are African Americans in the 25-61-year-old age group. Most of these users do not have an automobile and use the transit system for such purposes as travel to work, shopping, and medical visits.

PROJECTED TRANSIT WEEKDAY DAILY RIDERSHIP			
YEAR	2021	2029	PERCENT CHANGE
BUS SERVICE	1,635	3,201	95.78%
PARATRANSIT SERVICE	117	170	45.30%
TOTAL	1,752	3,371	92.41%

Table 7-5 Projected Daily Ridership for Macon Transit Authority, 2021 - 2029

Funding Sources

The main funding source for the Transit Authority is the FTA Section 5307 and FTA 5339 grant programs. The Section 5307 program provides funding for both capital and operating costs. The federal share of the program provides 80% of the costs for capital projects and the remainder is covered by state and local shares that are responsible for 10% each. The amount of funding that remains after the acquisition of capital items can be applied to operating costs under the Section 5307 grant program. However, the funding applied to the operating costs cannot exceed 50% of the total amount. The rest of the operating costs are covered by local sources. The Transit Authority also receives farebox revenues from its daily operations as well as revenue from advertising. The MTA files a grant application under the Section 5307 program each year to acquire capital items. The amount of funding levels under the Section 5307 program can vary each year but it is important that the amounts remain relatively consistent in the future in order to support local transit service.

Prior to 2016, the State supported capital projects through the FTA Section 5309 program. However, in 2016, the State switched from FTA Section 5309 to the FTA Section 5339 program. The reason for the switch is the FTA Section 5339 grant program does not have the requirements for State match; the entire 20% is open to negotiation between the State, local governments and the transit service providers.

The anticipated revenues and expenses for FY 2021 and FY 2022 are already reflected in the MATS FY 2021 – 2024 TIP. For years FY 2023 through FY 2028, Tables 7-6 through 7-8 (below) reflect the anticipated MTA capital and operating expenditures. The emphases in these expenditures are on replacing/upgrading the passenger bus fleet (including acquiring electric vehicles), upgrades to automatic transit vehicle locations systems, obtaining software for developing in-house route modeling capabilities, and deployment of a passenger phone app that will allow bus riders to know where their transit vehicle is along the route in real time. In the out years, there are minor expenditure for new office equipment and furniture will be purchased, as well as new computers and software.

CAPITAL IMPROVEMENT	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Replace Bus Routing System	\$ 1,200,000					
Purchase 35 FT. Transit Buses (6)		\$ 1,600,000		\$ 1,600,000		\$ 1,600,000
Buses For ADA Service (9)	\$ 840,000		\$ 840,000		\$ 840,000	
Bus Maintenance Parts & Supplies for Fleet	\$ 200,000	\$ 100,000	\$ 150,000	\$ 200,000	\$ 100,000	\$ 200,000
Replace & Refurbhis Bus Shelters & Benches	\$ 60,000		\$ 100,000		\$ 80,000	\$ 80,000
New Service Vehicles (9)	\$ 100,000		\$ 100,000			\$ 100,000
Office Equipment & Furniture	\$ 15,000	\$ 15,000	\$ 5,000	\$ 5,000	\$ 10,000	\$ 10,000
Computer Equipment & Software	\$ 80,000	\$ 80,000	\$ 150,000	\$ 100,000	\$ 100,000	\$ 100,000
GPS Tablets With Kits (50)	\$ 20,000	\$ 20,000	\$ 20,000	\$ 19,000	\$ 20,000	\$ 20,000
Terminal Station Maintenance & Renovation	\$ 30,000	\$ 50,000		\$ 500,000	\$ 250,000	\$ 140,000
Purchase Vans for Shuttle Service in 4 Zones (4)		\$ 160,000				
Purchase Training Aid Simulator	\$ 100,000					
TOTAL	\$ 2,645,000	\$2,025,000	\$1,365,000	\$2,424,000	\$1,400,000	\$2,250,000

Table 7-6 MTA Capital Improvement Program (5307 Program), FY 2023 – 2028

Looking at Table 7-6, Macon Transit Authority plans to make the highest proportion of capital investments in FY 2021. Under the provisions of the Section 5307 program, the balances of Federal and Local anticipated capital funding can be applied in future years to the operating costs (balances of State capital funds may not be applied towards operating expenses). It is anticipated the local funding share required for operating costs will not increase substantially over the next five years. Table 7-7 contains the overview of the funding sources available for both Capital and Operating expenses associated with anticipated MTA activities.

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
CAPITAL COSTS (FROM TABLE 7-6)	\$2,645,000	\$2,025,000	\$1,365,000	\$2,424,000	\$1,400,000	\$2,250,000
CAPITAL FUNDS	\$2,645,000	\$2,025,000	\$1,365,000	\$2,424,000	\$1,400,000	\$2,250,000
· FEDERAL (80%)	\$2,116,000	\$1,620,000	\$1,092,000	\$1,939,200	\$1,120,000	\$1,800,000
· STATE MATCH (10%)	\$264,500	\$202,500	136500	\$242,400	\$140,000	\$225,000
· LOCAL MATCH (10%)	\$264,500	\$202,500	\$136,500	\$242,400	\$140,000	\$225,000
OPERATING COSTS	\$6,470,000	\$6,550,000	\$6,793,500	\$6,889,760	\$6,996,000	\$7,189,520
OPERATING FUNDS	\$6,470,000	\$6,550,000	\$6,793,500	\$6,889,760	\$6,996,000	\$7,189,520
· FEDERAL (50%)	\$3,235,000	\$3,275,000	\$3,396,750	\$3,444,880	\$3,498,000	\$3,594,760
· LOCAL (50%)	\$3,235,000	\$3,275,000	\$3,396,750	\$3,444,880	\$3,498,000	\$3,594,760
NET INCOME (LOSS)	\$0	\$0	\$0	\$0	\$0	\$0
FEDERAL FUND WORKSHEET						
FTA SECTION 5307						
NEW	\$5,351,000	\$4,895,000	\$4,488,750	\$5,384,080	\$4,618,000	\$5,394,760
APPLIED TO Capital Projects	\$2,116,000	\$1,620,000	\$1,092,000	\$1,939,200	\$1,120,000	\$1,800,000
AVAILABLE FOR OPERATING ASSISTANCE	\$3,235,000	\$3,275,000	\$3,396,750	\$3,444,880	\$3,498,000	\$3,594,760

Table 7-7 MTA Capital Improvement Program (FTA 5339 Program), FY 2021 – 2024

Long-Term Capital Projects

MATS is not aware of any long-term capital projects for the JCT system. With respect to MTA, the long term plans that MATS is aware of are the aforementioned plan to deploy real time bus location notification services to passengers, and an anticipated route extension into Southern Bibb County.

Regional Public Transit Options

Aside from the JCT programs described above, the only other public transit operator operating between counties in the MATS region is Greyhound Lines, serving the larger cities of Atlanta, Savannah, and Jacksonville, Florida, with stops in Tifton (Tift County) and Valdosta (Lowndes County). The routes serving these cities are either non-stop or stop in counties not covered by the MATS area.

In 2018 the Georgia state legislature expressed interest in studying what would be required to establish a series of regional public transportation systems, with integrated statewide connectivity. Under Georgia House Resolution 848 (2017-2018 Session), the House established a study committee tasked with “[assessing] the needs for and means of providing a system of mass transportation and mass transportation facilities for any one or more metropolitan areas in this state.”^[1] The subcommittee final report recommendations focused on establishing a statewide strategic vision for expanding and coordinating transit service among the rural and

small urban transit providers throughout Georgia. MATS staff attended the study committee hearings, and is aware of the conclusions.

Transit Performance Measures

Transit Asset Management

In July 2016, FTA issued the final rule (49 CFR 625.17) establishing Transit Asset Management (TAM) requirements for recipients and sub-recipients of federal funds. Based on the requirements established under 23 CFR 450.324 and 23 CFR 450.326, acknowledgement of this final rule also must be reflected in the MATS transportation planning documents.

On August 24, 2018, Georgia Dept. of Transportation – Intermodal Division published finalized Group TAM Plans and targets for Tier II sub-recipients of FTA 5307 Operating Funds. The Group TAM Plan covers the four year period FY 2019 through FY 2022, and includes both preliminary assessments relative to TAM Plan targets (Table 7-9, below), and a detailed breakdown of TAM targets by asset class and initial FY 2019 TAM Plan targets (Table 7-10, below).

Asset Category	Performance Measure	Initial Target FY 2017	Actual Performance
Rolling Stock – Revenue Vehicles by Mode	% of vehicles met or exceeded Useful Life Benchmark (ULB)	<15.0%	12.4%
Equipment – non-revenue support service and maintenance vehicles	% of vehicles met or exceeded ULB	<50%	42.6%
Facilities – maintenance and administrative facilities, passenger stations (buildings); and parking facilities	% of assets with condition rating below 3.0 on FTA TERM scale	<40%	8.4%

Table 7-9: Summary of Initial GDOT TAM Targets for Tier II Sub-Recipients of FTA 5307 Operating Funds

Source: GDOT Group Transit Asset Management Plan, Table 4.2 – Summary of Initial Performance Targets, 24 August 2018.

Because both Jones County Transit (JCT) and Macon-Bibb County Transit Authority (MTA) are specifically identified as being covered under the GDOT Group TAM Plan, the targets identified in that plan are applicable by reference in the MATS 2050 MTP.

Detailed Breakdown of GDOT TAM Targets for Tier II Sub-Recipients of FTA 5307 Operating Funds, and Proposed FY 2019 TAM Targets

Asset Category/Class	Total Number	Useful Life Benchmark (ULB)	Number Exceeding ULB/3.0 TERM Rating	Exceeding ULB/3.0 TERM Rating	Proposed FY 2019 Targets
Rolling Stock	775		96	12.4%	
BU-Bus (35' - 40')	82	14 yrs.	8	9.8%	<15%
BU-Bus (29' - 30')	54	12 yrs.	21	38.9%	<35%
CU - Cutaway Bus	593	7 yrs.	52	8.8%	<10%
MV - Minivan	1	8 yrs.	1	100.0%	<50%
SB - School bus	33	15 yrs.	8	24.2%	<50%
VN - Van	12	8 yrs.	6	50.0%	<50%
Equipment	55		23	42.6%	
AO - Automobile	18	8 yrs.	11	61.1%	<55%
Trucks and other Rubber Tire Vehicles	31	10 yrs.	11	35.5%	<55%
Equip. > \$50,000	6	14 yrs.	n/a	n/a	n/a
Facilities	83		7	8.4%	
Administration	62	n/a	2	3.2%	<25%
Maintenance	11	n/a	5	45.5%	<25%
Passenger/ Parking Facilities	10	n/a	0	0%	<10%

Table 7-10: Detailed Breakdown of GDOT TAM Targets for Tier II Sub-Recipients of FTA 5307 Operating Funds, and Proposed FY 2019 TAM Targets

Source: GDOT Group Transit Asset Management Plan, Table 4.1 – Summary of Asset Performance by Asset Class, 24 August 2018.

Public Transit Agency Safety Planning

On July 19, 2018, the Federal Transit Administration published final rule 49 CFR 673, which requires agencies that receive money under 49 USC 5307 Urbanized Area Formula Funding program (aka “5307 funds”) to establish a Public Transportation Agency Safety Plan (PTASP). The PTASP must include the following:

- Documents the processes and activities related to safety management system implementation;
- Includes performance targets measures established under the National Public Transportation Safety Plan;
- Establish a process and timeline for conducting annual reviews and updates for performance targets

On June 20, 2020, Macon-Bibb County Transit Authority (MTA) adopted a PTASP document

consistent with the requirements set forth by FTA. As the sole recipient of 5307 funds in the MATS planning area, the Macon-Bibb County Transit Authority Safety Plan (MTA-SP) document is the controlling reference for transit related Safety Performance Measures in the MATS region.

Section 4.2 of the MTA-SP identifies the following performance measures required by the National Public Transportation Safety Plan, and sets the target values to be achieved:

- Fatalities - Total number of reportable fatalities and rate per total vehicle revenue miles (VRM) by mode (The thresholds for "reportable" fatalities, injuries, and events are defined in the NTD Safety and Security);
- Injuries - Total number of reportable injuries and rate per total VRM by mode;
- Safety Events - Total number of reportable events and rate per total VRM by mode; and
- System Reliability - Mean distance between major mechanical failures by mode.

Specific targets safety performance measures are updated annually. Section 5 of the MTA-SP identifies the specific methods used to attain and maintain the targets.

PROJECTS FOR FUTURE STUDY, AND THE LRTP AMENDMENT PROCESS

If the MATS Policy Committee, in conjunction with Jones County Transit and/or Macon Transit Authority, decides to introduce new transit projects, this would require formal amendments to the LRTP and possibly the TIP. The process is identical to the one described for roads and bridges in the previous chapter; it is re-stated here for the sake of convenience.

Both the LRTP and TIP can be amended at any time, in accordance with the procedures specified in the [MATS Public Participation Plan](#). The process for amending the LRTP project list involves the following steps:

1. Updating and/or creating new project sheets for the current TIP, to reflect changes in any projects currently underway;
2. Updating the project tables in the relevant LRTP chapters, to reflect the new projects and associated cost changes;
3. Updating the fiscal analysis in this LRTP chapter to continue demonstrating fiscal constraint (i.e., that revenues are sufficient to cover anticipated costs), even with the proposed amendments
4. Soliciting public input in accordance with the approved MATS Public Participation Plan (revised 11/4/2020), which involves;
 1. Completing a 15 day public review period with drafts of the proposed amended LRTP project list and (if necessary) TIP, available for download from the MATS website
 2. Soliciting comments and recommendations from the MATS Citizen Advisory Committee and MATS Technical Coordinating Committee
5. After close of public comment period, formal adoption of the amended LRTP project list and (if necessary) TIP by the MATS Policy Committee.

In accordance with these procedures, the following project list amendments have been made to the LRTP Public Transportation Projects List:

Chapter 8 | Fiscal Assessment

Introduction

This section addresses the costs and revenues associated with the roads and bridge projects (Chapter 6), and public transportation projects (Chapter 7), identified in the 2050 Metropolitan Transportation Plan (LRTP). For details on costs of individual projects and activities, please see the associated chapter.

Road Projects - Costs and Revenue Estimation

Costs

The total cost of all obligated road and bridge projects listed in Chapter 6 is estimated at **\$770,181,180.34** (as of December 8, 2021). This value is based on project cost estimates from GDOT and Macon-Bibb County Engineering Department. It includes an assumption of 2% increase in non-obligated project costs each year over the entire planning and construction duration of the project. This assumption is an average, based on GDOT's historic project management experience with road and bridge projects. While in any specific year this 2% assumption may be high or low, the expectation is that over the operational life of this LRTP, individual years will balance out around a 2% inflation rate. This assumption is a continuation of the project cost inflation assumptions applied in the previous 2040 LRTP.

Of the \$770,181,180.34, the amount already obligated (as of October 21, 2021) to these projects is **\$288,216,873.00**. Reducing the total project costs by these expended or obligated amount leaves a net outstanding cost of **\$481,964,307.34**.

Revenues

Revenues forecasts for road and bridge projects in the MATS area were provided by Georgia Dept. of Transportation Office of Planning on June 21, 2021. Table 8-1 takes the information provided by Office of Planning, focusing on the years FY 2021 through 2050 (i.e., the beginning year of the current MATS FY 2021 – 2024 TIP through the planning horizon year).

The total available revenue for new roads and bridges projects or cost increases in existing projects, over the operating life of the updated 2050 MTP is **\$923,918,141.72**. For maintenance projects, the corresponding figure is **\$180,528,645.71**. Table 8-1 further breaks out the anticipated Federal, State and Local shares of each of these funding streams. Based on the data provided by GDOT Office of Planning, the annualized average growth rate in the funding stream is 2.56%

It should be noted that the estimates of these apportionments are highly generalized. How much of the funding share in any specific year accrues to each level of government is dependent on the specific funding sources used to pay for the individual projects in that year.

Demonstration of Fiscal Constraint

Comparing the net revenue and net cost estimates in Table 8-2 and 8-3 below, the Roads and Bridges project list has identified an anticipated surplus of **\$153,736,961.38** for new projects or cost increases over the operating life of the updated 2050 MTP.

	<i>New Projects Estimate</i>			<i>Maintenance Estimate</i>			<i>Total Estimate</i>
	<i>Project Cost Total</i>	<i>Federal Share</i>	<i>State & Local Sare</i>	<i>Project Cost Total</i>	<i>Federal Share</i>	<i>State & Local Sare</i>	
2021	\$236,671,629	\$189,337,303	\$47,334,326	\$4,994,003	\$3,995,202	\$998,801	\$241,665,631
2022	\$17,716,085	\$14,172,868	\$3,543,217	\$4,524,994	\$3,619,996	\$904,999	\$22,241,079
2023	\$18,070,406	\$14,456,325	\$3,614,081	\$4,615,494	\$3,692,395	\$923,099	\$22,685,901
2024	\$18,431,815	\$14,745,452	\$3,686,363	\$4,707,804	\$3,766,243	\$941,561	\$23,139,619
2025	\$18,800,451	\$15,040,361	\$3,760,090	\$4,801,960	\$3,841,568	\$960,392	\$23,602,411
2026	\$19,176,460	\$15,341,168	\$3,835,292	\$4,897,999	\$3,918,400	\$979,600	\$24,074,459
2027	\$19,559,989	\$15,647,991	\$3,911,998	\$4,995,959	\$3,996,768	\$999,192	\$24,555,948
2028	\$19,951,189	\$15,960,951	\$3,990,238	\$5,095,879	\$4,076,703	\$1,019,176	\$25,047,067
2029	\$20,350,213	\$16,280,170	\$4,070,043	\$5,197,796	\$4,158,237	\$1,039,559	\$25,548,009
2030	\$20,757,217	\$16,605,773	\$4,151,443	\$5,301,752	\$4,241,402	\$1,060,350	\$26,058,969
2031	\$21,172,361	\$16,937,889	\$4,234,472	\$5,407,787	\$4,326,230	\$1,081,557	\$26,580,148
2032	\$21,595,808	\$17,276,647	\$4,319,162	\$5,515,943	\$4,412,754	\$1,103,189	\$27,111,751
2033	\$22,027,725	\$17,622,180	\$4,405,545	\$5,626,262	\$4,501,009	\$1,125,252	\$27,653,986
2034	\$22,468,279	\$17,974,623	\$4,493,656	\$5,738,787	\$4,591,030	\$1,147,757	\$28,207,066
2035	\$22,917,645	\$18,334,116	\$4,583,529	\$5,853,563	\$4,682,850	\$1,170,713	\$28,771,207
2036	\$23,375,998	\$18,700,798	\$4,675,200	\$5,970,634	\$4,776,507	\$1,194,127	\$29,346,632
2037	\$23,843,517	\$19,074,814	\$4,768,703	\$6,090,047	\$4,872,037	\$1,218,009	\$29,933,564
2038	\$24,320,388	\$19,456,310	\$4,864,078	\$6,211,848	\$4,969,478	\$1,242,370	\$30,532,235
2039	\$24,806,796	\$19,845,436	\$4,961,359	\$6,336,085	\$5,068,868	\$1,267,217	\$31,142,880
2040	\$25,302,932	\$20,242,345	\$5,060,586	\$6,462,806	\$5,170,245	\$1,292,561	\$31,765,738
2041	\$25,808,990	\$20,647,192	\$5,161,798	\$6,592,062	\$5,273,650	\$1,318,412	\$32,401,053
2042	\$26,325,170	\$21,060,136	\$5,265,034	\$6,723,904	\$5,379,123	\$1,344,781	\$33,049,074
2043	\$26,851,673	\$21,481,339	\$5,370,335	\$6,858,382	\$5,486,705	\$1,371,676	\$33,710,055
2044	\$27,388,707	\$21,910,965	\$5,477,741	\$6,995,549	\$5,596,439	\$1,399,110	\$34,384,256
2045	\$27,936,481	\$22,349,185	\$5,587,296	\$7,135,460	\$5,708,368	\$1,427,092	\$35,071,941
2046	\$28,495,211	\$22,796,168	\$5,699,042	\$7,278,170	\$5,822,536	\$1,455,634	\$35,773,380
2047	\$29,065,115	\$23,252,092	\$5,813,023	\$7,423,733	\$5,938,986	\$1,484,747	\$36,488,848
2048	\$29,646,417	\$23,717,134	\$5,929,283	\$7,572,208	\$6,057,766	\$1,514,442	\$37,218,625
2049	\$30,239,345	\$24,191,476	\$6,047,869	\$7,723,652	\$6,178,921	\$1,544,730	\$37,962,997
2050	\$30,844,132	\$24,675,306	\$6,168,826	\$7,878,125	\$6,302,500	\$1,575,625	\$38,722,257
	\$923,918,142	\$739,134,513	\$184,783,628	\$180,528,646	\$144,422,917	\$36,105,729	\$1,104,446,787

Table 8-1: Revenue Projections for MATS Area Roads & Bridges Projects

Source: Georgia Dept. of Transportation – Office of Planning

The corresponding value for the maintenance fund is currently **\$174,067,645.71**. However, that value is for all years FY 2021 through 2050. Using the Maintenance Estimate values from Table 8-1, focusing only on the years FY 2021 – 2024, and comparing them to the anticipated maintenance costs in the FY 2021 – 2024 TIP, the calculation of fiscal constraint for the Maintenance funds in the FY 2021 – 2024 TIP period is:

Net Anticipated Maintenance Revenues (FY 2021 – 2024):	\$18,842,295.00
• Net Anticipated Costs:	\$6,461,000.00
Anticipated Maintenance Surplus (FY 2021 – 2024):	\$12,381,295.00

Highway Capital Projects Revenue Estimates

	Summed Estimates @ 2% Inflation
Federal	\$ 739,134,513.38
State & Local Match	\$ 184,783,628.34
Total Estimated Revenues	\$ 923,918,141.72
Finalized TIP Project Adjustments (as of 10/21/2021)	\$ 288,216,873.00
Net Highway Capital Revenues Available	\$ 635,701,268.72
Outstanding Road & Bridge Projects in LRTP	\$ 481,964,307.34
Capital Surplus (deficit) <i>New Estimate (12/8/2021)</i>	<u>\$ 153,736,961.38</u>

Table 8-2: MATS Highway Capital Projects Revenue Estimates: 2021 - 2050

Highway Maintenance Revenue Estimates

	Summed Estimates @ 2% Inflation
Federal	\$ 144,422,916.57
State & Local Match	\$ 36,105,729.14
Total Estimated Revenues	\$ 180,528,645.71
FY 21-24 TIP Project Adjustments (as of 8/16/2021)	\$ 6,461,000.00
Net Highway Capital Revenues Available	\$ 174,067,645.71
Outstanding Road & Bridge Projects in LRTP	\$ -
Maintenance Surplus (deficit) <i>New Estimate (as of 9/9/2021)</i>	<u>\$ 174,067,645.71</u>

Table 8-2: MATS Highway Maintenance Revenue Estimates: 2021 - 2050

These surpluses are the totals across all Federal, State and Local funding sources. How that surplus accrues to each level of government is dependent on the specific funding sources used to pay for the individual projects.

Public Transportation - Costs and Revenue Estimation

As described in Chapter 7 – Public Transportation, the two transit systems operating in the MATS service area Jones County Transit System and the Macon Transit Authority. The two systems operate under separate funding programs. For those programs receiving federal assistance, the funding practice has historically been that Federal Transit Administration (FTA) will pay 80% of capital costs, with the requirement that the State and Local partners account for the balance equally (i.e., 10% each). In contrast, operating costs are split 50% federal, and 50% State/Local contribution. In Georgia, the practice has been that the State does not contribute to operating costs, but does allow positive balances in non-State portions of capital funding to be transferred to operating expenses.

Jones County

Jones County Transit System operates under the Coordinated Transportation Program (CTP), and the GDOT 5311 Program.

As described in Chapter 7, the CTP is operated by the Georgia Department of Human Services (DHS), consolidating transportation programs provided by the various agencies under the jurisdiction of DHS. These agencies include Department of Family and Children Services (DFCS), Department of Behavioral Health & Developmental Disabilities (DBHDD), Georgia Vocational Rehabilitation Agency (GVRA) and Area Agency on Aging (Aging). The transportation programs for the agencies are funded by the following federal programs:

- Capital Assistance Program for Elderly Persons
- Rehabilitation Services – Vocational Rehabilitation
- Special Programs for Aging – Supportive Services and Senior Center
- Temporary Assistance for Needy Families
- Social Services Block Grant

CTP services are provided by contract (see Chapter 7 for details), paid from the federal grants at a pre-determined rate. Individual riders are not charged for trips qualifying under the various

Since CTP funding is based on specific program ridership and reimbursement, fiscal balancing for this program in future years will depend on negotiated rates with private providers, as well as total funding allocated by the component federal programs.

The GDOT 5311 program for Jones County is also operated by a contract with the Middle Georgia Regional Commission, although it is a distinct and separate provider from the one responsible for CTP. As such, fiscal balancing will depend upon negotiations of future conditions which, at this time, cannot be predicted accurately.

Macon Transit Authority

The Macon Transit Authority (MTA) operates as sub recipients to GDOT under the FTA 5307 and FTA 5339(a) formula grant program for capital and operating costs. In comparison to Jones

County, as a public agency operating under a different transit support program, it is easier to forecast the anticipated revenues and expenses for the MTP period. The gross revenue forecasts are based on the following assumptions:

- The anticipated revenues and expenses for FY 2021 through FY 2024 are accurately reflected in the MATS FY 2021 – 2024 TIP; and
- The FY 2022 base year values for estimating gross revenue was calculated by taking the 10 year average from FY 2011 through 2021 in each revenue category (using data from MTA annual audits)
- Differential growth rates were applied to the various funding categories
 - For Federal transit program revenue streams, passenger fares, and other revenue streams that are not under active management by MTA (i.e., Miscellaneous Income and Investments) these categories were inflated from the base year using the same growth rate as used for roads and bridges (i.e., annualized rate of 2.56% for each year from 2025 through 2050).
 - For the revenue streams that *are* under active management by MTA (i.e., Rents on facilities owned by MTA; Advertising Rates), other than passenger fares, the inflation factor was 3.5%. This rate was determined to be conservative, based on discussions with the MTA Chief Financial Officer.

Tables 8-4 and 8-5 estimate the gross transit revenues and expenses for MTA from 2025 through 2050.

	Operating Revenues					Non-Operation Revenues					Annual Grand Total
	Passenger Fees	Advertising*	Facilities Rental Income*	Miscellaneous	Operating Revenue SubTotal	FTA/Georgia DOT Grants	Local Match	Investments	Other Income	Non-Operating Revenue SubTotal	
2011	\$ 900,686.00	\$ -	\$ -	\$ 14,092.00	\$ 914,778.00	\$ 2,249,021.00	\$ 2,114,646.00	\$ 326.00	\$ -	\$ 4,363,993.00	\$ 5,278,771.00
2012	\$ 1,072,086.00	\$ -	\$ -	\$ 16,163.00	\$ 1,088,249.00	\$ 1,946,333.00	\$ 2,135,208.00	\$ 196.00	\$ -	\$ 4,081,737.00	\$ 5,169,986.00
2013	\$ 1,098,639.00	\$ 21,298.00	\$ 308,591.00	\$ 32,171.00	\$ 1,460,699.00	\$ 1,962,596.00	\$ 2,668,409.00	\$ 269.00	\$ -	\$ 4,631,274.00	\$ 6,091,973.00
2014	\$ 1,074,241.00	\$ 18,985.00	\$ 229,120.00	\$ 87,240.00	\$ 1,409,586.00	\$ 2,905,775.00	\$ 3,205,949.00	\$ 234.00	\$ -	\$ 6,111,958.00	\$ 7,521,544.00
2015	\$ 1,039,182.00	\$ 14,711.00	\$ 261,308.00	\$ 65,760.00	\$ 1,380,961.00	\$ 2,787,533.00	\$ 2,751,000.00	\$ 155.00	\$ -	\$ 5,538,688.00	\$ 6,919,649.00
2016	\$ 951,160.00	\$ 35,390.00	\$ 350,670.00	\$ 78,178.00	\$ 1,415,398.00	\$ 2,446,542.00	\$ 2,966,364.00	\$ 76.00	\$ -	\$ 5,412,982.00	\$ 6,828,380.00
2017	\$ 804,994.00	\$ 29,429.00	\$ 575,781.00	\$ 145,720.00	\$ 1,555,924.00	\$ 2,113,008.00	\$ 2,872,078.00	\$ 3.00	\$ -	\$ 4,985,089.00	\$ 6,541,013.00
2018	\$ 767,736.00	\$ 49,851.00	\$ 638,792.00	\$ 35,808.00	\$ 1,492,187.00	\$ 2,600,907.00	\$ 2,534,656.00	\$ -	\$ -	\$ 5,135,563.00	\$ 6,627,750.00
2019	\$ 608,914.00	\$ 20,645.00	\$ 629,343.00	\$ 75,909.00	\$ 1,334,811.00	\$ 2,488,572.00	\$ 2,506,901.00	\$ 516.00	\$ 22,383.00	\$ 5,018,372.00	\$ 6,353,183.00
2020	\$ 498,426.00	\$ -	\$ 733,357.00	\$ 71,386.00	\$ 1,303,169.00	\$ 3,729,372.00	\$ 3,122,183.00	\$ 550.00	\$ 40,498.00	\$ 6,892,603.00	\$ 8,195,772.00
2021	\$ 400,225.00	\$ -	\$ 722,026.00	\$ 48,772.00	\$ 1,171,023.00	\$ 6,730,132.00	\$ 2,316,500.00	\$ 725.00	\$ 135,938.00	\$ 9,183,295.00	\$ 10,354,318.00
Average	\$ 837,844.45	\$ 17,300.82	\$ 404,453.45	\$ 61,018.09	\$ 1,320,616.82	\$ 2,905,435.55	\$ 2,653,990.36	\$ 277.27	\$ 18,074.45	\$ 5,577,777.64	\$ 6,898,394.45
2022**	\$ 859,293.27	\$ 17,906.35	\$ 418,609.33	\$ 62,580.15	\$ 1,358,389.10	\$ 2,979,814.70	\$ 2,721,932.52	\$ 284.37	\$ 18,537.16	\$ 5,720,568.74	\$ 7,078,957.84
2023**	\$ 881,291.18	\$ 18,533.07	\$ 433,260.65	\$ 64,182.21	\$ 1,397,267.11	\$ 3,056,097.95	\$ 2,791,613.99	\$ 291.65	\$ 19,011.71	\$ 5,867,015.30	\$ 7,264,282.41
2024**	\$ 903,852.23	\$ 19,181.73	\$ 448,424.77	\$ 65,825.27	\$ 1,437,284.01	\$ 3,134,334.06	\$ 2,863,079.31	\$ 299.12	\$ 19,498.41	\$ 6,017,210.90	\$ 7,454,494.90
2025	\$ 926,990.85	\$ 19,853.09	\$ 464,119.64	\$ 67,510.40	\$ 1,478,473.98	\$ 3,214,573.01	\$ 2,936,374.14	\$ 306.77	\$ 19,997.57	\$ 6,171,251.49	\$ 7,649,725.47
2026	\$ 950,721.82	\$ 20,547.94	\$ 480,363.83	\$ 69,238.66	\$ 1,520,872.26	\$ 3,296,866.08	\$ 3,011,545.32	\$ 314.63	\$ 20,509.51	\$ 6,329,235.53	\$ 7,850,107.79
2027	\$ 975,060.30	\$ 21,267.12	\$ 497,176.56	\$ 71,011.17	\$ 1,564,515.16	\$ 3,381,265.85	\$ 3,088,640.88	\$ 322.68	\$ 21,034.55	\$ 6,491,263.96	\$ 8,055,779.12
2028	\$ 1,000,021.84	\$ 22,011.47	\$ 514,577.74	\$ 72,829.06	\$ 1,609,440.11	\$ 3,467,826.26	\$ 3,167,710.08	\$ 330.94	\$ 21,573.04	\$ 6,657,440.32	\$ 8,266,880.43
2029	\$ 1,025,622.40	\$ 22,781.87	\$ 532,587.96	\$ 74,693.48	\$ 1,655,685.72	\$ 3,556,602.61	\$ 3,248,803.46	\$ 339.42	\$ 22,125.31	\$ 6,827,870.79	\$ 8,483,556.51
2030	\$ 1,051,878.33	\$ 23,579.24	\$ 551,228.54	\$ 76,605.64	\$ 1,703,291.75	\$ 3,647,651.64	\$ 3,331,972.83	\$ 348.10	\$ 22,691.71	\$ 7,002,664.28	\$ 8,705,956.03
2031	\$ 1,078,806.42	\$ 24,404.51	\$ 570,521.54	\$ 78,566.74	\$ 1,752,299.21	\$ 3,741,031.52	\$ 3,417,271.33	\$ 357.02	\$ 23,272.62	\$ 7,181,932.49	\$ 8,934,231.70
2032	\$ 1,106,423.86	\$ 25,258.67	\$ 590,489.80	\$ 80,578.05	\$ 1,802,750.38	\$ 3,836,801.93	\$ 3,504,753.48	\$ 366.16	\$ 23,868.40	\$ 7,365,789.96	\$ 9,168,540.34
2033	\$ 1,134,748.31	\$ 26,142.72	\$ 611,156.94	\$ 82,640.85	\$ 1,854,688.82	\$ 3,935,024.05	\$ 3,594,475.17	\$ 375.53	\$ 24,479.43	\$ 7,554,354.18	\$ 9,409,043.01
2034	\$ 1,163,797.87	\$ 27,057.72	\$ 632,547.43	\$ 84,756.45	\$ 1,908,159.47	\$ 4,035,760.67	\$ 3,686,493.73	\$ 385.14	\$ 25,106.11	\$ 7,747,745.65	\$ 9,655,905.13
2035	\$ 1,193,591.09	\$ 28,004.74	\$ 654,686.59	\$ 86,926.22	\$ 1,963,208.64	\$ 4,139,076.14	\$ 3,780,867.97	\$ 395.00	\$ 25,748.82	\$ 7,946,087.94	\$ 9,909,296.58
2036	\$ 1,224,147.03	\$ 28,984.91	\$ 677,600.62	\$ 89,151.53	\$ 2,019,884.08	\$ 4,245,036.49	\$ 3,877,658.19	\$ 405.11	\$ 26,407.99	\$ 8,149,507.79	\$ 10,169,391.88
2037	\$ 1,255,485.19	\$ 29,999.38	\$ 701,316.64	\$ 91,433.81	\$ 2,078,235.02	\$ 4,353,709.43	\$ 3,976,926.24	\$ 415.48	\$ 27,084.04	\$ 8,358,135.19	\$ 10,436,370.21
2038	\$ 1,287,625.61	\$ 31,049.36	\$ 725,862.73	\$ 93,774.51	\$ 2,138,312.21	\$ 4,465,164.39	\$ 4,078,735.55	\$ 426.12	\$ 27,777.39	\$ 8,572,103.45	\$ 10,710,415.66
2039	\$ 1,320,588.83	\$ 32,136.08	\$ 751,267.92	\$ 96,175.14	\$ 2,200,167.97	\$ 4,579,472.60	\$ 4,183,151.18	\$ 437.03	\$ 28,488.49	\$ 8,791,549.30	\$ 10,991,717.27
2040	\$ 1,354,395.90	\$ 33,260.85	\$ 777,562.30	\$ 98,637.23	\$ 2,263,856.27	\$ 4,696,707.10	\$ 4,290,239.85	\$ 448.22	\$ 29,217.79	\$ 9,016,612.96	\$ 11,280,469.23
2041	\$ 1,389,068.44	\$ 34,424.98	\$ 804,776.98	\$ 101,162.34	\$ 2,329,432.73	\$ 4,816,942.80	\$ 4,400,069.99	\$ 459.69	\$ 29,965.77	\$ 9,247,438.25	\$ 11,576,870.98
2042	\$ 1,424,628.59	\$ 35,629.85	\$ 832,944.17	\$ 103,752.09	\$ 2,396,954.71	\$ 4,940,256.53	\$ 4,512,711.79	\$ 471.46	\$ 30,732.89	\$ 9,484,172.67	\$ 11,881,127.38
2043	\$ 1,461,099.08	\$ 36,876.89	\$ 862,097.22	\$ 106,408.15	\$ 2,466,481.34	\$ 5,066,727.10	\$ 4,628,237.21	\$ 483.53	\$ 31,519.66	\$ 9,726,967.49	\$ 12,193,448.84
2044	\$ 1,498,503.22	\$ 38,167.59	\$ 892,270.62	\$ 109,132.20	\$ 2,538,073.62	\$ 5,196,435.31	\$ 4,746,720.08	\$ 495.91	\$ 32,326.56	\$ 9,975,977.86	\$ 12,514,051.48
2045	\$ 1,536,864.90	\$ 39,503.45	\$ 923,500.09	\$ 111,925.98	\$ 2,611,794.43	\$ 5,329,464.06	\$ 4,868,236.12	\$ 508.60	\$ 33,154.12	\$ 10,231,362.90	\$ 12,843,157.32
2046	\$ 1,576,208.64	\$ 40,886.07	\$ 955,822.60	\$ 114,791.29	\$ 2,687,708.60	\$ 5,465,898.34	\$ 4,992,862.96	\$ 521.62	\$ 34,002.86	\$ 10,493,285.79	\$ 13,180,994.38
2047	\$ 1,616,559.58	\$ 42,317.08	\$ 989,276.39	\$ 117,729.94	\$ 2,765,883.00	\$ 5,605,825.33	\$ 5,120,680.25	\$ 534.98	\$ 34,873.34	\$ 10,761,913.90	\$ 13,527,796.90
2048	\$ 1,657,943.51	\$ 43,798.18	\$ 1,023,901.06	\$ 120,743.83	\$ 2,846,386.58	\$ 5,749,334.46	\$ 5,251,769.67	\$ 548.67	\$ 35,766.10	\$ 11,037,418.90	\$ 13,883,805.48
2049	\$ 1,700,386.86	\$ 45,331.12	\$ 1,059,737.60	\$ 123,834.87	\$ 2,929,290.45	\$ 5,896,517.43	\$ 5,386,214.97	\$ 562.72	\$ 36,681.71	\$ 11,319,976.82	\$ 14,249,267.27
2050	\$ 1,743,916.76	\$ 46,917.71	\$ 1,096,828.42	\$ 127,005.04	\$ 3,014,667.93	\$ 6,047,468.27	\$ 5,524,102.07	\$ 577.12	\$ 37,620.76	\$ 11,609,768.23	\$ 14,624,436.16
Anticipated Gross Revenues FY 2025 - 2050	\$ 33,655,085.23	\$ 820,192.59	\$ 19,174,221.95	\$ 2,451,014.67	\$ 56,100,514.44	\$ 116,707,439.39	\$ 106,607,224.52	\$ 11,137.67	\$ 726,026.54	\$ 224,051,828.12	\$ 280,152,342.56

* Growth rate for Advertising and Facilities Rental Income is 3.5%; Growth rate for all other categories is 2.56%. See narrative for full details.

** FYs 2022 through 2024 are projected only for modeling purposes. They are not considered as part of any revenue assessment, because grant revenues and project expenses supported by FTA are already identified in the MATS FY 2021 - 2024 TIP

The results in Table 8-4 and Table 8-5 support the conclusion that MTA expected revenues will exceed anticipated expenses through 2040, by approximately **\$8,298,818.36**.

Program Balancing and Future Amendments

Program Balancing and Demonstration of Fiscal Constraint

Table 8-6 provides an overview of the fiscal analysis for the Highway Program and Transit Program for the MATS planning area. Since both programs anticipate revenues from Federal, State and Local sources exceed estimated project costs for the duration of the planning period, the 2050 Metropolitan Transportation Plan continues to meet fiscal constraint requirements.

DRAFT Highway Program		DRAFT Transit Program		DRAFT
Revenues		Revenues		
Highway Capital Funds	\$ 923,918,141.72	FY 2021 - 2024 TIP (As of 12/20/2021)		
<i>Federal Contribution</i>	<i>\$ 739,134,513.38</i>	Small Urban Transit Programs		
<i>State & Local Match</i>	<i>\$ 184,783,628.34</i>	Transit Capital Program	\$ 6,855,000.00	
		<i>Federal Contribution</i>	<i>\$ 5,484,000.00</i>	
Highway Maintenance Funds	\$ 180,528,645.71	<i>State Match</i>	<i>\$ 500,500.00</i>	
<i>Federal Contribution</i>	<i>\$ 144,422,916.57</i>	<i>Local Match</i>	<i>\$ 870,500.00</i>	
<i>State & Local Match</i>	<i>\$ 36,105,729.14</i>	Transit Operating Program	\$ 25,277,800.00	
		<i>Federal Contribution</i>	<i>\$ 12,638,900.00</i>	
		<i>State Match</i>	<i>\$ -</i>	
		<i>Local Match</i>	<i>\$ 12,638,900.00</i>	
		Rural Transit Programs		
		Planning (Sec. 5303 & 5304)	\$ 526,324.00	
		<i>Federal Contribution</i>	<i>\$ 421,059.20</i>	
		<i>State Match</i>	<i>\$ 52,632.40</i>	
		<i>Local Match</i>	<i>\$ 52,632.40</i>	
		Service Delivery (Sec. 5311)	\$ 240,918.00	
		<i>Federal Contribution</i>	<i>\$ 192,734.40</i>	
		<i>State Match</i>	<i>\$ 24,091.80</i>	
		<i>Local Match</i>	<i>\$ 24,091.80</i>	
		FY 2025 - 2050 Projections		
		Transit Capital & Operations Programs	\$ 223,314,663.91	
		<i>Federal & State Contribution (Combined)</i>	<i>\$ 116,707,439.39</i>	
		<i>Local Match</i>	<i>\$ 106,607,224.52</i>	
		Other Transit Revenues	\$ 56,837,678.65	
		<i>Passenger Fees</i>	<i>\$ 33,655,085.23</i>	
		<i>Advertising</i>	<i>\$ 820,192.59</i>	
		<i>Rent</i>	<i>\$ 19,174,221.95</i>	
		<i>Investment Income</i>	<i>\$ 11,137.67</i>	
		<i>Miscellaneous</i>	<i>\$ 3,177,041.21</i>	
Expenditures		Expenditures		
TIP Obligations (FY 2021 - 2024)	\$ 294,677,873.00	TIP Obligations (FY 2021 - 2024)	\$ 32,900,042.00	
<i>Capital Obligations</i>	<i>\$ 288,216,873.00</i>	Estimated Capital Costs (FY 2025 - 2050)	\$ 71,775,668.92	
<i>Safety & Maintenance Obligations (FY 21-24 TIP)</i>	<i>\$ 6,461,000.00</i>	<i>Federal Contribution</i>	<i>\$ 57,435,353.11</i>	
Updated LRTP Projects List	\$ 481,964,307.34	<i>State Match</i>	<i>\$ 7,170,157.90</i>	
<i>Anticipated Road & Bridge Capital Projects</i>	<i>\$ 481,964,307.34</i>	<i>Local Match</i>	<i>\$ 7,170,157.90</i>	
<i>Anticipated Maintenance Projects</i>	<i>\$0.00</i>	Estimated Operating Costs (FY 2025 - 2050)	\$ 200,077,855.29	
		<i>Federal Contribution</i>	<i>\$ 100,038,927.64</i>	
		<i>State Match</i>	<i>\$0.00</i>	
		<i>Local Match</i>	<i>\$ 100,038,927.64</i>	
Highway Funds Summary		Transit Funds Summary		
<i>Total Revenues</i>	\$ 1,104,446,787.43	<i>Total Revenues</i>	\$ 313,052,384.56	
<i>Total TIP Obligations</i>	\$ 294,677,873.00	<i>Total TIP Obligations</i>	\$ 32,900,042.00	
<i>Total New Projects</i>	\$ 481,964,307.34	<i>Estimated Capital Cost</i>	\$ 71,775,668.92	
		<i>Estimated Operating Costs</i>	\$ 200,077,855.29	
Highway Fund Balance	\$ 327,804,607.09	Transit Fund Balance	\$ 8,298,818.36	

Cost Sharing and Supplemental Funding Sources

Normal cost-sharing arrangements for federally supported transportation projects involve the federal government paying up to 80% of the total project cost, with the remaining 20% (commonly known as “match”) being the responsibility of the State and Local participants (23 US Code §120(b): <https://www.fhwa.dot.gov/map21/docs/title23usc.pdf>). Since 2015, there have been significant updates to how the State and Local portion are being generated.

Georgia Transportation Funding Act Of 2015

On May 4, 2015 the Governor signed the Georgia Transportation Funding Act of 2015 (GTFA 2015: <http://www.legis.ga.gov/Legislation/en-US/display/20152016/HB/170>). This act provides for a variety of State funding sources (i.e., vehicle registration fees, hotel/motel occupancy taxes, a 1% sales tax on retail motor fuels up to \$3.00 per gallon) which are to be dedicated to funding transportation projects. Since passage of this act, the practical effect has been for GDOT to identify certain transportation projects of statewide significance, which are then fully funded in their 20% match requirement by supplemental state funding. The result is that federally sponsored road and bridge projects which are matched with GTFA 2015 funds require significantly lower budget contributions from the local jurisdictions where the projects are located. In many cases, the local funding component is completely eliminated.

Local Revenue Options

Just as GTFA 2015 provides a mechanism for the State to assume the full match burden of road and bridge projects, there are policies in place by which Local partners can either assume the 20% match portion, or even fully assume the entire cost of the project (which would, effectively remove the project from the LRTP project list).

Special Purpose Local Option Sales Tax

The Special Purpose Local Option Sales Tax (SPLOST) is a mechanism under Georgia state law (Title 48, Ch. 8, Article 3, Part 1: <http://www.lexisnexis.com/hottopics/gacode/>), whereby voters within a county can, within certain limits, assign a self-imposed 1% sales tax for the purpose of funding for a variety of capital improvement projects. Originally passed in 1985, the legislation has undergone several legislative updates. The most recent SPLOST in the MATS region passed in the Macon-Bibb County consolidated government on November 8, 2016, authorizing \$35,000,000 for various transportation projects throughout the Macon-Bibb area. To the extent that projects already on the road and bridges projects list for this 2050 MTP, these projects can have their match paid for through SPLOST funds, either in part or all the way up to the full 20% match requirement. Alternatively, if the MATS Policy Committee were to decide to accelerate a project faster than GDOT's timetable, they could use SPLOST funds to remove it from the MTP project list entirely. This strategy would allow the jurisdiction sponsoring the project to proceed at their own pace, but it would also forego any opportunity for State or Federal support for the project.

Georgia Transportation Infrastructure Bank

Another local funding option is the Georgia Transportation Infrastructure Bank (GTIB). GTIB was established to provide a revolving loan fund (and in some cases, grant funding) for qualified infrastructure projects eligible projects, including mass transit and bicycle infrastructure (Title 32, Ch. 10, Article 2: <http://www.lexisnexis.com/hottopics/gacode/>)[2]. Because the GTIB program allows local units of government to borrow for project costs over the design life of a project, the effect of the GTIB program is to reduce the immediate budget impacts of coming up with local match for large infrastructure and facilities projects. For example, if GTIB financing were used to meet local match requirements for a 5 year construction project for a bridge with a 30 year design life, the local jurisdiction could issue a bond to meet the match requirements and pay it back over a period no longer than 30 years. This has a less intense impact fiscal on the local government than financing the match requirement in each of the 5 budget years over which the bridge is being constructed.

SPLOST and GTIB are not mutually exclusive. A local jurisdiction could elect to use either, both or neither of these funding sources to address local match requirements for transportation projects.

Future Amendments

From time to time it will be necessary to modify the fiscal analysis and the project list to reflect updated project costs, changes in project timetables, or add and remove projects from consideration. These actions require formal amendments to the LRTP and possibly the TIP. Both the LRTP and TIP can be amended at any time, in accordance with the procedures specified in the MATS Public Participation Plan. The process for amending the LRTP project list involves the following steps:

1. Updating and/or creating new project sheets for the current TIP, to reflect changes in any projects currently underway;
2. Updating the project tables in the relevant LRTP chapters, to reflect the new projects and associated cost changes;
3. Updating the fiscal analysis in this LRTP chapter to continue demonstrating fiscal constraint (i.e., that revenues are sufficient to cover anticipated costs), even with the proposed amendments
4. Soliciting public input in accordance with the approved MATS Public Participation Plan (revised 3/9/2016), which involves;
 1. Completing a 15 day public review period with drafts of the proposed amended LRTP project list and (if necessary) TIP, available for download from the MATS website
 2. Soliciting comments and recommendations from the MATS Citizen Advisory Committee and MATS Technical Coordinating Committee
5. After close of public comment period, formal adoption of the amended LRTP project list and (if necessary) TIP by the MATS Policy Committee

In accordance with these procedures, the following project list amendments have been made to the LRTP Projects List:

Amendment Date

[1] For details on costs and descriptions for individual road and bridge projects, please see Chapter 6.

[2] The full list of what is defined as an “eligible project” can be found in Title 32, Ch. 10, Article 2, Part 3, Sec. 122 of the 2016 GA State Code. See <http://www.lexisnexis.com/hottopics/gacode/> for specific definitions.

Chapter 9 | Safety

Introduction

This chapter covers background information and analysis related to transportation safety in the MATS region. Safety is an essential consideration in the development and growth of the MATS transportation network. There are many federal, state, and local directives that incorporate safety into the transportation planning process. Overall, safety is a key element in the transportation planning process and, with new research and available data, safety can be incorporated into the transportation project development process (planning, design, and maintenance) to effectively identify countermeasures to reduce crashes and crash severity for a community.

Federal Performance Measures

The Federal Highway Administration (FHWA) updated Safety Performance Management Measures (Safety PM) in March 2016 in order to better assess serious injuries and fatalities on public roads.

The Safety performance measures fulfill FHWA's commitment that safety improvement progress is transparent, based on a data-driven process, and is monitored and tracked. The Safety PM Final Rule establishes five performance measures that States and Metropolitan Planning Organizations (MPOs) must set targets for each year. These performance measures are the five-year rolling averages for:

- Number of Fatalities,
- Rate of Fatalities per 100 Million Vehicle-Miles Traveled (VMT),
- Number of Serious Injuries,
- Rate of Serious Injuries per 100 million VMT, and
- A number of Non-motorized Fatalities and Non-motorized Serious Injuries.

The Non-motorized Fatalities and Non-motorized Serious Injuries performance measure encourages all States to address pedestrian and bicycle safety and highlights attention on transportation system users who are not in motor vehicles, such as pedestrians and bicyclists. Having a uniform national safety non-motorized performance measure will increase momentum throughout the country to address pedestrian and bicyclist serious injuries and fatalities. Under the new rules, States and MPOs are required to establish and report annual targets for each measure. FHWA will then assess whether a State has met or made significant progress toward meeting their targets.

These new performance measures require transportation safety stakeholders to collaborate more closely than ever before. State Departments of Transportation, MPOs, and a host of other safety stakeholders are beginning conversations on the new requirements, which became effective on April 14, 2016. States and MPOs are required to set safety targets for the calendar year 2018.

State Highway Safety Plan

The 2022 Georgia Strategic Highway Safety Plan (SHSP) documents Georgia's continued efforts to reduce highway crashes, injuries, and fatalities. The SHSP incorporates education, engineering, enforcement, and emergency medical services as critical elements for developing safer roads. The SHSP aligns all of Georgia's highway related safety plans and outlines goals and strategies that support the plan's vision statement:

The 2022 SHSP's priority goals and performance measures are summarized in Table 9-1 (below). These targets are developed using annual adjustments to polynomial regression models of actual previous year data. Fatality and injury data for the establishment of these targets is generated from the Georgia Electronic Accident Reporting System (GEARS), using the Model Minimum Uniform Crash Criteria KABCO scale

SHSP Core Measure	Baseline (2015 – 2019)	Target (2018 – 2022)	Metric Type	Base Year				
				2015	2016	2017	2018	2019
Maintain traffic fatalities under the projected 1,671 (2018-2022 rolling average) by 2022	1,505	1,671	Annual	1,432	1,556	1,540	1,505	1,491
			5 Year Rolling Avg.	1,239	1,305	1,374	1,439	1,505
Maintain serious injuries in traffic crashes under the projected 8,443 (2018-2022 rolling average) by 2022;	5,836	8,443	Annual	4,896	5,206	5,370	6,401	7,308
			5 Year Rolling Avg.	4,743	4,825	4,922	5,264	5,836
Maintain traffic fatalities per 100 Million VMT under the projected 1.21 (2018-2022 rolling average) by 2022;	1.19	1.21	Annual	1.21	1.27	1.23	1.14	1.21
			5 Year Rolling Avg.	1.12	1.15	1.17	1.18	1.19
Maintain the unrestrained traffic fatalities under the projected 446 (2018-2022 rolling average) by 2022	434	446	Annual	411	472	464	441	384
			5 Year Rolling Avg.	338	398	417	430	434
Maintain alcohol-related fatalities under the projected 399 (2018-2022 rolling average) by 2022;	365	399	Annual	358	378	357	379	353
			5 Year Rolling Avg.	300	321	334	350	365
Maintain speeding-related fatalities under the projected 301 (2018-2022 rolling average) by 2022;	262	301	Annual	268	266	248	268	260
			5 Year Rolling Avg.	216	225	238	253	262

Table 9-1: Georgia 2022 Statewide Highway Safety Plan Performance Targets

SHSP Core Measure	Baseline (2015 – 2019)	Target (2018 – 2022)	Metric Type	Base Year				
				2015	2016	2017	2018	2019
Maintain motorcyclist fatalities under the projected 180 (2018-2022 rolling average) by 2022;	157	180	Annual	152	172	139	154	170
			5 Year Rolling Avg.	138	142	143	151	157
Maintain the un-helmeted motorcyclist fatalities under the projected 26 (2018-2022 rolling average) by 2022;	14	26	Annual	10	9	18	16	15
			5 Year Rolling Avg.	9	8	10	12	14
Maintain young drivers involved in fatal crashes under the projected 202 (2018-2022 rolling average) by 2022	183	202	Annual	168	188	194	192	172
			5 Year Rolling Avg.	159	164	171	178	183
Maintain pedestrian fatalities under the projected 281 (2018-2022 rolling average) by 2022;	235	281	Annual	194	232	253	262	236
			5 Year Rolling Avg.	166	186	204	221	235
Increase the annual observed seat belt use for passenger vehicles, front seat onboard occupants to 96.0% by 2022;	95.9%	96.0%	Annual	97.3%	97.2%	97.1%	96.3%	95.9%
Maintain bicyclist fatalities under the projected 25 (2018-2022 rolling average) by 2022	24	25	Annual	23	29	15	30	21
			5 Year Rolling Avg.	20	23	23	23	24

Table 9-1 (cont.): Georgia 2022 Statewide Highway Safety Plan Performance Targets

Traffic Crash Data

Table 9-2, 9-3 and 9-4 summarize the traffic injury and fatalities data for the MATS Area for the five most recent years available (2016-2020; N=39,192 crashes; 37,975 in Macon-Bibb County; 768 crashes in the MATS portion of Jones County; 291 crashes in the MATS portion of Monroe County). These crashes were analyzed to identify high crash locations in the MATS region. Crash data was downloaded from the Numetrics crash data warehouse, which is overseen by the Georgia Dept. of Transportation Safety Program Office. The data warehouse is populated by copies of accident records provided to the Georgia Electronic Accident Reporting System (GEARS), which are then cleaned and formatted for general distribution through the Numetrics website.

County	Accident Coding	Total Accidents (2016 - 2020)	Bike Related	Pedestrian Related	Not Bike or Ped Related
N/A	(A) Suspected Serious Injury	1	0	0	1
N/A	(B) Suspected Minor/Visible Injury	1	0	0	1
N/A	(C) Possible Injury / Complaint	9	0	0	9
N/A	(O) No Injury	141	0	0	141
N/A	Unknown	6	0	0	6
Bibb	(K) Fatal Injury	160	0	51	109
Bibb	(A) Suspected Serious Injury	517	13	61	443
Bibb	(B) Suspected Minor/Visible Injury	1,985	29	100	1,856
Bibb	(C) Possible Injury / Complaint	8,069	11	104	7,954
Bibb	(O) No Injury	26,629	11	54	26,564
Bibb	Unknown	615	0	0	615
Jones	(K) Fatal Injury	12	0	0	12
Jones	(A) Suspected Serious Injury	24	0	1	23
Jones	(B) Suspected Minor/Visible Injury	57	0	0	57
Jones	(C) Possible Injury / Complaint	73	0	0	73
Jones	(O) No Injury	601	0	1	600
Jones	Unknown	1	0	0	1
Monroe	(K) Fatal Injury	1	0	0	1
Monroe	(A) Suspected Serious Injury	7	0	0	7
Monroe	(B) Suspected Minor/Visible Injury	16	1	0	15
Monroe	(C) Possible Injury / Complaint	36	0	0	36
Monroe	(O) No Injury	229	0	0	229
Monroe	Unknown	2	0	0	2
Grand Total	(K) Fatal Injury	173	0	51	122
	(A) Suspected Serious Injury	549	13	62	474
	(B) Suspected Minor/Visible Injury	2,059	30	100	1,929
	(C) Possible Injury / Complaint	8,187	11	104	8,072
	(O) No Injury	27,600	11	55	27,534
	Unknown	624	0	0	624

Table 9-2: Accident Summary for MATS Area, by County and Fatality/Injury Coding: 2016-2020

Figures 9-1 through 9-4 shows the spatial distribution of fatality and serious injury crashes involving pedestrians or cyclists across the MATS area from 2016 through 2020.

Pedestrian Involved Crashes

Between 2016 and 2020, there were 51 crashes in the MATS area resulting in fatal injuries to pedestrians, resulting in 53 total deaths; 62 crashes involving pedestrians resulting in serious injuries to 64 persons; and 100 crashes involving pedestrians that resulted in minor injuries to 101 persons. All except one of these accidents were in located in the Bibb County area.

MATS Fatalities (not # of crashes) (Data from GEARs/Numetrics)

Year	MATS				Macon-Bibb Co.				Jones Co. (MATS only)				Monroe Co. (MATS only)			
	All	Motor Vehicle	Bicyclist	Pedestrian	All	Motor Vehicle	Bicyclist	Pedestrian	All	Motor Vehicle	Bicyclist	Pedestrian	All	Motor Vehicle	Bicyclist	Pedestrian
2011	21	18	0	3	19	16	0	3	0	0	0	0	2	2	0	0
2012	18	15	0	3	17	14	0	3	0	0	0	0	1	1	0	0
2013	34	25	1	8	32	24	0	8	1	1	0	0	1	0	1	0
2014	23	17	0	6	22	16	0	6	1	1	0	0	0	0	0	0
2015	21	16	0	5	21	16	0	5	0	0	0	0	0	0	0	0
2016	30	20	0	10	27	17	0	10	3	3	0	0	0	0	0	0
2017	38	31	0	7	34	27	0	7	3	3	0	0	1	1	0	0
2018	36	20	0	16	35	19	0	16	1	1	0	0	0	0	0	0
2019	39	28	0	11	37	26	0	11	1	1	0	0	1	1	0	0
2020	42	33	0	9	37	28	0	9	5	5	0	0	0	0	0	0
Total	302	223	1	78	281	203	0	78	15	15	0	0	6	5	1	0
5 Year Rolling Averages																
2012-2016	25.2	18.6	0.2	6.4	23.8	17.4	0	6.4	1	1	0	0	0.4	0.2	0.2	0
2013-2017	29.2	21.8	0.2	7.2	27.2	20	0	7.2	1.6	1.6	0	0	0.4	0.2	0.2	0
2014-2018	29.6	20.8	0	8.8	27.8	19	0	8.8	1.6	1.6	0	0	0.2	0.2	0	0
2015-2019	32.8	23	0	9.8	30.8	21	0	9.8	1.6	1.6	0	0	0.4	0.4	0	0
2016-2020	37	26.4	0	10.6	34	23.4	0	10.6	2.6	2.6	0	0	0.4	0.4	0	0

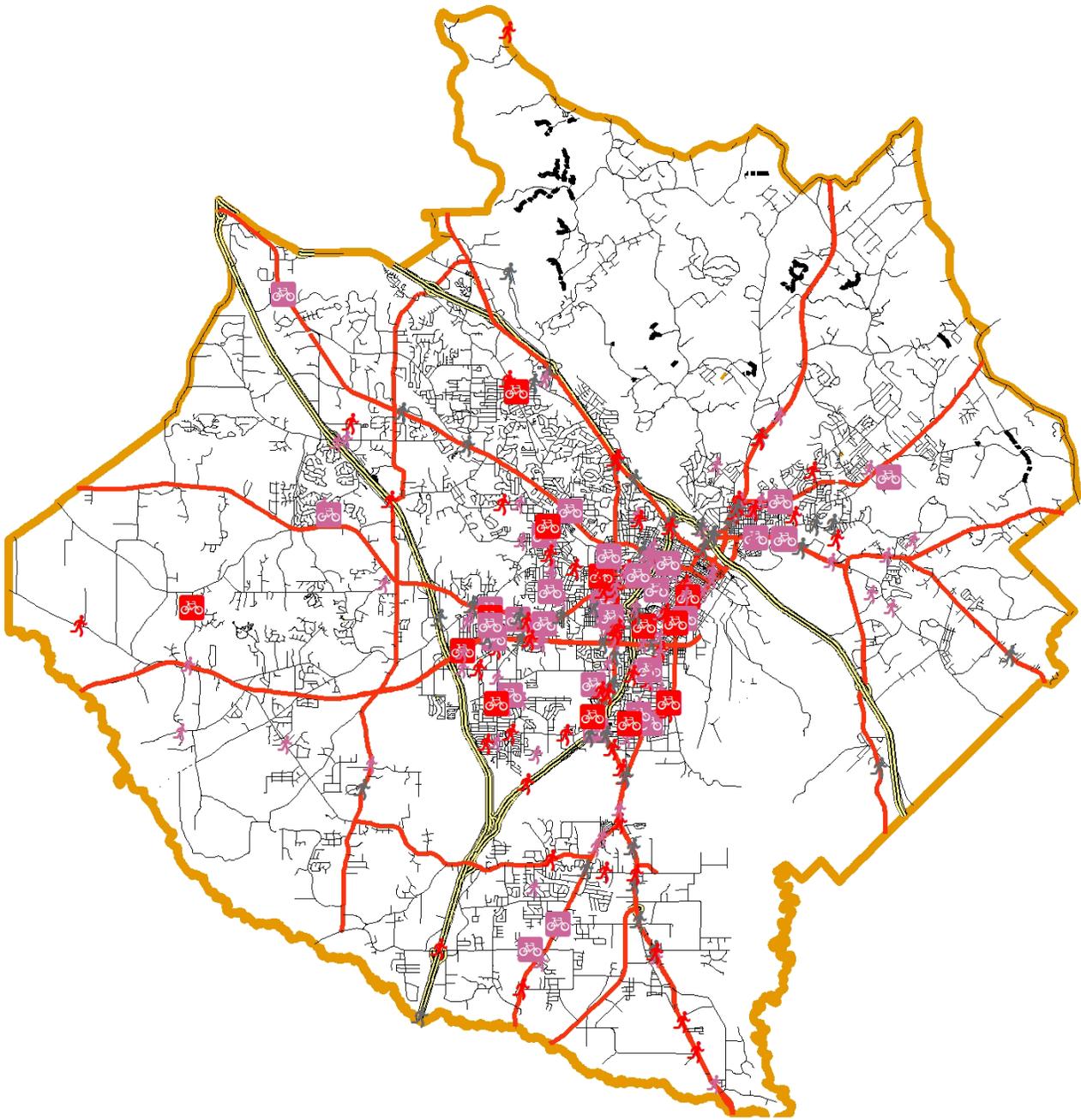
Table 9-3: Traffic Accident Fatalities for MATS Area, by County, with 5 Year Rolling Averages: 2016-2020

MATS Serious Injuries (using GDOT definition; data from GEARS/Numetrics)

Year	MATS				Macon-Bibb Co.				Jones Co. (MATS only)				Monroe Co. (MATS only)			
	All	Motor Vehicle	Bicyclist	Pedestrian	All	Motor Vehicle	Bicyclist	Pedestrian	All	Motor Vehicle	Bicyclist	Pedestrian	All	Motor Vehicle	Bicyclist	Pedestrian
2011	206	202	0	4	193	189	0	4	5	5	0	0	8	8	0	0
2012	261	244	0	17	259	242	0	17	2	2	0	0	0	0	0	0
2013	110	99	0	11	107	96	0	11	1	1	0	0	2	2	0	0
2014	94	85	1	8	91	82	1	8	3	3	0	0	0	0	0	0
2015	100	93	0	7	96	89	0	7	3	3	0	0	1	1	0	0
2016	99	85	0	14	96	82	0	14	3	3	0	0	0	0	0	0
2017	113	91	3	19	110	88	3	19	3	3	0	0	0	0	0	0
2018	158	147	0	11	155	144	0	11	3	3	0	0	0	0	0	0
2019	126	114	4	8	110	99	4	7	13	12	0	1	3	3	0	0
2020	186	166	6	14	177	157	6	14	5	5	0	0	4	4	0	0
Total	1453	1326	14	113	1394	1268	14	112	41	40	0	1	18	18	0	0
5 Year Rolling Averages																
2012-2016	132.8	121.2	0.2	11.4	129.8	118.2	0.2	11.4	2.4	2.4	0	0	0.6	0.6	0	0
2013-2017	103.2	90.6	0.8	11.8	100	87.4	0.8	11.8	2.6	2.6	0	0	0.6	0.6	0	0
2014-2018	112.8	100.2	0.8	11.8	109.6	97	0.8	11.8	3	3	0	0	0.2	0.2	0	0
2015-2019	119.2	106	1.4	11.8	113.4	100.4	1.4	11.6	5	4.8	0	0.2	0.8	0.8	0	0
2016-2020	136.4	120.6	2.6	13.2	129.6	114	2.6	13	5.4	5.2	0	0.2	1.4	1.4	0	0

Table 9-4: Traffic Accident Serious Injuries for MATS Area, by County, with 5 Year Rolling Averages: 2016-2020

MATS Area Collisions Involving Pedestrians or Cyclists: 2016 - 2020

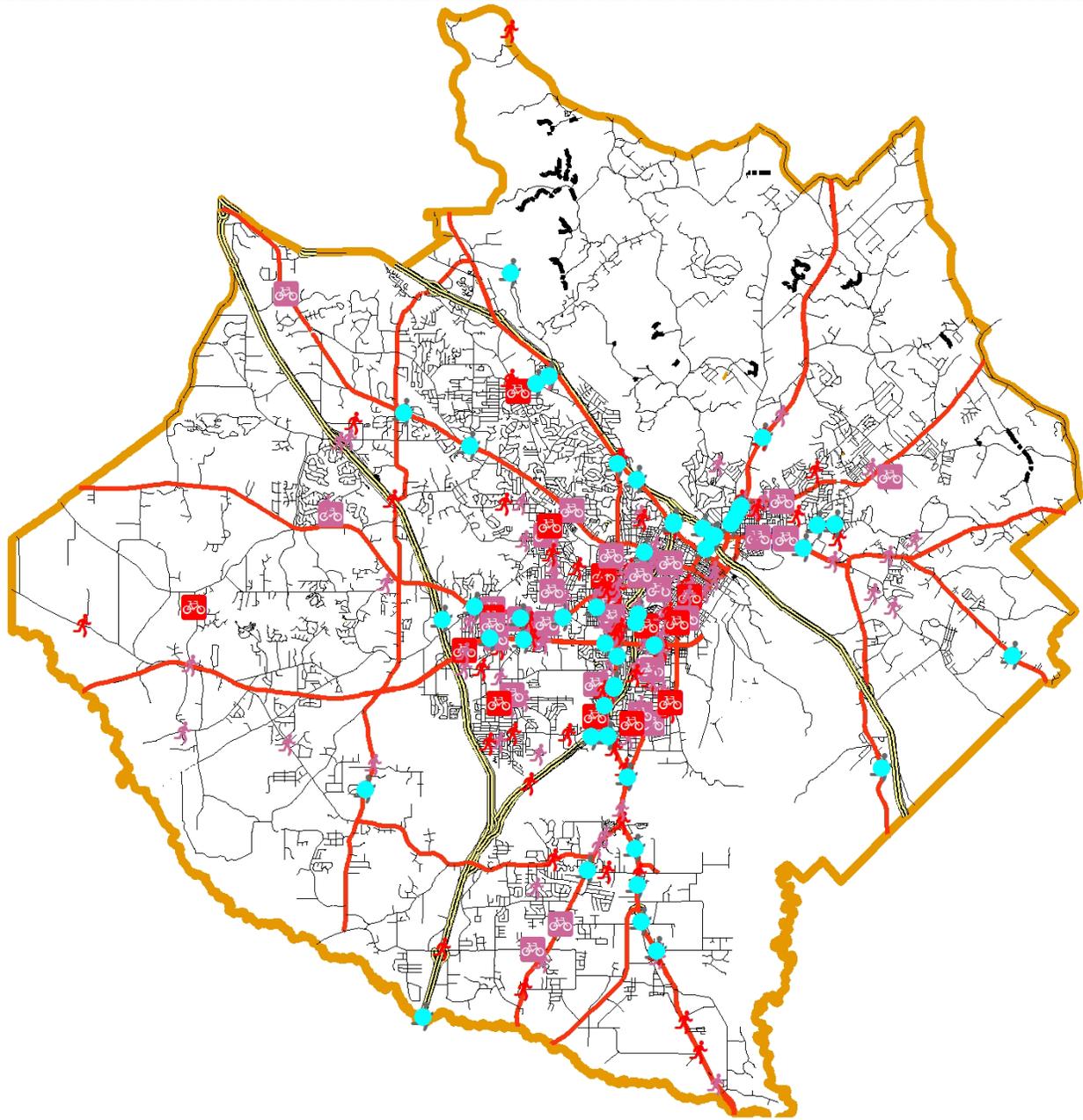


The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/30/2022

Legend		Roads By Type		MATS Boundary	1 inch = 17,863 feet
KABCO, BikePedX, Severity_Score	<ul style="list-style-type: none"> Pedestrian, Suspected Serious Injury, Crash Severity=7.5 (n=62) Pedestrian, Suspected Minor/Visible Injury, Crash Severity=5 (n=100) 	<ul style="list-style-type: none"> Cyclist, Suspected Serious Injury, Crash Severity=7.5 (n=13) Cyclist, Suspected Minor/Visible Injury, Crash Severity=5 (n=30) 	<ul style="list-style-type: none"> Interstate U.S. Hwy/Arterial Street Local St. 4WD Trail Frontage Rd Alleyway 		Map Maker: Michael J. Greenwald, Ph.D., AICP
<ul style="list-style-type: none"> (K) Fatal Injury, Pedestrian Related, Severity=10 (n=51) 					<p>MATS Macon Area Transportation Study</p>

Draft Date: 02/02/2022
 Figure 9-1: Distribution of Collisions Across MATS Area Involving Cyclists or Pedestrians, 2016-2020 157

MATS Area Collisions Involving Pedestrian Fatalities: 2016 - 2020



The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/30/2022

Legend

Numetrics Collision Dataset with Crash Severity Scores (N=256)

Pedestrian Fatal Injury, Crash Severity=10 (n=51)

Pedestrian, Suspected Serious Injury, Crash Severity=7.5 (n=62)

Pedestrian, Suspected Minor/Visible Injury, Crash Severity=5 (n=100)

Cyclist, Suspected Serious Injury, Crash Severity=7.5 (n=13)

Cyclist, Suspected Minor/Visible Injury, Crash Severity=5 (n=30)

Roads By Type

- Interstate
- U.S. Hwy/Arterial Street
- Local St.
- 4WD Trail
- Frontage Rd
- Alleyway

MATS Boundary

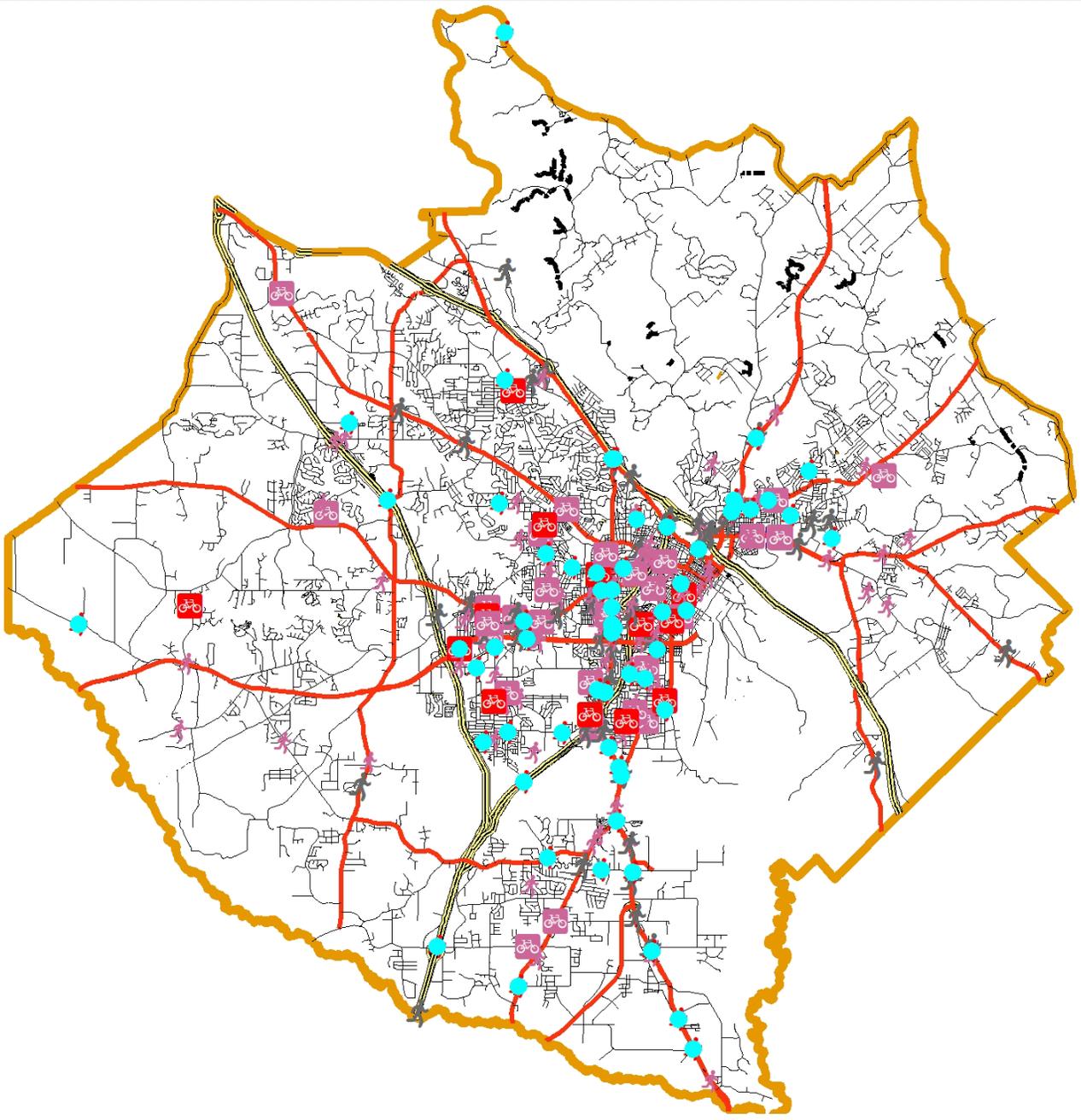


1 inch = 17,863 feet

Map Maker: Michael J. Greenwald, Ph.D., AICP



Figure 9-2 Draft Date: 02/02/2022 Collisions Across MATS Area Involving Pedestrian Fatalities, 2016-2020



The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/30/2022

Legend

Numetrics Collision Dataset with Crash Severity Scores (N=256)



Pedestrian Fatal Injury, Crash Severity=10 (n=51)



Pedestrian, Suspected Serious Injury, Crash Severity=7.5 (n=62)



Pedestrian, Suspected Minor/Visible Injury, Crash Severity=5 (n=100)



Cyclist, Suspected Serious Injury, Crash Severity=7.5 (n=13)



Cyclist, Suspected Minor/Visible Injury, Crash Severity=5 (n=30)

Roads By Type

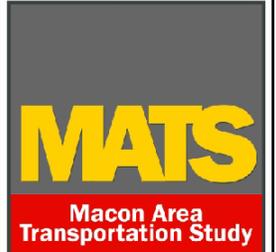
- Interstate
- U.S. Hwy/Arterial Street
- Local St.
- 4WD Trail
- Frontage Rd
- Alleyway

MATS Boundary

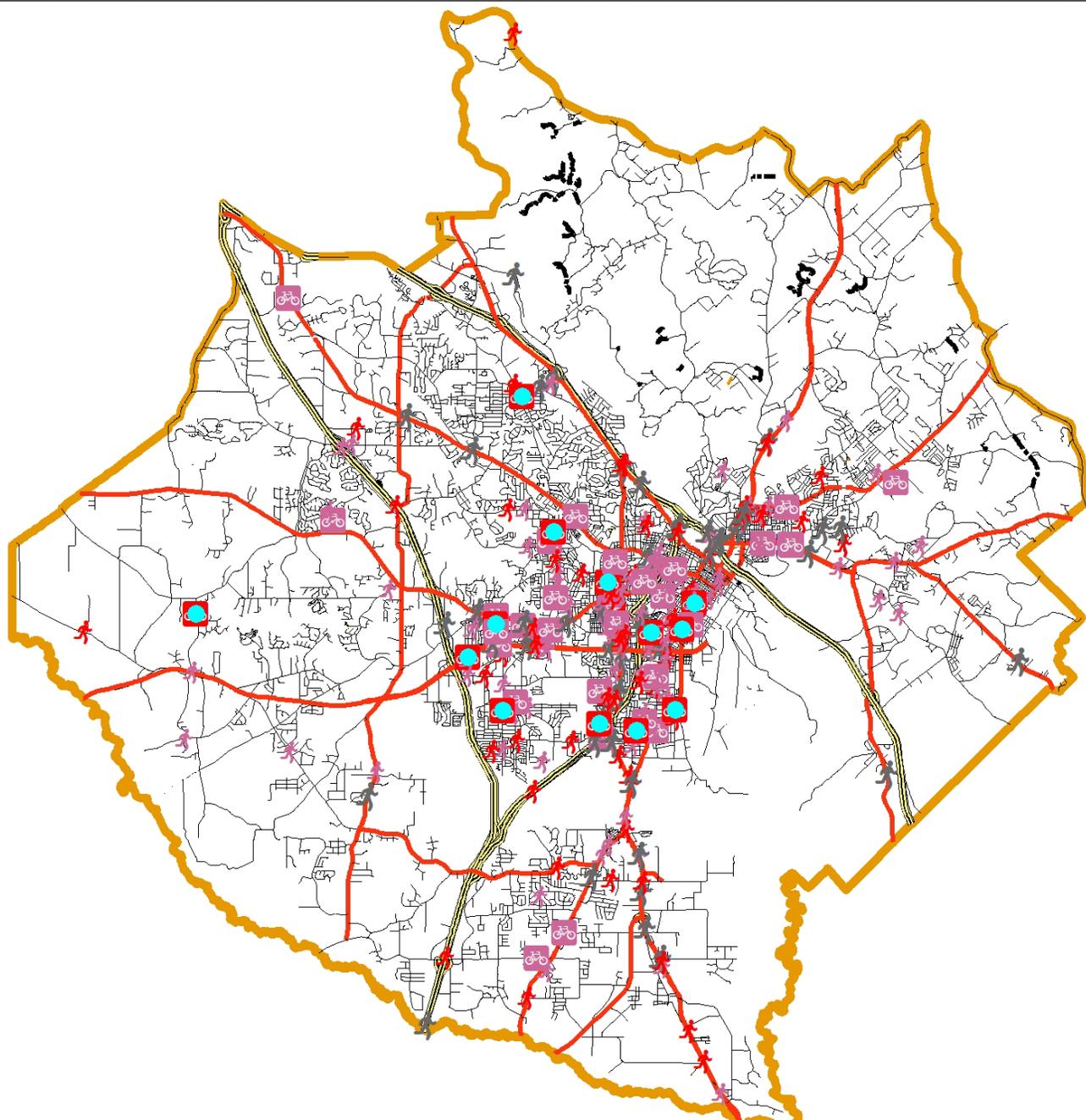


1 inch = 17,863 feet

Map Maker: Michael J. Greenwald, Ph.D., AICP



Draft Date: 02/02/2022
 Figure 9-3: Distribution of Collisions Across MATS Area Involving Pedestrian Serious Injuries, 2016-2020 159



The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/30/2022

Legend

Numerics Collision Dataset with Crash Severity Scores (N=256)

Pedestrian Fatal Injury, Crash Severity=10 (n=51)

Pedestrian, Suspected Serious Injury, Crash Severity=7.5 (n=62)

Pedestrian, Suspected Minor/Visible Injury, Crash Severity=5 (n=100)

Cyclist, Suspected Serious Injury, Crash Severity=7.5 (n=13)

Cyclist, Suspected Minor/Visible Injury, Crash Severity=5 (n=30)

Roads By Type

- Interstate
- U.S. Hwy/Arterial Street
- Local St.
- 4WD Trail
- Frontage Rd
- Alleyway

MATS Boundary



1 inch = 17,863 feet

Map Maker: Michael J. Greenwald, Ph.D., AICP

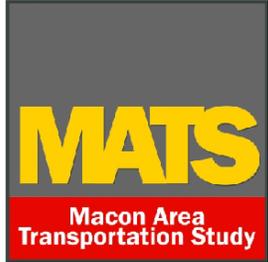


Figure 9-4: Draft Date: 02/02/2022 Distribution of Collisions Across MATS Area Involving Cyclist Serious Injuries, 2016-2020 160

The primary concentration and concentration of pedestrian-involved accidents for 2016 through 2020 are listed in Table 9-5, below.

Bibb		Total Accidents	Fatal Accidents	# Deaths	Serious Injury Accidents	# Serious Injuries	Minor Injury Accidents	# Minor Injuries
	Pio Nono Ave (between Suwanee Ave & Houston Ave/Hawkinsville Rd.)	19	6	6	7	7	6	7
	Gray Hwy (Between I-75 and Old Clinton Rd.)	11	5	5	4	4	2	2
	Eisenhower Pkwy (between Felton Ave. & Brookhave Rd.)	8	4	4	2	2	2	2
	Hawkinsville Rd. (from Houston Rd. to Houston County Line)	11	4	4	5	6	2	2
	Houston Rd. (from Eisenhower Pkwy to Guy Paine Rd.)	7	0	0	2	2	5	5
	Columbus Rd. (Between Bishop Rd. and Brentwood Ave.)	3	0	0	0	0	3	3
Jones								
	State Route 18/5 Points Rd.	1	0	0	1	1	0	0
Monroe								
No Pedestrian Collisions Reported in this part of MATS area for 2016 - 2022								

Table 9-5: Identification of Problem Corridors for Accidents Involving Pedestrians in the MATS Area, based on 2016-2020 GEARS Reporting

Several of these corridors are already well known in the Bibb County area as major accident hot spots. To that end, the Macon-Bibb County Pedestrian Safety Review Board (PSRB) and the Macon-Bibb County Engineering Office have engaged in Road Safety Audits (RSAs) to identify what solutions might be applied in these areas to reduce the number and lethality of accidents in the future. Details on the various RSAs are discussed below.

Bicycle Involved Crashes

Between 2016 and 2020, there were 43 crashes involving cyclists resulting in serious injuries to 13 persons, and 30 crashes involving cyclists that resulted in minor injuries to 30 persons. Fortunately, there were no fatal accidents involving cyclists during this period. All except one of these accidents were in located in the Bibb County area. The primary concentration and concentration of pedestrian-involved accidents for 2016 through 2020 are listed in Table 9-5, below.

Bibb		Total Accidents	Fatal Accidents	# Deaths	Serious Injury Accidents	# Serious Injuries	Minor Injury Accidents	# Minor Injuries
	Napier Ave. (between Crescent Dr. and Brookdale Ave.)	2	0	0	2	2	0	0
	Log Cabin Dr. (from Mercer Univ. Dr. to Presidential Pkwy)	2	0	0	1	1	1	1
	Emry Highway (Maynard St. to Indian Cir.)	3	0	0	0	0	3	3
	Mercer Univ. Dr. (from Edna Pl. to Log Cabin Rd.)	3	0	0	0	0	3	3
Jones		No Bicycle Collisions Reported in this part of MATS area for 2016 - 2020						
Monroe								
	Norfolk Southern Railroad Crossing at State Route 19	1	0	0	0	0	1	1

Table 9-6: Identification of Problem Corridors for Accidents Involving Cyclists in the MATS Area, based on 2016-2020 GEARS Reporting

Unlike the results for the pedestrian involved major accident hot spots, there is no discernable spatial clustering for accidents involving cyclists. The only pattern appears to be that accidents involving cyclists seem to be most prevalent when transitioning between a lower and higher service level road (e.g., from Log Cabin Dr., a Local Street, to Mercer University Dr. (a major arterial, and part of the U.S. Highway system)).

Analysis of Accident Contributing Factors

While a deadly or serious injury crash can happen anywhere, a variety of factors contribute to crashes with these specific outcomes. These design factors usually coincide with streets running through lower-income neighborhoods where people rely heavily on walking and transit.

Factor: Street Design

The safest streets slow down traffic, provide separation between modes, and provide visual cues that make it clear that people using different modes share the space. These streets keep all people safer—even when they make mistakes.

At the other end of the spectrum, wide streets with four or more lanes of fast-moving traffic, unprotected pedestrian crossings and bike lanes, and longer distances between signals are the places where deadly crashes happen most often.

Factor: Speed

Figure 9-5 shows how speed impacts the severity of a crash. A person walking who is struck by a vehicle traveling at 40+ mph is 8 times more likely to die or receive a serious injury than one struck by a vehicle traveling at less than 20 mph.^[15]

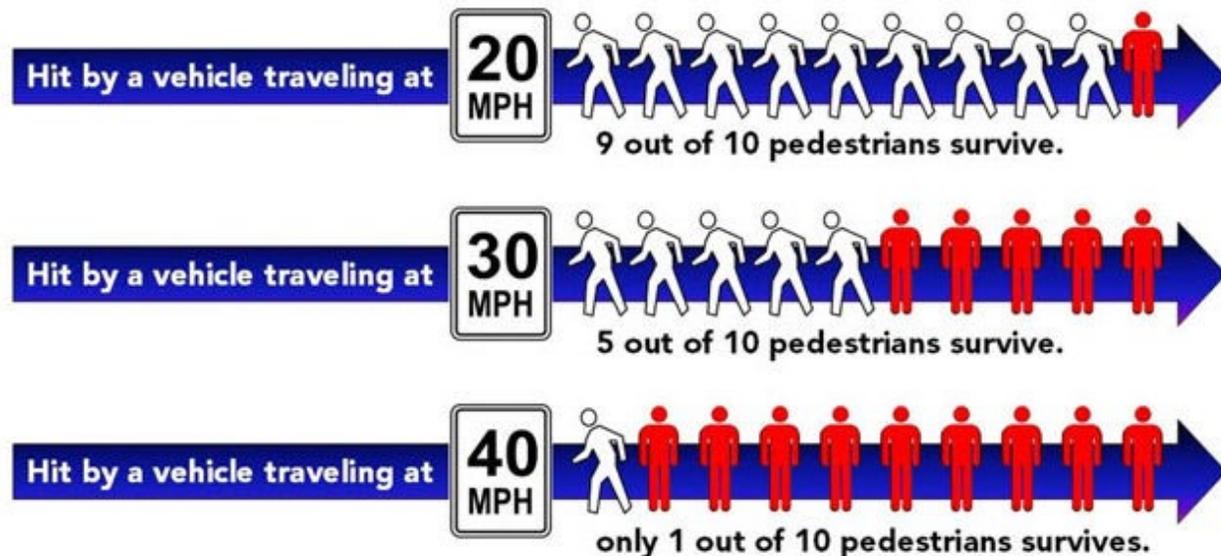


Figure 9-5: Impact Speed and a Pedestrian's Risk of Severe Injury or Death

In a community where walkers and bicyclist make up a disproportionate number of traffic deaths, slowing speeds is critical. Obtaining that objective will take a suite of policy, infrastructure, education, and enforcement actions.

Posted speed limits tell drivers the speed at which they should be driving in normal conditions. In turn, the posted speed needs to match the speed that is safe. Street design is integral to achieving the desired driving speed, directly influencing the driving speed that feels comfortable. Street and lane width, signal spacing, markings, buffers, curb extensions, and medians can all affect a driver's speed.

In tandem with design, working to change social norms, education, and enforcement reinforces community expectations about safety and compliance.

Factor: Impairments and Distractions

Since 2016, only one fatal crash in the MATS Area (resulting in two deaths) was attributed to alcohol or drug impairment (crash occurred in Macon-Bibb, 2019). However, there are still other impediments and distractions, such as excessive speed (mentioned above), and distractions from mobile devices. However, by far, the greatest contributing factor to the severity and lethality of vehicle accidents is the unsafe operation of the vehicle by the drivers themselves.

County	Accident Coding	Total Accidents (2016 - 2020)	No Special Contributing Factor	Unsafe Operation of Vehicle	Speeding	Under Influence of Alcohol/Drugs	Distraction by Mobile Device
N/A	(A) Suspected Serious Injury	1	1	0	0	0	0
N/A	(B) Suspected Minor/Visible Injury	1	1	0	0	0	0
N/A	(C) Possible Injury / Complaint	9	7	1	0	1	0
N/A	(O) No Injury	141	90	46	4	1	0
N/A	Unknown	6	5	1	0	0	0
Bibb	(K) Fatal Injury	160	133	16	9	1	1
Bibb	(A) Suspected Serious Injury	517	424	77	11	5	-
Bibb	(B) Suspected Minor/Visible Injury	1,985	1,312	573	69	25	6
Bibb	(C) Possible Injury / Complaint	8,069	3,670	4,104	214	69	12
Bibb	(O) No Injury	26,629	12,662	13,241	511	157	58
Bibb	Unknown	615	470	122	19	2	2
Jones	(K) Fatal Injury	12	8	4	-	-	-
Jones	(A) Suspected Serious Injury	24	19	5	-	-	-
Jones	(B) Suspected Minor/Visible Injury	57	47	7	1	2	-
Jones	(C) Possible Injury / Complaint	73	52	17	-	4	-
Jones	(O) No Injury	601	487	94	12	7	1
Jones	Unknown	1	1	-	-	-	-
Monroe	(K) Fatal Injury	1	1	-	-	-	-
Monroe	(A) Suspected Serious Injury	7	7	-	-	-	-
Monroe	(B) Suspected Minor/Visible Injury	16	13	2	1	-	-
Monroe	(C) Possible Injury / Complaint	36	23	13	-	-	-
Monroe	(O) No Injury	229	174	44	9	2	-
Monroe	Unknown	2	1	1	-	-	-
Grand Total	(K) Fatal Injury	173	142	20	9	1	1
	(A) Suspected Serious Injury	549	451	82	11	5	-
	(B) Suspected Minor/Visible Injury	2,059	1,373	582	71	27	6
	(C) Possible Injury / Complaint	8,187	3,752	4,135	214	74	12
	(O) No Injury	27,600	13,413	13,425	536	167	59
	Unknown	624	477	124	19	2	2

Table 9-7: Description of Contributing Factors for Accidents in MATS Area, by County and Fatality/Injury Coding: 2016 - 2020

Macon-Bibb County Pedestrian Safety Review Board

Responding to concerns about pedestrian safety, the Macon-Bibb County Commission created the multi-department [Pedestrian Safety Review Board](#) (PSRB) in April 2015 charging it with finding ways to make all of the county's roads, streets, and alleys safe for pedestrians.

Meeting each month, the Board establishes a forum for the sheriff's department, health department, county schools, traffic engineers, facilities management, planning and zoning, elected officials, American Association of Retired Persons, and concerned citizens to develop strategies for creating a safer environment for pedestrians.

Since the previous transportation plan update in 2017, PSRB has:

- Restriped crosswalks at Napier Ave at Pio Nono Ave and Hillcrest Ave at Pio Nono in conjunction with GDOT striping Cherokee Ave, to facilitate safe pedestrian movement to the teen pregnancy center at Cherokee St.
- Installed Mid-block crossing with Rapid Flashing Beacons (RFB) and refuge-island installed on Montpelier Ave at Bentley's Funeral Home.
- Installed mid-block crosswalk at Ingram Pye School
- Installed speed awareness signs on Anthony Rd. Additionally, speed limits reduced on Anthony Rd with new school flashers installed and changed complete length of Anthony Rd into a school zone.
- Installed speed awareness signs on Nottingham Drive and reduced speed limit.
- Lowered speed limits on Upper River Rd.
- Installed new school flasher for Northeast School Complex (never had them before).
- Refreshed crosswalks in Beall's Hill area, still ongoing/in process.
- Road Safety Audits (RSAs) requested to GDOT have been completed and new projects are being accomplished and designed from those RSAs (see details on RSAs below).
- Eight new crosswalks added in Tindall Fields area to facilitate safer walking to area interests (Ingram Pye School, Buck Melton Center, Little Richard Penniman park)
- Refreshed crosswalks at various intersections: Wesleyan Dr at Forsyth Rd., Napier Ave at Forsyth Rd., Tom Hill Sr Dr. at Northside Dr., Napier Ave at Mumford Rd
- HAWK System (High Intensity Activated cross Walk) installed on College St by Alexander School
- HAWK system installed on Eisenhower Pkwy at C St due to RSA
- Speed bumps and humps have been installed in multiple high pedestrian traffic areas
- Raised crosswalk with RFBs installed in Ingleside village
- Speed tables with signage installed on Smokey Glover Blvd in Central City Park
- LED Streetlights replaced old incandescent lights throughout Macon Bibb to help motorist see the pedestrian traffic better
- Installed new LED streetlights at intersections that were high in pedestrian traffic
- Maintain sidewalk lighting for pedestrian safety, soon to be replaced by LEDs if money is approved
- 29 new LED streetlights added along Eisenhower Pkwy at key intersections with pedestrian facilities in conjunction with Eisenhower Business Improvement District
- Speed limits lowered on several county maintained road with high pedestrian traffic
- Macon-Bibb County approved the Vision Zero Policy
- Macon-Bibb County approved the Complete Streets Policy (locally named "Irene's Law")

Towards Safer Roads: Road Safety Audits

In order to begin addressing issues related to pedestrian and cyclist accidents, in 2016, Macon-Bibb County and GDOT began conducting Road Safety Audits (RSA) on high collision roadways within the county. An RSA is a formal safety performance examination of an existing or future road or intersection by an audit team. RSAs are used to identify potential solutions leading to both short-term improvements and longer term efforts including construction projects. It is a proactive, innovative approach that helps identify safety issues to be considered in future road improvement projects.

The findings of an RSA are unique to the safety concerns identified on each roadway. For example, the Eisenhower Parkway (U.S. Hwy 80) RSA identified high speeds, large intersections, long distances between protected crossings, and a lack of dedicated pedestrian and bicycle facilities as significant safety challenges confronting people walking, biking and taking the bus on the corridor. Numerous other issues impact the safety of motor vehicle users.

As of October 2016, RSAs have been completed for portions of Eisenhower Parkway (US. Hwy 80), Emery Highway (U.S. Hwy 23), and portions of Jeffersonville Road (U.S. Hwy 80). A county led RSA is under development for portions of Gray Highway (U.S. Hwy 129). All three audits resulted in similar recommendations, including:

1. Complete intersection improvement projects that upgrade signal equipment, provide ADA accessible curb ramps and sidewalks access to bus stops and add intersection lighting.
2. Where appropriate, convert median breaks along the corridor into R-cuts to reduce conflicts and improve safety.
3. Add sidewalks and bike lanes and consider lane reconfigurations that would greatly improve access and safety for people walking, taking transit, and riding bikes, as well as provide a more uniform, predictable, and safe corridor for motor vehicle users.
4. Install raised pavement markings and refreshing all striping to improve visibility.

Conclusion

Safety is an essential consideration in the development and growth of the MATS transportation network. Many federal, state and local directives incorporate safety into the transportation planning process. With new research and available data, safety can be incorporated into the transportation project development process (planning, design, and maintenance) to effectively identify countermeasures to reduce crashes and crash severity throughout the MATS region.

Chapter 10 | Pedestrians and Bicyclists

Introduction

This chapter summarizes the current efforts in the MATS area to promote pedestrian and bicycle modes of travel. The crash and safety aspects of these modes were covered the previous chapter. This chapter focuses on policies and design strategies that have been put in place to support non-motorized modes of travel for all users. Encouraging non-motorized travel modes provides a variety of personal as well as societal benefits, including:

- **Equity** Walking and bicycling are affordable transportation options available to everyone. Walking and bicycling facilities should be designed to be used by all County residents, not just those who are fit and fast walkers or those confident riding bicycles swiftly or in traffic. Designing streets for safe walking and bicycling can also lead to safer driving and fewer mode conflicts.
- **Personal Health** Active transportation helps people meet recommended physical activity levels, thereby reducing chronic disease and associated health care costs. Improved walking and bicycling infrastructure for recreation and daily trips to work, running errands, or take the kids to school creates a sustained increase in physical activity and a healthier community.
- **Economic Benefits** Business and employee relocation decisions are increasingly based on the quality of life considerations such as walking and bicycling facilities. Active transportation infrastructure also generates tourism revenue, supports local business, and creates jobs.
- **Improved Air Quality and Improved Travel Network Congestion** Replacing driving trips with walking and bicycling trips can play an important part in a comprehensive strategy to improve both air quality and travel network congestion throughout the region. Both goals are served by the same basic principle: every trip completed by a non-motorized mode is a car trip that has been avoided. That in turn equates to fuel that isn't burned, and delays that aren't created on the travel network. Both fuel and space are limited resources that need to be managed in order to reduce negative impacts (i.e., pollution, excessive lost time in travel, wear and tear on infrastructure) extend the life of limited resources and reduced peak hour congestion for motorists.

The strategies for how to best achieve these benefits of non-motorized travel are the subject of a variety of Federal, State and local strategies.

National Guidance for Pedestrian and Bicyclist Transportation Options

The Fixing America's Surface Transportation (FAST) Act of 2015 continued the emphasis placed under its' predecessors (MAP-21) on promoting non-motorized travel. While there are pedestrian and bicyclist references in many provisions, in summary:

- Pedestrian and bicycle infrastructure projects remain broadly eligible across Federal-aid highway and transit programs.

- U.S. Department of Transportation (USDOT), States, MPOs, and cities should continue to promote and adopt design criteria and standards that provide for the safe and adequate accommodation of pedestrians, bicyclists, and motorized users.

USDOT policy continues to be the incorporation of safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems.

In support of this commitment, transportation agencies and local communities should go beyond minimum design standards and requirements to create safe, attractive, sustainable, accessible, and convenient bicycling and walking networks. Such actions should include:

- Considering walking and bicycling as equals with other transportation modes.
- Ensuring that there are transportation choices for people of all ages and abilities, especially children.
- Going beyond minimum design standards.
- Integrating bicycle and pedestrian accommodation on new, rehabilitated, and limited-access bridges.
- Collecting data on walking and biking trips.
- Setting mode share targets for walking and bicycling and tracking them over time.
- Removing snow from sidewalks and shared-use paths.
- Improving nonmotorized facilities during maintenance projects.

The above-referenced code sections describe how bicyclists and pedestrians of all abilities should be involved throughout the planning process, should not be adversely affected by other transportation projects, and should be able to track annual obligations and expenditures on nonmotorized transportation facilities. (Source: ["United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations,"](#) signed on March 11, 2010)

This DOT policy is based on various sections of the United States Code (U.S.C.) and the Code of Federal Regulations (CFR) in Title 23—Highways, Title 49—Transportation, and Title 42—The Public Health and Welfare. The State and Metropolitan Planning Organization (MPO) planning regulations describe how walking and bicycling are to be accommodated throughout the planning process (e.g., see 23 CFR 450.200, 23 CFR 450.300, 23 U.S.C. 134(h), and 135(d)).

In furtherance of these policies, the Bipartisan Infrastructure Law (BIL) of 2021 mandates certain funding set asides for increasing Safe and Accessible transportation options. Specifically:

- Each MPO must use at least 2.5% of its' PL funding allocation (*and each State* use 2.5% of its' State Planning and Research funding awarded under 23 USC 505) on specified planning activities to increase safe and accessible for multiple travel modes of all ages and abilities (Source: PL 117-58 §11206(b));

- A State or MPO has the ability to opt out of this requirement (with the approval of the Secretary of Transportation) *if* the State or MPO has Complete Streets standards and policies in place, and has developed an up to date Complete Streets prioritization plan that identifies specific lists of projects to improve the safety, mobility or access of a street (Source: Source: PL 117-58 §11206(e))

The Complete Streets paradigm, and the policies it supports, is discussed below. Macon-Bibb County, the largest entity in the current MATS MPO area, has recently adopted such a Complete Streets policy. It is set to take effect starting July 1, 2022.

State Guidance for Pedestrian and Bicyclist Transportation Options

In the MATS region, both GDOT and the local governments comprising MATS MPO have authority and bear responsibility for implementing road designs, based on adopted design policy guidelines. In support of improved adoption of non-motorized travel modes, both Macon-Bibb County and GDOT have adopted the Complete Streets paradigm regarding infrastructure design and program development for new transportation projects.

Complete Streets are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations.

Complete Streets on State Roads - GDOT's Design Policy Manual

GDOT's primary strategy for implementing Complete Streets is to incorporate bicycle, pedestrian, and transit accommodations into roadway construction and maintenance projects. Local governments and planning agencies can also implement Complete Streets by partnering with GDOT, and by initiating and managing their own locally-funded projects and programs.

The following principles form a basis for the bicycle and pedestrian accommodation policies included in GDOT's Design Policy Manual:

1. Accommodations for bicycles and pedestrians should be integrated into roadway construction projects through design features appropriate to the context and function of the transportation facility.
2. The design and construction of new facilities should anticipate likely demand for bicycling and pedestrian facilities within the design life of the facility.
3. The design of intersections and interchanges should accommodate bicyclists and pedestrians in a manner that addresses the need to safely cross roadways, as well as to travel along them.
4. The design of new and reconstructed roadways should not preclude the future accommodation of bicyclists and pedestrians along and across corridors.
5. While it is not the intent of maintenance resurfacing to expand existing facilities, opportunities to provide facilities or to enhance safety for pedestrians and bicyclists should be considered during the development of these projects.

The following principles form a basis for the transit accommodation policies presented in the remainder of this chapter:

1. Accommodations for transit should be integrated into roadway construction projects through design features appropriate for the context and function of the roadway, and associated transit facility (e.g., transit stops, stations, or park-and-ride lots).
2. The design of roadways and intersections should address the need of pedestrians to safely walk along and across roadways, to access nearby transit facilities.
3. The design of new and reconstructed roadways should not preclude the accommodation of transit facilities (e.g., for light rail, streetcars, and bus rapid transit) planned and funded for construction within the design life of the roadway project.

The Complete Streets paradigm is reflected in the most recent Georgia Strategic Highway Safety Plan (SHSP), as well as the 2018 – 2022 Georgia Bicycle and Pedestrian Safety Action Plan sets as its goal the reduction of the number of pedestrian deaths to less than 180 per year by 2022.

The plan identifies 11 strategies to achieve this goal:

1. Collect, map, and publish data on pedestrian safety, the walking environment, pedestrian crashes, and safety risks;
2. Incorporate pedestrian safety strategies, treatments and performance measures into state transportation plans, policies, and design guides.;
3. Incorporate pedestrian safety strategies and performance measures into regional and local plans
4. Assess new construction and maintenance projects on state routes for opportunities to incorporate pedestrian safety elements early in the process;
5. Use crash data and annual road safety audits to identify roads with ongoing pedestrian issues. Collaborate with regional and local governments to prioritize selection and implementation of safety improvements on those roads;
6. Proactively identify and mitigate systemic pedestrian safety hazards on Georgia roads;
7. Create and distribute educational material to promote safety for pedestrians;
8. Provide annual trainings on pedestrian safety that target transportation and public health professionals, law enforcement officers, elected officials, and community advocates;
9. Increase outreach and education on pedestrian safety for state, regional, and local agencies and facilitate collaboration between them;
10. Allocate target level of HSIP, 402, 405h, regional, and local funds to pedestrian safety projects;
11. Align fund expenditures on pedestrian safety projects and programs with Focus designations, data on pedestrian crash and fatality factors, and proven countermeasures. (Source: Georgia Pedestrian Safety Action Plan: 2018-2022; <http://www.dot.ga.gov/DS/Travel/BikePed>)

Similarly, the 2018 Georgia Bicycle Safety Action Plan sets a goal of under 15 fatalities and 32 major injuries per year by 2025. The plan identifies the following strategies to help achieve that goal:

Objective - Gather data that helps optimize selection of bicycle safety improvements

1. Continue to map collision data, update annually and use it to target key corridors and hot spots for road safety audits and improvements.
2. Develop method and track the annual miles built of bikeable shoulders, bike lanes, and protected bike lanes.
3. Implement at least two road safety audits per year in each of the GDOT districts that consider bicycle safety when appropriate.
4. Use data on the injury outcomes of bicyclists involved in collisions who are taken to hospitals and trauma centers to guide safety improvements.

Objective - Systematically & reliably incorporate proven bicyclist safety countermeasures during the design process

5. Develop and implement procedures for incorporating bicycle safety improvements into maintenance projects on corridors identified by crash data as high risk for bicyclists (“twinning”).
6. Assess state and federally funded projects for bicycle improvements early in the planning stage
7. Incorporate bicycle safety strategies and performance measures into state transportation plans; incorporate bicyclist safety treatments into Complete Streets Guidelines, Georgia Streetscapes and Pedestrian Design Guide, and the Driveway Manual
8. Incorporate bicycle safety strategies and performance measures into regional transportation plans, MPO TIP’s, and MTP’s;
9. Develop case for funding full time Complete Streets engineer within the Georgia DOT.

Objective - Train and engage partners on strategies that will increase bicyclist safety

10. Develop and implement a targeted “Three Foot Passing Law” campaign using advertising outlets such as billboards, gas pump toppers, bus wraps, and signs on police cars.
11. Document the enforcement of the 3 foot law
12. Provide training workshops on designing streets for bicycle safety to transportation professionals, including for-profit and non-profit, government officials and others.
13. Improve the capacity of school-based and for-profit driver’s education programs by assessing current programs, developing and distributing new materials and providing training.
14. Expand the driver’s permit test question bank to include questions about the three foot passing law.
15. Engage a law enforcement officer with the Bicycle Safety Task Team to assist with a broader enforcement campaign. Offer a small number of competitive grants to police agencies to implement a pilot targeted 3 foot passing law program
16. Provide annual bicyclist summits or trainings targeting transportation and public health professionals, elected officials, advocates and others.
17. Develop short videos (in the style of public service announcements) explaining bicycle related laws for law enforcement offices to be shown in between officer shifts.

Objective - Establish and allocate funding streams needed to achieve all strategies

18. Document current allocation of HSIP, STP Urban, and 402 funds that are going to bicycle safety education and infrastructure improvements.
19. Use 'Share the Road' tag revenues and funding from other state sources to annually fund bicycle safety outreach and education provided by nonprofit organizations such as Georgia Bikes, BikeAthens, Savannah Bicycle Campaign, the Atlanta Bicycle Coalition, and others.
(Source: Georgia Bicycle Safety Action Plan: 2018;
<http://www.dot.ga.gov/DS/Travel/BikePed>)

These goals are consistent with those already identified in Chapters 2 and 9 of the 2050 MTP

Local Policies and Procedures

The main strategies for promoting non-motorized travel are predominantly based on the efforts of Macon-Bibb County. Those efforts fall into three specific examples: The Macon-Bibb County Bikeway and Pedestrian Plan, adoption of the Vision Zero concept, and the recently adopted Complete Streets Ordinance.

The Macon-Bibb County Bikeway and Pedestrian Plan

The Macon-Bibb County Bikeways and Pedestrian Plan (2003) serves as the county's blueprint for making walking and bicycling safe and efficient transportation options for people of all ages and abilities. The pedestrian element explored pedestrian safety improvement needs. The bicycle element identified bike routes that can be improved with relatively minimal local investment and larger bicycle facility upgrades that will require new construction that may need to be coordinated with the Transportation Improvement Program (TIP) projects.

The plan helped guide the establishment of three goals for the development of safe, convenient and accessible bicycle and pedestrian transportation options in the MATS region. These goals were included in the 2040 LRTP (adopted in 2013; updated 2017), and are maintained in this update.

Goal #1: Create a system in the MATS area that will provide safe, convenient, and accessible bicycle and pedestrian facilities for all users.

Objective 1: Develop a connected system of bicycle and pedestrian facilities that serve major origins and destination points within the study area such as employment centers, commercial areas, educational/cultural facilities and provide bicycle routes that offer recreational value.

Objective 2: Ensure all recommended bicycle and pedestrian facilities are ADA compliant.

Objective 3: Encourage an interconnection of bicycle and pedestrian facilities with other modes of alternative forms transportation such as transit in order to reduce dependence on private transportation, reduce traffic and improve air quality.

Objective 4: Examine residential and commercial development regulations and encourage the inclusion of bicycle and pedestrian friendly facilities in site plan reviews.

Objective 5: Incorporate a maintenance program to increase the longevity of safe and usable facilities.

Goal #2: Develop an educational and promotional program to encourage bicycling and pedestrian forms of transportation.

Objective 1: Develop a bicycle suitability map that describes the existing conditions of different roadways to allow cyclists to select a route appropriate to their skill level.

Objective 2: Develop pedestrian brochures to encourage walking between major points of interest.

Objective 3: Encourage employers to accommodate the needs of bicyclists and pedestrians.

Objective 4: Encourage and implement a MATS area wide Bike to Workday.

Objective 5: Encourage and implement a bicycle and pedestrian safety program in area schools

Goal #3: Identify funding sources to implement, upgrade and maintain bicycle and pedestrian facilities.

Objective 1: Encourage the inclusion of bicycle and pedestrian facilities within the design of scheduled TIP road projects.

Objective 2: Actively pursue all eligible federal and state grants for the bicycle and pedestrian plan, development, and maintenance.

Vision Zero Concept

The Vision Zero concept was created in Sweden in 1997 and is widely credited with a significant reduction in fatal and serious crashes on Sweden's roads since that time. Cities across the United States are adopting bold Vision Zero initiatives that share common principles.

In May 2016, the Macon-Bibb County Commission unanimously passed a resolution supporting Vision Zero strategies in Macon-Bibb County. Macon-Bibb County's Vision Zero goal is an important first step in reducing traffic fatalities and serious injuries on our roadways.

Complete Streets

On June 22, 2021, the Macon-Bibb County Board of Commissioners adopted a Complete Streets resolution, updating Chapter 24 of the Macon-Bibb County Code or Ordinances with the objective *“to make the practice of creating Complete Streets a routine part of everyday operations, working in coordination with other departments, agencies, and jurisdictions to*

maximize opportunities for Complete Streets, connectivity, and cooperation . . . The policy will promote safety, quality of life, and economic development while striving to support existing neighborhoods and those who reside in them.”(Macon Bibb County Ordinance #O-21-0050).

Specifically, the policy directs that:

- Macon-Bibb County shall modify its procedures, documents, training programs, and performance measures by July 1, 2022, to ensure that the needs of all users of the highways, roads, and streets in Macon-Bibb County are included in all phases of all transportation projects, including funding, planning, designing, operating, and maintaining transportation infrastructure.
- Complete Streets projects may contain, without limitation, the following facilities and amenities
 - pavement markings and signs;
 - sidewalks and pedestrian safety improvements such as medians, curb extensions, and crosswalks;
 - Americans with Disabilities Act (ADA) accessible curb ramps and accessible pedestrian signals;
 - transit stops and signage;
 - improved pedestrian and bicycle access to transit stops and stations;
 - protected or separated bike lanes or shared use lanes;
 - bike lanes;
 - bicycle activated street signals;
 - bicycle parking facilities; and
 - street trees, landscaping, street lighting and street furniture.
- All public departments and private contractors are required to provide accommodations where feasible or reasonable for all modes during construction or repair work that infringes on the right of way of sidewalks, bicycle lanes, or accessibility infrastructure so that all people can continue to use the transportation system safely and efficiently. These temporary accommodations will be provided and maintained by the jurisdiction or entity responsible for necessitating an alternative in the right of way. These jurisdictions or private entities may include a city, county, local agency, or private or institutional development entities.
- The staff of appropriate Macon-Bibb County departments...shall review and develop, or propose revisions to plans, subdivision codes, procedures, rules, regulations, guidelines, programs, templates, design manuals, and other pertinent documents in accordance with their respective areas of expertise annually.
- In coordination with the Macon-Bibb Planning and Zoning Commission, MATS MPO, and Georgia Department of Transportation, as appropriate, staff shall consider and, when practical, integrate, accommodate and balance the needs of all users in street projects. (Macon-Bibb County Code of Ordinances, Ch. 24, Sec. 24.23)

In the pursuit of these objectives, the policy also establishes a new Complete Streets Compliance Committee to ensure the enforcement of the ordinance. Voting membership on the Compliance Committee includes:

- The Executive Director of the Macon-Bibb Planning and Zoning Commission or his or her designee;
- [Executive Director of] Macon-Bibb County Metropolitan Planning Organization or his or her designee;
- [Macon-Bibb County] Engineering or his or her designee;
- [Macon-Bibb County] Traffic Engineering or his or her designee;
- [Macon-Bibb County] Public Works or his or her designee;
- Citizen's Advisory Committee Chairperson for the MATS Technical Coordinating Committee or his or her designee;
- [Macon-Bibb County] Facility Management or his or her designee.
(Macon-Bibb County Code of Ordinances, Ch. 24, Sec. 24.30)

The policy further defines what constitutes the factors considered to be in the public interest in the evaluation of a transportation project design proposal:

- Whether there has been a collision involving a bicycle or pedestrian on the roadway in question within the last 5 years;
- Existing annual average daily traffic ("AADT") and projected AADT as determined by the Travel Demand Model;
- Whether the posted speed limit is 35 miles per hour or less;
- The degree of current and potential bicycle or pedestrian use;
- Whether a proposed facility adds connectivity for existing infrastructure or connects destinations;
- Whether a proposed facility is identified in any official planning document that has been adopted by Macon-Bibb County;
- Whether there is demonstrated community support for the proposed facility;
- Whether the proposed facility is redundant or conflicting with other projects;
- Whether funding can be identified for the proposed facility and its maintenance;
- Whether the proposed facility would cause Level of Service to drop below LOS C;
- Whether the proposed facility fits within existing rights of way, if an off-street facility is proposed;
- Whether the proposed facility fits within the existing roadway, if an on-street facility is proposed; and
- Priority in finding feasibility should be given to projects in neighborhoods identified as low-to-moderate income by the most recent census data.
(Macon-Bibb County Code of Ordinances, Ch. 24, Sec. 24.31)

Finally, the ordinance establishes annual reporting requirements, starting at the end of FY 2022 (i.e., June 30, 2022) on the following criteria

- Mileage of sidewalks created;
- Number of Americans with Disabilities Act-compliant curb cuts created;
- Mileage of on-street bicycle facilities created;
- Mileage of multi-use facilities created;
- Number of transit stops added;

- Transit ridership;
- Percentage of projects completed with Complete Streets focus and compliance;
- Safety and collision statistics across modes; and
- Number of projects implemented in low-moderate income census-tracts.

Examples of Pedestrian and Bicycle Facilities

With the policies and goals described above, it is necessary to identify specific strategies that will demonstrate progress towards more convenient, safer non-motorized travel mode options. Accomplishing the identified goals will require a coordinated approach that involves not only education, enforcement, and emergency response, but also innovative engineering. Engineering involves the strategic and prioritized design and installation of effective pedestrian and bicycle facilities.

Pedestrian Facilities

Most trips begin and end as walking trips even when a car, bicycle, or bus is also involved. Macon's central business district has a largely complete walking network that extends along several arterials toward outlying neighborhoods. Most of the residential neighborhoods outside of Macon's urban core lack a complete walking network with sidewalks, safe crosswalks, and traffic calming designs that encourage walking.

Linear Facilities

Pedestrians use several different types of facilities in the MATS region, primarily sidewalks. Every street in the County should be designed for pedestrians.

Multi-Use Paths

These facilities are shared by many active transportation and recreation users including pedestrians, bicyclists, and in-line skaters. The Ocmulgee Heritage Trail is the premier multi-use path in the MATS Region. Eleven miles of the trail are currently open with several more miles planned to open over the next few years.

Neighborhood Byways

Neighborhood byways are multi-modal linear facilities on streets with low traffic volumes and speeds. Additionally, intersection improvements that allow bicyclists and pedestrians to cross large or busy streets are critical to their utility. Wayfinding signage and shared lane markings are also important components. Traffic diversion and calming measures are often used when traffic volumes or speeds are higher than desirable.

Sidewalks

Sidewalks are the most common walking facility in the MATS region. In 2016, there were roughly 293 miles of roads with sidewalks on one or both sides of the road in Macon-Bibb

County, which represents only 13% of all of the roads. Since that time, Macon-Bibb County has adopted an update to the County subdivision ordinance which requires that all properties less than 1 acre in size, developed or improved more than 50% of the assessed value “shall have sidewalk and curb and gutter in accordance with the standards set forth” in the County subdivision code (Macon Bibb County Ordinance #O-19-0003 §1; adopted 2/5/2019). Existing properties may be repaired or maintained in their current state, but if they are replaced or improved, they will become subject to the same sidewalk improvement requirements. Some sidewalks are directly adjacent to busy travel lanes and lack a buffer or barrier, while others are buffered and separated from traffic by landscaping, parking, seating, or other physical means.

The identification of gaps in the sidewalk network is a very fine-grained exercise. Aerial photography shows sidewalks missing on some busy arterial corridors, such as Bloomfield Drive, Eisenhower Parkway, and Gray Highway, in some commercial developments, such as in the Plantation Centre and Rivergate, and in many residential neighborhoods. These sidewalks should be filled in as redevelopment allows.

Landscaping & Street Furniture

Landscaping, street trees, and street furniture can have a profound effect on improving the pedestrian feel of a corridor. The County should include the following in appropriate streetscape designs:

- Landscaping and street trees, especially shade trees.
- Planters.
- Benches, tables, and chairs.

Lighting

Street lighting is often designed primarily for the safety and comfort of motorists except at intersections, where crosswalks are typically illuminated. The illumination of sidewalks and other walkways is often a separate consideration. Pedestrian lighting typically includes shorter lights (14-18' maximum pole heights) directly above walkways and accent lighting that illuminates features on or near buildings.

Pedestrian lighting increases drivers' visibility of pedestrians, promotes perceived personal security, illuminates potential hazards, and creates vibrant and inviting streetscapes. The addition of pedestrian-scale lighting should be considered in the urban core and neighborhood business districts, along busy arterials and multiuse paths, and in conjunction with significant street reconstructions.

Crossings and Intersections

The majority of pedestrian deaths occur at uncontrolled crossing locations such as mid-block or un-signalized intersections. These are among the most common locations for pedestrian fatalities generally because of inadequate pedestrian crossing facilities and insufficient or inconvenient

crossing opportunities, all of which create barriers to safe, convenient, and complete pedestrian networks.

Expecting pedestrians to travel significantly out of their way to cross a roadway to reach their destination is unrealistic and counterproductive to encouraging healthier transportation options. By focusing on uncontrolled locations, agencies can address a significant national safety problem and improve the quality of life for pedestrians of all ages and abilities.

Intersections in the region should be designed for pedestrian safety and comfort, with pedestrian enhancements appropriate to traffic speed, traffic volume, pedestrian crossing distance, and other similar factors. The section below, together with the following signals section, describes some of the primary options that should be considered for crossing and intersections improvements. As streets are repaved and reconstructed, pedestrian crossing ramps are being added. When reconstruction projects allow, additional improvements should be considered as part of those projects.

Crosswalks

Crosswalks exist everywhere that sidewalks and streets intersect, whether marked or not. Marked crosswalks provide a delineated space for pedestrians and other sidewalk users to cross. Differences in striping patterns (e.g. double ladder or piano key crosswalks) and paving surfaces (e.g. raised and/or brick crosswalks) offer varying levels of visibility and delineation between pedestrians and automobiles, bicyclists, and other roadway users.

Bulbouts

Bulbouts reduce the width of roadway crossings at intersections and mid-block crossings. They also create a visual traffic calming cue to drivers to slow for pedestrians, improve pedestrian visibility, and protect transit passengers as they board or alight from buses or streetcars. Sufficient space for bicyclists is a necessary design consideration.

Roundabouts

Roundabouts allow for constant vehicular traffic flow through intersections and do provide some benefits to pedestrians and bicyclists, such as reduced traffic speeds. However, they also have drawbacks. Yielding compliance at crosswalks may be reduced if the facility is not designed properly. Also, designs often require bicyclists to merge into traffic through the roundabout, which is uncomfortable for many riders.



Median Refuge Islands

Refuge islands enable pedestrians to cross one direction of a street at a time. They are typically used in conjunction with crosswalks where traffic volumes or speeds are high or roads are wide. Sometimes other traffic control measures such as signals or flashing beacons are also used.



Traffic Signal & Warning Beacon Considerations

Traffic signal standards are well established in the U.S. The MATS region carefully adheres to state and national standards. Typical concerns that pedestrians experience at signalized crossings include:

- Delays caused by long signal cycles.
- Lack of understanding of WALK and flashing DON'T WALK indications.
- Uncertainty about whether the button must be pressed to activate a pedestrian signal, particularly in downtown areas where signals operate differently during different times of day.
- Lack of confirmation that someone has already pressed a push button.
- Conflicts with turning vehicles at intersections.

Pedestrian Countdown Timers

Macon-Bibb County installs pedestrian countdown timers at county-owned traffic signals. Many GDOT owned signals also have pedestrian countdown timers and as GDOT upgrades pedestrian facilities, new countdown timers are installed. Pedestrian countdown timers improve safety by providing information to assist pedestrians with crossing decisions. Pushbuttons with confirmation lights are also sometimes used so that people can see whether the signal has been activated.

Pedestrian Safety Countermeasures

The Federal Highway Administration recently highlighted several pedestrian safety countermeasures proven to protect pedestrians:

- Road Diets can reduce vehicle speeds and the number of lanes pedestrians cross, and they can create space to add new pedestrian facilities.
- Pedestrian hybrid beacons (PHBs) are a beneficial intermediate option between RRFBs and a full pedestrian signal. They provide positive stop control in areas without the high pedestrian traffic volumes that typically warrant signal installation.
- Pedestrian refuge islands allow pedestrians a safe place to stop at the midpoint of the roadway before crossing the remaining distance. This is particularly helpful for older pedestrians or others with limited mobility.
- Raised crosswalks can reduce vehicle speeds.
- Crosswalk visibility enhancements, such as crosswalk lighting and enhanced signing and marking, help drivers detect pedestrians—particularly at night.

Benefits

- Improved Safety. Countermeasures are available that offer proven solutions for reducing pedestrian fatalities at uncontrolled crossing locations.
- Targeted Investment. By focusing on uncontrolled locations, agencies can address a significant national pedestrian safety problem.
- Enhanced Quality of Life. Improving crossing opportunities boosts quality of life for pedestrians of all ages and abilities.



Bicycle Facilities

Bicycle facilities can generally be grouped into two categories – conventional and low-stress facilities.

Conventional Bike Facilities

Conventional facilities like bike lanes and shared lane markings have been standard practice in the U.S. for many years. They provide dedicated or shared space for confident bicyclists who have experience riding next to traffic.

Conventional Bike Lanes

This type of bikeway uses signage and striping to delineate roadway space for exclusive use of bicyclists. Conventional bike lanes are typically located to the right of the outside car lane. Parking may be allowed to the right of the bike lane.

Shared Lane Markings

Shared lane markings (i.e. “sharrows”) indicate a travel lane shared by bicyclists and motor vehicles. According to NACTO, shared lane markings “reinforce the legitimacy of bicycle traffic on the street and recommend proper bicyclist positioning.”

Riding Bicycles on Sidewalks

Riding bicycles on sidewalks is not recommended except for children. Many Georgia cities and counties have regulations regarding where sidewalk riding is legal. Sidewalks were designed to accommodate pedestrians, not bicycles. Motorists are not looking for or expecting bicycles on sidewalks, which is potentially dangerous if you cross a driveway or pull back out onto the road from a sidewalk. A moving bicycle poses a danger to pedestrians. Bicyclists need to slow down or get off and walk if pedestrians are present, and call out or signal a warning if approaching from behind. When in doubt, bicyclists should always yield to pedestrians. Try to avoid sidewalk riding if at all possible. In Macon-Bibb County only children 10 and under are permitted to ride on sidewalks.

Source: [GDOT, Georgia BIKE SENSE: A Guide for Cyclists & Motorists](#)

Four Types of Bicyclists

Bicycle riders can be divided into 4 categories ...

- **Strong & Fearless** - “will ride regardless of roadway conditions.”
- **Enthused & Confident** - “comfortable sharing the roadway with automotive traffic, but they prefer to do so operating on designated bicycle facilities.”
- **Interested but Concerned** - “curious about bicycling...they like riding a bicycle, but, they are afraid to ride.”
- **No Way No How** - “not interested in bicycling at all, for reasons of topography, inability, or simply a complete and utter lack of interest.”

A national survey conducted in 2016 indicates that 10% of respondents fell into the category of “strong and fearless” and another 10% were “enthused and confident.” The vast majority of respondents – 50-60% - were “interested, but concerned” and 20-30% were “no way, no how.” Though “strong and fearless” and “enthused and confident” bike riders will benefit from new bicycle facilities, it is the “interested, but concerned” members of the community who will most benefit from and be most attracted to expanded bike infrastructure.

Source: <http://www.citylab.com/commute/2016/01/the-4-types-of-cyclists-youll-meet-on-us-city-streets/422787/>

Low-Stress Bike Facilities

Low-stress bikeways appeal to a broader cross-section of the public than conventional facilities. Their low-stress nature is a result of greater separation from traffic; use of low-volume, low-speed streets depending on the specific facility type; and/ or directional wayfinding signage that directs bicyclists to destinations and specific routes much like interstate highway signage for automobiles.

Multi-Use Paths

A multi-use path is a facility that is physically separated from motorized vehicular traffic by an open space or barrier, and either within the highway or right-of-way or within an independent right-of-way. There are two existing multi-use paths in the MATS region: Tucker Road Trail (pedestrian only) and the Ocmulgee Heritage Trail.

There are two multi-use paths in the MATS region including much of the Ocmulgee Heritage Trail and the Tucker Road multi-use path (pedestrian only).

Tucker Road Multi -Use Trail - The Tucker Road Trail (pedestrian only) extends from Forsyth Road to Brandywine Drive in Macon-Bibb County. Though separated from vehicle traffic, at 5 feet in width does not meet GDOT's minimum width or road separation requirements for a multi-use trail.[]

Ocmulgee Heritage Trail - The Ocmulgee Heritage Trail is a multi-use trail connecting Central City Park to Amerson Water Works Park – and all of the neighborhoods and commercial areas nearby. Part multi-use trail (paved and gravel), part sidewalk the trail is a tremendous recreational resource that is regularly being improved.

Recent expansions to the trail include connections between Riverside Cemetery and Amerson Waterworks Park (currently gravel) – completed in winter 2017 - and the extension of the trail to Walnut Creek from the Otis Redding Bridge (planned to be under construction beginning in 2017). A 2017 scoping study will explore the potential for developing a Riverside Drive Greenway connecting the Otis Redding Bridge to Madison Street and the entrance to Riverside Cemetery.

Protected Bike Lanes

Protected bike lanes are separated from traffic by a physical barrier of some kind and are also distinct from the sidewalk. Barriers may be in the form of planters, raised curbs, parking, bollards, or other streetscape elements. Protected bike lanes can be configured for either one-way or two-way travel.

Buffered Bike Lanes

These are similar to conventional bike lanes with the difference being a painted buffer between the bike lane and adjacent car lane. Alternatively, the buffer may also be placed between the bike lane and parked cars. Where space permits, buffers are sometimes placed on both sides of the bike lane. Buffered bike lanes differ from protected bike lanes because the buffer space is paint rather than a physical barrier.

Proposed Bikeways

Several bikeways have been proposed in the MATS region that may one day provide safe, comfortable, and attractive bicycling connections to neighborhoods, commercial areas, parks and schools throughout Macon-Bibb County and much of the MATS region. Developing these bikeways is a long-range goal that will take several years to complete. There are currently few, if any, bicycle facilities on these routes and most currently require extensive travel on narrow sidewalks, which were not designed for bicycle travel, and mixed bicycle/motor vehicle travel, which many experienced bicyclists would find uncomfortable, unpleasant, and potentially dangerous and is not recommended for amateur bicyclists.

East Macon Bikeway - The East Macon bikeway (4 miles) traverses a historically and culturally significant portion of Macon and connects Main Street, Fort Hill Street, Shurling Drive, and Millerfield Road. This route provides access to several attractions in East Macon such as Fort Hawkins, Ocmulgee National Monument, Northeast Plaza Shopping Center, Shurlington Plaza, and various schools.

The East Macon Bikeway is challenged by high traffic volume, high vehicle speeds and lack of dedicated bicycle facilities.

Downtown Bikeway - The Downtown Bikeway (3 miles) traverses through many historical areas and neighborhoods in Macon and connects Mercer University to downtown. This bikeway connects Tattall Square Park, Oglethorpe Street, College Street, Georgia Avenue, New Street and Walnut Street. This route provides access to such facilities as the U.S. Post Office, Washington Park, Macon's City Auditorium, Central City Park, and Tattall Square Park.

Moderate daily vehicle use and moderate speeds make this route a potentially significant bicycling route if developed. However, on-street parking limits the type, quantity, and location of dedicated bicycle facilities along this route.

In September 2016, a **Macon Connects Pop-Up Bike Network** temporarily expanded upon the Downtown Bikeway. The Macon Connects downtown bikeway (5 miles) connected College Street, Walnut Street, Cherry Street, Poplar Street, Second Street, Third Street, Fifth Street, Oglethorpe Street and Forsyth Street and temporarily installed a variety of bicycle facilities on all of these streets, including: sharrows (i.e., bicycle symbols with chevrons painted on the road surface to indicate direction of travel, and advise motorists to be on alert for cyclists in the lane of traffic), conventional bike lanes, buffered bike lanes, two-way cycle tracks, and two-way median cycle tracks.

Freedom Park Bikeway - Freedom Park Bikeway (6 miles) connects Tattnall Square, Dannenberg Avenue, Holt Avenue, Beech Avenue, Wood Street, Bartlett Street, Roff Avenue, Lake Street, Fairmont Avenue, and Napier Avenue. This bikeway connects numerous residential neighborhoods, schools, and commercial areas.

Moderate daily vehicle use and moderate speeds for several sections of this route make this a potentially significant bicycling route if further developed with dedicated bicycle facilities. Bike lanes have been installed on a $\frac{3}{4}$ mile section of Napier Avenue between Ayers Road and Forsyth Road – though high speeds (40 mph) may make bicycling here uncomfortable for some. Wide vehicle lanes (15 ft) along this stretch of road could accommodate painted buffering to better protect bicyclists and slow vehicle traffic.

Columbus Road Bikeway - Columbus Road Bikeway (3.5 miles) connects Brentwood Avenue, Churchill Street, Berkner Street, Mercer University Drive, ending at Columbus Road. The route provides access to regional shopping centers such as the Macon Mall, Eisenhower Crossing @ Presidential Parkway, and many commercial establishments.

The majority of this route is on Mercer University Drive, which currently lacks dedicated bicycle facilities and has high daily vehicle use and speeds. To travel this bikeway safely most (if not all) bicyclist would have to use the 5-ft. sidewalks on Mercer University Drive, which were not designed to be and do not meet GDOT's minimum width or road separation requirements for a multi-use trail.

Central Route Bikeway - The Central Route Bikeway route is a state designated bike route and is part of a network of bike routes throughout the State of Georgia. The route spans the entire length of the county beginning on Forsyth Road near the Monroe County line and ending on Industrial Highway near the Houston County line. The route travels along Forsyth Road, Vineville Avenue, Pio Nono Avenue, Hawkinsville Road and Industrial Highway.

There are currently no dedicated bicycle facilities along this route and high daily traffic and high speeds limit the usefulness of this route to only the most experienced bicycle riders.

Sardis Church Road Bikeway - The Sardis Church Road Bikeway (6 miles) – expected to be completed in 2018, will connect Hawkinsville Road to Frank Amerson Parkway. This route will include a 4-ft., unbuffered bicycle lane in each direction.

Bass Road-Bolingbroke Loop Bikeway - Developed as part of a Transportation Enhancement grant application by the Middle Georgia Regional Commission, the Bass Road-Bolingbroke Loop bikeway (19 miles) connects Bass Road, Colaparchee Road, Zebulon Road, Estes Road, Dixie Highway, Pate Road and New Forsyth Road.

Commuting and Recreation Bicycle Routes for Future Consideration

The following routes were proposed by the Bicycle and Pedestrian Committee as part of the 2040 LRTP process. These potential bicycle routes are included in this MTP update as

candidates for further research and possible development in the future. The routes were suggested as commuting or recreation routes. The bicycle routes are briefly summarized below.

North Macon to Downtown Commuter Route – (6 miles) Connects the Ocmulgee Heritage Trail and downtown to north Macon. The route connects Rivoli Drive, Northside Drive, Riverside Drive, Red Oak Drive, Clairmont Avenue, Audubon Drive, Riverview Road, North Pierce Avenue, Ocmulgee Heritage Trail.

East Macon Arc – These two routes are recreational routes that connect the Ocmulgee Heritage Trail and East Macon Park.

Route A – (16 miles) Connects Ocmulgee Heritage Trail Parkview Drive, Nottingham Drive, Curry Drive, Boulevard Drive, Clinton Road, Upper River Road, Stagecoach Road, Graham Road, Walnut Ridge Road, Old Gray Highway, Joycliff Road, New Clinton Road, Millerfield Road, Jeffersonville Road, and Ocmulgee East Boulevard.

Route B – (5 miles) Connects Ocmulgee Heritage Trail, Jeffersonville Road, and Ocmulgee East Boulevard.

Downtown to North Macon Commuter Routes - Located in the heart of Macon-Bibb County, these commuter routes connect the Central Business District, the Historic District, tourist attractions, recreational areas and many cultural and educational facilities. Much of this sector contains existing routes from the previous plans.

Route A - (6 miles) Connects Central City Park, Riverside Drive, Third Street, Mulberry Street, Georgia Avenue, College Street, Walnut Street, Clayton Street, Buford Place, McDonald Street, Pierce Avenue, Elizabeth Street, De Soto Street, Vineville Avenue, Hairmechanics Boulevard, Ridge Avenue, Forest Hill Road, Forsyth Road.

Route B – (7 miles) Connects Central City Park, Walnut Street, Seventh Street, Poplar Street, Fifth Street, Oglethorpe Street, College Street, Coleman Avenue, Napier Avenue, Birch Street, Hillcrest Avenue, Forsyth Road.

Downtown Scenic Circuit – (4 miles) Terminal Station is the focal point of this route, because of the tourist information and maps. This route connects Terminal Station, Fifth Street, Poplar Street, Seventh Street, Oglethorpe Street, College Street, Georgia Avenue, Orange Street, Bond Street, Mulberry Street, Second Street, Cherry Street.

Sub-South Route - (5.4 miles) Houston Road between Hawkinsville Road and Sardis Church Road.

South Lizella Route - (10 miles) Connects Fulton Mill Road, Heath Road, Harley Bridge Road, Sardis Church Road.

Tobesofkee / Wildwood Route (19 miles) - Connects Northside Drive, Rivoli Drive, Old Forsyth Road, Colaparchee Road, Zebulon Road, Lamar Road, Lower Thomaston Road, North Lizella Road, Hopewell Road, and Midway Road.

Conclusions

This chapter summarized the non-motorized travel strategies currently available and under development in the MATS MPO area. For details on specific projects currently under consideration, refer to Table 6-2 MATS 2050 MTP Roads and Bridges Projects List and Table 6-5: Projects Identified for Further Study and Future Consideration in Chapter 6: Roads and Bridges Projects.

Chapter 11 | Freight Improvement and Aviation

INTRODUCTION

This chapter summarizes the current efforts in the MATS area to promote freight movement and aviation capabilities.

OVERVIEW: THE U.S. FREIGHT TRANSPORTATION SYSTEM

America's freight system is a complex, interdependent, multimodal system of infrastructure and services owned and operated by a mix of public and private sector entities. The system comprises physical infrastructure or facilities, such as ports, waterways, airports, railroads, pipelines, roadways, and warehouses, as well as diverse carriers, shippers, and suppliers that use this infrastructure to transport goods. The freight system consists of approximately 4 million miles of highways and roads; 140,000 miles of rail lines; 25,000 miles of inland and coastal waterways; 2.8 million miles of pipelines; and more than 5,000 public airports. Industry and consumers depend on the Nation's freight system to carry cargo of all types from raw materials to finished goods to waste products. In 2018, the U.S. transportation system moved a daily average of about 51 million tons of freight valued at nearly \$52 billion. Most of this cargo crosses State lines and a significant portion is bound for markets abroad.¹

However, as these goods and products are transported from its origin to destination, there are challenges impacting freight movement. Challenges affecting our freight system include increasing safety risks, increased congestion, and declining infrastructure conditions. Increasing and shifting demand for freight movement is straining the multimodal freight system on which the Nation's economy and well-being depend. Various institutional, financial, and regulatory barriers also make it difficult to advance freight projects, which can exacerbate these challenges.

KEY FREIGHT TRENDS

Several major economic, demographic, technological, and environmental trends are driving changes to freight supply and demand and use of the freight system.

Growing Population and Economy

Population and economic growth are increasing demand for goods and freight transportation. If long-term economic and demographic trends continue, growth will be concentrated in the southern and western regions of the United States as well as in urban areas throughout the country. Demand for truck transportation will increase faster than demand for other modes leading to more congestion on heavily traveled truck routes.

Diversifying Global Supply Chains

¹ U.S. Department of Transportation: National Freight Strategic Plan – September 2020

Our economy depends on a mix of global and domestic supply chains to provide products and services that meet the demands of U.S. consumers. Supply chains increasingly rely on materials, technologies, labor, and production facilities located abroad. International trade is an important contributor to the Nation's economy, but increased trade places pressure on our ports, border crossings, and intermodal corridors. Growing congestion at our trade gateways could hinder the ability of American firms to integrate global supply chains and compete globally.

Rising Domestic Fuel Production

Over the past decade, U.S. oil and gas production has increased dramatically. The United States has become the largest producer of oil and natural gas in the world and shifted from a net importer of energy to a net exporter. The growth of energy production in new regions and increasing fuel exports has placed new demands on the Nation's freight system. To move these resources safely and efficiently to market, the energy industry is constructing new pipelines and reconfiguring existing pipeline systems. Where pipeline capacity is unavailable, energy shippers rely on trains, trucks, and barges.

Changing Urban-Rural Dynamics

Over the past century, economic and demographic growth has been concentrated in major U.S. metropolitan areas. In 1920, approximately half of the U.S. population lived in rural areas, while today four out of every five U.S. residents live in urban areas. However, urban residents continue to rely on rural areas for agricultural and manufactured products, as well as for energy and natural resources. As the populations and the associated tax bases of rural areas decline, building and maintaining the freight infrastructure necessary to support national economic productivity and competitiveness is a growing challenge.

Increasing E-Commerce

The rise of e-commerce is significantly changing how retailers and consumers interact with each other. Increasingly, consumers now purchase goods online requiring retailers to determine how to deliver those purchases to the consumer's home. E-commerce sales make up more than 11 percent of total retail sales and are growing at double digit rates each year. This trend for e-commerce is increasing the number of new short-haul and last-mile trips made by trucks, straining the Nation's freight system as retailers compete to meet consumer demands.

Advancing Technology

Advances in a wide range of technologies, including information and communications technologies, robotics, artificial intelligence, sensors, and batteries are leading to rapid changes in logistics and freight transportation. These advances have the potential to transform the freight transportation industry by increasing safety and efficiency, altering supply chains, and disrupting business models.



Evolving Workforce

The transportation industry represents over 8 percent of GDP, and some 14.5 million jobs—about 9 percent of civilian workforce in the U.S.—are transportation related, including approximately 2.7 million people employed as truck drivers. As the industry grows and the current workforce ages, millions of workers will be needed to fill vacancies. Yet many in the freight industry are experiencing serious challenges in recruiting and retaining qualified applicants with the right qualifications.

FREIGHT PLANNING FRAMEWORK: LEGISLATION, FACTORS, GOALS, PERFORMANCE MEASURES

National Freight Goals and Federal Legislation

Freight planning and goods movement has long been an integral part of the metropolitan planning process, and the Federal Government plays an important role to ensure the efficient movement of these goods. The new legislation signed into law by President Obama on December 4, 2015, Fixing America’s Surface Transportation Act, or “FAST Act”, is the first law enacted in over ten years. This law provides long-term funding certainty for surface transportation, meaning States and local governments can move forward with critical transportation projects, like *new highways* and *transit lines*, with the confidence that they will have a Federal partner over the long term. The law also makes changes and reforms to many Federal transportation programs, including streamlining the approval processes for new transportation projects, providing new safety tools, and establishing new programs to advance critical freight projects. Under the FAST Act legislation, a policy provision regarding freight would establish both formula and discretionary grant programs to fund critical transportation projects that would benefit freight movements. The Act emphasizes the importance of Federal coordination to focus local governments on the needs of freight transportation providers. More specifically, FAST Act includes a number of provisions focused on ensuring the safe, efficient and reliable movement of freight. The FAST Act:

- *Establishes a National Multimodal Freight Policy that includes national goals to guide decision-making.*
- *Requires the Development of a National Freight Strategic Plan to implement the goals of the new National Multimodal Freight Policy.* The National Freight Strategic Plan will address the conditions and performance of the multimodal freight system, identify strategies and best practices to improve intermodal connectivity and performance of the national freight system, and mitigate the impacts of freight movement on communities.
- *Creates a new discretionary freight-focused grant program that will invest \$4.5 billion over 5 years.* This new program allows States, Metropolitan Planning Organizations (MPOs),

Our freight system is more than **just infrastructure...**

2.5 million combination trucks; **millions** of single unit trucks and vans; **24,000** diesel-electric locomotives; **1.28 million** freight rail cars; **38,600** domestic maritime vessels; and **700** domestic all-cargo aircraft **all operate in this system.**



3.1 million Americans are employed in operating and supporting freight vehicles, as well as in logistics.

44 million jobs directly depend on freight transportation.

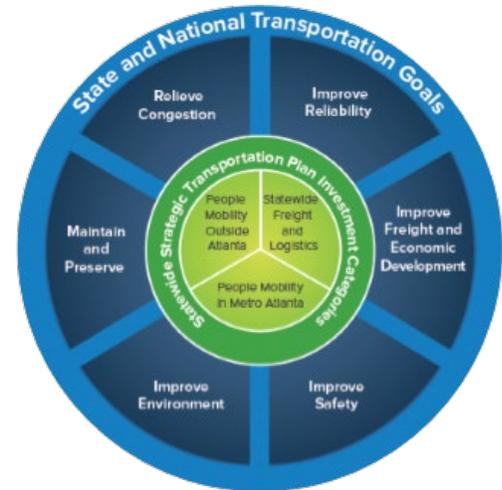
Each day, our freight system transports **55 million tons of goods**, worth more than **\$49 billion.**



U.S. DOT: *National Freight Strategic Plan*

local governments, tribal governments, special purpose districts and public authorities (including port authorities), and other parties to apply for funding to complete projects that improve safety and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements.

- *Establishes a National Highway Freight Program.* The Act provides \$6.3 billion in formula funds over five years for States to invest in freight projects on the National Highway Freight Network. Up to 10 percent of these funds may be used for intermodal projects.
- *Includes new authorities and requirements to improve project delivery and facilitate innovative finance.* The FAST Act includes provisions intended to reduce the time it takes to break ground on new freight transportation projects, including by promoting best contracting practices and innovating financing and funding opportunities and by reducing uncertainty and delays with respect to environmental reviews and permitting.
- *Collects performance measures for leading U.S. maritime ports.* The FAST Act requires the Bureau of Transportation Statistics (BTS) to collect and annually report performance measures for the nation's top 25 ports, as measured by three methods (total tonnage, containers, and dry bulk tonnage).²



GDOT 2040 Statewide Transportation Plan/2015
Statewide Strategic Transportation Plan – January 2016

According to the federal law (23 USC 134) governing ***metropolitan transportation planning*** and federal law (23 USC 135) governing ***statewide and nonmetropolitan transportation planning***, it is in the national interest policy to encourage and promote safe and efficient management, operation and development of surface transportation systems that will serve the mobility needs of people and freight. In general, the metropolitan planning process for a metropolitan area shall provide consideration of projects and strategies that will increase accessibility and mobility of people and freight, as well as, enhance the integration and connectivity of the transportation system, across and between modes for people and freight. The same policies are addressed in federal law (49 U.S. Code 5303) and (U.S. Code 5304) governing metropolitan transportation planning and statewide and nonmetropolitan transportation planning for public transportation.³ These laws require that freight planning be considered in the development of MPO's metropolitan transportation plans, transportation improvement program document and other applicable work elements.

FAST ACT National Planning Factors:

- Increase the accessibility and mobility of people and freight
 - *Goal: To achieve a significant reduction in congestion on the National Highway System*
 - *Goal: To improve the efficiency of the surface transportation system*

² U.S. Department of Transportation: Transportation.gov <https://www.transportation.gov/fastact/freight-factsheet>

³ Legislation Information Institute – Cornell University School of Law: <https://www.law.cornell.edu/uscode/text/23/134>

- Promote efficient system management and operation
 - *Goal: To achieve a significant reduction in congestion on the National Highway System*
 - *Goal: To improve the efficiency of the surface transportation system*
 - *Goal: To reduce project costs, promote jobs and the economy and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices*

Georgia Statewide Freight Goal(s):

- *Improve Freight and Economic Development*

Macon Area Transportation Study (MATS) MPO Freight Goals:

- Support Economic Vitality
 - *Improve Freight Movement*
 - *Increase funding and funding sources for all transportation modes*
 - *Improve project delivery for all modes*
- Promote Multimodal and Affordable Travel Choices
 - *Improve efficient movement of goods and services within and through the region*
- Manage Congestion & System Reliability
 - *Allow people and goods to move with minimal congestion, time delay and greater predictability*

Overview of Notice of Proposed Rulemaking (NPRM): Freight Performance Measures

The Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation Act (FAST Act) continues the mandate that the Secretary develop regulations (23 CFR 490) to establish Transportation Performance Management (TPM) requirements to carry out the National Highway Performance Program (NHPP), Freight Movement on the Interstate, and the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. This is the third of three proposed rules that together establish a set of performance measures for State DOTs and Metropolitan Planning Organizations (MPOs). More information regarding the proposed target establishments, data sources and reporting requirements can be found at <https://www.fhwa.dot.gov/tpm/rule/overview20042016.pdf>.

- MAP-21 transformed the Federal-aid highway program by establishing new requirements for performance management to ensure the most efficient investment of Federal transportation funds. Performance management increases the accountability and transparency of the Federal-aid highway program and provides for a framework to support improved investment decision making through a focus on performance outcomes for key national transportation goals.
- On April 22, the Federal Highway Administration (FHWA) posted a Notice of Proposed Rulemaking (NPRM) in the Federal Register to propose national performance management measure regulations to assess the performance of the National Highway System, Freight Movement on the Interstate System, and the Congestion Mitigation and Air Quality Improvement Program, as required by the Moving Ahead for Progress in the

21st Century Act (MAP-21) and the Fixing America's Surface Transportation Act ("FAST Act").

- On May 27, 2016, the U.S. Department of Transportation's (USDOT) FHWA and Federal Transit Administration (FTA) published the Final Rule on Statewide and Nonmetropolitan Transportation Planning and Metropolitan Transportation Planning in the Federal Register to implement the changes to the planning process established by MAP-21 and the FAST Act.
- On June 27, 2016, USDOT posted in the Federal Register a Notice of Proposed Rulemaking on Metropolitan Planning Organization Coordination and Planning Reform.

This NPRM proposes regulations that would make progress towards the following national goals:

- **Congestion reduction** - *To achieve a significant reduction in congestion on the NHS.*
- **System reliability** - *To improve the efficiency of the surface transportation system.*
- **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.*
- **Environmental sustainability** - *To enhance the performance of the transportation system while protecting and enhancing the natural environment.*

In addition, this NPRM:

- *Provides for greater consistency in the reporting of condition/performance;*
- *Proposes requirements for the establishment of targets that can be aggregated at the national level;*
- *Proposes reporting in a consistent manner on progress achievement; and*
- *Proposes a process for determining a State DOT's significant progress.*

State DOTs would be expected to use the information and data generated as a result of the new regulations to make better informed transportation planning and programming decisions. The new performance aspects of the Federal-aid program would allow FHWA to better communicate a national performance story and more reliably assess the impacts of Federal funding investments.⁴ Performance measures and targets are addressed in Chapter 13. Those measures and targets can be used to monitor freight performance along local and state freight corridors in Macon – Bibb County and the southern portion of Jones and Monroe Counties within the MATS urbanized area as outlined in Table 11-1.

⁴ Transportation Performance Management: <https://www.fhwa.dot.gov/tpm/rule.cfm>

Proposed Performance of the National Highway System, Freight Movement on the Interstate, Congestion and Air Quality Performance Measures*

Part 490 Subpart	Proposed Performance Measures**	Proposed Metrics	Applicability
Performance of the National Highway System (NHS) (Subpart E)	Percent of the Interstate System providing for Reliable Travel Times	Level of Travel Time Reliability (LOTTR)	Interstate System mileage within the State or each MPA
	Percent of the non-Interstate NHS providing for Reliable Travel Times	Level of Travel Time Reliability (LOTTR)	Non-Interstate NHS mileage within the State or each MPA
	Percent of the Interstate System where Peak Hour Travel Times meet expectations	Peak Hour Travel Time Ratio (PHTR)	Interstate System mileage within each urbanized area with a population over one million
	Percent of the non-Interstate NHS where Peak Hour Travel Times meet expectations	Peak Hour Travel Time Ratio (PHTR)	Non-Interstate NHS mileage within each urbanized area with a population over one million
Freight Movement (Subpart F)	Percent of the Interstate System Mileage providing for Reliable Truck Travel Times	Truck Travel Time Reliability (TTTR)	Interstate System mileage within the State or each MPA
	Percent of the Interstate System Mileage Uncongested	Average Truck Speed	Interstate System mileage within the State or each MPA
CMAQ Traffic Congestion (Subpart G)	Annual Hours of Excessive Delay Per Capita	Total Excessive Delay	NHS roads in urbanized areas with populations over one million that are, all or in part, designated as nonattainment or maintenance areas for ozone (O ₃), carbon monoxide (CO), or particulate matter (PM)
CMAQ On-Road Mobile Source Emissions (Subpart H)	2- and 4-year Total Emission Reductions for each applicable criteria pollutant and precursor	Annual Tons of Emission Reductions by project for each applicable criteria pollutant and precursor	All projects funded by CMAQ program in areas designated as nonattainment or maintenance for O ₃ , CO, or PM for each State or MPA

Table 11-1: Performance Measures for Freight Movement on Interstate Highway System

Freight activities represent an important contributor to the economic vitality of the region. With access to major state highways, interstates, rail, aviation and ports, MATS must consider ways to improve freight movement and maintain adequate freight access. A safe and efficient transportation system that accommodates the needs of the freight community is an important element of the MATS Metropolitan Transportation Plan. However, in order for States and MPO's to be effective in freight planning, the previously mentioned planning factors and goals are encouraged to be addressed.

The current status of Freight System Performance Measures can be found in Chapter 13.

PURPOSE AND METHODOLOGY

It is the purpose of this section of the 2050 MTP update to assess the existing freight and goods movement transportation modes in the MATS area and to recommend to policy and decision makers the needed improvements that should be considered in efficiently moving goods and services throughout the area. In an effort to gather the necessary feedback regarding freight movement by truck in the MATS area, the MPO developed a "Freight and Goods Movement Survey", to be completed by local freight stakeholders. The results of the survey will ultimately assist transportation planners in meeting the needs of the local freight community and can be found in the "Freight & Goods Movement - Truck" portion of this MTP update.

WHAT IS TRANSPORTATION PLANNING & FREIGHT TRANSPORTATION

The Federal Highway Administration (FHWA) defines transportation planning as: "A continuing, comprehensive, and cooperative process to encourage and promote the development of a multimodal transportation system to ensure safe and efficient movement of people and goods while balancing environmental and community needs." Freight transportation can broadly be defined as the movement of goods from one place to another. Whether the movement of goods are by truck, rail, air or ocean-bound shipping, transportation planners should not only be

concerned with the shipment of these goods, but must also consider the movement of these goods within metropolitan areas. Freight considerations within transportation planning practice include:⁵

- *Developing an understanding of the freight volume, value, key commodities and mode splits;*
- *Establishing policies and programs to integrate freight within the overall transportation planning process and account for freight needs in project selection and prioritization; and*
- *Linking freight mobility to other community goals such as economic development and job growth*

Table 1-7: Distribution of Georgia Road and Rail Networks by Functional Classification

Transportation Network	Mileage	Percentage of Network
Rail Main Lines	2,713	58%
Rail Branch Lines	1,984	42%
Total Rail Network	4,697	100%
Public Road Network		
Interstates, Freeways, Expressways	1,424	1%
Arterials Roadways	14,238	11%
Collectors and Local Roadways	112,603	88%
Total Public Road Network	128,355	100%

Sources: FHWA Highway Statistics - 2017

Table 11 – 2: Distribution of Georgia Road and Rail Networks by Functional Classification

OVERVIEW OF TRANSPORTATION FREIGHT MOVEMENT MODES: TRUCK, RAIL, AVIATION, PORTS

Georgia’s transportation system—a world-class network of roads, bridges, railways, seaports, airports, transit services, and trails—has been a critical foundation for Georgia’s growth and competitiveness. The transportation system provides efficient movement of people and freight that connects cities and rural communities, links businesses to suppliers and customers, and carries visitors to destinations throughout Georgia and beyond. Georgians are connected to world markets through Hartsfield-Jackson Atlanta International Airport and two deepwater seaports, the Port of Savannah and Port of Brunswick. Two Class I railroads and multiple intermodal terminals and shortline railroads facilitate the movement of freight. The system supports the efficient movement of people with 210 million vehicle miles traveled (VMT) daily on State roads and more than 142 million trips on the State’s 17 urban transit systems.⁶ Georgia’s transportation system moved a total of 597 million tons of goods valued at \$875 billion into, out of, and within Georgia in 2018. In addition, logistics-enabled facilities accounted for 84 percent of private investment by companies that chose to locate new or expanded economic development sites in Georgia in fiscal year 2020. Georgia’s freight system must prepare for a growing population and economy, diversifying supply chains and logistics patterns, rapid growth in e-commerce, changing urban and rural dynamics, and emerging

⁵ U.S. DOT: Federal Highway Administration – FHWA Freight and Land Use Handbook April 2012

⁶ 2021 Statewide Strategic Transportation Plan: 2050 Statewide Transportation Plan

technologies for freight vehicles, facilities, and supply chain management. The following image provides an overview of the dynamic transportation modes in Georgia.

Mode	Ownership	System Extent
 Roadways	GDOT – 14% Counties – 66% Towns/Municipalities – 18% Other – 2%	128,300 Centerline Miles of All Public Roads
 Bridges	GDOT – 45.8% Counties – 49.7% Towns/Municipalities – 4.0% Other – 0.5%	14,725 Bridges 109,510,700 Square Feet of Bridge Deck Area
 Railways	GDOT – 10% Class I Operators (CSX/Norfolk Southern) – 69% Class III Operators – 21% Amtrak – Trains owned by Amtrak	4,607 Miles of Track 3,288 Miles of Class I Railway Track 1,012 Miles of Class III Railway Track 4 Amtrak Routes
 Ports and Waterways	Georgia Ports Authority – 2 Deepwater Ports, 2 River Ports, 2 Inland Ports Joint Ownership – 1 Inland Port	2 Deepwater Ports 3 Inland Ports 4 Navigable Waterways
 Aviation	Counties or Towns/Municipalities	105 Public Use 9 Commercial Service 95 General Aviation
 Transit and Shared Mobility	Transit – Counties, Towns/Municipalities, or Authorities Intercity Bus – 3 Providers Shareable Dockless Mobility Devices – Multiple Operators	80 Systems Providing Demand Response Rural Transit Service 17 Urban Transit Systems
 Bicycle and Pedestrian	State Bicycle Routes: GDOT – 70% Towns/Municipalities – 30%	14 State Bicycle Routes 2,943 Miles 2 U.S. Bicycle Routes 356.5 Miles

Table 11-3: Freight System Elements by Ownership and System Extent

GEORGIA'S HIGHWAYS AND BRIDGES

A primary mission of GDOT is to plan, maintain, and operate the State's highway system, which includes the critical corridors that enable the efficient and reliable movement of people and freight. Georgia's highway system consists of nearly 128,300 miles of public roads. Most of these public roads are owned by counties (66 percent) and municipalities (18 percent), while GDOT owns 14 percent. The Georgia highway system includes 14,725 bridges and GDOT owns, operates, and manages 46 percent of them. Daily vehicle miles-traveled (VMT) on the GDOT system increased 8.7 percent between 2015 and 2019.

To support Georgia's increasing growth, GDOT continues to expand its fiber optic network statewide to support future mobility options, such as automated/connected vehicles. GDOT invests in strategic projects to improve reliability of key corridors through the Major Mobility Investment Program.⁷

⁷ 2021 Statewide Strategic Transportation Plan: 2050 Statewide Transportation Plan

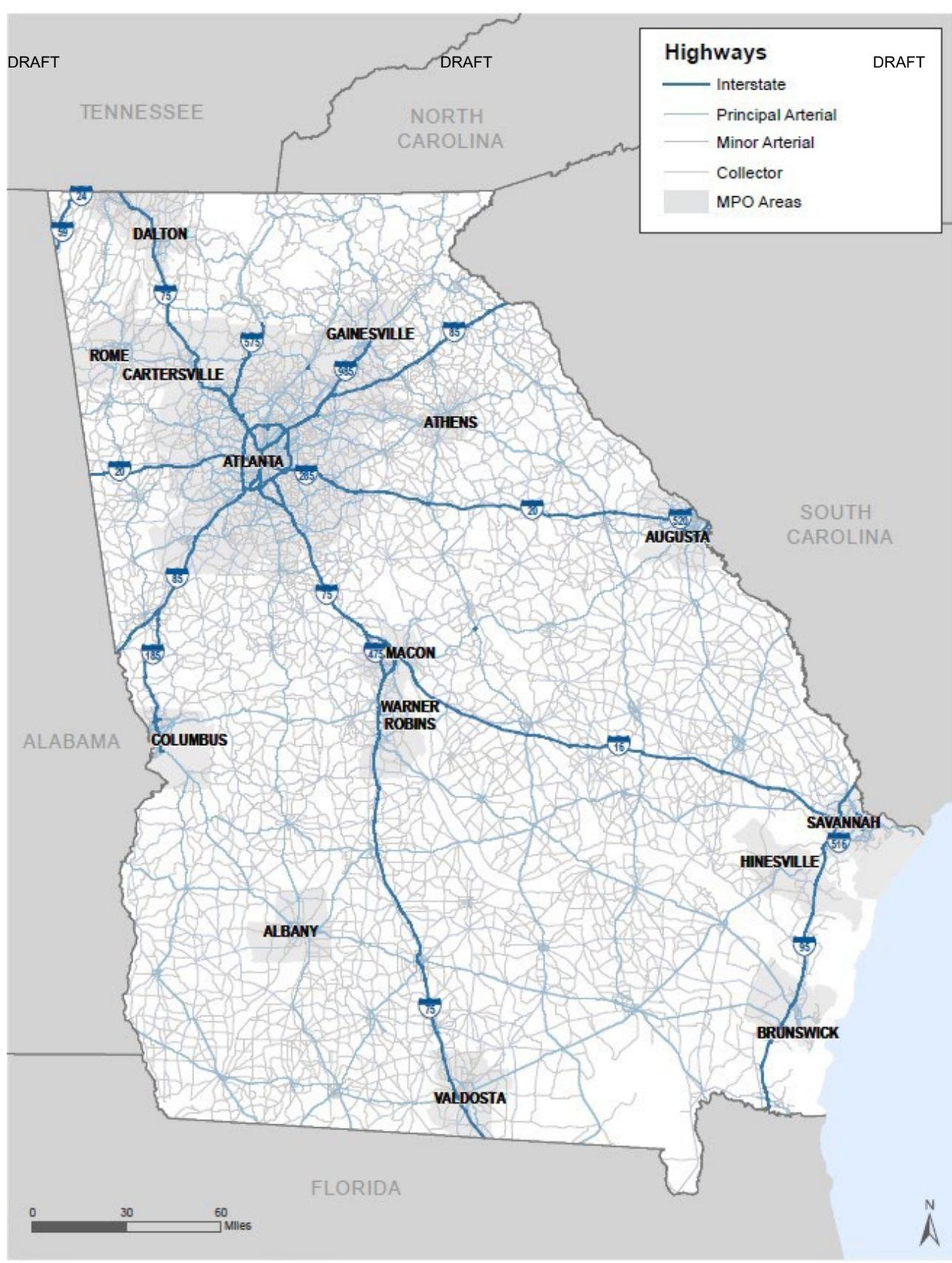


Figure 11-1: Georgia Highway System Map

GEORGIA'S RAILWAY SYSTEM

The Georgia rail network is the largest in the Southeast. In 2017, the 4,607-mile network transported over 171 million tons of freight to, from, and within Georgia. Georgia is served by two Class I freight railroads—CSX Transportation and Norfolk Southern Railway. Collectively, they operate 3,288 route miles throughout the State, serving all major economic centers and the State's ports. There are 26 Class III railroads or shortlines, with 1,012 route miles in the State. In addition to freight rail, Georgia is served by four long-distance Amtrak passenger routes with five stations that carried over 75,000 originating or terminating passengers in Georgia in 2016. Amtrak trains run along the Class I network. The Silver Meteor and Silver Star offer service between New York City and Miami through coastal Georgia, the Palmetto offers service between New York City and Savannah, and the Crescent offers daily trips between New York City and New Orleans via Atlanta.⁸

⁸ 2021 Statewide Strategic Transportation Plan: 2050 Statewide Transportation Plan

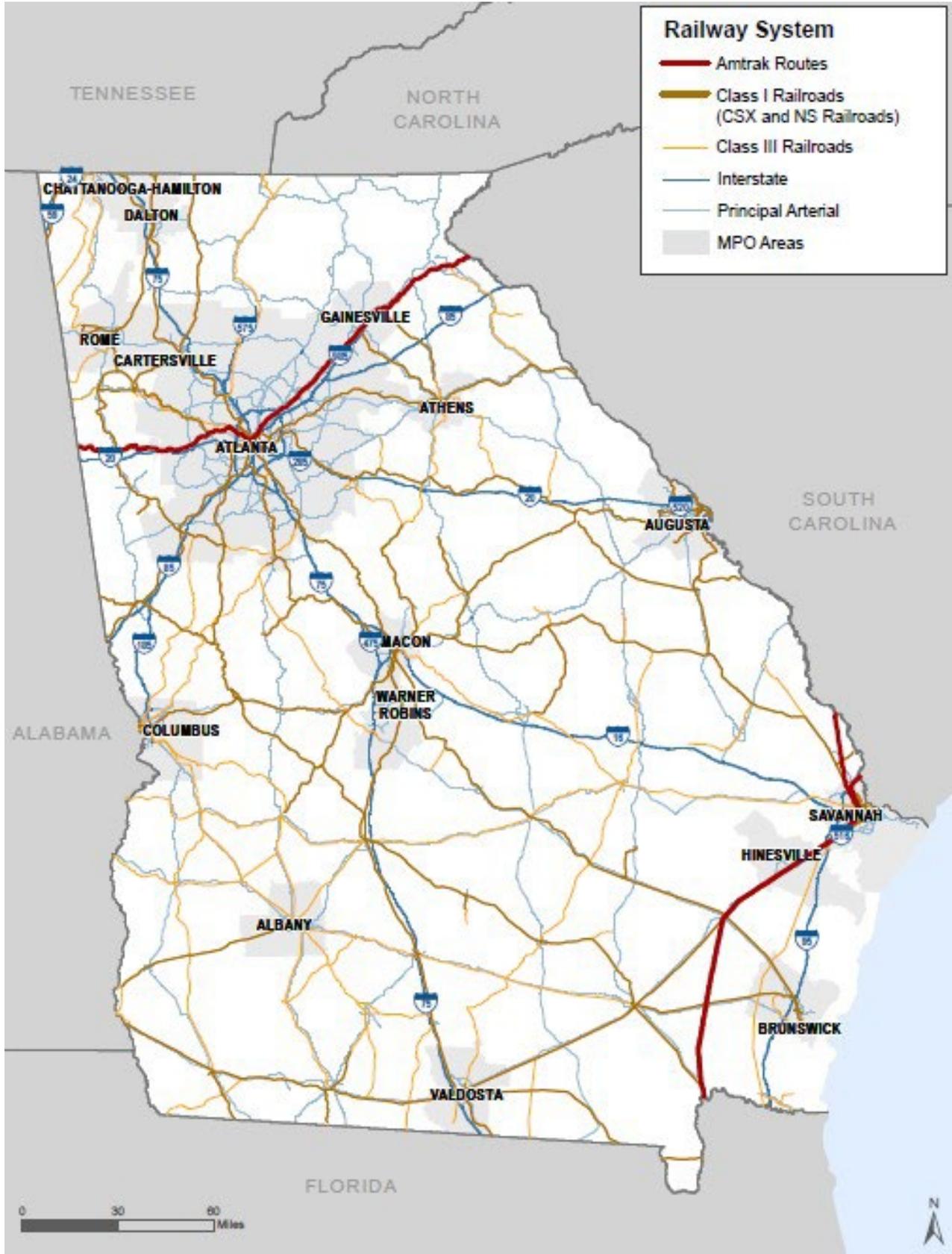


Figure 11-2: Georgia Railway System Map

GEORGIA'S PORTS AND WATERWAYS

Georgia is home to an interconnected network of seaports, inland waterways, private marine terminals, and “inland ports.” The vast majority of Georgia’s marine tonnage moves through terminals owned and operated by the Georgia Ports Authority (GPA). GPA’s facilities include the Port of Savannah, which consists of the Garden City Terminal and the Ocean Terminal, North America’s busiest single terminal container facility. They also include the Port of Brunswick and its Colonel’s Island Terminal, which is the second busiest port in the United States for total roll-on/roll-off cargo. In 2019 over 37.5 million tons of goods moved through these ports. Georgia’s deepwater ports were estimated to account for \$106 billion in sales, \$44 billion in gross state product, and nearly 440,000 jobs statewide in 2017. GPA has identified an “inland port” system to serve the Port of Savannah. This system includes locations in Murray County (Appalachian Regional Port) and Decatur County (Bainbridge Terminal). The Northeast Georgia Inland Port is in early stages of planning in Hall County. While most cargo moves through deepwater ports, Georgia is also home to inland waterways providing mobility to a variety of niche businesses.⁹

⁹ 2021 Statewide Strategic Transportation Plan: 2050 Statewide Transportation Plan

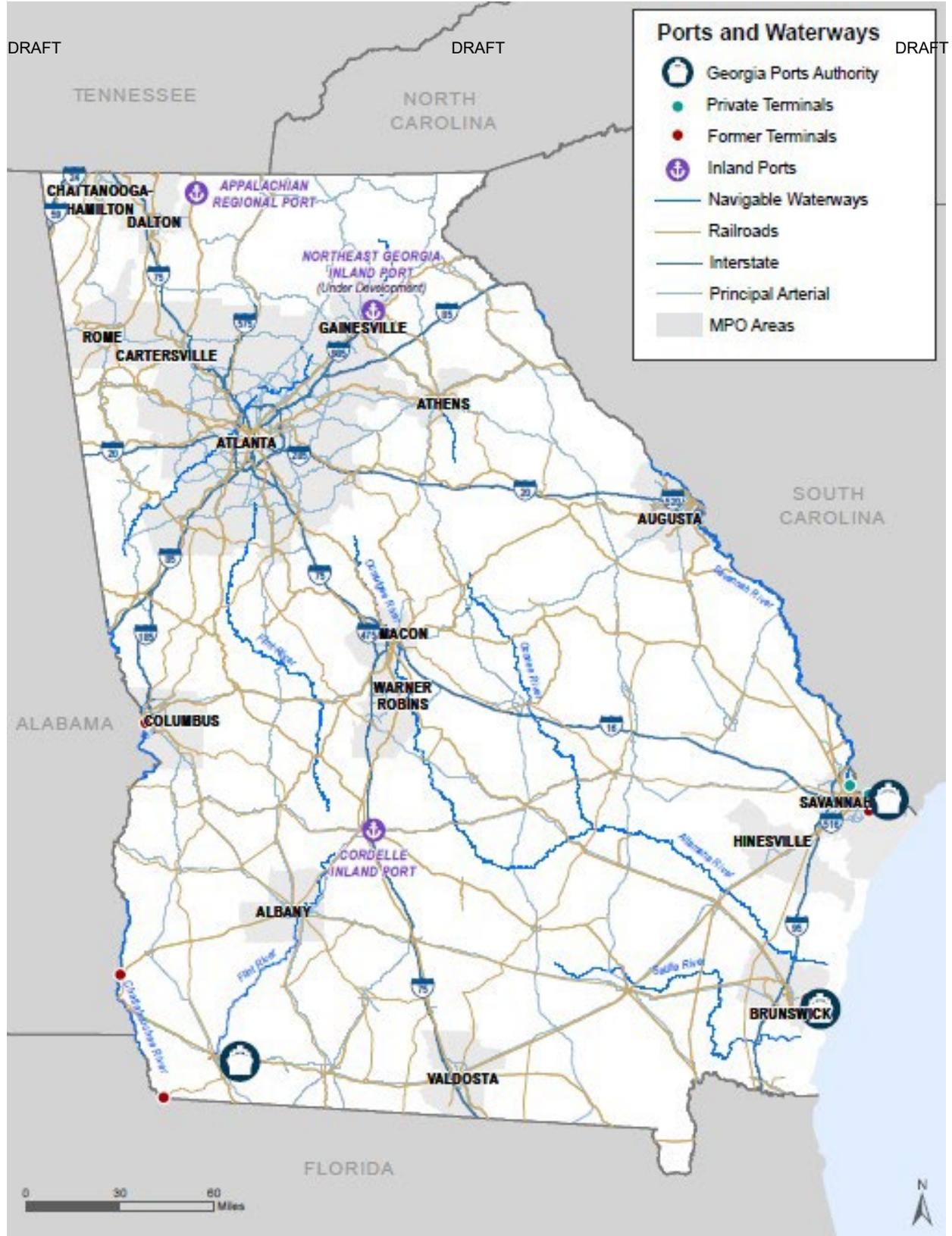


Figure 11-3: Georgia Ports And Waterways

GEORGIA'S AVIATION SYSTEM

Georgia is served by a diverse mix of airports ranging in size from small general aviation airports to busy corporate general aviation reliever airports to Hartsfield-Jackson Atlanta International, the world's busiest commercial service airport. In 2018, Hartsfield-Jackson had over 51.8 million enplanements and the other eight commercial service airports had over 1.8 million enplanements combined. Hartsfield-Jackson also is a key air cargo facility, the 13th busiest in the United States, moving over 2.9 billion pounds of cargo in 2018. The other major air cargo airport in Georgia is the Southwest Georgia Regional Airport, located in Albany, which moved over 186 million pounds of cargo in 2018. Georgia's aviation system is a major contributor to the Georgia economy. In 2019, the economic impact of Georgia's airports was over \$73.7 billion, supporting more than 450,502 jobs with an annual payroll of \$20.2 billion, and \$196.5 million in direct aviation-related tax revenues to the State.¹⁰

¹⁰ 2021 Statewide Strategic Transportation Plan: 2050 Statewide Transportation Plan

FREIGHT & LOGISTICS - TRUCK

A primary mission of GDOT is to plan, maintain, and operate the State's highway system, which includes the critical corridors that enable the efficient and reliable movement of people and freight. Georgia's multimodal transportation system includes an extensive network of facilities important for moving freight. This includes 128,300 miles of highways, 3,288 miles of Class 1 rail and 1,012 miles of Class 3 rail, two deepwater ports, two inland ports affiliated with the Georgia Ports Authority (GPA) (and a third in early planning), and nine commercial service airports. By both tonnage and value, more than 70 percent of the freight moved into, out of, and within Georgia is shipped via truck. Rail accounts for the next highest share by both tonnage and value – 12 percent and 11 percent, respectively. Pipelines, air, water, and intermodal shipments make up the remainder. **Freight is a significant part of transportation demand.** A total of 597 million tons of goods valued at \$875 billion moved into, out of, and within Georgia in 2018. Freight tonnage is projected to increase 48 percent to 885 million tons by 2045, while the value of goods will more than double to \$1.8 trillion. **Freight transportation is critical to Georgia's economy.** The freight and logistics industry accounted for more than 181,000 jobs in 15,000 businesses statewide in 2018. Including the multiplier impacts of the direct jobs, freight and logistics accounted for more than 362,000 jobs statewide (one in every 14 jobs) and \$33.5 billion in gross domestic product. Industries that rely on efficient freight movement, such as agriculture, forest products, mining, manufacturing, and retail, accounted for more than 2 million jobs statewide.¹¹ Middle Georgia is well positioned to take advantage of key truck freight corridors providing easy access to key markets within Georgia, and to key domestic markets throughout the U.S. The regional highway network and the key highways serving Middle Georgia are illustrated in Figure 11–5 (*Georgia's Statewide Designated Freight Corridors*). Interstate and State highways are critical to the success of freight operations in Middle Georgia, such as I-75, which is a major north/south freight corridor, and I-16 which connects Middle Georgia with international markets through the Port of Savannah. Highways to the north and south of the Region are also essential, such as such as I-20 in Atlanta, or I-10 in Florida that establish routes to markets to the east and west.

Georgia's Statewide Designated Freight Corridors

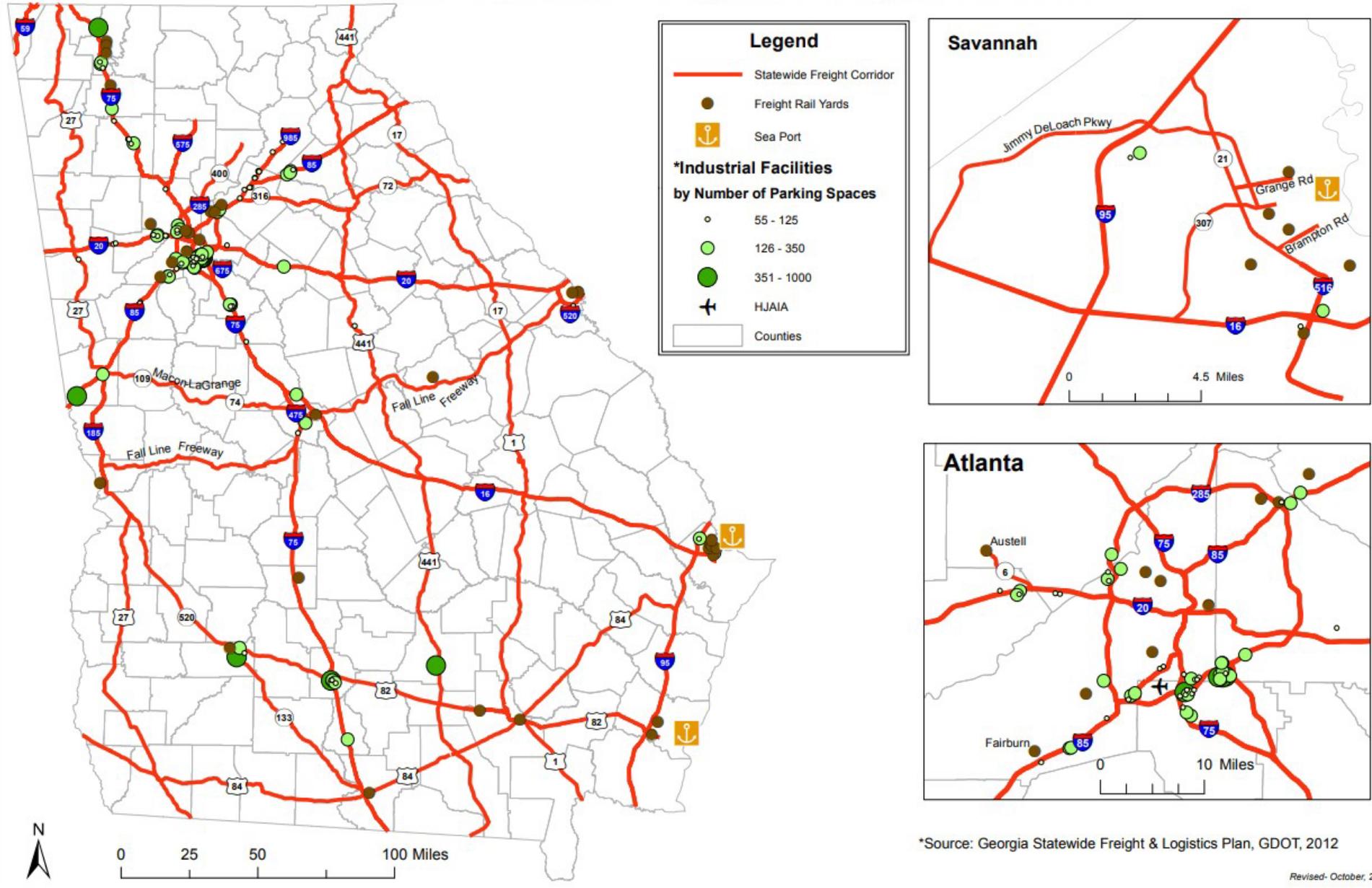


Figure 11-5: Georgia Designated Freight Corridors

Table 11-3 provides a summary of Georgia’s highways that should be considered for on-going investment to support freight transportation in Middle Georgia, particularly in the MATS area, providing easy access in all directions.

Highway	Direction	Georgia Location	Description
State Route 11 (SR 11)	North/South	Center	A 375-mile-long (604 km) state highway in the U.S. state of Georgia, traveling through portions of Echols, Lanier, Berrien, Irwin, Ben Hill, Wilcox, Pulaski, Houston, Peach, Bibb, Jones, Jasper, Newton Walton, Barrow, Jackson, Hall, White, Lumpkin, and Union counties. It runs the entire length of the state from south to north, connecting the Florida state line with the North Carolina state line, roughly bisecting the state into two equal parts. It is the longest route in the state.
Interstate 16 (I-16)	East/West	Central	Termini near Macon Georgia, the interchange connection with I-75 (which provides direct access to the Atlanta region, although it does not travel outside the state) The significance of this connection is the ensuing access from the Port of Savannah to the rest of Georgia, and provides linkages to national and North American markets.
State Route 49 (SR 49)	Southwest/ Northeast	Diagonal	A 122.8-mile-long (197.6 km) state highway that runs southwest-to-northeast through portions of Terrell, Sumter, Macon, Peach, Houston, Bibb, Jones, and Baldwin counties, mainly in the central part of Georgia. The route connects SR 45 north of Dawson to SR 22/SR 24/SR 112 in Milledgeville.
Interstate 75 (I-75)	North/South	Center	Runs north–south along the U.S. Route 41 (US 41) corridor on the western side of the state, passing through the cities of Valdosta, Macon, and Atlanta. It is also designated—but not signed—as State Route 401 (SR 401). In downtown Atlanta, I-75 joins with I-85 as the Downtown Connector.
U.S. Route 129 (US 129)	North/South	Center	An auxiliary route of US 29, which it intersects in Athens, Georgia. US 129 currently runs for 582 miles (937 km) from an intersection with US 19/US 27 ALT/US 98 in Chief land, Florida, to an interchange with Interstate 40 (I-40) in Knoxville, Tennessee. It passes through the states of Florida, Georgia, North Carolina, and Tennessee. It goes through the cities of Macon, Athens, Gainesville, and Knoxville.

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As illustrated in Figure 11-6, Middle Georgia’s total truck freight distribution by flow and mode was 82.7 million tons in 2013 (54.5 percent of total freight). Domestic through accounted for

61.3 percent of total truck freight, domestic outbound 17.5 percent, domestic inbound 9.2 percent and intra-region 3.1%. International freight accounted for the remaining 8.8 percent.

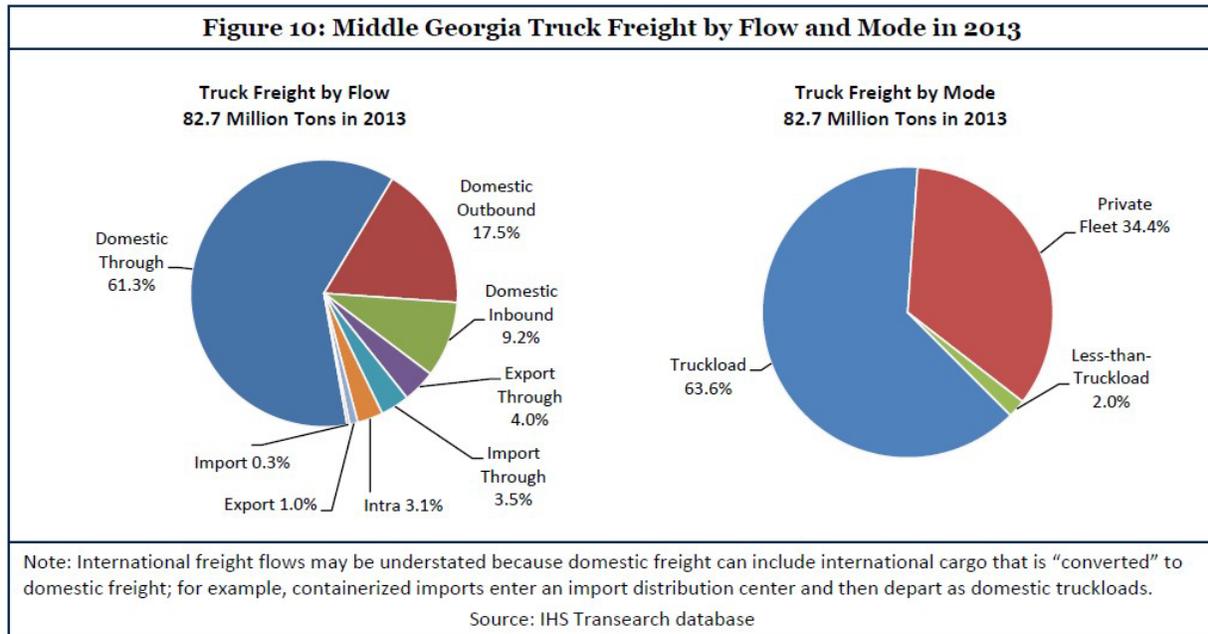


Figure 11-6: Middle Georgia Truck Freight by Flow and Mode, 2013

Middle Georgia handled 151.6 million tons of freight in 2013, comprised of 21.4 mil tons Inbound, 20.3 mil tons outbound, and 107.4 mil tons “through”, meaning transiting the region without stopping, as illustrated in Chart 11-2.¹³

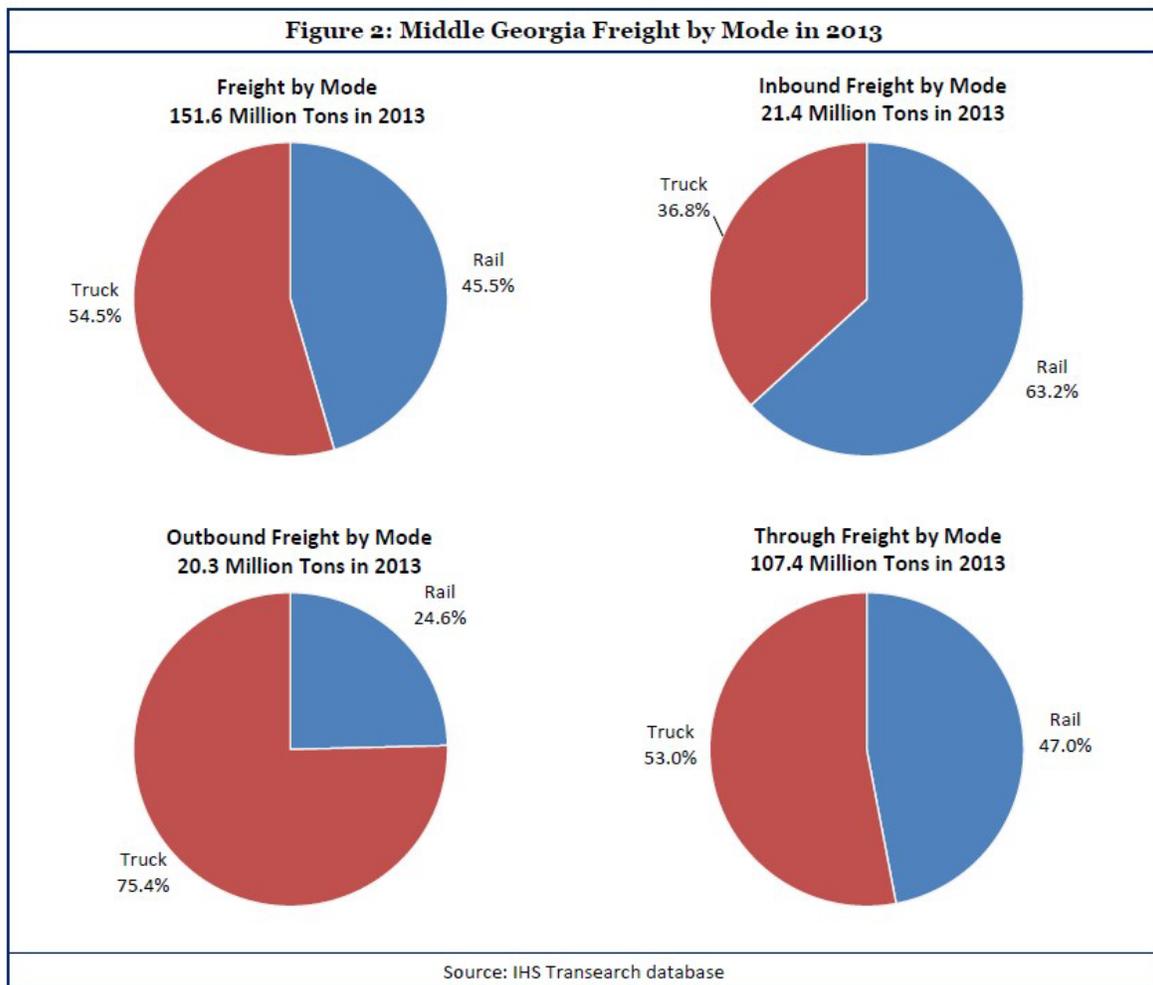


Figure 11-7: Middle Georgia Truck Freight by Mode, 2013

Recognizing the key role that freight transportation plays in its region, the Macon-Bibb County Planning & Zoning Commission (MPO) developed a survey designed for the trucking industry to provide feedback for an integrated freight program for Macon-Bibb County. The MPO continues to be increasingly focused on freight transportation planning and continues to formally incorporate freight transportation issues into the traditional MPO planning process. It is the attempt of the 2050 MTP Freight and Goods Movement Industry Outreach Initiative survey to collect data that will be used to identify the MPO's freight transportation deficiencies and issues, which will lead to the development of potential recommendations for future actions by the MPO. On October 5, 2016, approximately 43 Freight and Goods Movement Surveys were mailed to several freight companies throughout Macon-Bibb County. The survey was also made available on www.maconmpo.com. Of the 43 surveys, 10 were returned undeliverable and 3 were returned completed that provided some usable information. As part of that effort, industry participants provided an overview of their business and identified problem areas that will assist transportation planners in improving freight flows in the region. While these suggestions have not been endorsed by the MPO, they represent the continuous step in working to develop a regional freight program by identifying and documenting the issues and concerns expressed by the system users. Figure 11-2 shows the truck terminal locations within Macon - Bibb County and Table 11-4 shows a list of freight companies in Macon - Bibb County. Appendix XX includes the "Freight & Goods Movement Industry Outreach Initiative letter"; the Freight &

Goods Movement survey instrument, as well as the (3) completed surveys that were used to update this section of the 2050 MTP.

The following is a summarization of comments and recommendations received as a result of the surveys.

How would you describe the primary type of facilities / industries of your company?

- *Truck Terminal ***
- *Freight / Logistics Provider ***
- *Distribution Center **

What are the primary types of shipments handled at this site?

- *Less than Truckload ***
- *Hazardous Materials **
- *Truckload **

During what hours do you usually receive/ship deliveries of your major inbound and outbound products?

- *6AM - 12 Noon ***
- *12 Noon – 4PM **
- *4PM – 8PM ***
- *8PM – 10PM **
- *12 Midnight – 6AM **
- *24 hours a day **

How many trucks on average does your company use on a daily basis for freight and goods movement in Macon – Bibb County?

- *6 – 10 **
- *11 – 25 ***

What roadways are used most by your company's vehicle in the movement of freight and goods in Macon – Bibb County? This information will assist transportation planners with prioritizing future roadway improvements.

- *I-75 ****
- *I-16 ****
- *I-475 ***
- *SR 247 (Pio Nono Avenue) ***
- *SR 49 (Shurling Drive; Industrial Highway) ***
- *SR 74 (Mercer University; Thomaston road) ***
- *US 41 (Forsyth Road; Vineville Avenue; Hardeman Avenue) ***
- *US 80 (Eisenhower Parkway; Jeffersonville Road) ***
- *US 129 (Gray Highway) ***

What other routes would be more preferable to use that are not identified as truck routes?

None

Which, if any, of the following movement problems does your truck(s) encounter on the local roadway?

- *Narrow Roads ***
- *Difficult Turn Movements (particularly on Lower Poplar Street) **
- *Other: Trees / Brush*

Where are the specific locations / areas where truck or rail traffic causes recurring congestion in Macon – Bibb County?

- *Allen Road **
- *7th Street ***
- *5th Street **
- *Riverside Drive **

What improvements could be easily made to the roadway system to improve the movement of freight and goods in Macon – Bibb County?

- *Remove trees/bushes along Roff Avenue*
- *Improve Lane Widths*
- *Improve Intersections*

Freight and Truck Movement improvements recommended during the public outreach phase:

- **Joe Tamplin Blvd./Chestney Road/Riggins Mills Road:**
 - Improve with the installation of a roundabout
- **Guy Paine Road @ Broadway:**
 - Improve road due to bumpy road conditions along the road and at Broadway
- **Hawkinsville Road (Hwy 247):**
 - Redesign of Allen Road @ Kuhmo Parkway entrance (at the request of Kuhmo representatives)

11-2: Freight Companies / Truck Terminals Location Map

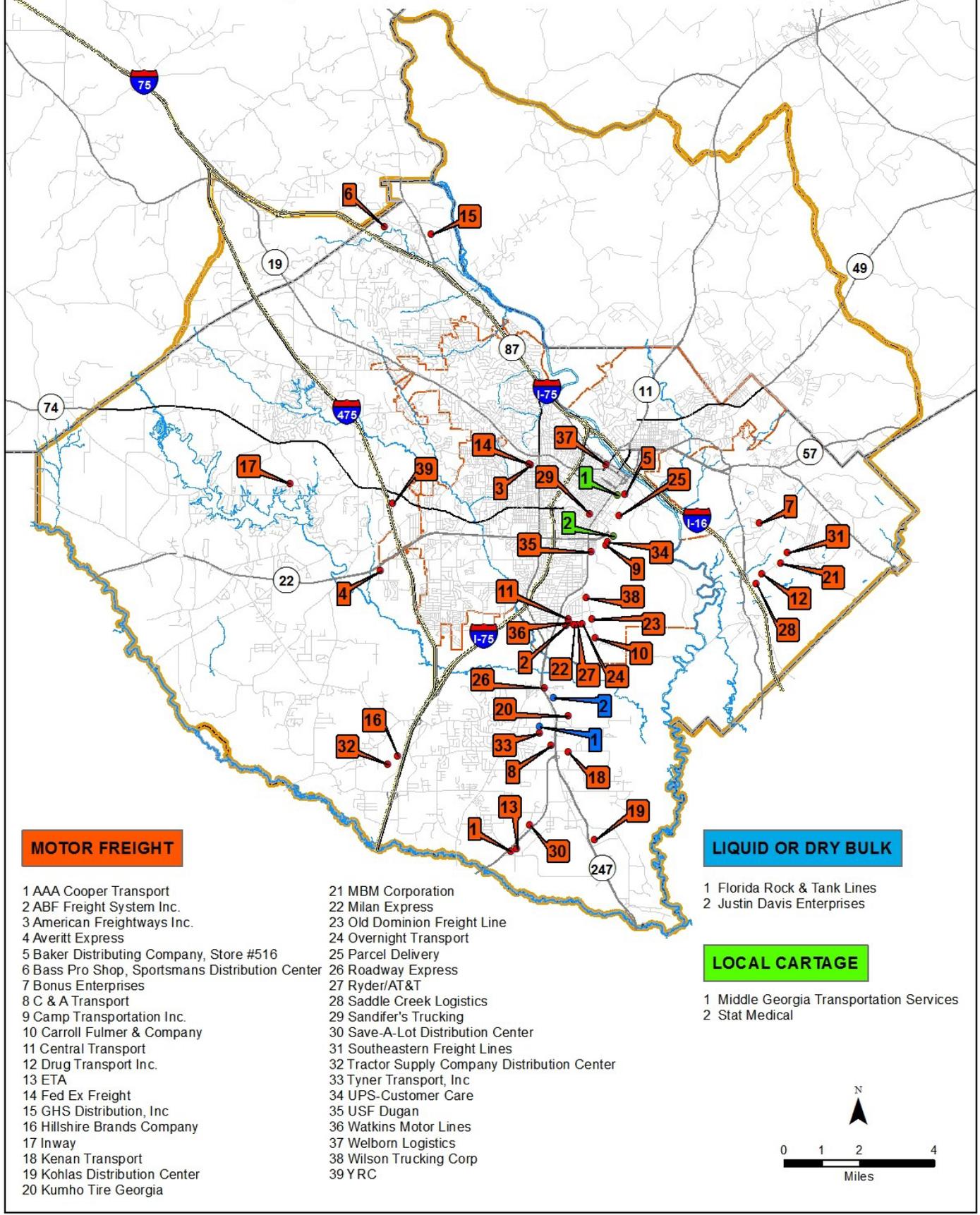


Figure 11-8: Freight Companies and Truck Terminals Located in the MATS Area

TABLE 11-4

Freight Companies/Truck Terminals

<u>Company Name</u>	<u>Address</u>	<u>Phone #</u>
<u>Liquid or Dry Bulk</u>		
Florida Rock & Tank Lines 478.788.5113	2532 Allen Rd. Macon, GA 31216	
Justin Davis Enterprises	2241 Barnes Rd. Macon, GA 31216	478.784.0570
<u>Local Cartage</u>		
Middle Georgia Transportation Services	170 Lower Bay Street Macon, GA 31206	478.742.0890
Stat Medical	455 Lower Boundary St. Macon, GA 31206	478.743.9549
<u>Motor Freight</u>		
AAA Cooper Transportation	3165 Avondale Mill Rd Macon, GA 31216	478.781.1055
ABF Freight Systems, Inc.	711 Guy Paine Rd. Macon, GA 31206	478.788.6424
American Freightways, Inc.	2750 Roff Avenue Macon, GA 31204	
Averitt Express	4750 Ivey Drive Macon, GA 31206	800.283.7488
Baker Distributing Company Store #516	125 Poplar Street Macon, GA 31201	478.742.0737
Bass Pro Shop Sportsman's Distribution Center	5100 Bass Road Macon, GA 31210	478.757.7700
Bonus Enterprises, Inc.	2351 Hubbard Road Macon, GA 31217	478.741.1021
C&A Transportation	2360 Spires Dr. Macon, GA 31216	478.784.8652

Freight Companies/Truck Terminals		
<u>Company Name</u>	<u>Address</u>	<u>Phone #</u>
Camp Transportation, Inc.	2280 Seventh Street Macon, GA 31206	
Carroll Fulmer & Company	4661 Mead Rd. Macon, GA 31206	478.784.7333
Central Transport, Inc.	4430 Marion Avenue Macon, GA 31206	
Drug Transport, Inc.	501 Joe Tamplin Industrial Blvd. Macon, GA 31217	
ETA	8345 Grace Road Macon, GA 31216	478.781.9985
Fed Ex Freight	2750 Roff Avenue Macon, GA 31204	478.744.0736
GHS Distribution, Inc. 478.750.8548	321 Corporate Parkway Macon, GA 31210	
Hillshire Brands Company	1075 Frank Amerson Parkway Macon, GA 31216	478.812.9130
Inway	6603 Dana Drive Macon, GA 31220	
Kenan Transport, Inc.	2131 Barnes Ferry Road Macon, GA 31216	
Kohl's Distribution Center	3030 Airport E. Parkway Macon, GA 31216	478.785.6000
Kumho Tire Georgia	3051 Kumho Parkway Macon, GA 31216	478.812.9595
MBM Corporation	704 Joe Tamplin Industrial Blvd. Macon, GA 31217	478.741.9706
Milan Express	625 Guy Paine Rd. Macon, GA 31206	

Freight Companies/Truck Terminals		
<u>Company Name</u>	<u>Address</u>	<u>Phone #</u>
Old Dominion Freight Line	4430 Mead Road Macon, GA 31206	
Overnight Transport	475 Guy Paine Road Macon, GA 31206	
Parcel Delivery	455 Lower Bay Street Macon, GA 31206	
Roadway Express	2360 Cargill Road Macon, GA 31216	
Ryder/AT&T	587 Guy Paine Road Macon, GA 31206	478.788.9911
Saddle Creek Logistics 478.742.8740	440 Joe Tamplin Industrial Blvd. Macon, GA 31217	
Sandifer's Trucking	580 Edgewood Avenue Macon, GA 31201	
Save-A-Lot Distribution Center	7595 Industrial Highway Macon, GA 31216	478.788.6811
Southeastern Freight Lines	801 Joe Tamplin Indust. Blvd. Macon, GA 31206	478.755.8859
Tractor Supply Company Distribution Center	151 Tractor Drive Macon, GA 31216	478.785.6201
Tyner Transport, Inc.	2510 Allen Road Macon, GA 31216	
UPS-Customer Care	235 South Street Macon, GA 31206	800.742.5877
USF Dugan	205 Raines Avenue Macon, GA 31206	
Watkins Motor Lines	4444 Marion Avenue Macon, GA 31206	
Welborn Logistics	195 Spring Street Macon, GA 31201	478.745.0740

Freight Companies/Truck Terminals		
<u>Company Name</u>	<u>Address</u>	<u>Phone #</u>
Wilson Trucking Corporation	4390 Mead Road Macon, GA 31206	478.781.7170
YRC	4241 Interstate Road Macon, GA 31206	478.474.0221

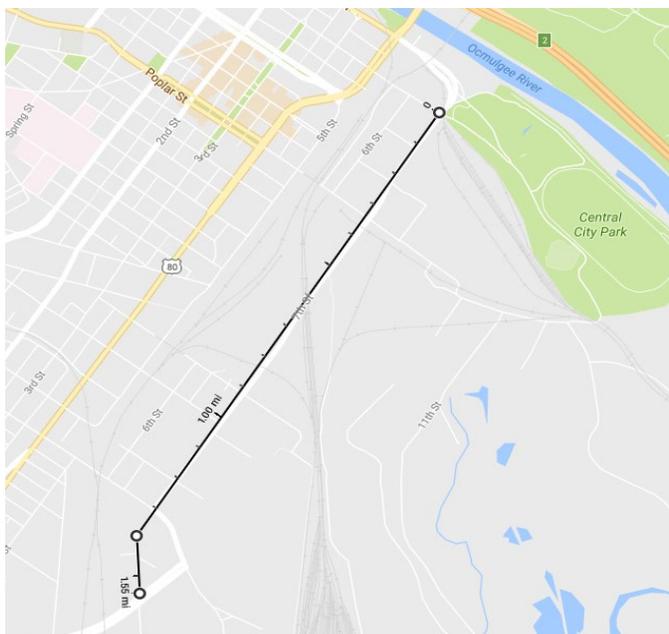
MATS MPO INITIATIVES TO IMPROVE FREIGHT & GOODS MOVEMENT BY TRUCK

Within the Macon MPO, planned improvements to highways affecting truck freight in the MATS study area are either being implemented, or are planned for improvements in the future. The following projects are key projects that will improve freight and goods movement when completed.

Seventh Street Truck Route (On-going)

Currently, large trucks hauling logs, gravel and other heavy materials currently utilize Martin Luther King, Jr. Boulevard to travel from points east and north, through the heart of Macon's downtown business district. This truck traffic creates a noisy and dangerous barrier for pedestrians attempting to visit the museum district, Macon's Historic Terminal Station and downtown restaurants, shops and other entities. Macon – Bibb County desires to create a new truck route that will direct the truck traffic away from downtown and through the existing Seventh Street Industrial District, as shown in Figure 11-9. This will result in improved access to downtown passenger vehicles and improves pedestrian safety near Cherry Street and Martin

FIGURE 11-9: Seventh Street Truck Route



Luther King, Jr., Boulevard. The planned improvements for the proposed project will consist of a re-constructing the intersection of Walnut Street and Seventh Street by installing a roundabout and other needed improvements.

Proposed I-14 Corridor Project

The I-14 Corridor project is a proposed highway that will extend from Interstate 10 in West Texas to Interstate 20 in Augusta, Georgia. The project will seek to improve freight movement throughout Texas, Louisiana, Mississippi, Alabama, and Georgia. On June 19, 2018, Macon-Bibb County Commission signed a resolution to express support for the extension of I-14 into and through Macon-Bibb County; MATS MPO followed suit with a similar resolution on February 3, 2021. If extended to the MATS area, I-14

could run along SR-49, I-75, I-16, US-80, and SR-57.

Figure 11-10 shows the entire proposed route for I-14, while Figure 11-11 shows one possible route alternative heading east from Macon-Bibb County, through Jones County and on to Augusta. This eastbound alternative has been added to the MATS 2050 Roads and Bridges project list in anticipation of the I-14 project moving forward (see Table 6-2 for further details).

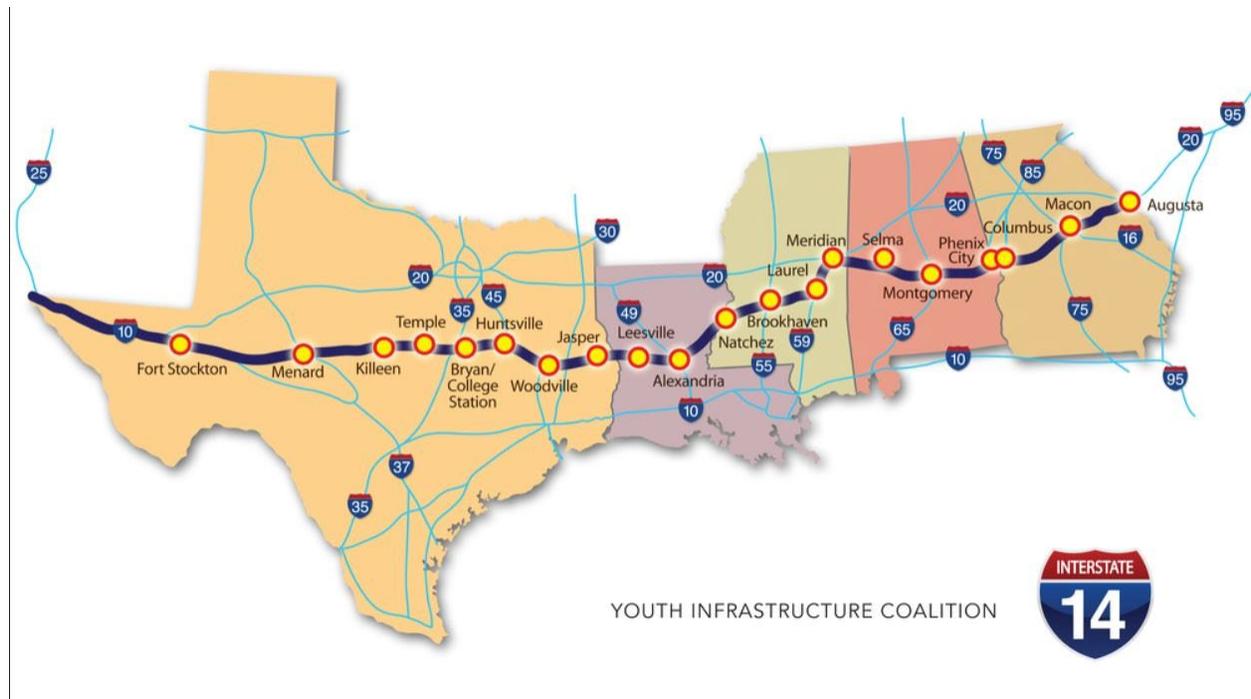


Figure 11-10: Proposed I-14 Route from Odessa TX to Augusta, GA

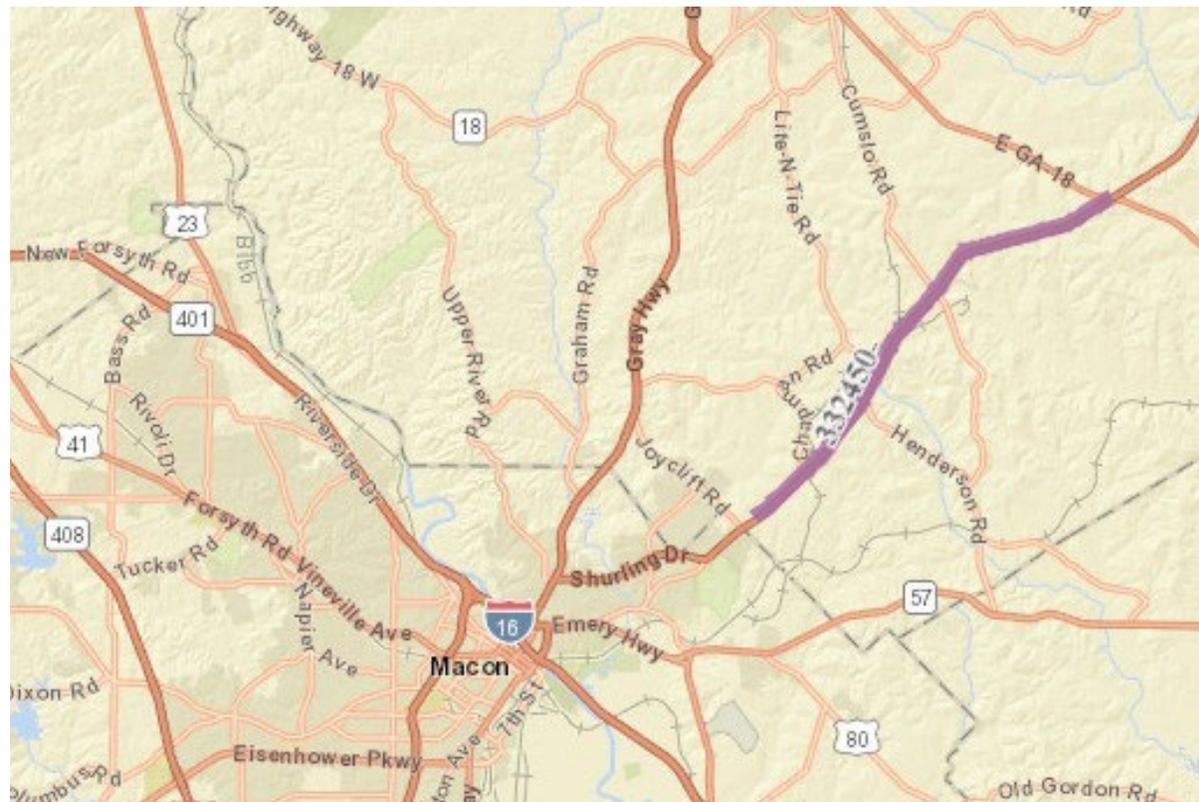


Figure 11-11: Possible Alternative for Eastern Portion of Proposed I-14 Corridor on MATS 2050 Project List

I-16/I-75 Interchange Improvements (On-going)

The I-16/I-75 Interchange Improvement project will enhance safety and mobility of the interchange by widening and reconstructing I-75 from Hardeman Avenue to Pierce Avenue and I-16 from I-75 to Walnut Creek within the City of Macon and Macon-Bibb County. This project represents a **\$500** million investment in the city, the Middle Georgia region and the state's transportation system and will support Georgia's growing freight and logistics industry¹⁴.

¹⁴ Website: <https://i-16and-i-75interchange-gdot.hub.arcgis.com/>

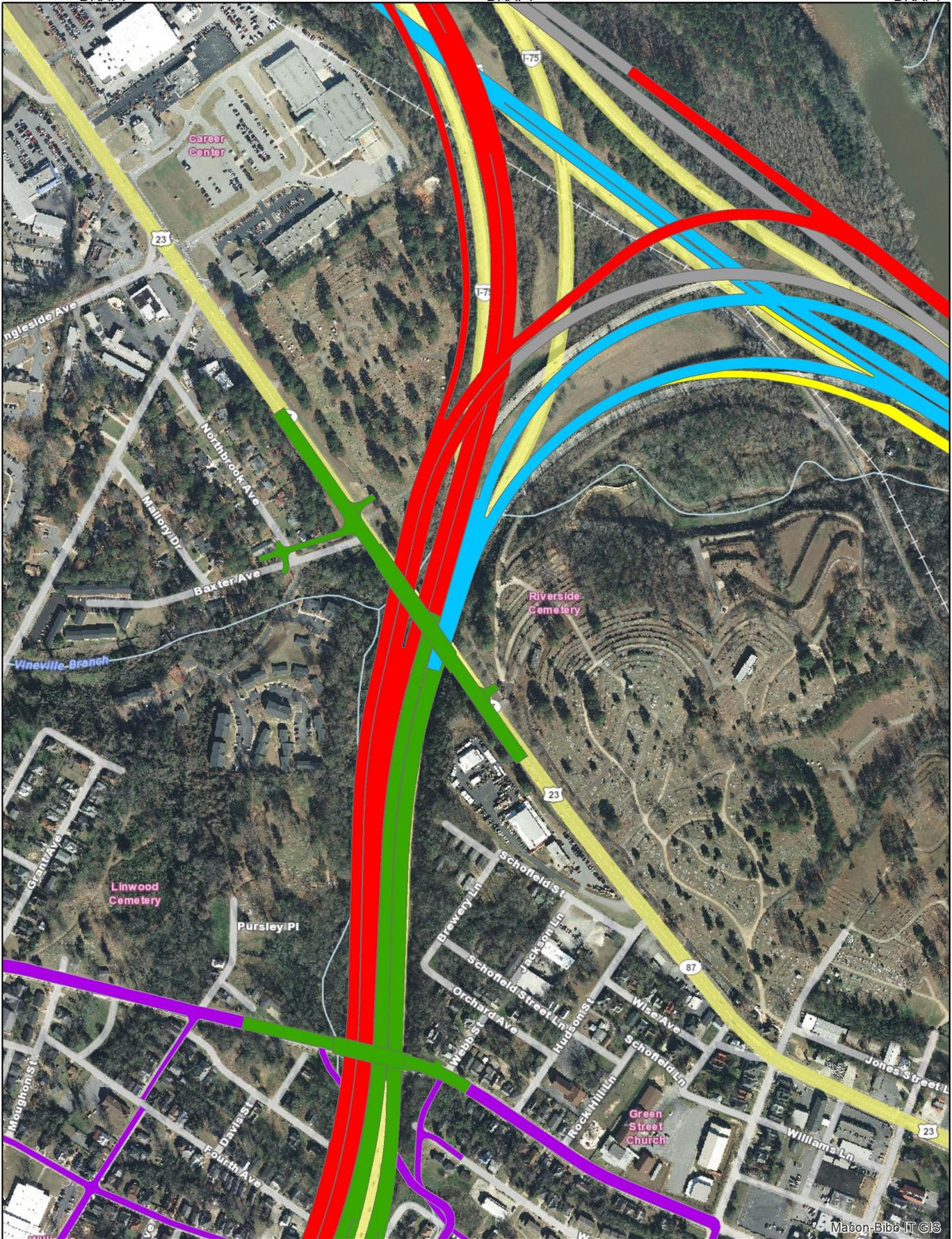


Figure 11-11: I-16/I-75 Interchange Project

FREIGHT & GOODS MOVEMENT - RAIL

Railroads are a key feature in Georgia's freight landscape where the rail system plays an essential role in linking Georgia shippers with markets throughout North America and the world. This system serves as an important connection for freight rail, serving two large east coast Class I railroads and many intermodal hubs. At 4,684 miles, Georgia's rail network is the seventh largest in the nation. Most of Georgia's rail network is owned by private freight railroad companies. The following own Georgia's rail network:

- 4,061 miles owned by private freight railroads
- 464 miles are owned by GDOT
- 118 miles are owned by the Georgia State Properties Commission
- 41 miles are owned by the Georgia Ports Authority

Georgia is served by two Class I freight railroads, CSX Transportation (CSX) and Norfolk Southern Railway (NS). All other railroads operating in Georgia fall into the Class III revenue threshold (short lines). Class I railroads tend to focus on providing long-distance line haul service, connecting Georgia with other parts of the U.S., Canada, and Mexico. Short line (Class III) railroads tend to provide last-mile service, connecting Georgia businesses to the rail transportation network. These connections provide access to raw materials and global markets. Class I's operate the majority of trackage in Georgia (68 percent combined). Short lines operate the remaining 32 percent. Railroads have a long history in the state and Georgia's extensive rail network continues to draw business and investment to the state. Table 11-4 summarizes the Georgia rail network.

Table 1-7: Distribution of Georgia Road and Rail Networks by Functional Classification

Transportation Network	Mileage	Percentage of Network
Rail Main Lines	2,713	58%
Rail Branch Lines	1,984	42%
Total Rail Network	4,697	100%
Interstates, Freeways, Expressways	1,424	1%
Arterials Roadways	14,238	11%
Collectors and Local Roadways	112,603	88%
Total Public Road Network	128,355	100%

Sources: FHWA *Highway Statistics - 2017*

Table 11-4: Operating Route Mileage in Georgia, 2017

The Class I railroads operate almost 3,200 miles of railroad in Georgia, excluding trackage rights, mostly on track owned by the railroads. Table 2-2 breaks down the operating railroad mileage. Table 11-6 breaks down the operating railroad mileage.

Table 2-2: Total Class I Railroad Mileage Operated in Georgia (2019)

	CSX	Norfolk Southern
Line Owned	1,382	1,697
Line Operated Under Lease	118	0
Line Operated Under Contract	1	0
Line Operated Under Trackage Rights	75	9
Total Mileage Operated	1,579	1,706

Source: STB Schedule 702 Reports (2019)

Table 11-6: Total Class 1 Rail Mileage Operated in Georgia (2019)

CSX Transportation Headquartered in Jacksonville, Florida, CSX Transportation operates about 21,000 route miles nationally, all east of the Mississippi River. CSX owns and operates nearly 1,500 routes miles in Georgia that serve as links in the CSX network.

Figure 2-2: CSX Rail Network in Georgia

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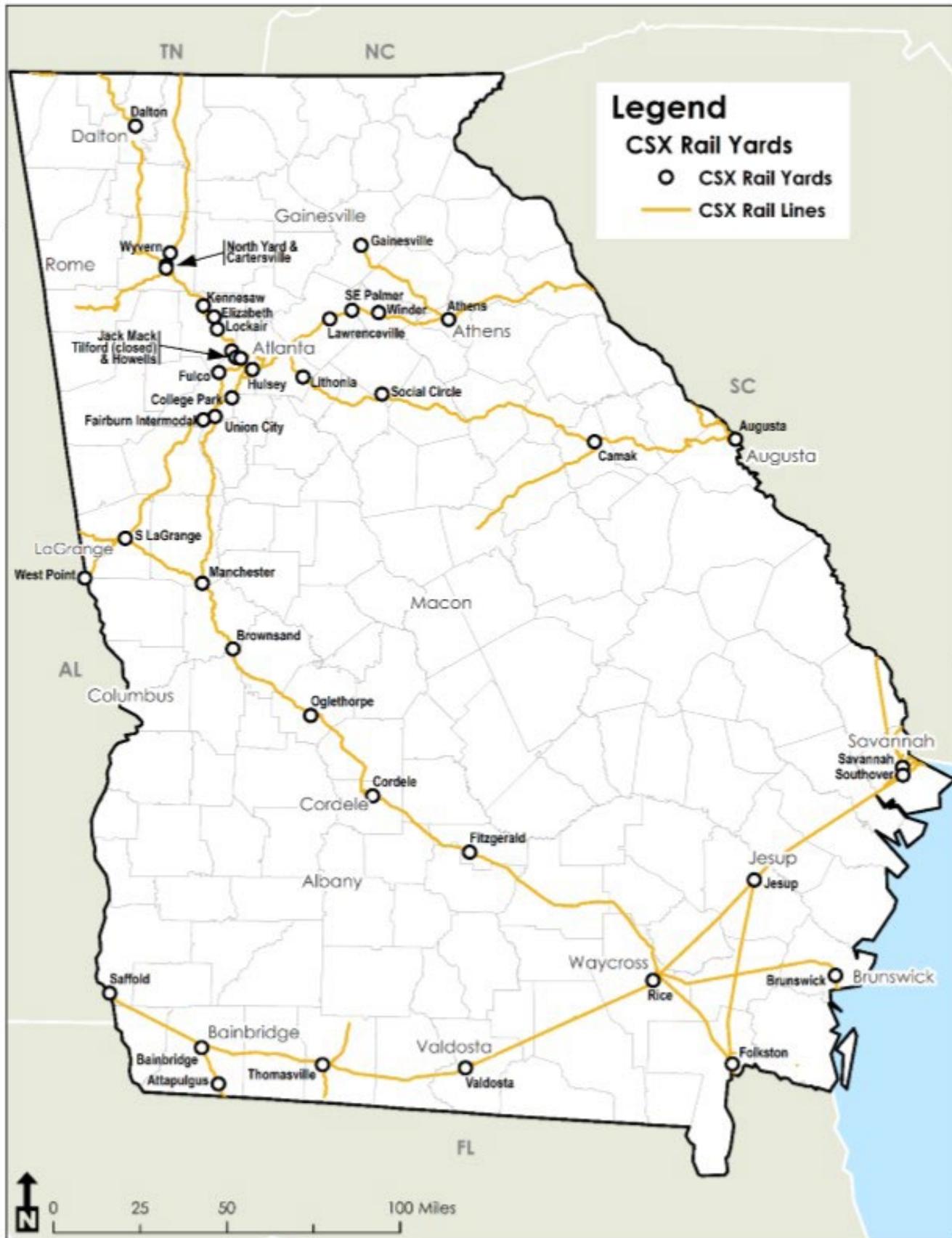


Figure 11-13: Georgia CSX Rail Network

Norfolk Southern (now headquartered in Atlanta) operates about 19,400 route miles of track in 22 states. In the state of Georgia, NS owns about 1,735 miles of track and employs 4,710 people. The NS market area overlaps that of CSX and is in the eastern part of the U.S. with most rail lines east of the Mississippi River. NS provides connections with western carriers at multiple locations on its system, many of which are used for shipping freight to and from Georgia. The Norfolk Southern network and major rail yards in Georgia are summarized in Figure 11-14.

Figure 2-3: Norfolk Southern Rail Network in Georgia



Figure 11-13: Georgia Norfolk-Southern Rail Network

Class II & III Railroads (Short Lines)

In addition to the two Class I railroads, 29 Class III or short line rail carriers operate over 1,600 miles of track, with over 1,400 miles within Georgia. The majority of the mileage operated by short line railroads in Georgia is on rail lines leased from either GDOT, Class I carriers, or the Georgia Ports Authority. Short lines provide crucial transportation connections to businesses throughout Georgia. These connections provide access to raw materials and global markets.

State Owned Rail Lines

There are several rail lines owned by the Georgia Department of Transportation. The right to operate on these lines has then been leased to private companies. They include Chattooga & Chickamauga Railway (CCKY), CaterParrot Railnet (CPR), Georgia Northeastern Railroad (GNRR), Georgia Southwest Railroad (GSWR), Heart of Georgia (HOG), and Ogeechee Railroad Company (ORC). In all, GDOT owns 540 miles of track (465 active). The GDOT owned rail lines are displayed in Figure 11-14.

Georgia's rail rankings by the Association of American Railroads (AAR) highlight the importance of Georgia to the national rail system. As shown below, Georgia is highly ranked across a cross-section of metrics.

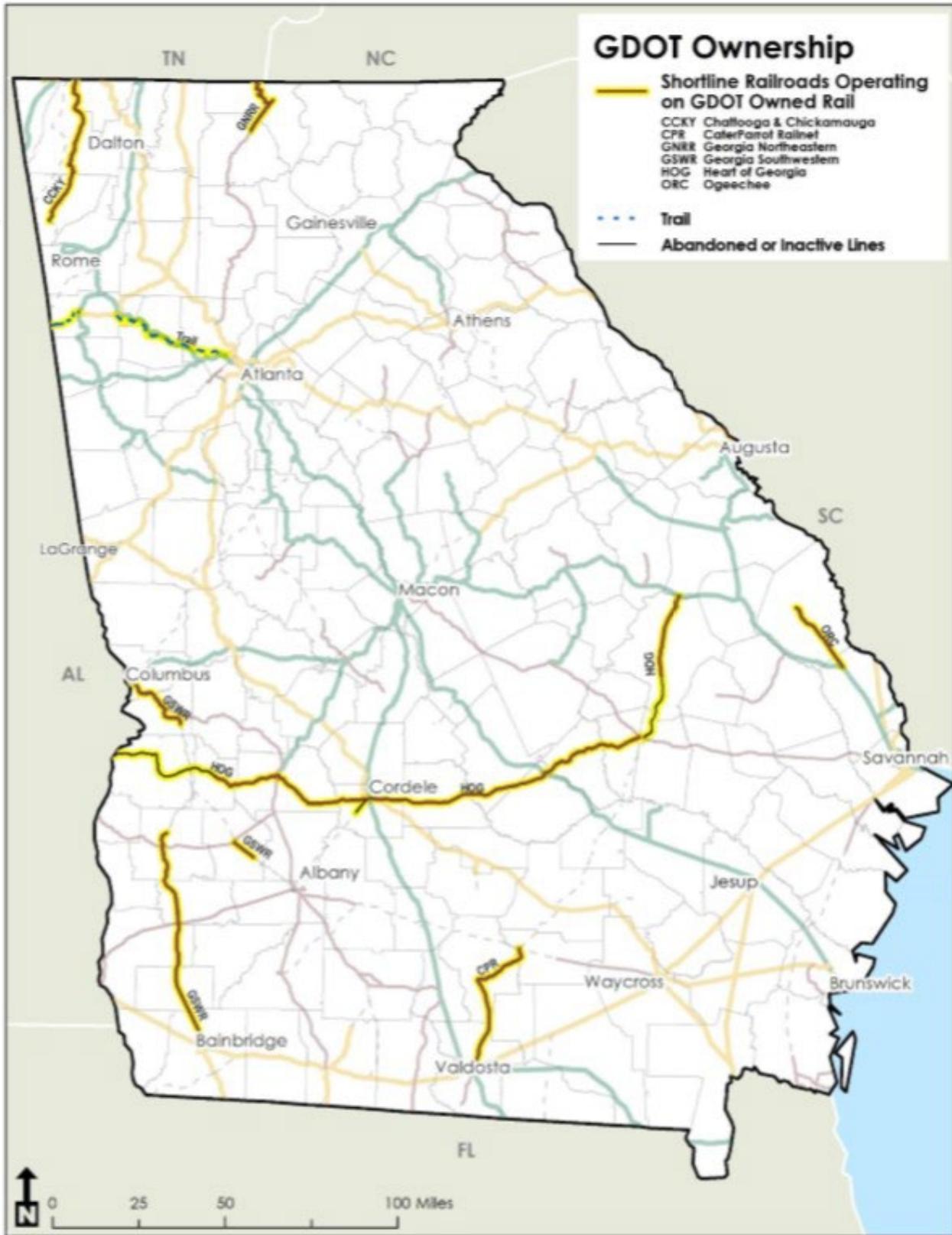


Figure 11-14: GDOT Owned Rail Lines (Short Lines)

Figure 1-1: Georgia Railroads National Rankings-2017



Source: Association of America Railroads

As shown, Georgia is highly ranked cross-section of metrics. Error! Reference source not found. shows the historic change in Georgia's rankings between 2012 and 2017. Georgia rose in in rank in eight of the metrics while retaining its their position in the other four.

Table 11-7: Georgia Railroad National Rankings, 2017

Freight Rail Transportation Network

In addition to railroads being classified by revenue, the rail network is also classified by function. The U.S. Department of Transportation (USDOT) functionally classifies rail lines as “main lines” if they carry over five million gross tons¹⁰ or more per mile per year. These are comparable to highways and arterials of the roadway network. Rail lines functionally classified as “branch lines”, on the other hand, provide local connections. The branch lines are analogous to collector and local roadways. Georgia has 2,713 route miles of main line rail compared to 15,662 major roadway centerline miles. The rail branch line network has 1,984 route miles, compared to 100,000 centerline miles of a local roadway network. Mainline rail route miles represent more than 50 percent of the rail miles in Georgia while the comparable intercity highway centerline miles are only 12 percent of the Georgia roadway centerline miles. The functional classification of the rail and roadway networks are shown in Table 11-8.

Table 1-7: Distribution of Georgia Road and Rail Networks by Functional Classification

Transportation Network	Mileage	Percentage of Network
Rail Main Lines	2,713	58%
Rail Branch Lines	1,984	42%
Total Rail Network	4,697	100%
Interstates, Freeways, Expressways		
	1,424	1%
Arterials Roadways	14,238	11%
Collectors and Local Roadways	112,603	88%
Total Public Road Network	128,355	100%

Sources: FHWA *Highway Statistics - 2017*

Table 11-8: Georgia Railroad National Rankings, 2017

Georgia's rail network carries more freight tonnage per mile than roadways. According to estimates from the U.S. Bureau of Transportation Statistics (BTS), annual truck ton-miles in Georgia are approximately 75 million; the annual tonnage that the average mile of roadway carries is between 500,000 and 600,000 tons. Other data from the BTS state that Georgia railroads carry on average 9 to 10 million tons of freight per route mile, thus the average mile of rail carries about 17 times the freight volume of the average mile of roadway.

Freight rail improvement projects were considered in three categories:

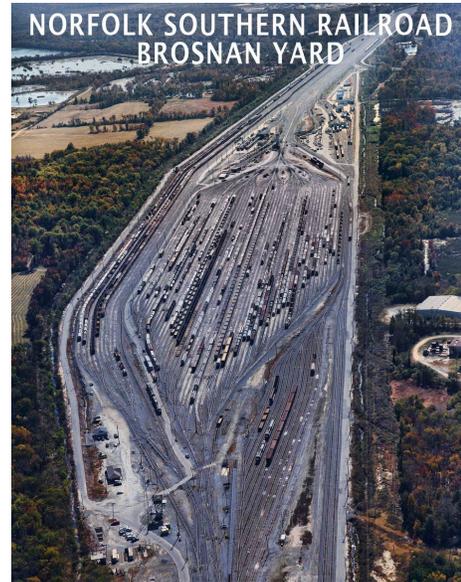
- Recent and Current Investments by Class I Railroads;
- Specific projects needed to address current deficiencies; and
- Conceptual projects considered as part of a longer-term rail program to capture future growth opportunities

The State of Georgia has prospered economically through the vision of its leaders and the productivity of its citizens. That vision has always understood the importance of moving freight and people through Georgia's transportation system. Based on the collaborative efforts to develop the vision for rail transportation in Georgia, the following Rail Vision Statement and Goals were developed to address the issues and obstacles facing rail in Georgia.

- **Enhance safety and security:** Typical initiatives could include minimizing grade crossing accidents, hazmat spills, theft from trains and rail facilities, and upgrading deficient rail infrastructure;
- **Provide for a reliable, enhanced and interconnected passenger rail system:** Typical initiatives could include improvements to on-time performance and reliability for existing services, ADA compliance at rail stations, and expansion of intercity and commuter passenger services;
- **Promote and expand intermodal connectivity:** Typical initiatives could include new or improved freight intermodal facilities and highway connectors and better linkages between intercity and urban mass transit passenger services with improved access for pedestrians and cyclists;
- **Develop an energy efficient and environmentally sustainable rail system:** Typical initiatives could include the retrofitting to lower emission diesel electric locomotives and implementing strategies and policies to encourage the diversion of passengers and freight highways to rail;

- **Preserve and improve the existing infrastructure:** Typical initiatives could include projects to accommodate the higher maximum loaded car weights on Georgia short lines (i.e., 286,000 pounds) and upgrading track and bridges to improve operating efficiency and main line capacity, and improved access to rail users through new sidings and additional car storage capacity;
- **Enhance economic development and competitiveness:** Typical initiatives could entail promoting new rail-served development to attract new rail-oriented industries and the implementation of industrial access funding aimed at lowering transportation costs for rail shippers.¹⁵

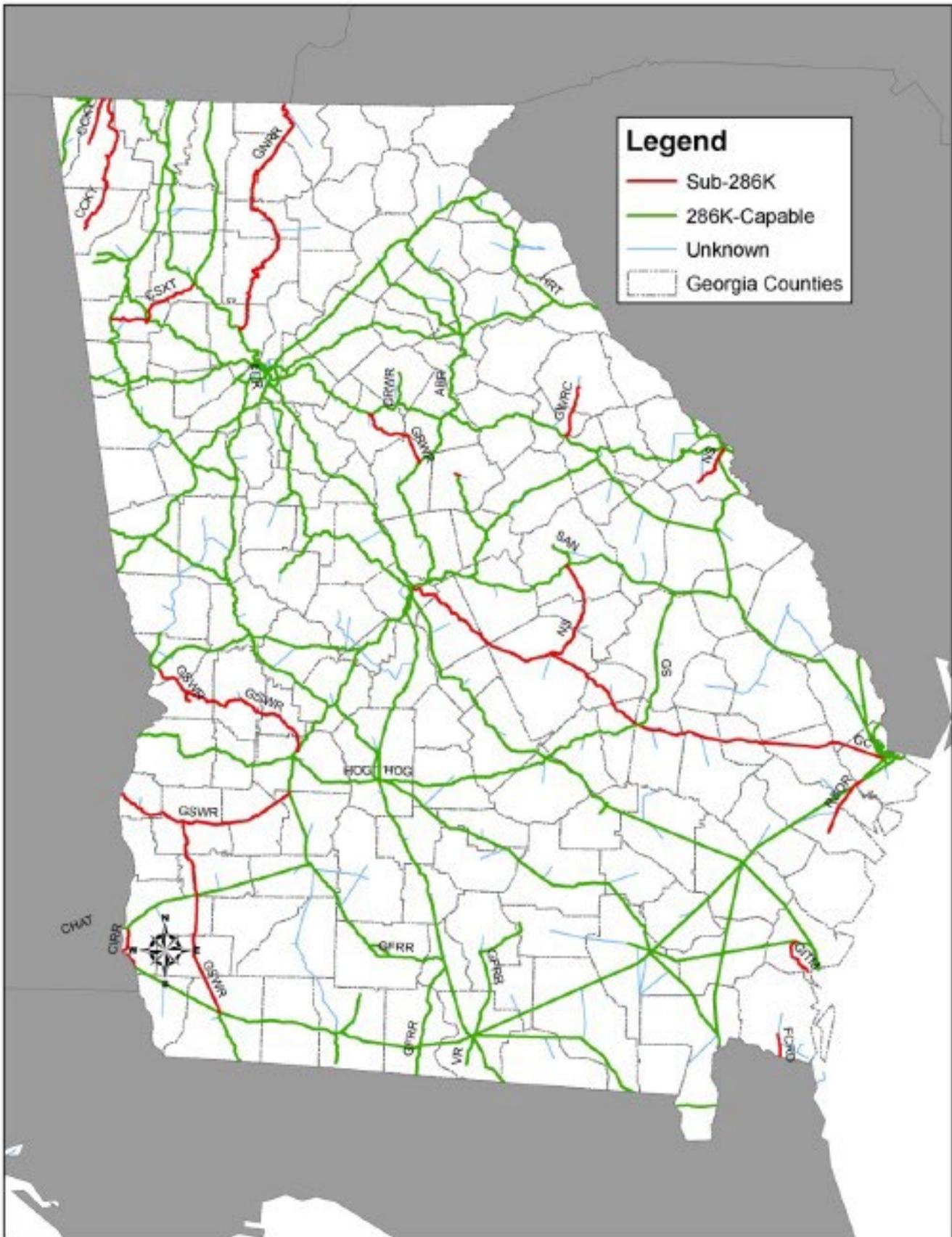
Dating back to history, Macon was known as the railroad hub of the South for passenger and freight trains. Macon was a strategic point in linking the markets in the west with the South Atlantic and the north and south route. But as air travel became the transportation mode of choice for passenger and freight movement, many railroad lines were abandoned, thus causing surface and air transportation networks to serve the Central Georgia region. Home to the largest rail yards in the Central Georgia region, Brosnan Yard has been in full operation since 1966 which keeps Southern's freight moving 24 hours a day, seven days a week. The main purpose of a classification yard is to sort freight cars into groups according to their destination so that blocks of cars may be easily detached when they reach their final terminal. Brosnan yard is centrally located and has tracks running into the facility from seven major points: Atlanta, Jacksonville, Savannah, Augusta, Albany, Columbus and Brunswick. <http://southern.railfan.net/ties/1967/67-11/bros.html>. These rail lines transport freight into the Macon-Middle Georgia region but do not provide multimodal interconnectivity with other modes of transit in the region. However, Brosnan classification yard is often viewed as a possible future intermodal terminal station for Norfolk Southern. In its current capacity as a classification yard, freight and container cars are re-assigned from inbound trains, and "classified" to outbound trains based on common destinations. Middle Georgia is not likely to generate the cargo volume levels with Atlanta or Savannah freight volumes, which would likely be needed to incentivize NS to establish an additional intermodal hub. Lastly, adding the complexity and space requirements of an intermodal hub to the existing classification yard operation in Macon would be a major challenge, and not likely in the near future. Therefore, it is the intent of this section of the transportation assessment portion of the updated 2050 MTP to examine the rail infrastructure throughout the State of Georgia and the Middle Georgia Region.



¹⁵ GDOT: Georgia State Rail Plan 2015

existing tracks. The plan indicates that the industry standard railcar weight for bulk commodities such as grain, lumber, coal, and paper products, has trended in recent years from 263,000 pounds to 286,000 pounds (commonly referred to in the industry as “286K”). While most of the primary Class I rail lines have achieved 286K capability, many short line railroads in Georgia are not capable of handling 286K railcars. Figure 11-15 shows the Rail Line weight limits for Georgia’s Class I and short line railroads. Upgrading lightweight rail track to 286K is a key freight rail improvement project.

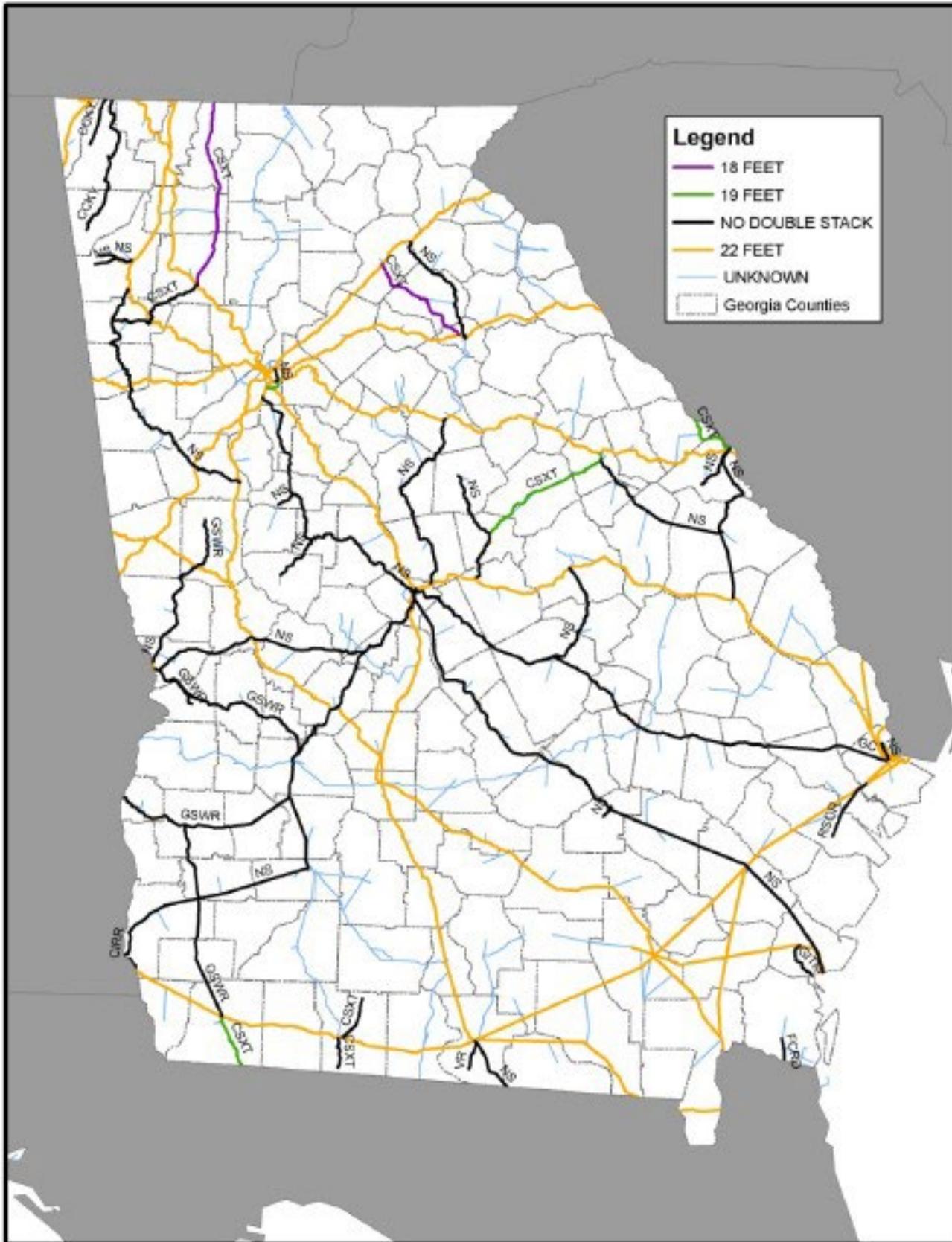
Much of Georgia’s rail infrastructure was originally built to accommodate rail cars with a height of 15 feet. With the general adoption of larger railcars such as tri-level auto carriers and double-stack intermodal cars, vertical height standard industry requirements have trended to upwards of 20 feet, and the defined height for fully unrestricted clearance was raised to 22’ 6”. A minimum height of 20’ 8” can accommodate a pair of stacked domestic containers (each 9’6” high) and has become a defacto minimum standard for vertical clearance for main lines handling intermodal traffic. Due to bridges and other obstructions, many rail lines in Georgia do not meet this requirement. Vertical clearances on CSXT, NS and many of the State’s short line railroads are mapped in Figure 11-16. Increasing vertical height clearance to the 20’ 8” minimum standard for vertical clearance is another freight rail improvement project.



Source: Interviews with Class 1 Railroads, American Shortline Railroad Association, Project team Analysis.

Figure 11-15: Rail Line Weight Limits for Class 1 and Shortline Railroads in Georgia

Draft Date: 02/02/2022

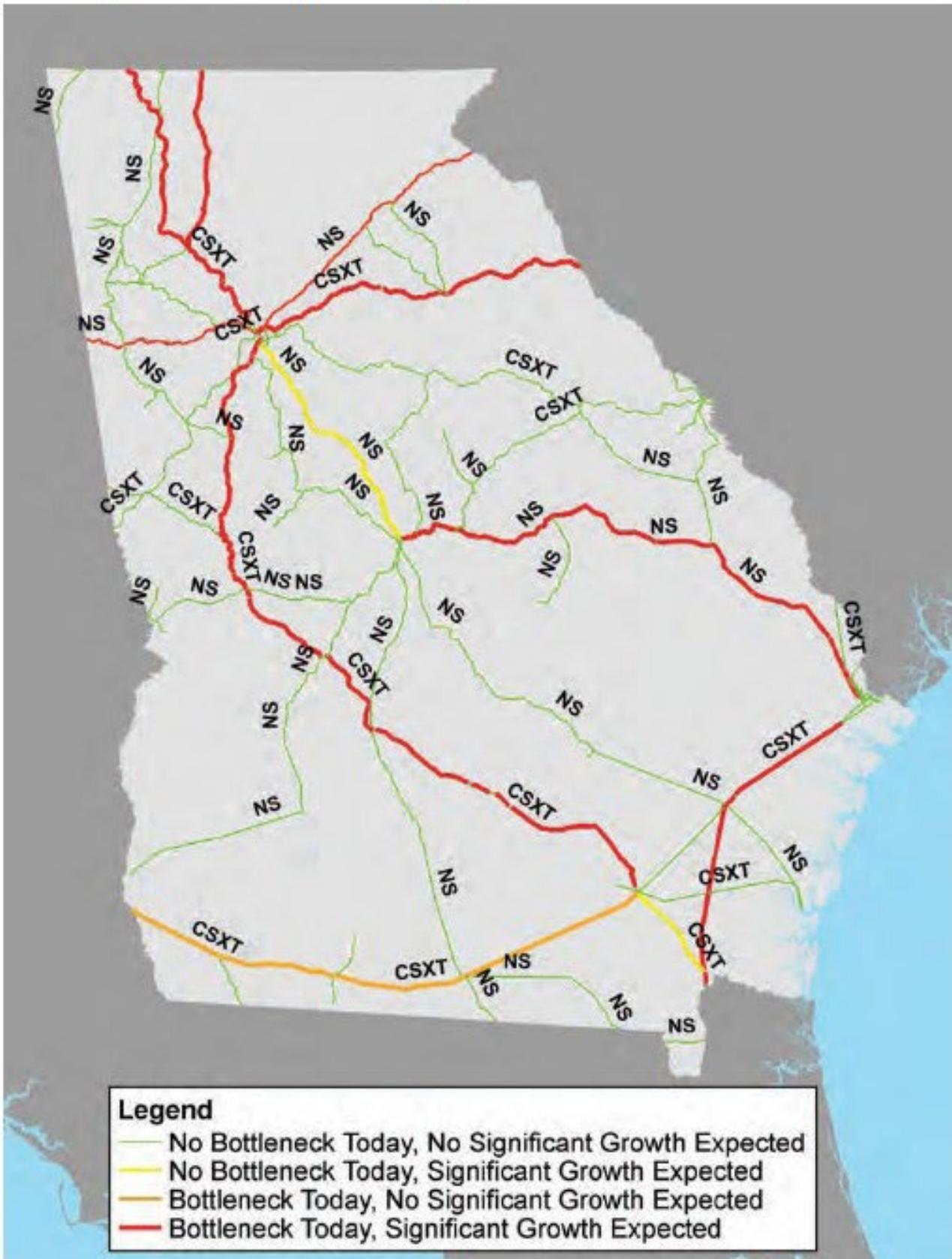


Source: Interviews with Class 1 railroads, American Shortline Railroad Association, Project team analysis.

Figure 11-16: Rail Line Vertical Clearances for Class 1 and Shortline Railroads in Georgia

It is also noted in the *Georgia Statewide Freight and Logistics Plan 2010 - 2050*, that approximately, 95 percent of all mainline trackage, including Class I and short line railroad trackage, in the State of Georgia are single-track. Main Class I routes have passing sidings at regular intervals, which allow trains moving in opposite directions or at different rates of speed to pass one another. While this arrangement is effective for traffic volumes that have historically occurred over Georgia's main lines, as traffic increases and/or there is a greater mix of different types of trains, full double track becomes a necessity. Double tracking key rail segments in the state is a freight rail improvement project recommended as part of this Plan. In addition to the number of main line tracks, another important attribute affecting main line capacity is the type of traffic control system. Railroads in Georgia primarily make use of three different signal systems to control traffic movements on their systems. These are Manual, Automatic Block Signals (ABS) and Centralized Train Control (CTC). CTC systems permit the dispatcher to remotely manage train movements by controlling signal indications and train routing over a geographic jurisdiction such as a subdivision or terminal area. CTC is layered on top of an ABS system, which provides occupied block protection. Implementation of CTC leads to considerable capacity improvements, and is almost always taken as a first less costly step when traffic increases call for increased line capacity. The coverage of CTC systems will need to increase to manage increased volumes and increased double tracking across the state. This will increase the efficiency of rail operations in terms of average speeds and total travel times between origins and destinations. These rail improvements taken together represent a series of steps that would begin to address the rail system bottlenecks identified in the plan. The bottlenecks are shown in Figure 11-17 with the rail track in red the priority rail track in need of improvements to accommodate future demand. As the Central Georgia region continues to grow, it may be necessary for the MATS area to consider the recommended rail improvements (that may apply) as stated in the *Georgia Statewide Freight and Logistics Plan 2010 - 2050*, to efficiently move goods and services throughout the region.

Figure 2.3 Rail System Throughput Bottlenecks – Class I Railroads



Source: Interviews of Class 1 railroads, Project team analysis.

Figure 11-17: Rail System Throughput Bottlenecks - Class 1 Railroads in Georgia

Middle Georgia’s Rail Freight

Middle Georgia’s total rail freight was 71.1 million tons in 2013 (45.5 percent of total freight). The distribution by flow and mode is illustrated in chart 11-3. Domestic through freight accounted for 65.3 percent of total rail freight, domestic inbound 19.5 percent, and domestic outbound 6.8 percent. International freight accounted for the remaining 8.4 percent. However, as stated earlier, the international share is likely understated due to international imports and exports that are partly handled as a domestic move. For example, this could apply to freight exported to Canada and Mexico that is classified as a domestic move from the U.S. origin to border crossing. The dominant rail mode is carload (87.2 percent), which reflects the large volume shipments of bulk commodities that move in carload equipment (e.g., boxcars, hoppers, and tank cars). Carload rail excludes intermodal rail (i.e., 48-ft and 53-ft containers on rail), which accounted for the remaining 12.8 percent of rail freight tons.¹⁶

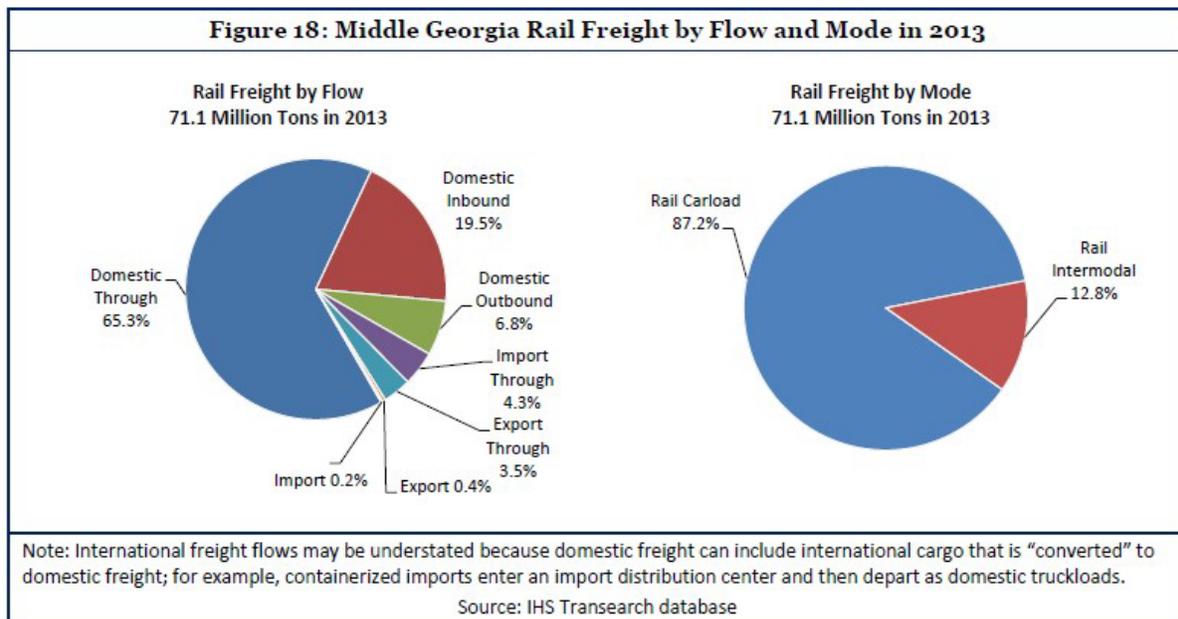


Figure 11-18: Middle Georgia Rail Freight By Flow and Mode, 2013

¹⁶ Middle Georgia Freight and Logistics Study, Middle Georgia Regional Commission, November 2015

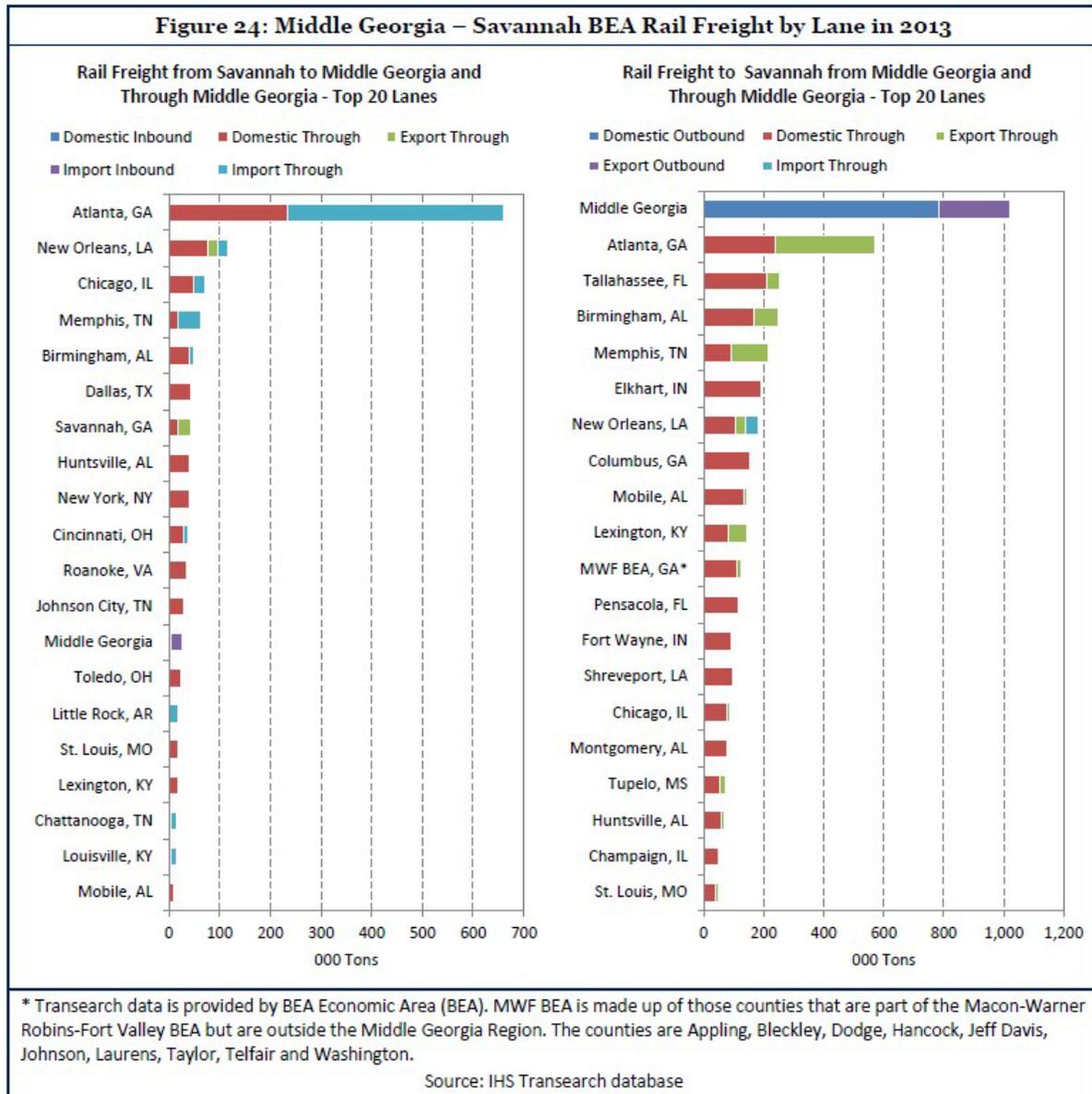


Figure 11-19: Middle Georgia – Savannah BEA Rail Freight, By Lane - 2013

Rail freight associated with the Port of Savannah amounted to 6.3 million tons in 2013, 4.7 million tons moving to Savannah and 1.6 million tons flowing from Savannah. This rail freight is concentrated in the Savannah to Atlanta lane, with a 41.9 percent share of tons (Figure 11-19). The largest commodity from Savannah is Miscellaneous Mixed Shipments (intermodal commodities), accounting for 51.6 percent of rail tons (Figure 11-20). This reflects Savannah’s role as a port gateway for containerized imports that move inland by intermodal rail service. Middle Georgia is the largest origin for rail freight moving to Savannah, with a 21.9 percent share, followed by Atlanta at 12.3 percent. The principal commodities moving to Savannah are Pulp, Paper or Allied Products (23.9 percent), Miscellaneous Mixed Shipments (15.7 percent) and Nonmetallic Minerals (10.9 percent). The Metropolitan Transportation Plan project list identifies several projects that will help maintain freight movement throughout the MATS Study

area.

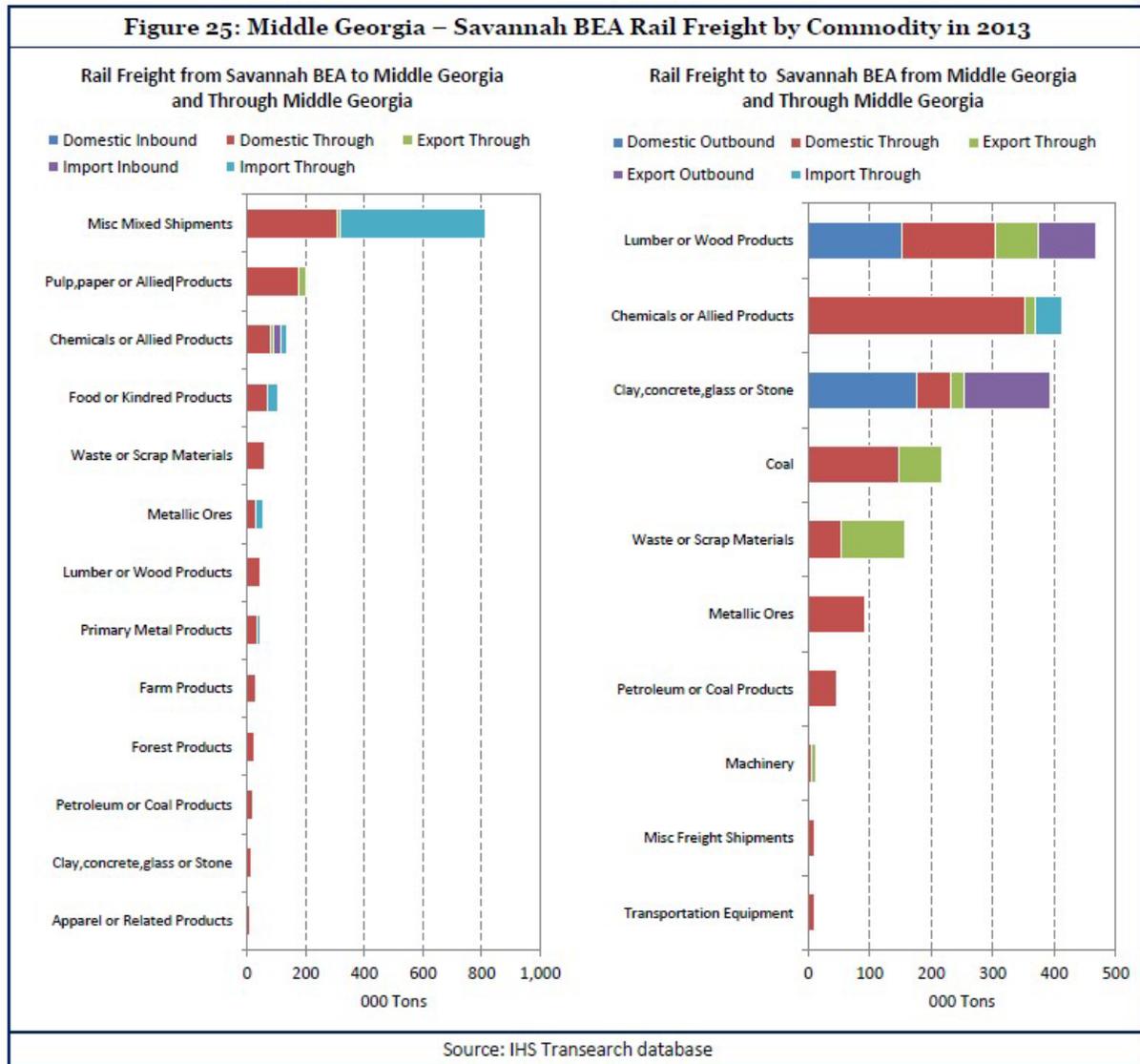


Figure 11-20: Middle Georgia – Savannah BEA Rail Freight, By Lane – 2013

Freight & Goods Movement - Aviation

Georgia has approximately 104 publicly owned and used airports throughout the State, of which nine (9) offer scheduled commercial service and the remaining 95 are classified as general aviation, as illustrated in Figure 11-21. GDOT is most involved with the general aviation airports and in providing last-mile roadway access to all of the airports. Each airport is classified as a Level I (minimum standard general aviation), Level II (business airport of local impact), or Level III (business airport of regional significance and/or commercial facility) based on the role it plays in the aviation system.¹⁷



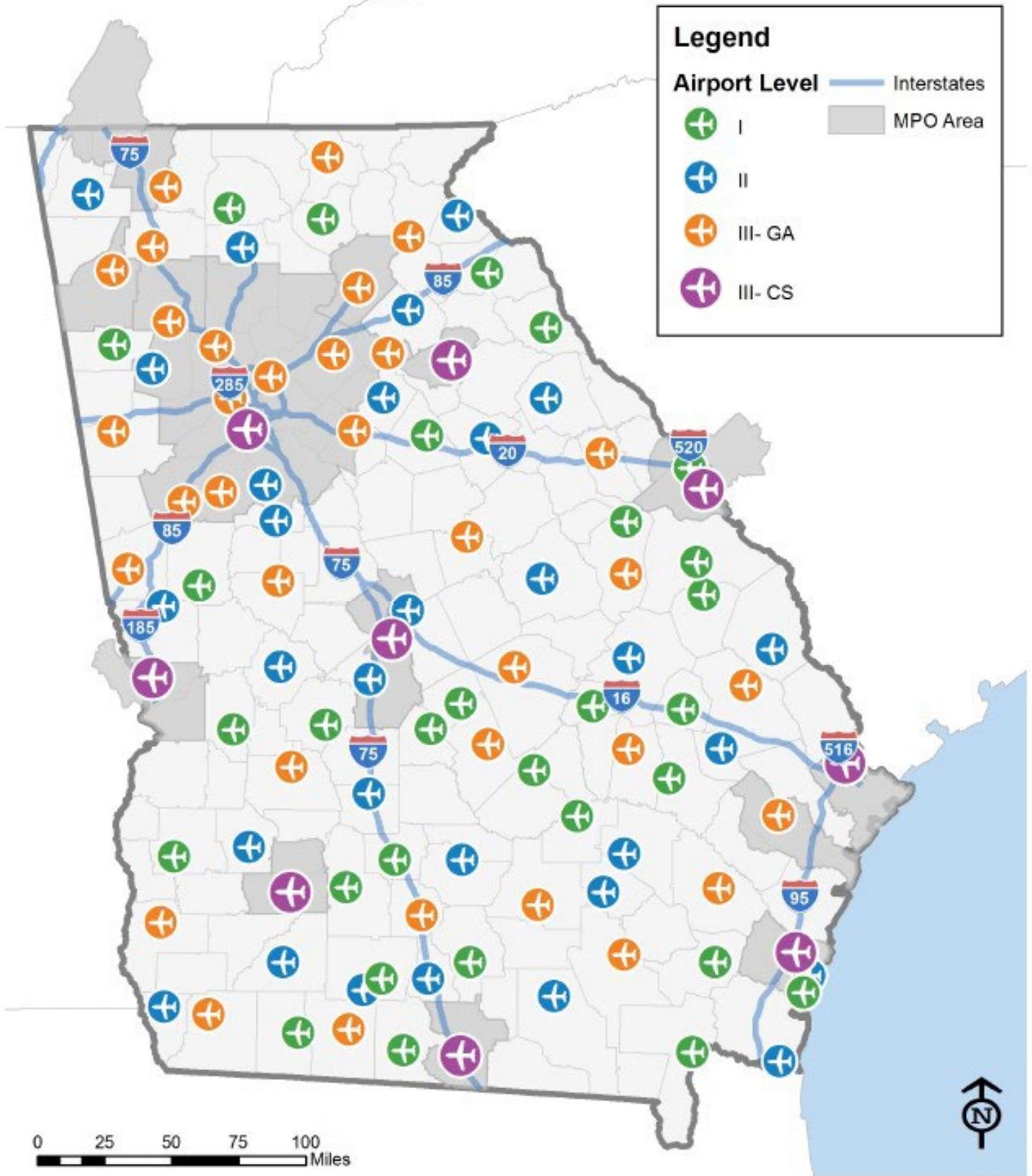
¹⁷ GDOT: 2040 Statewide Transportation Plan/2015 Statewide Strategic Transportation Plan – January 2016

Figure 19. Overview of Public Airports by Level of Service

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Sources: GDOT, FAA (September 2013).

Figure 11-21: Overview of Public Airports by Level Of Service

Situated in the heart of the State of Georgia, Macon – Bibb County plays host to two airports: the *Macon Downtown Airport* and the *Middle Georgia Regional Airport*. Airports are an important part of the transportation system, as well as the economy and can be characterized by two major categories: (*Air carrier airports and general aviation airports*). *Air Carrier Airports* include facilities that serve regularly scheduled passenger service. They are primarily facilities with the capacity to handle significant volumes of freight/cargo and passengers on a daily basis. The Middle Georgia Regional Airport accounts for the majority of revenue and traffic generated by airports within this classification. *General Aviation Airports* include smaller facilities which are normally located in counties throughout the State of Georgia. These facilities typically have paved runways 2,000 to 5,500 feet in length and are capable of accommodating small (single-engine) and medium sized (multi-engine) aircraft. These airports often provide opportunities for businesses with suitable aircraft to avoid the use of larger facilities and minimize air travel associated lag time.



Macon Downtown Airport

The Macon Downtown Airport (MAC) falls within the description of a public use general aviation airport that serves private, corporate and executive jet aircraft. Macon Downtown Airport covers an area of 401 acres (162ha) at an elevation of 437 feet (133 m) above mean sea levels. It has two asphalt paved runways: 10/28 is 4,694 by 100 feet and 15/33 is 2,614 by 75 feet. The Macon Downtown Airport was originally constructed by the U.S. Government during World War II for the purpose of Army Air Force flight training. After World War II, the Airport was deeded to the City of Macon for use as a Civil Aerodrome. Commercial service was initiated by Delta Airlines and remained until the Middle Georgia Regional Airport was developed. However, the airport was retained for general aviation use. Currently, the Macon Downtown Airport is owned and operated by Macon – Bibb County and is located approximately three (3) miles southeast of the Central Business District, as shown in figure 11-22. At the present time, there are no known plans to initiate the movement of freight goods and services from the Macon Downtown Airport.



Figure 11-22: Macon Downtown Airport

Macon Downtown Airport

The Middle Georgia Regional Airport is located in Macon - Bibb County, approximately nine (9) miles south of the Central Business District of Macon, as shown in figure 11-23. The airport is located to the east of Interstate 75 and to the south of I-16. The airport is situated on approximately 1100 acres of land. In 1940, the City of Macon donated land at the present site of the airport to the U.S. War Department. A military airfield was constructed on the site for flight training and was named Cochran Field. After World War II, the U.S. Government returned the airport with associated facilities back to the city. Commercial air service was initiated in 1948. Cochran Field was renamed Macon Municipal in 1960 and in 1966 was renamed Lewis B.

Wilson Airport, honoring the former mayor, state legislator and airport manager.



Figure 11-23: Middle Georgia Regional Airport

Airport Role

The Middle Georgia Regional Airport operates as a public-use airport facility owned by the Macon – Bibb County government but operated by TBI Airport Management, Inc. At the national level, it is included in the Federal Aviation Administration's (FAA) National Plan of Integrated Airport System (NPIAS) as a non-primary airport. The NPIAS includes a total of 3,356 airports according to the last updated report presented in 2013-2017. Middle Georgia Regional Airport is one of 99 airports in Georgia that is included in the NPIAS and one of 103 airports in Georgia classified as a commercial service airport. An airport must be included in the NPIAS to be eligible for federal funding. At the state level, the Middle Georgia Regional Airport is included in the Georgia Aviation System Plan which identifies the service area to include the counties of Bibb, Houston, Laurens, Baldwin, Peach, Jones, Dodge, Monroe, Macon, Telfair, Bleckley, Wilkinson, Dooly, Twiggs, Crawford, Pulaski, Taylor, Montgomery, Wilcox,

Treutlen and Wheeler. The purpose of the System Plan is to provide a comprehensive look at each airport and the overall air transportation needs of the State for the next 20 years.¹⁸

Existing Airside Facilities

Airport facilities can be functionally classified into two broad categories: airside and landside. The airside category includes those facilities directly associated with aircraft operations. The landside category includes those facilities that provide a terminal interface between surface and air transportation, as well as support services such as aircraft storage and maintenance. Airside facilities include runways, taxiways, lightning, signs, marking, and navigational aids.

Runways

The airfield is currently served by two runways designated as Runway 5/23 and Runway 13/31. Runway 5/23 is the primary runway. It is 6,501 feet in length and 150 feet wide, and constructed of asphalt and grooved. Based on FAA data, Runway 5/23 is listed as having a pavement strength of 80,000 pounds (single wheel), 128,000 pounds (dual wheel), and 237,000 pounds (double tandem load). Runway 5/23 consist of three pavement sections that were recently rehabilitated and are in excellent condition. Runway 13/31 is the crosswind runway, or secondary runway. It is 5,001 feet in length and 150 feet wide, and constructed of asphalt. Runway 13/31 is listed as having a pavement strength of 44,000 pounds (single wheel), 65,000 pounds (dual wheel), and 110,000 pounds (double tandem load). Runway 13/31 also consists of three pavement sections where substantial amounts of low and medium severity longitudinal and transverse (L & T) cracking and block cracking was identified. Additionally, the runway has small quantities of low-severity swelling and high-severity raveling.

Middle Georgia Regional Airport *Future Aviation Conditions*

Planning for the future and constructing needed improvements is important for each airport as an individual facility, but also for the national and international system of airports as a whole. When an airport system or an individual facility begins to approach capacity, critical issues arise ranging from continued business viability to safety. Recognizing this need, the Macon – Bibb County Consolidated Government contracted with Barge Waggoner Sumner and Cannon, Inc., to produce an update of the Airport Master Plan Study to determine the aviation needs of the Middle Georgia Regional Airport and its service area for the next 20 years and to ensure safety standards and facility requirements are met and/or planned for. The study is part of the continuing planning process necessary to assure adequate and compatible airport improvements needed to meet the growing aviation demands associated with the Airport. However, the overall goal of the Airport Master Plan update is to provide Macon – Bibb County with an effective planning tool to guide the future development of the Middle Georgia Regional Airport. Accomplishment of this goal requires the evaluation of existing airport activities, facilities and determination of actions needed to maintain an adequate, safe, and reliable airport to meet the needs of the Macon – Bibb County and the entire Middle Georgia Region.

Specific elements of the Master Plan include the following:¹⁹

¹⁸ Airport Master Plan Update “Final Report”: Middle Georgia Regional Airport, Macon-Bibb County, Georgia November 2015

¹⁹ Airport Master Plan Update “Final Report”: Middle Georgia Regional Airport, Macon-Bibb County, Georgia November 2015

- *Inventory existing airside, landside, and other support facilities and services currently at the Airport, as well as local and regional economic development and growth affecting the Airport;*
- *Update historical aviation data and develop new forecasts based on historical trends and major changes anticipated for the future;*
- *Document the methodology, findings, analysis and conclusions of the technical investigation of concepts and alternatives which were performed to develop the proposed plan;*
- *Propose a viable, phased 5, 10, and 20-year financial plan for achieving the planned airport development and implementation schedule; and*
- *Identify anticipated Airport funding needs and proposed Airport development policies for consideration by Macon – Bibb County*

The Middle Georgia Regional Airport is located in close proximity to the Warner Robins Air Force Base. Although WRAFB does not accommodate civilian aircraft operations, its location within the Middle Georgia Regional Airport's market area is notable. The proximity of the runways at WRAFB and MGRA requires coordination of aircraft approached and departures. The proximity of this major military installation provides an important source of demand for both commercial and general aviation services provided at the Middle Georgia Regional Airport. The updated Airport Master Plan study for the Middle Georgia Regional Airport identified and recommends the following airfield improvements in an effort to improve airport capacity and freight movement.

- *Extend Runway 5 – 2500' x 150' (Runway overpass/tunnel for Sardis Church Road Extension and Avondale Mill Road)*
- *North Apron Rehabilitation*
- *Construct Infield Taxiways*
- *Add additional airside and landside facilities will need to be improved or expanded to adequately serve the anticipated increase in both aircraft and passengers utilizing the facility.*

The airports, along with the aviation related businesses and facilities, represents a vital and significant regional economic asset. In addition to the many aviation related assets, the airports also provide benefits to local businesses and industry, promotes tourism, as well as encourages additional business development and expansion throughout Macon – Bibb County, surrounding communities, and adjacent counties.

FREIGHT & GOODS MOVEMENT – PORTS

There are three marine port complexes owned and operated by the Georgia Ports Authority (GPA): *the Ports of Savannah, Brunswick, and Bainbridge*, the largest of which is Savannah. There also are dozens of private terminals along the Georgia coast and the inland waterways, typically owned and operated by companies that exclusively ship their own products. GDOT's primary role is to provide last-mile roadway access to the ports.

The Port of Savannah is vital to the State's economy and is, overall, the fourth-largest container port in the U.S., handling about 3 million 20-foot-equivalent (TEU) container units annually. In

addition, it is the second largest export port in the U.S. and has 37 weekly container ship calls, which is the second highest on the East Coast.

The Port of Savannah handles container, refrigerated, break-bulk, and roll-on/roll-off cargo such as automobiles. The Garden City Terminal, located seven miles upriver from downtown Savannah, is the largest GPA facility and the largest single terminal container operation in North America. This contributes to the large variety of commodities that are shipped through the facility, including wood pulp, food, furniture, and paper products, among many others.

The Port of Savannah's current channel depth is 42 feet; however, construction is underway to deepen that to 47 feet to consistently serve larger ships that will start traveling through the Panama Canal. This deepening of the channel also increases the efficiency and safety of cargo vessel operations. Additional landside capacity may be needed and access improvements for both trucks and trains will be critical at the Port of Savannah to accommodate future growth projections.²⁰

Recommendations on Network Georgia and Inland Port Development

The Georgia Ports Authority (GPA) announced plans to establish inland ports throughout Georgia to extend Port of Savannah reach by rail to strategic areas, including a yet-to-be identified Middle Georgia location. While this presents a substantial opportunity to elevate Middle Georgia as a logistics hub, several actions should be coordinated to help ensure the success of the Network Georgia initiative:

- *The success of inland ports will depend on the formation of industry clusters and agglomerations that support each proposed site. The roles and industries that these inland ports intend to support should be coordinated to ensure that target users do not overlap, thereby undercutting the success of all inland ports.*
- *The Middle Georgia Inland Port site selection should be in close proximity to major highways, most likely I-75, I-16, or the Fall Line Freeway when completed. A selection on I-16 would also require an upgrade to the NB I-16/I-75 interchange upgrade.*

In January 2021, a study was revised to examine locations in Middle Georgia to identify potential areas for a Middle Georgia Intermodal Hub and Prospective Container Port/Inland Port. **INLAND PORTS** are specialized locations developed to serve the intermodal transportation network. Ordinarily located along railroad lines, inland ports offer intermodal transfer facilities and frequently international trade processing and other services. According to the study, the cost of shipping containers by rail to a location within the Middle Georgia region would not be cost competitive with truck transport. Due to this, the Middle Georgia Regional Commission was not in the plan Georgia Ports Authority (GPA) had laid out to construct an inland port. At present, truckers can carry a container to the Port of Savannah and make a return trip to the Middle Georgia region within one day making this run very attractive to trucking companies.

One of the factors for locating an Inland Container Port in a region is the number of container lifts for existing industry in the region. If it exceeds 15,000 lifts per year, then normally it helps in determining if an Inland Container Port is warranted. The study showed that the middle

²⁰ GDOT: 2040 Statewide Transportation Plan/2015 Statewide Strategic Transportation Plan – January 2016

Georgia region produces more than 20,000 lifts per year. The PIERS report further indicates that the Middle Georgia region does not currently meet this full criterion for an inland port. It is suggested that the Middle Georgia Regional Commission continue to actively market the region to industries with the foresight that once a large manufacturer opens a facility the need to import raw materials and export finished goods will be paramount. While the Georgia Ports Authority (GPA) did not believe that a rail-served inland port was a current economic viable option in the Middle Georgia region, they strongly stated that in the future a rail served inland port would be competitive. Therefore, the location of the facility should be located adjacent to or near a rail line so that it could utilize this mode as economic conditions change.²¹

²¹ Master Planning for Middle Georgia Intermodal Hub and Prospective Container Port – Revised January 2021

Chapter 12 | Plan Considerations

Introduction

This section addresses the environmental justice and environmental mitigation review to be included as part of Long Range Transportation Plan updates, as required by federal law. This chapter provides an overview of the new Infrastructure Investment and Jobs Act (IIJA; also known as the Bipartisan Infrastructure Law (BIL)), and the associated Justice40 Executive Order; a review of Environmental Justice, Title VI, Non-Discrimination and Equity; a review of the Title VI and Americans with Disabilities Act; a cursory review of MATS LEP (Limited English Proficiency) plan; a review of the social, natural, cultural and historic resource setting of MATS area; and a review of the proposed MTP projects that identifies the potential environmental impacts associated with the recommended plan improvements.

Environmental features such as communities of concern (e.g. environmental justice populations), historic lands, as well as wetland and floodplain areas are also considered. During the development of the 2040 LRTP update produced in 2017, the MPO carried over from the 2035 LRTP update the consultation results from several environmental agencies and the environmental mitigation strategies that were formulated. With respect to this 2050 MTP Update, it is thought that the strategies recommended at that time continue to be valid. These strategies should be considered to guide future transportation improvements from the planning stage to the project development stage. It is the intent of the MATS MPO to continue to be in full compliance with all federal and state environmental planning provisions required as part of the metropolitan transportation planning process.

IIJA/BIL Legislation

On November 15, 2021, President Biden signed the Infrastructure Investment and Jobs Act, also known as the Bipartisan Infrastructure Law (IIJA/BIL; PL 117-58). The bill sets out approximately \$567.1 billion on transportation planning priorities for the period between FY 2022 and FY 2026. New discretionary grant programs related to eligible activities for MPO and/or local governments include:

- **\$5 Billion “Safe Streets and Roads for All”** (PL 117-58 §24112) Support for local initiatives to prevent transportation-related death and serious injury on roads and streets (commonly referred to as “Vision Zero” or “Toward Zero Deaths” initiatives).
Eligible projects include:
 - Comprehensive safety action plan (planning grant)
 - Planning, design, and development activities for infrastructure projects and other strategies identified in a comprehensive safety action plan
- **\$1.4 Billion “PROTECT Grants”** (PL 117-58 §11405) Planning, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure.
Eligible projects include:
 - Highway, transit, intercity passenger rail, and port facilities

- Resilience planning activities, including resilience improvement plans, evacuation planning and preparation, and capacity-building
- Construction activities (oriented toward resilience)
- Construction of (or improvement to) evacuation routes
- **\$1 Billion “Reconnecting Communities Pilot Program”** (PL 117-58 §11509) Restore community connectivity by removing, retrofitting, or mitigating highways or other transportation facilities that create barriers to community connectivity, including to mobility, access, or economic development.
Eligible projects include:
 - Planning grants (\leq \$2M)
 - Grants (\geq \$5M) for capital construction projects, including the removal and replacement of eligible facilities
- **\$7.5 Billion “Local Regional Assistance Program”** (PL 117-58 §21202) Projects with a significant local or regional impact that improve transportation infrastructure (Local Governments only; MPOs not eligible for this program)
Eligible projects include:
 - Highway/bridge projects eligible under title 23
 - Public transportation projects
 - Passenger or freight rail projects
 - Port infrastructure investments
 - Surface transportation components of an airport
 - Projects for investment in surface transportation facilities on Tribal land
 - Projects to replace or rehabilitate a culvert or certain projects to prevent stormwater runoff
 - Any other surface transportation projects considered necessary to advance program goals

In addition, IJJA/BIL makes certain changes to the Metropolitan Planning Program involving representation, data development and modeling support:

- MPO representation - Requirement to consider equitable and proportional representation of population of metropolitan planning area when MPO designates officials or representatives for initial appointments (PL 117-58 §11201)
- Consistency of planning data - When more than one MPO is designated within an urbanized area, requires the MPOs to ensure consistency of planning data to the maximum extent practicable (PL 117-58 §11201)
- Public participation - Encouragement for MPOs to use social media and web-based tools to foster public participation and to solicit public feedback during the transportation planning process (PL 117-58 §11201)
- Travel demand data and modeling - Requirements for DOT to support State/MPO travel demand data and modeling, including a study, data, and an evaluation tool (PL 117-58 §11205)
- Safe and accessible transportation options - Requirement that each MPO use at least 2.5% of funds apportioned for Metropolitan Planning (PL) on one or more activities to increase safe and accessible options for multiple travel modes for people of all ages and abilities (PL 117-58 §11206)

Finally, the IJA/BIL continues the emphasis on Performance Based Program delivery set forth in preceding legislation (i.e., FAST Act and Map-21).

Justice40 Initiative

All the innovations in the IJA/BIL take place in the context of existing Executive Orders and federal laws related to protections and guarantees of civil rights. In furtherance of these goals, the Executive Branch has produced interim guidance on the Justice40 Initiative (authorized under Executive Order 14008), which has the stated goal “*that 40 percent of the overall benefits of [forthcoming Federal investments in housing, transportation water, wastewater infrastructure and healthcare] flow to disadvantaged communities.*” With respect to transportation activities, the types of programs covered under the Justice40 Initiative include:

- Improvement in public transportation accessibility, reliability, and options
 - Reduction of exposure to harmful transportation-related emissions
 - Access to clean, high-frequency transportation
 - Access to affordable electric vehicles, charging stations, and purchase programs
 - Increased bicycle and walking paths
- (<https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf>)

The Justice40 Initiative is an extension of the goals articulated under Executive Order 13985, which states the policy of the Federal government is:

“[to] pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality.

Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the whole of our Government. Because advancing equity requires a systematic approach to embedding fairness in decision-making processes, executive departments and agencies (agencies) must recognize and work to redress inequities in their policies and programs that serve as barriers to equal opportunity.”

(<https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/>)

While the Justice40 Initiative is focused on engaging in remediation for prior denials of capital development and program benefits, there also exists current obligations with respect to ongoing activities. Those obligations continue to be covered under earlier Federal directives and laws.

Environmental Justice, Title VI, Non-Discrimination, and Equity

Although Environmental Justice (EJ), Title VI, Non-Discrimination, and Equity are distinct elements, collectively they can contribute to the development of an equitable transportation system. These elements are regularly mistaken and used interchangeably, thus, making it essential to understand their differences. EJ at FHWA focuses on identifying and addressing

disproportionately high and adverse human health or environmental effects of the agency's programs, policies, and activities on minority populations and low-income populations to achieve an equitable distribution of benefits and burdens. This objective is to be achieved, in part, by actively adhering to the principles and practices of both Title VI and the National Environmental Policy Act (NEPA) during the development and implementation of transportation activities. The classes covered by EJ vary slightly from those covered by Title VI and other nondiscrimination statutes, as depicted in Table 12-1.

Area of Comparison	EJ	Title VI Statute	FHWA Title VI Program
Authorizing Zource	Executive Order 12898	Civil Rights Act of 1964	Title VI Program and Related Authorities: 23 CFR 200
Goal	Identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations	Prohibit discrimination on the basis of race, color or national origin in programs receiving Federal assistance.	Ensure that funding recipients comply with Title VI and related civil rights authorities
Protected Classes	Minority and low-income populations	Race, color and national origin	Race, color, national origin, sex, age, disability, low-income, and limited English proficiency
Covered Actions	Federal programs, policies and activities	All activities of recipients of Federal assistance	All activities of FHWA assistance
FHWA Lead Office	Office of Civil Rights and Office of Planning, Environment and Realty	Office of Civil Rights	Office of Civil Rights
Entities responsible for implementation	FHWA offices and recipients of Federal assistance	FHWA offices and recipients of Federal assistance	FHWA offices and recipients of Federal assistance
Provides authority for private parties to initiate a lawsuit	No. However, where an agency opts to examine EJ as part of its NEPA analysis, courts may review the EJ analysis under the Administrative Procedure Act	Yes. However, there is only a private right of action in a lawsuit for claims of intentional discrimination and not disparate impact discrimination. Only the funding agency issuing the disparate impact regulation has the authority to challenge a recipient's actions under a disparate impact claim.	No

Table 12-1 Comparison of EJ, the Title VI Statute and the FHWA Title VI Program

Title VI of the Civil Rights Act of 1964 prohibits discrimination based on race, color, and national origin in programs and activities receiving Federal financial assistance. More specifically, Title VI provides 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." The use of the word "person" is important as the protections afforded under Title VI are not limited to citizens of the United States; the U.S. Supreme Court has held that undocumented immigrants are considered "persons" under the equal protection clause of the Fifth and Fourteenth Amendments.

"Nondiscrimination" is more inclusive than the Title VI statute as it covers additional classes of individuals, and, pertains to other civil rights authorities with which funding recipients must comply. Under the Title VI statute, protected classes include race, color, and national origin; limited English proficiency is included within the class of national origin. FHWA's Title VI program (in contrast to the Title VI statute) expands the covered classes to include sex, age, disability, and low-income.

Together, Title VI, EJ, and other nondiscrimination authorities protect diverse segments of the population which may be at risk of being unduly impacted by, or which have been historically underrepresented, within the transportation decision-making process. Considering the needs of and potential impacts of projects on these populations may result in greater transportation equity as benefits are likely to be more equitably distributed amongst the affected communities.

Equity in transportation seeks fairness in mobility and accessibility to meet the needs of all community members. A central goal of transportation equity is to facilitate social and economic opportunities by providing equitable levels of access to affordable and reliable transportation options based on the needs of the populations being served, particularly populations that are traditionally underserved. This population group includes individuals in at least one of the following categories: Low-Income, Minority, Elderly, Children, Limited English Proficiency, or Persons with Disabilities. It is important to note that transportation equity does not mean equal. An equitable transportation plan considers the circumstances impacting a community's mobility and connectivity needs and this information is used to determine the measures needed to develop an equitable transportation network. The graphic illustrates the differences between equality and equity. To attain an equitable transportation network, all components of Title VI, EJ, and Nondiscrimination must be considered.

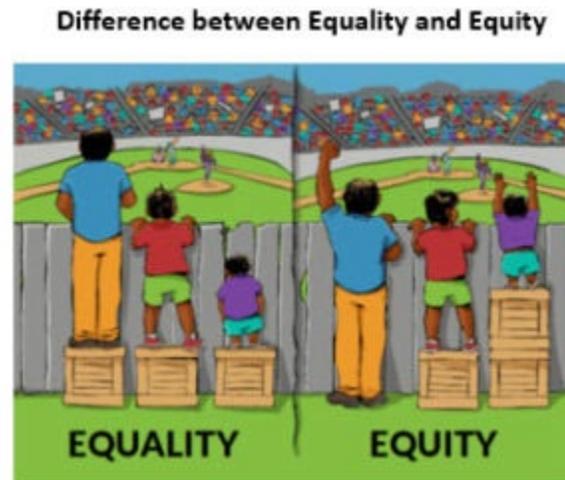


Figure 12-1: Equality vs. Equity

Environmental Justice and Title VI

While Environmental Justice and Title VI concerns have most often been raised during project development, it is important to recognize that the law also applies equally to the processes and products of planning. There are three fundamental environmental justice principles:

- *To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;*
- *To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process;*
- *To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.*

Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, or national origin. The Office of Management and Budget (OMB) issued Policy Directive 15, Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, in 1997, establishing five minimum categories for data on race. Executive Order 12898 and the DOT and FHWA

Orders on Environmental Justice address persons belonging to any minority or low-income populations. Transportation plans for the Macon Area must show compliance with federal laws guaranteeing rights to persons of all races, color or national origins and to persons with disabilities as well. Two policies that must be taken into consideration in transportation process on the state and local levels are Executive Order 12898, (better known as Environmental Justice (EJ)) and the Americans with Disabilities Act (ADA). These policies require local transportation plans to identify and address as appropriate, disproportionately high and adverse human or environmental effects of its programs, policies, and activities on minority populations and low-income populations. Macon's long range transportation must also comply with Title VI of the Civil Rights Act of 1964 that state, "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied benefits of, or be subject to discrimination under and program or activity receiving federal assistance". It must also comply with the Americans with Disabilities Act (ADA) which concentrates on the physical access to services and facilities. Environmental Justice Executive Order 12898, *Federal Actions to Address Environmental Justice (EJ) in Minority and Low-Income Populations*, calls for the identification and addressing of disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. The intent of the Executive Order and the US Department of Transportation's EJ guidance is to ensure that communities of concern, defined as minority populations and low-income populations are included in the transportation planning process, and to ensure that they may benefit equally from the transportation system without shouldering a disproportionate share of its burdens.

Title VI and the Americans With Disabilities Act

Compliance with Title VI of the Civil Rights Act of 1964 as well as the requirements of the Environmental Justice Orders and the Americans with Disabilities Act is of major concern to the Macon Area Transportation Planning Study. Title VI states, "*No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied benefits of, or be subject to discrimination under any program or activity receiving federal assistance*". Further, Environmental Justice provides "each Federal Agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human or environmental effects of its programs, policies, and activities on minority populations and low-income populations". The Americans with Disabilities Act concentrates on the physical access to services and facilities.

These areas of concern were considered and addressed in the MATS procedure used to develop the Metropolitan Transportation Plan (MTP). First, access to the planning process was handled to ensure that the low-income populations and minority populations, and persons with disabilities could participate in the development of the MTP. The Citizens Advisory Committee (CAC) was used as an instrument for identifying, discussing, and documenting diverse positions and sentiments regarding local transportation matters. The CAC has key representation to ensure these protected interests have access to the planning process. While the following does not represent the total membership of the CAC, those listed below do provide input for EJ and ADA concerns:

- One person from each Macon-Bibb County Commission District;
- One person from Jones County Commission District 4;
- One person from Monroe County Commission District 3;
- One person from the AARP (*American Association of Retired Persons*);
- One person representing the Bicycle / Pedestrian community;
- One person from the Board of Education;
- One person representing the Disabled Population;
- One person representing the Disabled Transportation User (ADA Transit Rider);
- One person representing Environmental concerns;
- One person representing the League of Women Voters;
- One person representing the Macon Housing Authority;
- One person representing Transit User

In addition, minority representation on decision-making bodies in Macon - Bibb County is in most cases substantial. The following provides a breakdown of minority representation on many of the major decision making bodies in Macon - Bibb County.

	<u>Members</u>	<u>Minority Members</u>
Jones County Board of Commissioners	5	2
Macon - Bibb County Board of Commissioners	9	4
Monroe County Board of Commissioners	5	1
Macon-Bibb County Transit Authority	7	4
Macon - Bibb County Planning & Zoning Commission	5	2
Macon Area Transportation Study <i>Policy Committee</i>	13	3
<i>Technical Coordinating Committee</i>	24	4
<i>Citizens Advisory Committee</i>	20	7

Table 12-2 Minority Representation on MATS Area Boards and Commissions

To further solicit minority participation from the general public, notices for public forums are published in a newspaper of general circulation, a minority newspaper and a Spanish language newspaper in the MATS area. Notices are also posted in the Macon – Bibb County Government Center, and the Macon – Bibb County Planning and Zoning Commission's office, and the MATS website (www.maconmpo.com). Other forms of outreach include: announcements on social media, local television station, radio announcements, MATS E-Newsletters and other forms of electronic E-Newsletters to include “The Hub”, Middle Georgia CEO and the Greater Macon Chamber of Commerce.

Executive Order #13166: Limited English Proficiency [LEP] Plan Title VI

On August 11, 2000, President William J. Clinton signed Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency". The Executive Order requires Federal agencies to examine the services they provide, identify any need for services to those with Limited English Proficiency (LEP), and develop and implement a system to provide those services so LEP persons can have meaningful access to them. It is expected that agency plans will provide for such meaningful access consistent with, and without unduly burdening, the fundamental mission of the agency. The Executive Order also requires that the Federal agencies work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries.

To ensure the MATS MPO is in compliance with Executive Order 13166, the MPO utilized U.S. DOT's Policy Guidance four - factor analysis to ensure that meaningful access is provided for LEP persons. This analysis was last completed in September 2021, as part of a review by Georgia Dept. of Transportation – Division of Intermodal for MATS compliance with LEP policies.

Who Is Considered a LEP Person?

By definition, LEP persons are individuals who are unable to communicate effectively in English because their primary language is not English and they have not developed fluency in the English language and they may have problems reading, writing or speaking English.

Determining The Need For LEP Services

As a recipient of federal financial assistance, MPO's are encouraged to take reasonable steps to ensure meaningful access to the information and services it provides. As noted in the *[Federal Register, Volume 70; Number 239 on December 14, 2005]*, there are four factors to consider when determining "reasonable steps." The MATS MPO will coordinate the U.S. DOT "four - factor" LEP analysis in determining the need for LEP services.

- **Factor 1:** *Identify the number or proportion of LEP persons eligible to be served or likely to be encountered by MATS Public Transit, MPO's programs, services or activities.*
- **Factor 2:** *Determine the frequency with which LEP individuals come in contact with MATS public transit and MPO programs, services or activities.*
- **Factor 3:** *Determine the nature and importance of the MATS public transit, MPO programs, services, or activities.*
- **Factor 4:** *Access the available resources and the overall cost to MATS public transit and the MPO.*

MATS Self - Assessment

MATS MPO will seek to identify individuals of the LEP population within the MATS Study area who have limited ability to read, write, speak, or understand English. The MPO will use the U.S. Department of Transportation four factor LEP analysis to assess the area:

Factor 1: Identify the number or proportion of LEP persons eligible to be served or likely to be encountered by MATS Public Transit, MPO's programs, services or activities.

Table 12-3 below provides statistical data on the percentage of LEP persons in the MATS area who speak English only, as well as the percentage of those who speak a language other than English who are eligible to be served or likely to be encountered by MATS Public Transit and MPO programs, services, and activities. The MPO will monitor the release of more current data as it becomes available and make the necessary updates as needed.

	Bibb County	Jones County	Monroe County
Total Population Over Age 5	142667	18016	3631
Speak only English	134980	17699	3509
Speak Spanish:			
Speak English "not well"	503	0	19
Speak English "not at all"	359	0	0
Speak other Indo-European languages:			
Speak English "not well"	62	0	0
Speak English "not at all"	59	0	0
Speak Asian and Pacific Island languages:			
Speak English "not well"	318	0	0
Speak English "not at all"	75	0	0
Speak other languages:			
Speak English "not well"	13	0	0
Speak English "not at all"	0	0	0

Table 12-3 Estimate of English Language Proficiency of Population in MATS Counties | Source: American Community Survey 5 Year Estimate, 2015 – 2019, Table B16004: Nativity By Language Spoken At Home By Ability to Speak English For the Population 5 Years and Over

Factor 2: Determine the frequency with which LEP individuals come in contact with MATS public transit and MPO programs, services or activities.

Based on the statistical data in Table 12-3, Spanish is the most significant language spoken other than English throughout the MATS Study area. To date, no requests for language assistance services have been made by LEP individuals or groups. However, while currently small, it is anticipated that the size of this LEP population in this area/region will increase and, as a result, so will the likelihood of future contact with the MPO. As the LEP program is further reviewed in the MATS area, any requests for language assistance will be monitored and used to gauge the effectiveness of the MPO's outreach to these populations. As subsequent transit and/or transportation-related plans are produced, the MPO should consider including in the Public Participation plan the need for outreach opportunities that engage populations that have traditionally been underserved and lacked involvement in the transportation planning process. Utilizing the MPO's website should be another method to make contact with the MPO and LEP persons.

Factor 3: Determine the nature and importance of the MATS public transit, MPO programs, services, or activities.

There is no large geographic concentration of any type of LEP individuals in the MATS area that's being served by public transit or benefits from any services, activities or MPO programs. As described in Table 12-3 above, the overwhelming majority of the population in the MATS area over 5 years of age (99.02% in Bibb County; 100% in Jones County; 100% in Monroe County) speak English better than “not well”, which is the minimum threshold to require language assistance. As a result, there are few social, service, professional and leadership organizations within the MPO organizational structure as well as the public transit service area that focus on outreach to LEP individuals. Services provided by public transit that is most likely to encounter LEP individuals are the fixed route (city bus) system which serves the general public and the demand response (paratransit and rural transit) systems which serve primarily senior and disabled persons.

Factor 4: Access the available resources and the overall cost to MATS public transit and the MPO.

As the need arise, it is recommended that MATS, the local Macon Transit Authority and the Jones County Transit System seek the services of government and institutional agencies such as the Middle Georgia Regional Commission, Mercer University, Wesleyan College, Central Georgia Technical College and Middle Georgia State University. This effort will create a partnership with foreign and international student programs on the respective campuses. Other programs throughout the county will need to be discovered and an inventory of additional available organizations that could be partnered with for outreach and translation efforts.

Meeting The Requirements And Implementation (Identifying LEP Individuals Who Need Language Assistance)

In November 2014, MATS adopted the *Title VI Documentation Update* which included the Limited English Proficiency Plan and the Participation / Involvement Plan, regarding technical planning assistance. Since the adoption of the Title VI Documentation Update, the MPO has not produced any materials to effectively communicate with LEP persons. However, several materials that can be produced to assist in this effort is, the development of:

- ***Flashcards*** developed by the U.S. Census Bureau (to be used in face-to-face situations). These cards have the phrase, “Mark this box if you read or speak ‘name of a language,’” translated into 38 languages. They were designed for use by government and non-government agencies to identify the primary language of LEP individuals during face-to-face contacts. The Census Bureau's Language Identification Flashcard can be downloaded for free at <http://www.lep.gov/ISpeakCards2004.pdf>. The MPO plans to make them available at public meetings and the front desk of the MPO offices. Once a language is identified, the Title VI - LEP Officer or relevant point of contact will be notified to assess feasible translation or oral interpretation assistance.

Language Assistance and Translation of Materials

- Language assistance will be provided for LEP individuals through language translations and/ or oral interpretations of some key materials, upon request or as deemed necessary for effective outreach.
- The MPO will research the feasibility of the Google Translate program, <http://translate.google.com>, for its website to allow users to view HTML content in other languages. Although an imperfect system, this alternative may have the potential to provide enough information for a LEP individual or group to gain some understanding of the MPO and to initiate contact.
- A list of MPO staff who speak and or/write a language other than English and who are willing and able to act as interpreters should be identified.
- The MPO phone recording will be modified to include an option to speak to someone in Spanish.

Providing Notice to LEP Persons

It is important to notify LEP persons of services available free of charge in a language that would be understood. Where appropriate and feasible, the MPO will include the following language in English and Spanish, on meeting notifications and other informational materials, whenever this type of assistance become available. An example of such notice is below:

Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status. Persons who require special accommodations under the Americans with Disabilities Act or persons who require translation services for a meeting (free of charge) should contact Gregory L. Brown at 478.338-9463 or gbrown@mbpz.org at least seven days in advance.

Se solicita La participación del público, sin importar la raza, color, nacionalidad, edad, sexo, religión, incapacidad o estado familiar. Personas que requieran facilidades especiales bajo el Acta de Americanos con Discapacidad (Americans with Disabilities Act) o personas que requieren servicios de traducción (sin cargo alguno) deben contactar a Gregorio L. Brown al teléfono 478.338-9463 at gbrown@mbpz.org por lo menos siete días antes de la reunión.

Staff Training

In order to establish meaningful access to information and services for all, staff members of the MPO who interact with the public will be trained to assist LEP individuals in person and /or by telephone.

LEP Updates

The MPO will consider its most recently adopted LEP Plan as an appendix to its most recently adopted Public Involvement Plan. The MPO understands that its community profile continues to change and that the four-factor analysis may reveal the need for additional LEP services in the future. As such, the MPO will annually examine its LEP Plan to ensure that it remains reflective of the community's needs.

Contact Information

The MPO's intention is not to exclude anyone requiring language assistance and will make every reasonable effort to accommodate requests. As the MPO staff receives more training and become more knowledgeable, a staff person will be identified to assist those who require special language assistance.

Environmental Assessment of Natural / Historic Resources

The Macon Area Transportation Study (MATS) believes that the MPO can best meet requirements first set forth under the FAST Act through a comparison of transportation plans with available conservation plans and maps. If available, comparisons should also be made with an inventory of historic or natural resources and, based on results of the comparison, develop a generalized discussion of potential mitigation activities at the appropriate level. During the development of the 2040 LRTP, the MPO provided opportunities for discussion on the various topics with appropriate federal and state environmental and land management planning agencies. The following agencies were consulted at that time by way of letter correspondence:

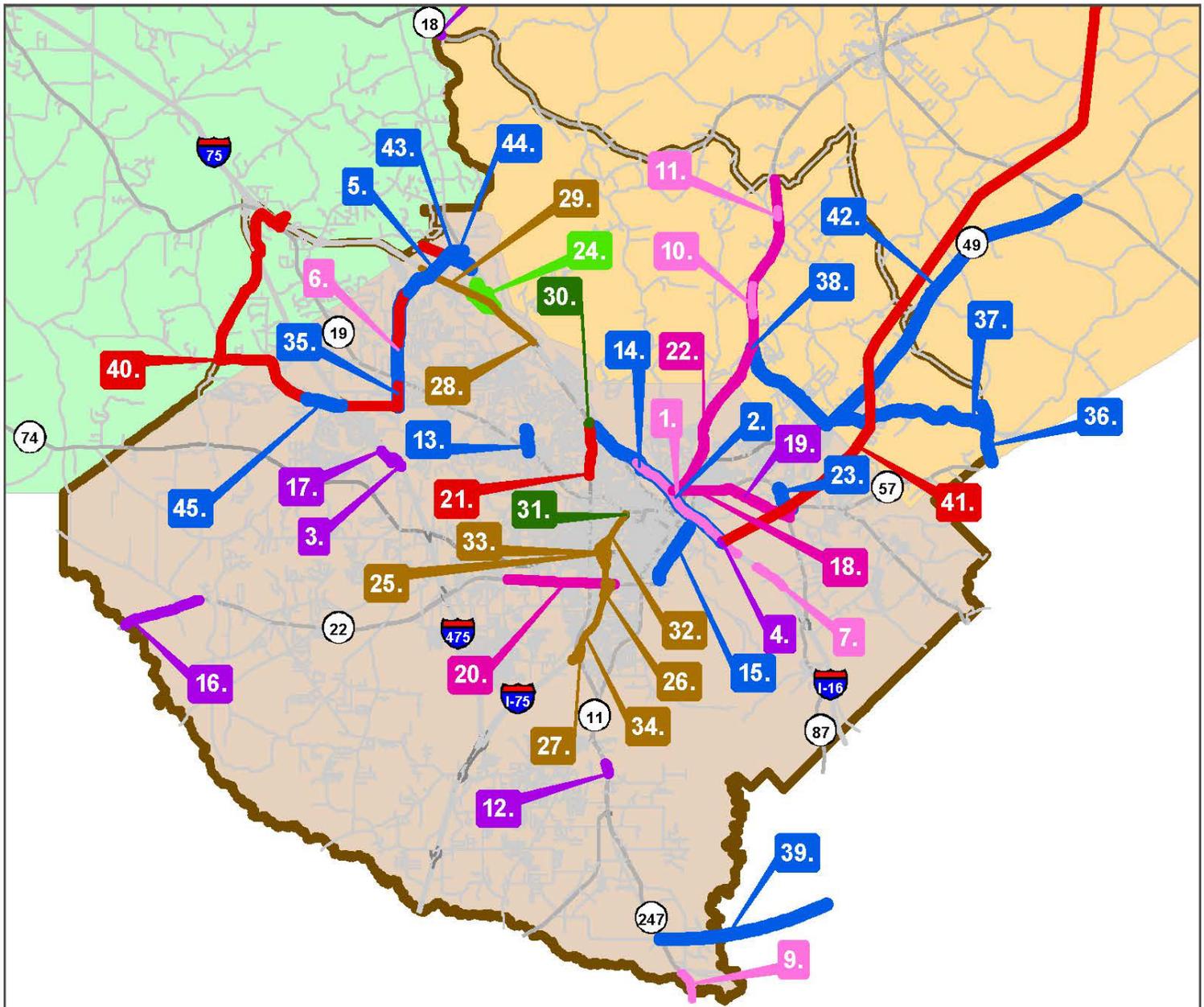
- Georgia Department of Community Affairs
- Georgia Department of Economic Development
- Georgia Forestry Commission
- Georgia Department of Natural Resources (DNR)
- Historic Preservation Division, DNR
- Environmental Protection Division, DNR
- Wildlife Resource Division, DNR
- State Parks & Historic Sites, DNR
- Georgia Department of Transportation
- U.S. Environmental Protection Agency Region 4
- Federal Emergency Management Agency
- U.S. Corp of Engineers
- U.S. Fish and Wildlife Service
- National Park Service

It is believed that the responses received from the consultation outreach efforts to the various environmental agencies during the 2035 and 2040 LRTP updates are substantial responses and can be applied to the current update of the 2050 MTP.

Table 6-2 and Figure 6-5 in Chapter 6 identify the locations of the proposed 2050 MTP projects in the MATS area. Figures 12-1 through 12-12 on the following pages show subsets of MTP projects that may impact bridge & intersection improvement projects, environmental justice areas, community facilities, conservation areas, watersheds, groundwater recharge areas, wetlands, floodplains, historic resources, archaeologically sensitive areas and river/stream corridor protection.

Bridge and Intersection Improvements Projects

Figure 12-2 shows the location of proposed Road and Bridge projects within the MATS area.



Priority	Project Description
1	I-75/I-16 Interchange - Phase 4 - Expansion of I-16 eastbound from I-75 to Walnut Creek
2	I-75/I-16 Interchange - Phase 5 - Expansion of I-16 westbound from I-75 to Walnut Creek
3	Tucker Rd. bridge replacement over I-475 Tucker Rd. bridge replacement over I-475 Tucker Rd. bridge replacement over I-475
4	Bridge Replacement - Replace Bridge on I-16 Eastbound & Westbound @ Walnut Creek 1 Mile East of Macon
5	Bass Road widening, Phase 1 Providence Blvd to New Forsyth Rd (widening from 2 to 4 lanes)
6	Bass Road bridge replacement over Norfolk Southern railroad. Bass Road bridge replacement over Norfolk Southern railroad.
7	I-16 bridge replacements over Norfolk Southern railroad. I-16 bridge replacements over Norfolk Southern railroad.
8	Bridge Replacement - Dames Ferry Rd. (aka SR 18) at Ocmulgee River. Bridge Replacement - Dames Ferry Rd. (aka SR 18) at Ocmulgee River.
9	Bridge Replacement - Hawkinsville Rd. from Bibb County/Houston County border to Feagin Rd. (Northbound lanes), at 3 locations
10	Bridge Replacement - Gray Highway (aka US 129) Northbound & Southbound over Rock Creek
11	Bridge Replacement - Gray Hwy (aka US Hwy 129) over Sand Creek. Bridge Replacement - Gray Hwy (aka US Hwy 129) over Sand Creek
12	Hawkinsville Road bridge replacement over Norfolk Southern railroad. Hawkinsville Road bridge replacement over Norfolk Southern railroad.
13	Forest Hill Rd. - Widen from 2 to 4 lanes from Vineville Ave. /Forsyth Rd. to Wimbush Rd.
14	I-75/I-16 Interchange - Phase 6 - Expansion of I-75 from I-16 to Pierce Ave.
15	7th St. Truck Route - 7th St. @ Walnut & 7th St. @ Eisenhower - Roundabout and Improvements
16	Eisenhower Pkwy bridge replacement at Echo cone Creek (Crawford Co. line)
17	Peake Rd. bridge replacement at Rocky Creek near Stratford Academy. Peake Rd. bridge replacement at Rocky Creek near Stratford Academy
18	Safety Improvements - Emory Hwy from Spina Street to Insulion Highway
19	Emory Hwy bridge replacement at Walnut Creek. Emory Hwy bridge replacement at Walnut Creek
20	Safety Improvements Eisenhower Parkway from Bloomfield Dr. to C Street
21	Pierce Ave. pedestrian and bicycle improvements from Ingelside Ave. to Riverside Dr.
22	Safety Improvements Gray Hwy from I-75 to Jones County Line. Safety Improvements Gray Hwy from I-75 to Jones County Line
23	Jeffersonville Rd. widening - Norfolk Southern bridge replacement. Jeffersonville Rd. widening - Norfolk Southern bridge replacement
24	I-75/Riverside Drive Interchange - Signalize Interchange. Modify ramps to add turn lanes & storage. Run Fiberoptic.

25	I-75 Corridor - Mercer University Drive - Northbound and Southbound ramp intersection signalization and improvement (as a result of falling 2032 and 2040 Level of Service)
26	I-75 Corridor - Eisenhower Parkway - Northbound ramp intersection signalization and improvement (as a result of falling 2040 Level of Service)
27	I-75 Corridor - Pio Nono Avenue - Northbound ramp intersection signalization and improvement
28	I-75 Corridor - Riverside Drive to Arkwright Road - both directions (as a result of falling 2040 Level of Service)
29	I-75 Corridor - Between Bass Road to Riverside Drive (as a result of falling 2012 and 2040 Level of Service)
30	I-75 Corridor - Pierce Avenue at intersection with Riverside Drive (as a result of falling 2012 and 2040 Level of Service)
31	I-75 Corridor - Forsyth Street - Northbound off ramp (as a result of falling 2012 and 2040 Level of Service)
32	I-75 Corridor - Forsyth Street to Mercer University Drive - Both Directions (as a result of falling 2012 and 2040 LOS)
33	I-75 Corridor - Mercer University Drive to Eisenhower Parkway - both directions (as a result of falling 2040 LOS)
34	I-75 Corridor - Eisenhower Parkway to Pio Nono Avenue in Both Directions
35	Bass Rd. widening, Phase II - Providence Blvd. to Zebulon Rd. widened from 2 to 4 lanes
36	Henderson Rd. - Widen to 4 lanes from SR 57 to Griswoldville Rd. Henderson Rd. - Widen to 4 lanes from SR 49 to Griswoldville Rd.
37	Griswoldville Rd. - Widen to 4 lanes from Henderson Rd. to SR 49. Griswoldville Rd. - Widen to 4 lanes from Henderson Rd. to SR 49
38	Joycliff Rd. - Widen to 4 lanes from SR 49 to US 129. Joycliff Rd. - Widen to 4 lanes from SR 49 to US 129
39	Sardis Church Rd. Extension from SR 247 to Spoda Rd. - New Road on new location project. Includes study
40	Bolingbroke Bike Loop - Bolingbroke to Estes Rd, to Zebulon Rd., to Bass Rd., to New Forsyth Rd., to Macon-Bibb County Line
41	Propose pedestrian/bike trail from macon-Bibb County to Millidgeville (Jones County)
42	Gray Hwy (aka State Route 49) widening from Griswoldville Rd. to State Route 38 (Jones Co.)
43	Widen New Forsyth Rd from 2 to 4 lanes with turn lanes as needed from Bass Rd. to Riverside Dr. with major intersection reconfiguration with Bass Rd., Wimbush Rd., and Forest Hill Rd.
44	Widen Bass Rd. from 2 to 4 lanes from New Forsyth Rd. to Riverside Drive, and interchange improvements
45	Zebulon Rd. - Widen Zebulon Rd. from Lake Wildwood entrance to Lamar Rd. from 2 to 4 lanes. Add turn lanes at Lamar Rd. and Zebulon Rd.

Legend

- Traffic Signals
- Bridges
- Bridge Replacement
- Auxiliary Lanes
- Turn Lanes
- Intersection/Signal/Safety
- Safety Project
- EBike/Ped
- Roadway Project
- MPO Boundary
- Bibb
- Jones
- Monroe

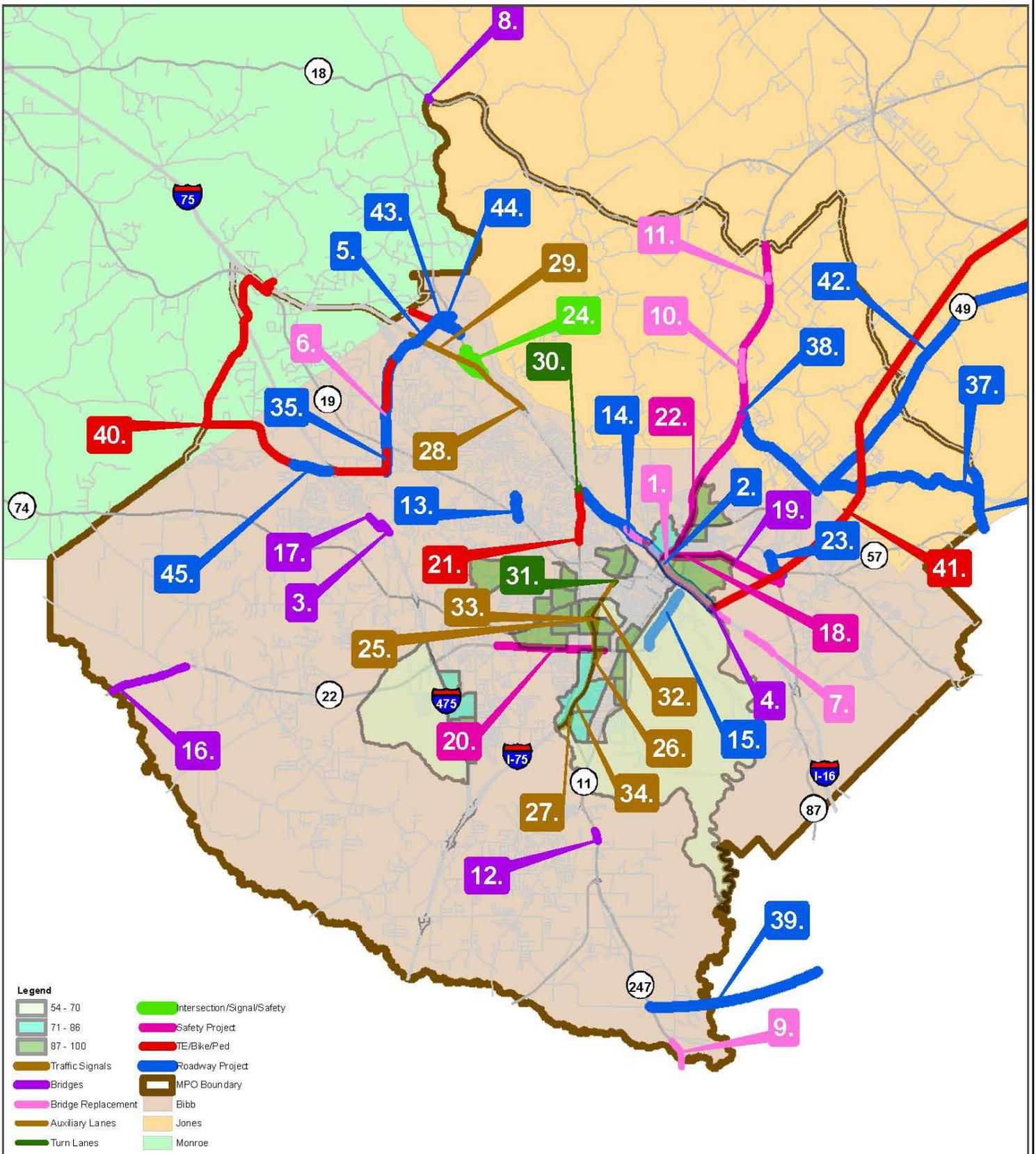
The Macon-Bibb County's infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/25/2022

1 inch = 20,000 feet
Map Mator: Lesly G. Hampson

Environmental Justice Areas

Several block groups within the MATS region have a population primarily comprised of minority and/ or poor residents. These blocks are classified as Environmental Justice (EJ) areas and most are located within the urbanized areas of Macon – Bibb County. Figure 12-3 displays the location of these areas and the MTP projects that traverse these areas.

A GIS analysis highlights the results of a spatial query and shows all MTP projects that intersect all or part of any block group meeting EJ specifications. The query indicated that approximately 20 projects MTP projects will impact the MPO environmental justice area. The 20 projects are also listed on the map that corresponds to its location on the map.



The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/31/2022

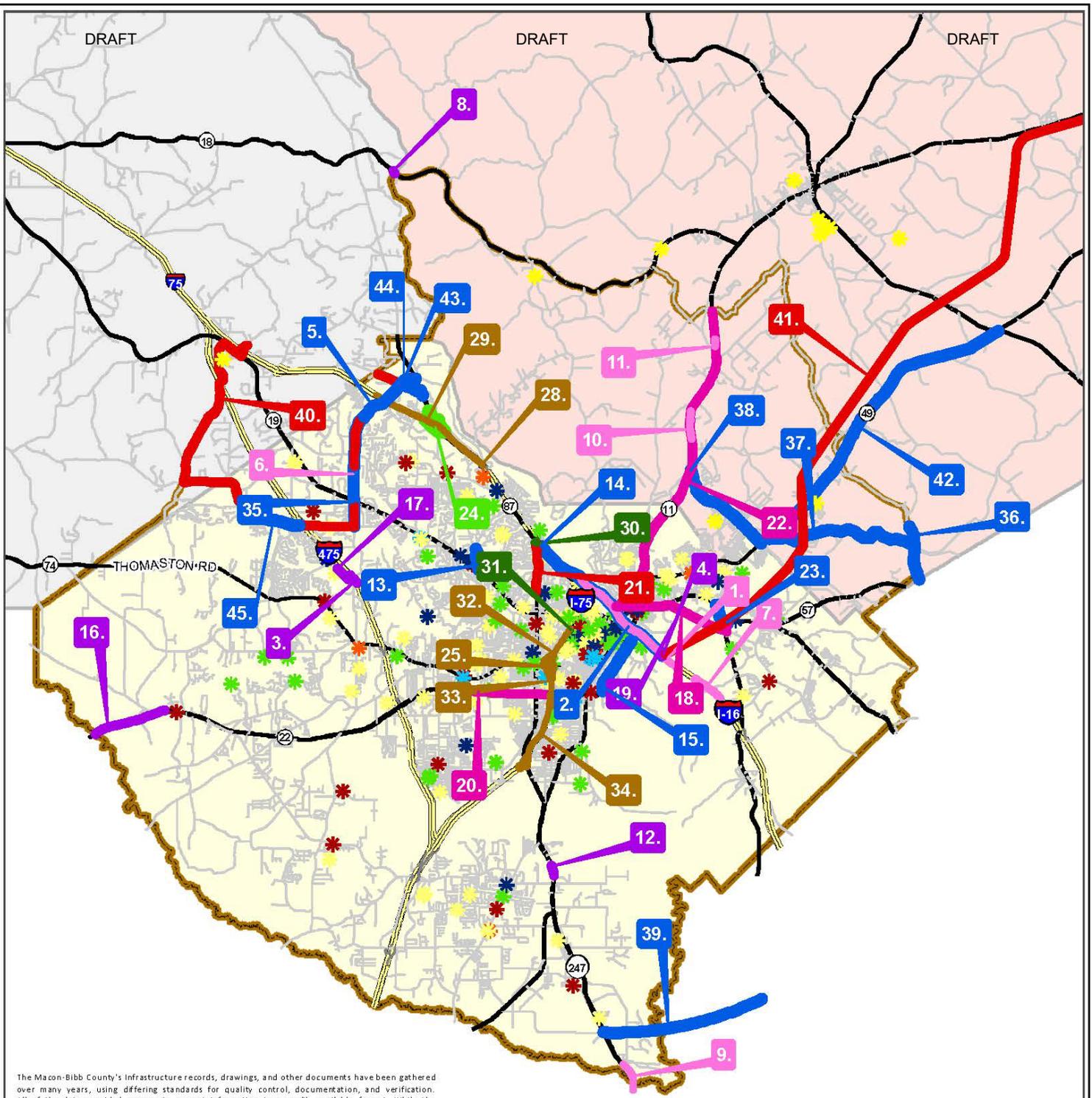
1 inch = 17,059 feet
Map Mator: Lesly G. Hampton



Community Facilities

Community facilities are diverse. They include utilities such as water collection, treatment, and distribution; wastewater collection and treatment; and sometimes electrical distribution. They also include schools, parks, fire and police stations, jails, libraries, convention centers, and solid waste treatment and storage facilities, hospitals, clinics, community centers, shelters, and other public and quasi-public facilities to name a few. These facilities are a vital part of the well-being of the community; therefore, consideration in the transportation planning process must be given.

A GIS analysis highlights the results of a spatial query and shows all MTP projects that are within 500' of a Georgia Department of Community Affairs recognized community facility. Figure 12-4 displays the approximate location of all community facilities within the MATS study area, as well as those community facilities that may be in the immediate area of a proposed MTP project.



The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/27/2022

Legend

- | | | |
|--|---------------------|-------------------|
| Water Treatment or Wastewater Facility | Roads | Macon-Bibb County |
| Hospital | Freeway | Jones County |
| Library | Highway | Monroe County |
| Fire Station | Major Arterial | |
| Police Station or Correction Center | Local | |
| Schools | Ramp | |
| Parks | MPO Boundary | |
| | MPO Boundary | |

1 inch = 4 miles

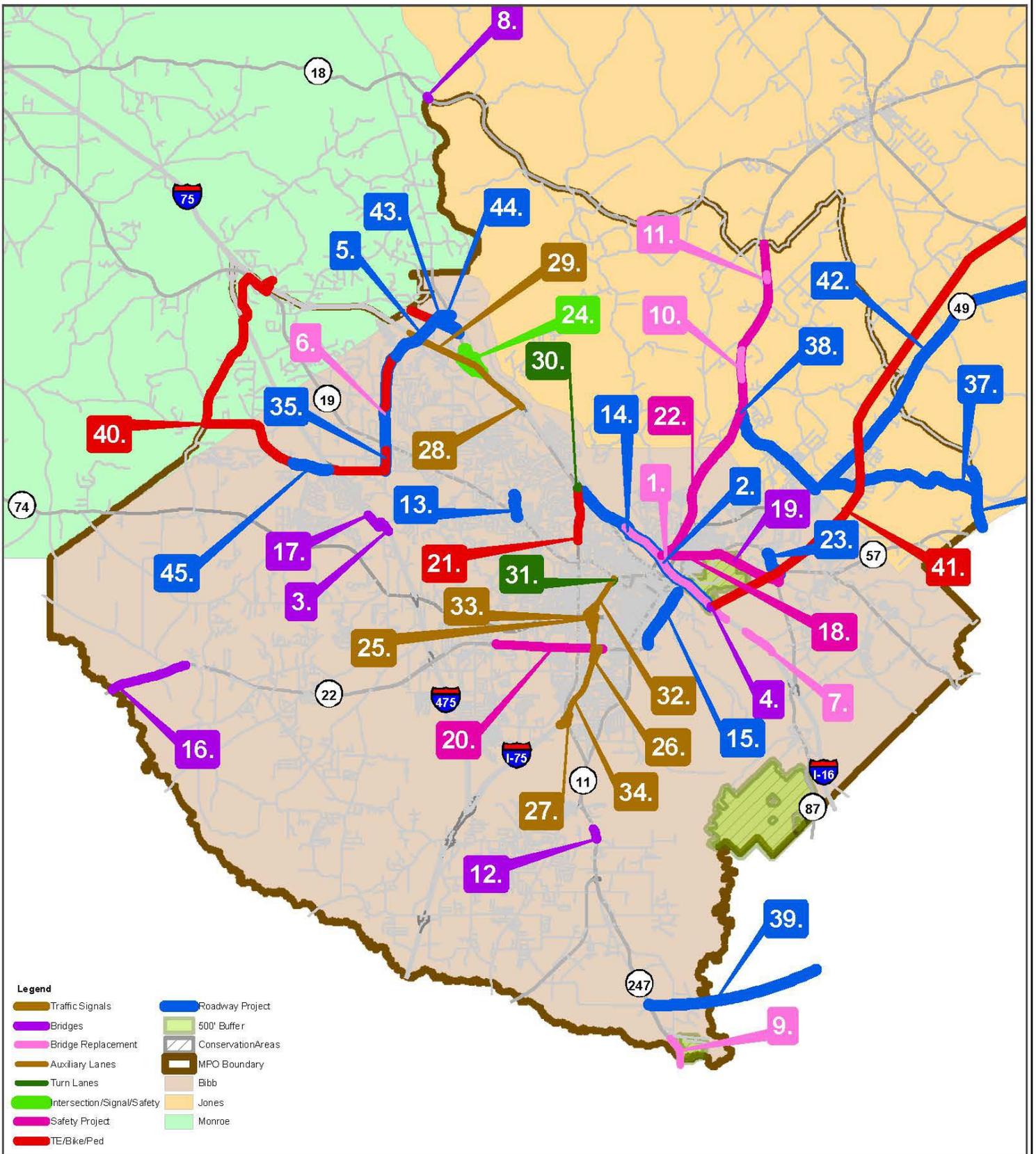
Map Maker: MATS GIS



Conservation Areas

There were three land areas within the MATS area that are in a state of conservation recognized by the federal government. These areas include The Ocmulgee National Monument, Bond Swamp National Wildlife Refuge, and the Echeconnee Creek reserve. Bond Swamp, as the name implies, is a protected habitat for wildlife such as endangered bald eagles. It is important that these resources are given adequate consideration to avoid any adverse encroachment.

The GIS indicated that there were one Auxiliary Lanes, five Bridge Projects, one Intersection/Signal/Safety Project, five Roadway Projects and one Safety Project that were within 500' of one or more of these areas. The 500' buffers are shaded in **green** and the affected projects are shown in Figure 12-5. The MTP projects that met this criterion are listed below.



- Legend**
- Traffic Signals
 - Bridges
 - Bridge Replacement
 - Auxiliary Lanes
 - Turn Lanes
 - Intersection/Signal/Safety
 - Safety Project
 - TE/Bike/Ped
 - Roadway Project
 - 500' Buffer
 - Conservation Areas
 - MPO Boundary
 - Bibb
 - Jones
 - Monroe

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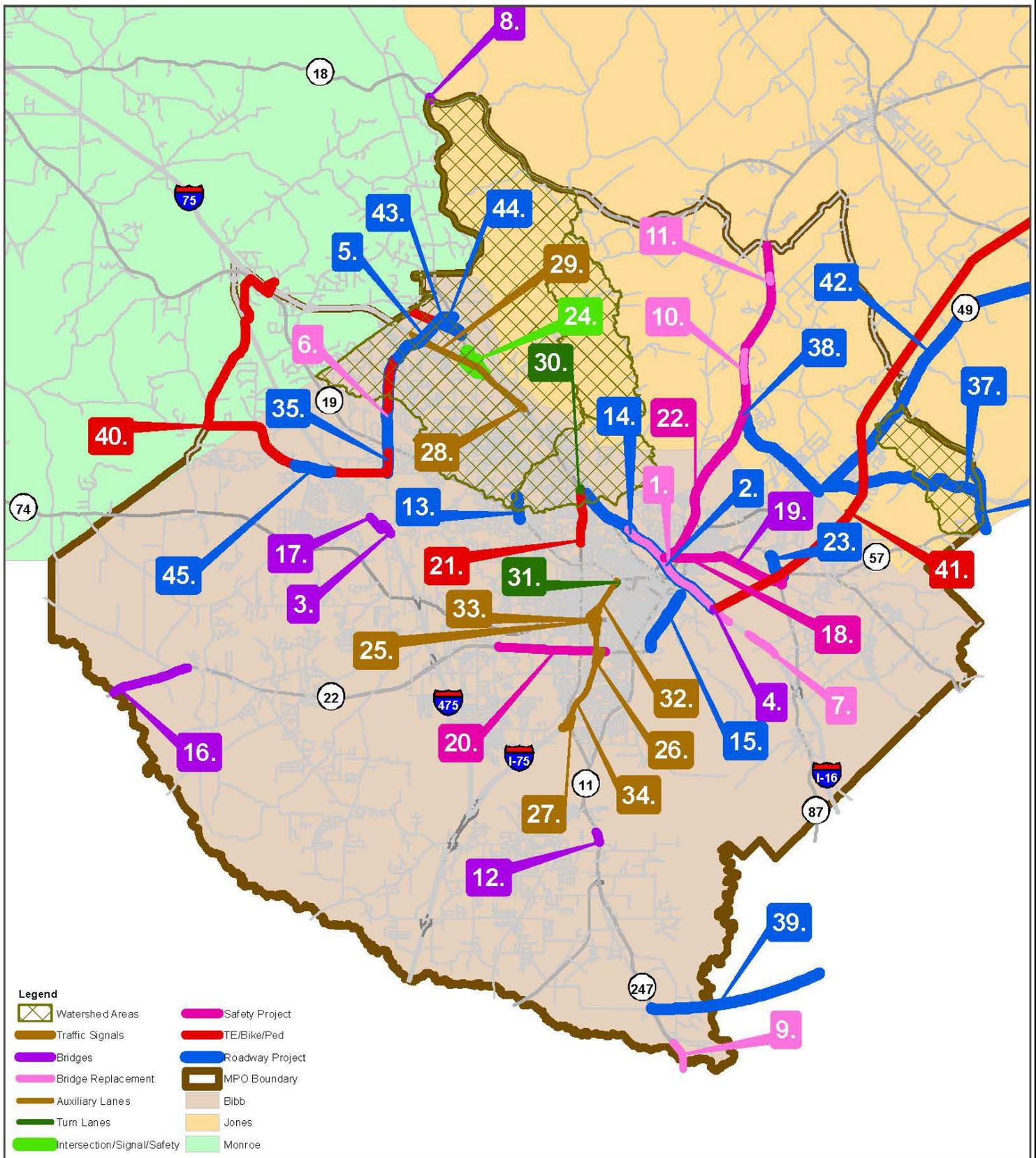
1 inch = 17,009 feet
Map Made: IsabyG Hampton



Watersheds

Watershed basins are areas drained by a single watercourse such as a river. They have the basic function of converting precipitation into stream flow and ground water. Therefore; the protection of these resources are very important. There are two basins in the MATS area. The two basins are the Ocmulgee River and Oconee River watershed basins.

The GIS analysis indicated that there are a total of 13 MTP projects that will impact one of the two basins in the MATS area. Figure 12-6 displays the MTP projects that may impact watershed areas.



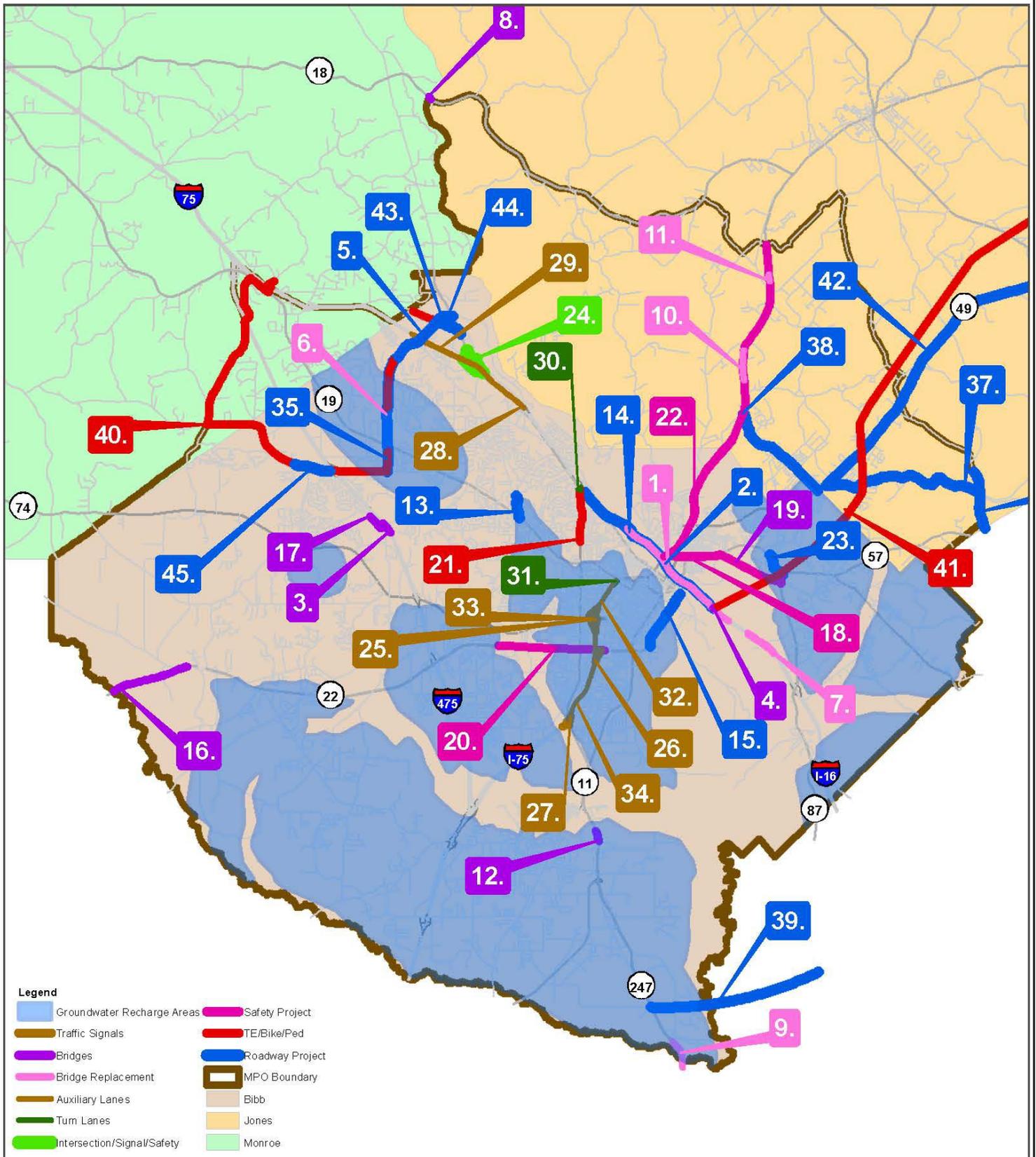
The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records. Date: 1/31/2022

1 inch = 17,059 feet
 Map Maker: Lesby G. Harwood

Ground Water Recharge Areas

Groundwater recharge areas are locations in which underground aquifers are replenished or recharged by rainwater. These areas typically have soils and rocks that are porous and permeable to allow ground water seepage into the underground aquifer. It is estimated that 97% of the world's supply of liquid fresh water is held in aquifers (Owen & Chiras, 1990). The protection of these areas must be taken into consideration.

GIS Data acquired from the Georgia Department of Community Affairs revealed that there are many large aquifers in the MATS region. The GIS analysis indicated that there are approximate 30 MTP projects that may potentially be constructed on known recharge areas in MATS. Figure 12-7 displays these MTP projects.



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Date: 1/31/2022

1 inch = 17,000 feet
Map Maker: Lesby G. Hawkins

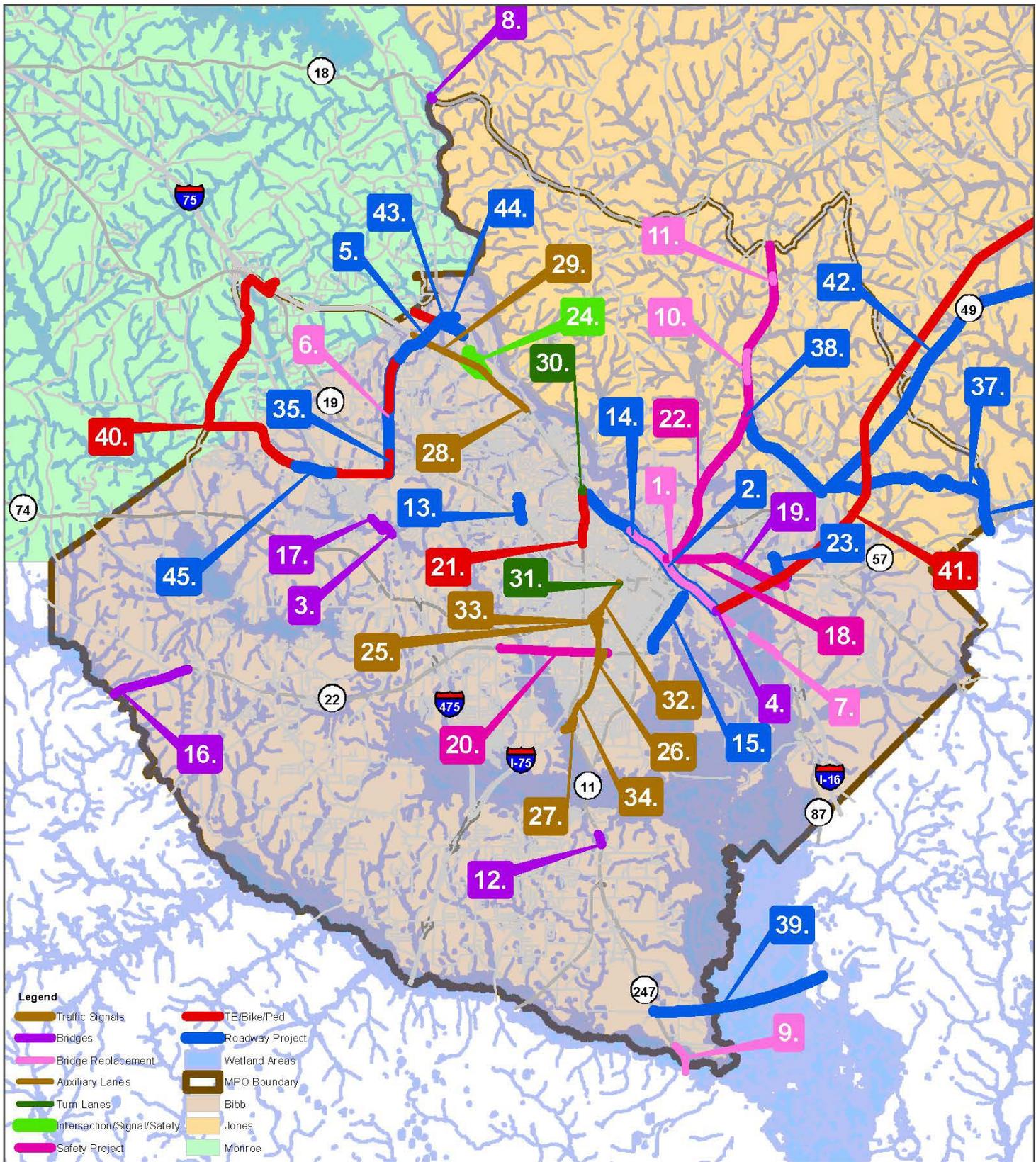


Figure 12-7: Location of MTP Projects in Relation to Ground Water Recharge Areas

Wetlands

Wetlands are lands that are considered wet for most of the year. They include swamps, bogs, salt marshes, lagoons, bays and mangrove swamps. Wetlands serve important functions to the ecosystem by acting as natural water filtration centers, animal habitats, and providing flood control to name a few.

GIS Data acquired from the Georgia GIS Clearinghouse revealed that there are many areas classified as wetlands in the MATS region. The GIS analysis indicated that there are approximately 10 MTP projects that will encroach upon wetlands in the MATS region. The results are highlighted in Figure 12-8.



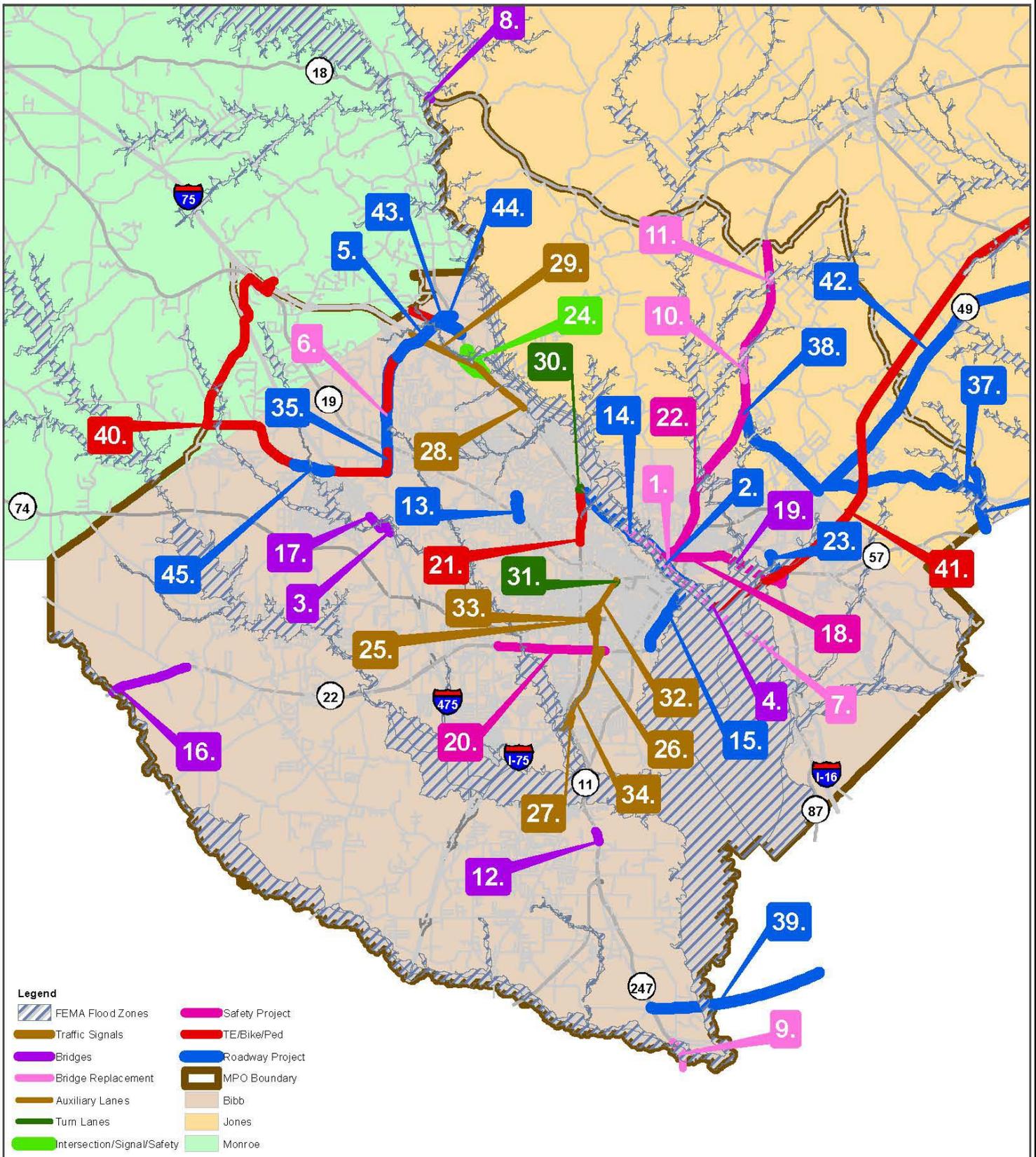
The Macon-Bibb County's Infrastructure records, drawings, and other documents have been gathered over many years, using differing standards for quality control, documentation, and verification. All of the data provided represents current information in a readily available format. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not warranted. Prior to making any property purchases or other investments based in full or in part upon the material provided, it is specifically advised that you independently field verify the information contained within our records.
Date: 1/31/2022

1 inch = 17,059 feet
Map Mator: Lesby G. Hanson

Floodplains

Floodplains are low-lying lands that are generally susceptible to flooding. They are usually found along with bodies of water such as rivers, lakes, and streams. However, they can be found where no substantial body of water exists. The floodplains in the MATS region are found in the same locations as wetlands. However, there are many places where a floodplain exists and no wetland exists.

GIS Data acquired from the Georgia GIS Clearinghouse revealed that there are many areas classified as floodplain in the MATS region. The GIS analysis indicated that there are approximately 31 MTP projects that will encroach upon floodplain in the MATS region. The results are highlighted in Figure 12-9.



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Date: 1/31/2022

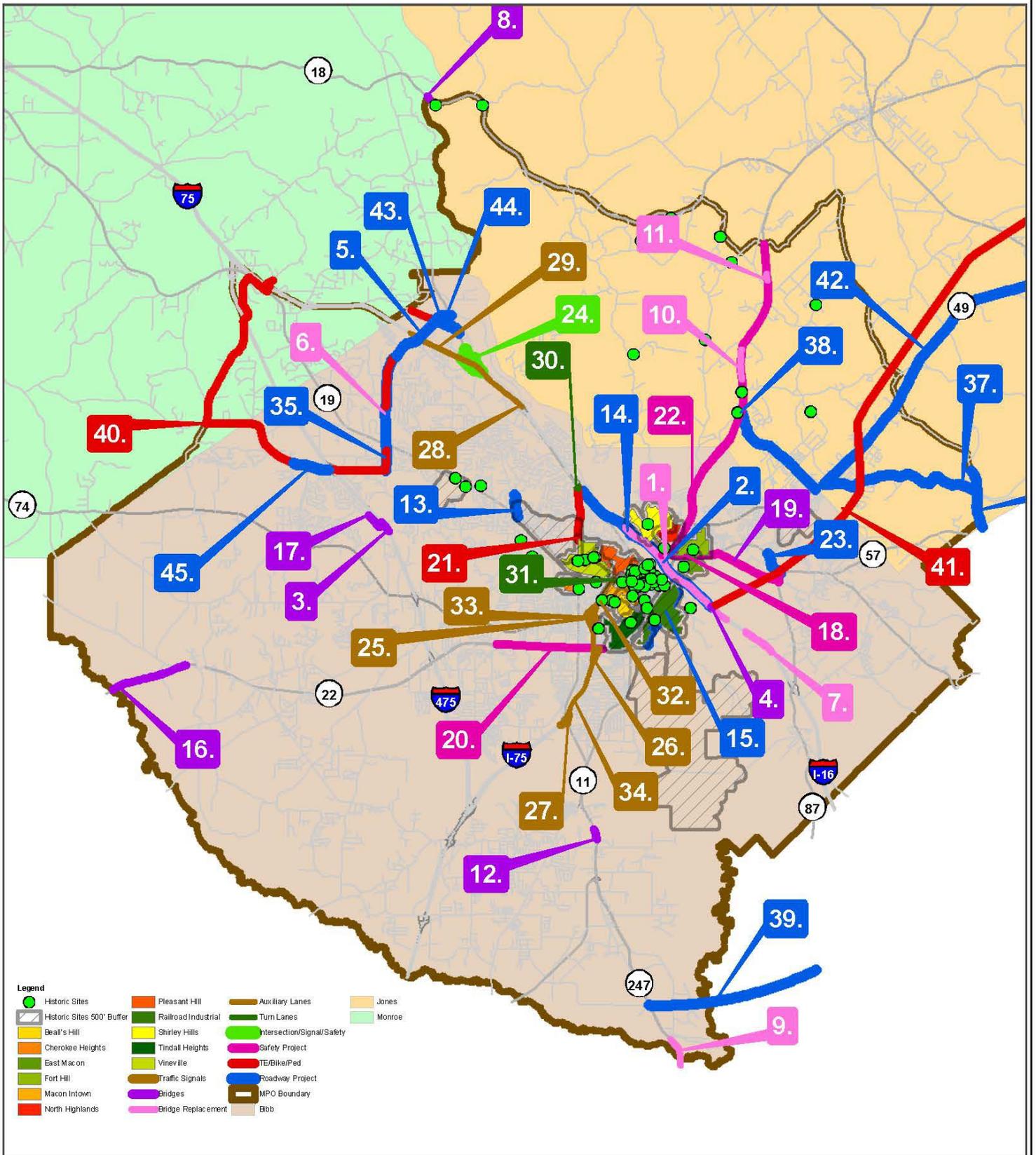
1 inch = 17,059 feet
Map Maker: Leeby G. Hampton



Historic Resources

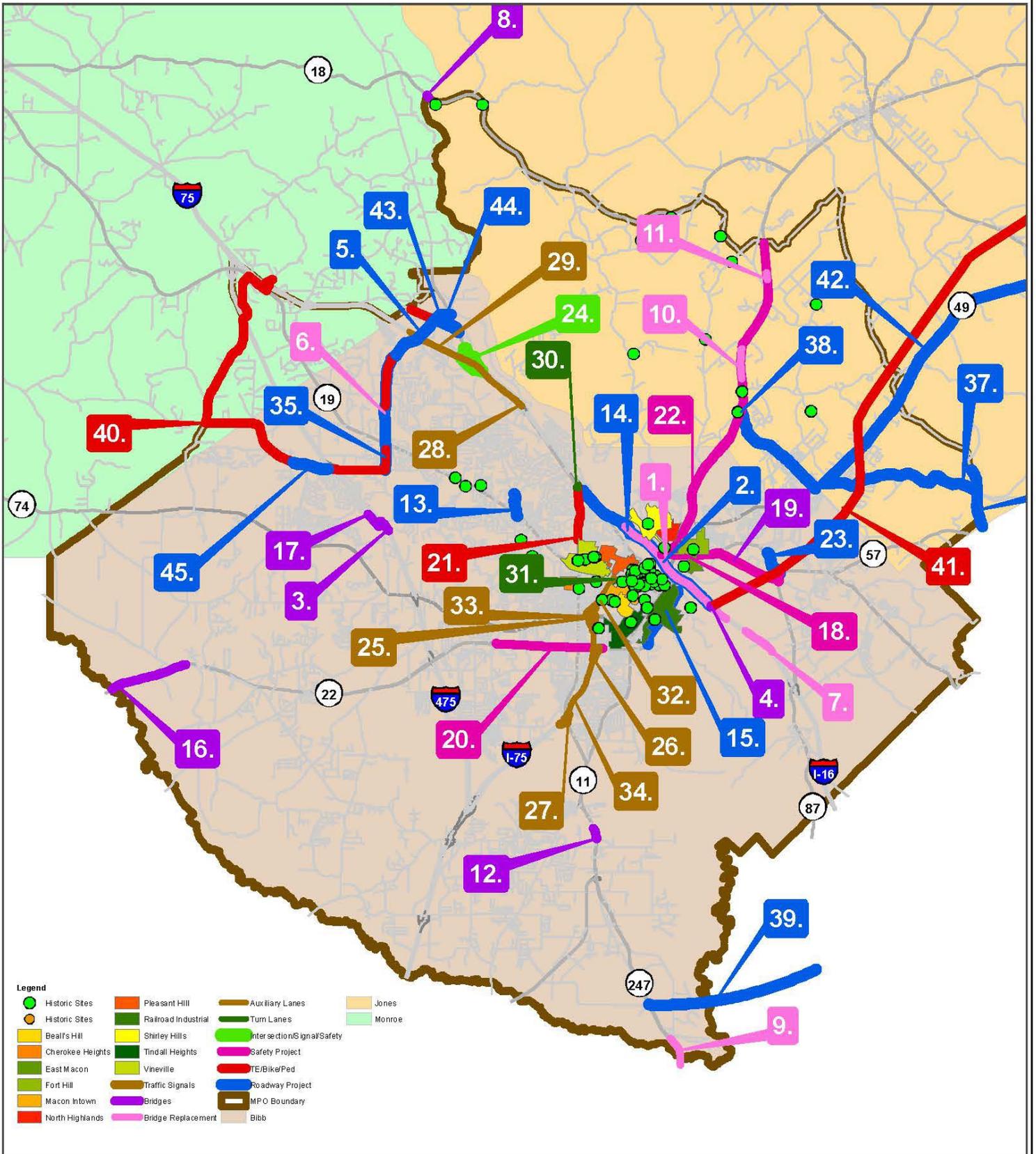
The historic resources analyzed in this section were compiled by the Historic Preservation Division of the Department of Natural Resources. The data is made available to the general public by way of the Natural, Archaeological, and Historic Resources GIS (NAHRGIS) database, which is maintained by the University of Georgia. According to NAHRGIS, most of the unrestricted resources in the database have been assessed by the Historic Preservation Division for their significance and eligibility in terms of the National Registry of Historic Places criteria evaluation.

GIS data acquired from NAHRGIS revealed that there are approximately **71 historic** resources in the MATS region. See Figure 12-10 for the downtown Macon inset map with locations of historic structures and the 4 MTP sites. Locations of historic structures for the entire MATS study area are located on the following page on Figure 12-11. The GIS analysis indicates that, for the entire MATS region, there are 5 MTP projects within a 500 buffer of a recognized historic structure.



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1 inch = 17,000 feet
Map Mator: Lesley G. Hampton



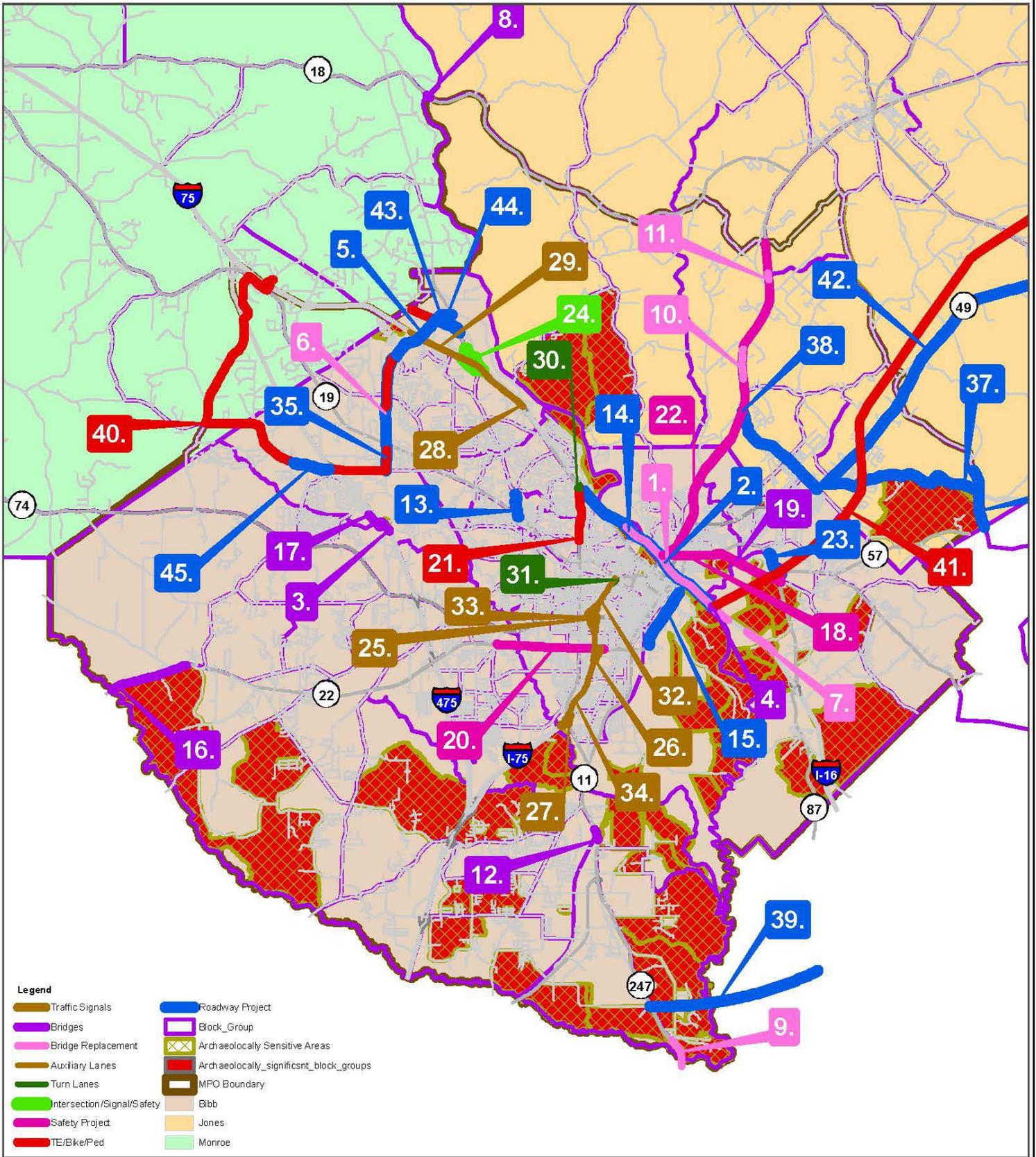
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Archaeologically Sensitive Areas

The archaeological resources analyzed in this section were compiled by the Georgia Department of Natural Resources. The data is also assessable from the NAHRGIS. Unlike the historical resources, specific location information on the archaeological sites is purposefully ambiguous. This is to protect the integrity of the sites. The data is provided on the block group level.

GIS data revealed that there are approximately 150 Census Blocks in the MATS region that contain archaeological resources. The GIS analysis also revealed that approximately 13 MTP projects will traverse through these selected block groups. It should be kept in mind that the data is at the block group level; therefore, an MTP project could be located miles away from a sensitive area. The results are highlighted in Figure 12-12.



- Legend**
- Traffic Signals
 - Bridges
 - Bridge Replacement
 - Auxiliary Lanes
 - Turn Lanes
 - Intersection/Signal/Safety
 - Safety Project
 - TE/Bike/Ped
 - Roadway Project
 - Block_Group
 - Archaeologically Sensitive Areas
 - Archaeologically significant block groups
 - MPO Boundary
 - Bibb
 - Jones
 - Monroe

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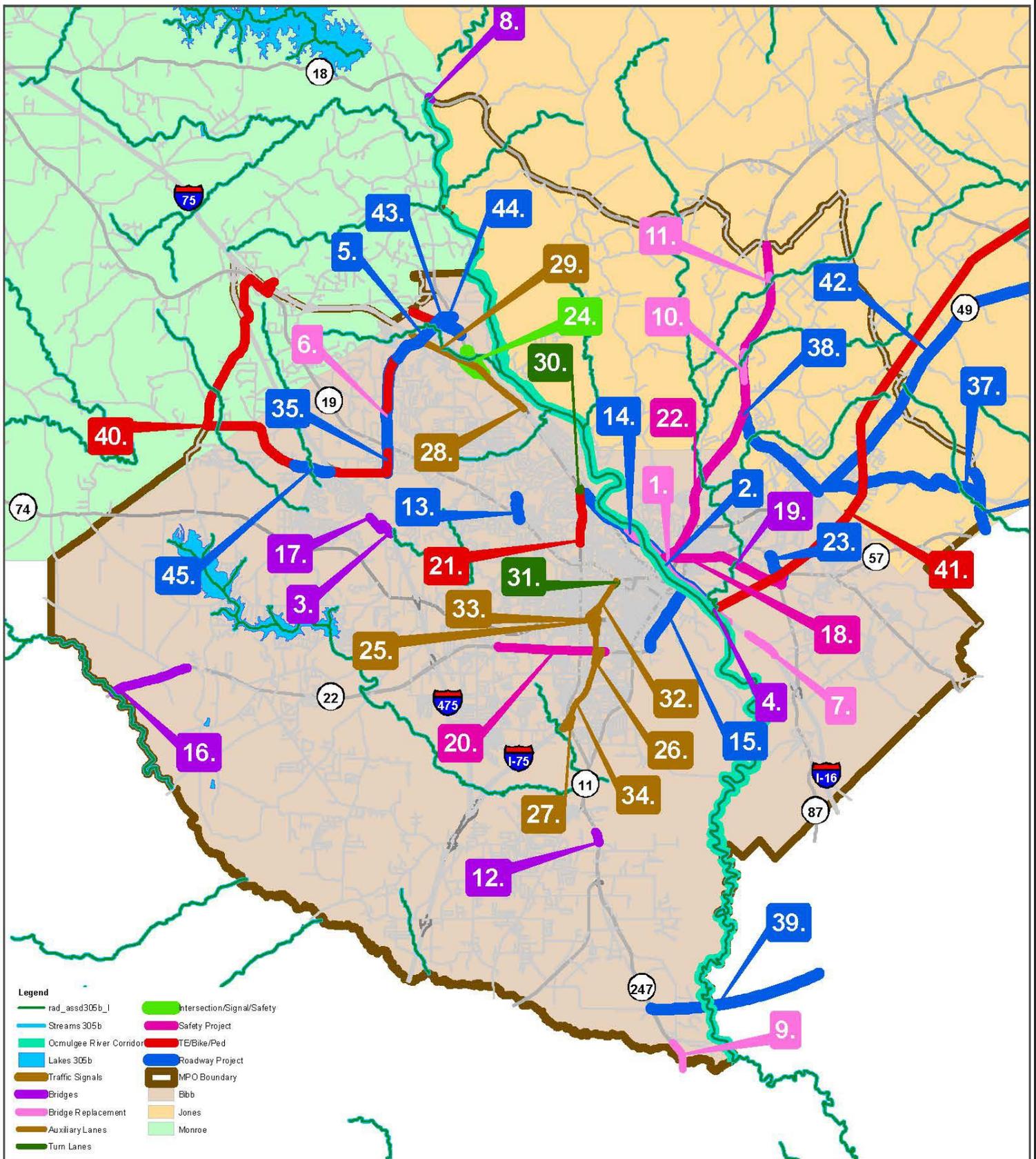
1 inch = 17,009 feet
Map Maker: Lesby G. Harwood



River and Stream Corridor Protection

The Ocmulgee River is a significant part of the river system in Georgia. The Ocmulgee combines with the Oconee River to form the Altamaha River which flows into the Atlantic Ocean. This river is very important due to the fact the Ocmulgee River serves as the primary water source for the MATS region. It is important that this resource is given adequate consideration to avoid any adverse encroachment.

The GIS analysis revealed that there are 20 MTP projects that will traverse rivers and streams in the MATS study area. These projects are shown in Figure 12-13.



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Date: 1/31/2022

1 inch = 17,059 feet
Map Maker: Lesly C. Hargrett



Potential Mitigation Measures / Environmental Mitigation Activities

SAFETEA-LU has defined Environmental Mitigation Activities as strategies, policies, programs, actions, and activities that, over time, will serve to avoid, minimize, rectify, reduce, or compensate for (by replacing or providing substitute resources) the impacts to or disruption of elements of the human and natural environment associated with the implementation of a long-range statewide transportation plan or metropolitan transportation plan. This same definition from the SAFETEA-LU legislation can be applied to the most recent authorized IJJA/BIL legislation.

The human and natural environment includes, for example, neighborhoods and communities, homes and businesses, cultural resources, parks and recreation areas, waters of the US, forested and other natural areas, endangered and threatened species, and the ambient air. The environmental mitigation strategies and activities are intended to be regional in scope, even though the mitigation may address potential project-level impacts. The environmental mitigation strategies and activities must be developed in consultation with Federal, State, and Tribal wildlife, land management, and regulatory agencies during the statewide and metropolitan transportation planning processes and be reflected in all adopted transportation plans.

Suggested Mitigation Measures

The most protective measure that can be employed in transportation planning is to avoid cultural and environmentally sensitive areas. However, many times that is not possible or feasible to do. When this is the case, the following suggestions should be considered as mitigating measures. The measures are modeled after the Georgia Department of Transportation's document entitled, *"Potential Planning Level Environmental Impacts & Mitigation Measures."*

Environmental Justice Impacts

- Residential and commercial relocation;
- Efforts during project development to identify and engage Environmental Justice populations (including those identified as part of the Justice40 initiative, as described in Executive Order 14008);
- Involve community in articulating project need/project development and way to improve community

Community Facilities Impacts

- Sidewalks;
- Maintain or enhance community services;
- Traffic calming measures;
- Park improvements such as upgraded pedestrian facilities and bike pathways;
- Land dedication

Conservation Areas/Wildlife Areas

- Fencing to direct wildlife away from roadway;
- Modification of design;
- Preservation (via acquisition or conservation easement) of existing habitat;
- Creation of new habitats;
- Establishment of buffer areas around existing habitats

Watershed Basins/ Groundwater Recharge Areas

- Provide protected designated areas for the use of construction site chemicals such as oils, gasoline, degreasers, antifreeze, concrete & asphalt products, sealers, paints and wash water associated with the products;
- Minimize the use of fertilizers to promote vegetation growth on disturbed earth to reduce the introduction of excessive nitrates and phosphates into surface waters;
- Compliance with best management practices for stormwater management and erosion control

Wetlands/ Floodplains

- *Establishment (Creation)*: The development of a wetland or other aquatic resources through manipulation of the physical, chemical or biological characteristics where a wetland did not previously exist. Successful creation results in a net gain in wetland acres;
- *Restoration*: Re-establishment or restoration of a wetland or other aquatic resources with the goal of returning natural or historic functions and characteristics to a former or degraded wetland. Restoration may result in a gain in wetland function and/or wetland acres;
- *Enhancement*: Activities conducted within existing wetlands that heighten, intensify, or improve one or more wetland functions. Enhancement is often undertaken for the specific purpose such as to improve water quality, flood water retention or wildlife habitat. Enhancement results in a change in wetland function(s) but does not result in a gain in wetland acres;
- *Protection/Maintenance (Preservation)*: The protection of ecologically important wetlands or other aquatic resources into perpetuity through the implementation of appropriate legal and physical mechanisms (i.e. conservation easements, title transfers). Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure proper protection;
- Elevation of road bed onto pylons through floodplain areas

Historic Sites

- Relocation of a historic property may be utilized to avoid its acquisition or minimize impacts;
- Design modification to the project to avoid or complement the property;
- Landscaping to reduce visual impacts;
- Photo documentation;

- Historic archival recording, possibly including photos, plans, historic documentation, etc., to preserve historic resource information to the public.

Archaeological

- Design modifications so that impact on archaeology is avoided;
- Full excavation is used as a method of preservation by record;
- Develop educational activities to educate public about archaeology and prehistory/history

River and Stream Corridors

- “Standard Operating Procedures for Compensatory Mitigation” (US Army Corps of Engineers);
 - Purchase stream credit in State-owned or commercial banks-cost, dependent upon area of State;
 - Stream restoration;
 - Planting of vegetative buffer zones;
 - Strict erosion and sedimentation control measures;
 - Design features to avoid impacts (such as bridges and bottomless culverts)
-

Chapter 13 | Performance-Based Transportation Planning and Programming

This Performance-Based Transportation Planning and Programming section of the MATS 2050 MTP is meant to show how the MATS MPO is conforming to the adopted Statewide Performance Measures and Performance Targets, as part of the strategic Transportation Performance Management (TPM) framework. The following sections describe:

- The pattern of adopted Statewide Performance Measures and Performance Targets; and,
- Next steps for the MPO to build its TPM practices, process, and policies.

This section is broken into two parts. The first covers those Performance Measures related to highways, roads and bridges (including the related air quality impacts). The second covers those Performance Measures related to provision of public transportation.

Background

In 2012, Congress passed the Moving Ahead for Progress in the 21st Century (MAP-21) Act. MAP-21 introduced a new emphasis in the MPO transportation planning process, towards measurable performance and outcome-based metrics in the evaluation of projects and programs receiving federal support. MAP-21 focuses on 7 performance goal areas:

- Safety
- Infrastructure Condition
- Congestion Reduction
- System Reliability
- Freight Movement and Economic Vitality
- Environmental Sustainability
- Reduced Project Delivery Delays

In December 2015, President Obama signed the Fixing America's Surface Transportation (FAST) Act into law. The FAST Act continued the emphasis raised in MAP-21 on performance-based outcomes and requires federally funded transportation projects to support national goals for the nation's transportation system by focusing on projects that:

- Achieve a significant reduction in traffic fatalities and serious injuries on all public roads;
- Maintain the highway infrastructure asset system in a state of good repair;
- Achieve a significant reduction in congestion on the National Highway System;
- Improve the efficiency of the surface transportation system;
- Improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development;
- Enhance the performance of the transportation system while protecting and enhancing the natural environment;
- Reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices. (23 U.S. Code § 150).

Through the federal rulemaking process, the Federal Highway Administration (FHWA) requires State DOTs and MPOs to monitor the transportation system using specific performance measures prescribed in MAP-21 and the FAST Act. Table 13-1 describes national goal areas, Performance Areas, and Performance Measures. What the table describes is the minimum that must be addressed. An MPO can, of its own initiative, take additional measures beyond those described.

Performance-based planning and programming refers to transportation agencies' application of performance management as standard state of the practice. This approach results in a planning process called Transportation Performance Management. The Federal transportation legislation and rules identifying Performance Measures also describes how States and MPOs are to incorporate these measures into their planning processes.¹

Targets

- MPOs are required to establish performance targets no later than 180 days after the state or public transportation operator sets said performance targets;
- For each roadway performance measure, a MPO can decide to commit to support a statewide target, or to establish a quantifiable target specific to its planning area;
- Both State and MPO targets for roadway performance measures will be set at two-year and four-year intervals;
- States, MPOs, and public transit operators must coordinate their respective targets for performance measures with each other to ensure consistency, to the maximum extent practicable.

Reporting

- State and MPO Transportation Plans must describe the Performance Measures and Performance Targets used to assess system performance, evaluate the performance of the transportation system with respect to the federally required performance targets, and report on progress made;
- State Transportation Improvement Programs (STIPs) and MPO TIPs must link investment priorities to the targets in their respective LRTPs and describe, to the maximum extent practicable, the anticipated effect of the program toward achieving established targets;
- MPOs must report baseline roadway transportation system condition and performance data and progress toward the achievement of targets to their respective state Departments of Transportation (DOT).

Assessments

- FHWA will determine whether state DOTs have met or have made significant progress towards meeting targets for the highway system. Progress at the state level would be considered significant if an actual outcome is either equal to or better than the established target, or better than the baseline condition;
- FHWA and FTA will not directly assess MPO progress towards meeting targets for required performance measures. Instead, these agencies will review MPO performance as part of ongoing transportation planning process reviews, including Transportation Management Area certification reviews and the Federal Planning Finding associated with approval of the STIP.

¹ FHWA, Metropolitan Planning Organization Safety Performance Measures Fact Sheet, http://safety.fhwa.dot.gov/hsip/spm/docs/mpo_factsheet.pdf

Highway Performance Measures			
National Goal		Performance Area	Performance Measure
PM 1	Safety- <i>To achieve a significant reduction in traffic fatalities and serious injuries on all public roads</i>	Injuries & Fatalities	<ul style="list-style-type: none"> Number of fatalities Fatality rate (per 100 million vehicle miles traveled) Number of serious injuries Serious injury rate (per 100 million vehicle miles traveled) Number of non-motorized fatalities and non-motorized serious injuries
			PM 2
Bridge Condition	<ul style="list-style-type: none"> Percentage of NHS bridges classified as in Good condition Percentage of NHS bridges classified as in Poor condition 		
System Reliability - <i>To improve the efficiency of the surface transportation system</i>	Performance of the National Highway System	<ul style="list-style-type: none"> Percent of person miles traveled on the Interstate System that are reliable Percent of person miles traveled on the non-Interstate NHS that are reliable 	
PM 3	Freight Movement and Economic Vitality- <i>To improve the National Highway Freight Network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development</i>	Freight Movement on the Interstate System	<ul style="list-style-type: none"> Truck Travel Time Reliability Index
			Congestion Mitigation and Air Quality Improvement – <i>To achieve a significant reduction in congestion on the National Highway System</i>
		Air Quality Improvement	

Table 13-1: Highway Performance Measures, as Identified by FHWA

MATS Support of GDOT Adopted Performance Measures and Targets

As part of developing the 2050 MTP, MATS staff reviewed the original goals and targets specified by the Georgia Dept. of Transportation, developed in conjunction with FHWA. These goals and objectives reflect State or regional priorities and policy directions while supporting national goals specified in MAP-21 and the FAST Act. The MATS staff also proposed transportation related objectives for which future performance measures can be developed. Table 2-1 in the MTP shows how the updated goals and objectives approved by the MATS Policy Committee build upon the general goals areas specified in MAP-21, FAST Act, the System Performance Report for the Georgia 2050 Statewide Transportation Plan/2021 Statewide Strategic Transportation Plan and objectives adopted as part of the 2050 MTP.

Performance Measures related to Highways, Roads and Bridges

PM 1 - Safety Performance Measures

The Safety Performance Management is part of the overall Transportation Performance Management (TPM) program. The Safety PM Final Rule supports the Highway Safety Improvement Program (HSIP; 23 CFR 148), as it establishes safety performance measure requirements for carrying out the HSIP and to assess fatalities and serious injuries on all public roads.

The Safety PM Final Rule establishes five performance measures as the five-year rolling averages to include:

- Number of Fatalities
- Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)
- Number of Serious Injuries
- Rate of Serious Injuries per 100 million VMT
- Number of Non-motorized Fatalities and Non-motorized Serious Injuries

The Safety PM Final Rule also establishes the process for State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs) to establish and report their safety targets, and the process that FHWA will use to assess whether State DOTs have met or made significant progress toward meeting their safety targets.

Transportation Safety in Georgia

The Safety Performance Measures Final Rule on the HSIP became effective on April 14, 2016. Table 13-2 shows the trend in Safety Performance Measures for both the State HSIP, and the MATS MPO area since the original adoption of the targets. Cells highlighted in green show where MATS MPO has been achieving the Statewide goals that are normalized by VMT.

The MATS MPO will demonstrate its continued support of the State's safety targets through its planning and programming process 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;
- Integrating safety goals, objectives, performance measures, and targets into the planning process; and

- Including the anticipated effect toward achieving the targets noted above within the MPO's MTP, TIP and UPWP, effectively linking investment priorities to safety target achievement.

Pursuant to directions originally established by MATS Policy Committee under the resolution adopted on 8/1/2018, the MATS MPO anticipates updating Safety Performance Measure targets into the MATS 2050 Metropolitan Transportation Plan and current Transportation Improvement Plan through the Administrative Modification process. The Georgia Strategic Highway Safety Plan (SHSP) outlines the State's methods for developing annual Performance Measure targets and strategies to achieve those targets. The 2022 Georgia Strategic Highway Safety Plan can be found at <https://www.nhtsa.gov/document/georgia-fy-2022-highway-safety-plan>

PM 2 – Pavement and Bridge Condition Performance Measures

On January 18, 2017, the Federal Highway Administration (FHWA) published in the Federal Register rules to establish measures to assess the condition of pavements and bridges on the National Highway System (NHS) to carry out the National Highway performance program (NHPP) (82 Fed. Reg. 5886). The pavement and bridges rule addresses requirements establishing performance measures for State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs), as mandated by the Moving Ahead for Progress in the 21st Century Act (MAP-21) and reflects passage of the Fixing America's Surface Transportation (FAST) Act. On May 20, 2017, the final rule was put into effect.

The measures for bridges on the National Highway System are:

- Percentage of NHS bridges by deck area in Good condition; and
- Percentage of NHS bridges by deck area in Poor condition.

The measures for pavement on the National Highway System are:

- Percentage of Interstate pavements in Good condition;
- Percentage of Interstate pavements in Poor condition;
- Percentage of non-Interstate NHS pavements in Good condition; and,
- Percentage of non-Interstate NHS pavements in Poor condition.

On May 16, 2018, GDOT established two- and four-year Statewide Pavement and Bridge Condition performance targets for the first performance measurement period. Table 13-3 describes the most recent performance targets adopted by GDOT, as reflected in the GDOT System Performance Report for the 2050 Statewide Transportation Plan (adopted by GDOT Statewide Transportation Board on April 9, 2021).

MATS adopts these Statewide targets for Pavement and Bridge Conditions as presented.

Pursuant to directions originally established by MATS Policy Committee under the resolution adopted on 8/1/2018, the MATS MPO anticipates updating Pavement and Bridge Conditions Performance Measure targets into the MATS 2050 Metropolitan Transportation Plan and current Transportation Improvement Plan through the Administrative Modification process.

Safety Performance Measure	5 Year Rolling Average Reporting Period							
	2011-2015	2012-2016	2013-2017	2014-2018	2015-2019	2016-2020	2017-2021	2018-2022
# Fatalities								
Statewide 5 Year Avg. Goal	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	1593	1655	1698	1715	1696
MATS Value	23.8	25.2	29.2	29.6	32.8	37	Forthcoming, as Data Available	Forthcoming, as Data Available
Rate of Fatalities per 100 million VMT								
Statewide 5 Year Avg. Goal	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	1.320	1.31	1.28	1.23	1.21
MATS Value	1.026	1.07	1.21	1.17	1.29	1.51	Forthcoming, as Data Available	Forthcoming, as Data Available
# Serious injuries								
Statewide 5 Year Avg. Goal	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	19643	24324	24094	6407	8443
MATS Value	293.4	341.6	344	359.9	374.3	406.4	Forthcoming, as Data Available	Forthcoming, as Data Available
Rate of Serious Injuries per 100 million VMT								
Statewide 5 Year Avg. Goal	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	16.318	18.9	21.8	4.422	4.61
MATS Value	12.759	14.54	14.22	14.26	14.75	16.63	Forthcoming, as Data Available	Forthcoming, as Data Available
# of Non-motorized Fatalities and Serious injuries								
Statewide 5 Year Avg. Goal	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	Tar-gets Not Set For this Period	1027.2	1126	1163	686.5	793
MATS Value	25.2	33.8	38.8	41	40.4	43.6	Forthcoming, as Data Available	Forthcoming, as Data Available

Table 13-1: GDOT Safety Performance (PM1) Targets, 5 Year Rolling Averages

Asset	Performance Measure	Description	Baseline	2019 Actual	2-Year Target (2019)	4-Year Target (2021)
Bridge Structures	Percent of NHS Bridges in Good condition as a percentage of total NHS bridge deck area	Bridges rated as “Good” will be evaluated as to cost to maintain Good condition. Bridges rated as “Fair” will be evaluated as to cost of replacement vs. rehabilitation to bring the structure back to a condition rating of Good.	60%	57.0%	N/A	≥ 50%
Bridge Structures	Percent of NHS Bridges in Poor condition as a percentage of total NHS bridge deck area	Bridge Conditions are based on the result of inspections on all Bridge structures. Bridges rated as “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	4.0%	0.3%	N/A	≤ 5%
Interstate NHS	Percentage of NHS pavements in Good condition	Interstate pavement rated as good will be considered for potential pavement preservation treatments to maintain the “good” rating	44.0%	46.5%	≥40%	≥ 40%
Interstate NHS	Percentage of NHS pavements in Poor condition	Pavement conditions are measured through field inspections. Pavements in “poor” condition are in need of work due to either the ride quality or due to a structural deficiency.	10.0%	0.8%	≤12%	≤12%
Non-Interstate NHS	Percentage of NHS pavements in Good condition	Non-Interstate NHS pavements in “good” condition will be evaluated for potential preservation treatments	47.3%	67.5%	≥ 50%	≥ 60%
Non-Interstate NHS	Percentage of NHS pavements in Poor condition	Non-Interstate NHS pavements in “poor” condition are in need of major maintenance. These will be evaluated for potential projects.	1.1%	0.8%	≤10%	≤10%

Table 13 – 3: Current GDOT Pavement and Bridge Condition (PM2) Performance Targets

PM 3 – System Performance and Freight Performance Measures

On January 18, 2017, the Federal Highway Administration (FHWA) published in the Federal Register (82 FR 5970) rules to establish performance measures that State Departments of Transportation (DOTs) and metropolitan planning organizations (MPOs) will use to report on the performance of the Interstate and Non-Interstate National Highway System (NHS) to carry out the National Highway Performance Program (NHPP); freight movement on the Interstate system to carry out the National Highway Freight Program (NHFP); and traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. The rule addresses requirements established by the Moving Ahead for Progress in the 21st Century Act (MAP-21) and reflects passage of the Fixing America’s Surface Transportation (FAST) Act. On May 20, 2017, the final rule took effect.

On May 16, 2018, GDOT established specific Performance Measures for two- and four-year statewide targets for National Highway System Performance, Freight Movement, and Congestion Mitigation and Air Quality. Table 13-4 describes the current performance targets adopted by GDOT.

Performance Measure	Area	Baseline Value	2-Year State Target (2019)	2019 State Actual Value	2019 MATS Value	4-Year State Target (2021)	2021 MATS Value
Percent of person-miles traveled on the Interstate that are reliable	Statewide	80.2%	≥73.0%	80.8%	98.4%	≥67.0%	97.8%
Percent of person-miles traveled on non-Interstate NHS that are reliable	Statewide	84.9%	n/a	86.5%	89.2%	81%	84.9%
Truck Travel Time Reliability Index	Statewide	1.44	≤1.66	1.44	1.61	1.78	1.20
Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita*	Atlanta Urbanized Area	20.4 hours	n/a	18.9 hours	n/a	24.6 hour	n/a
Percent of Non-Single Occupancy Vehicle (SOV) Travel*	Atlanta Urbanized Area	22.8%	≤23.2%	22.1%	n/a	22.1%	n/a
Total Emissions Reduction	Statewide	VOC 839.0 kg/day NOx: 1,594 kg/day	VOC: 215.992 kg/day NOx: 732.850 kg/day	VOC: 205.7 kg/day NOx: 563.3 kg/day	n/a	VOC: 386.6 kg/day NOx: 1,085.0 kg/day	n/a

Table 13 – 4: GDOT Highway System Performance, Freight Movement, and Congestion Mitigation & Air Quality (PM3) Targets

Where applicable, the values for the MATS area for specific performance measures are included. Only three of the six Performance Measures in Table 13 – 5 apply to the MATS area; Annual

Hours of Peak Hour Excessive Delay Per Capita, Percent of Non-Single Occupancy Vehicle Travel apply only to the Atlanta urbanized area, and the Emissions Reductions Targets apply to the State overall. They are included here only for the sake of a comprehensive listing of the performance measures adopted by GDOT. For the performance measures in Table 13-5 that are applicable to the MATS area, the values demonstrate MATS is meeting or exceeding State goals.

MATS continues to adopt the most recent System Performance and Freight Movement performance targets set by the State as the targets for the MATS area, as reflected in the GDOT System Performance Report for the 2050 Statewide Transportation Plan (adopted by GDOT Statewide Transportation Board on April 9, 2021). Pursuant to directions originally established by MATS Policy Committee under the resolution adopted on 8/1/2018, the MATS MPO anticipates updating System Performance and Freight Movement targets into the MATS 2050 Metropolitan Transportation Plan and current Transportation Improvement Plan through the Administrative Modification process

Public Transit Performance Measures

Transit Asset Management

In July 2016, FTA issued the final rule (49 CFR 625.17) establishing Transit Asset Management (TAM) requirements for recipients and sub-recipients of federal funds. Based on the requirements established under 23 CFR 450.324 and 23 CFR 450.326, acknowledgement of this final rule also must be reflected in the MATS transportation planning documents.

On August 24, 2018, Georgia Dept. of Transportation – Intermodal Division published finalized Group TAM Plans and targets for Tier II sub-recipients of FTA 5307 Operating Funds. The Group TAM Plan covers the four year period FY 2019 through FY 2022, and includes both preliminary assessments relative to TAM Plan targets (Table 13-5, below), and a detailed breakdown of TAM targets by asset class and initial FY 2019 TAM Plan targets (Table 13-6, below).

Asset Category	Performance Measure	Initial Target FY 2017	Actual Performance
Rolling Stock – Revenue Vehicles by Mode	% of vehicles met or exceeded Useful Life Benchmark (ULB)	<15.0%	12.4%
Equipment – non-revenue support service and maintenance vehicles	% of vehicles met or exceeded ULB	<50%	42.6%
Facilities – maintenance and administrative facilities, passenger stations (buildings); and parking facilities	% of assets with condition rating below 3.0 on FTA TERM scale	<40%	8.4%

Table 13-5: Summary of Initial GDOT TAM Targets for Tier II Sub-Recipients of FTA 5307 Operating Funds

Source: GDOT Group Transit Asset Management Plan, Table 4.2 – Summary of Initial Performance Targets, 24 August 2018.

Because both Jones County Transit (JCT) and Macon-Bibb County Transit Authority (MTA) are specifically identified as being covered under the GDOT Group TAM Plan, the targets identified in that plan are applicable by reference in the MATS 2050 MTP.

Asset Category/Class	Total Number	Useful Life Benchmark (ULB)	Number Exceeding ULB/3.0 TERM Rating	Exceeding ULB/3.0 TERM Rating	Proposed FY 2019 Targets
Rolling Stock	775		96	12.4%	
BU-Bus (35' – 40')	82	14 yrs.	8	9.8%	<15%
BU-Bus (29' – 30')	54	12 yrs.	21	38.9%	<35%
CU – Cutaway Bus	593	7 yrs.	52	8.8%	<10%
MV – Minivan	1	8 yrs.	1	100.0%	<50%
SB – School bus	33	15 yrs.	8	24.2%	<50%
VN – Van	12	8 yrs.	6	50.0%	<50%
Equipment	55		23	42.6%	
AO – Automobile	18	8 yrs.	11	61.1%	<55%
Trucks and other Rubber Tire Vehicles	31	10 yrs.	11	35.5%	<55%
Equip. > \$50,000	6	14 yrs.	n/a	n/a	n/a
Facilities	83		7	8.4%	
Administration	62	n/a	2	3.2%	<25%
Maintenance	11	n/a	5	45.5%	<25%
Passenger/ Parking Facilities	10	n/a	0	0%	<10%

Table 13-6: Detailed Breakdown of GDOT TAM Targets for Tier II Sub-Recipients of FTA 5307 Operating Funds, and Proposed FY 2019 TAM Targets

Source: GDOT Group Transit Asset Management Plan, Table 4.1 – Summary of Asset Performance by Asset Class, 24 August 2018.

Public Transit Agency Safety Planning

On July 19, 2018, the Federal Transit Administration published final rule 49 CFR 673, which requires agencies that receive money under 49 USC 5307 Urbanized Area Formula Funding program (aka “5307 funds”) to establish a Public Transportation Agency Safety Plan (PTASP). The PTASP must include the following:

- Documents the processes and activities related to safety management system implementation;
- Includes performance targets measures established under the National Public Transportation Safety Plan;
- Establish a process and timeline for conducting annual reviews and updates for performance targets

On June 20, 2020, Macon-Bibb County Transit Authority (MTA) adopted a PTASP document consistent with the requirements set forth by FTA. As the sole recipient of 5307 funds in the MATS planning area, the Macon-Bibb County Transit Authority Safety Plan (MTA-SP) document is the controlling reference for transit related Safety Performance Measures in the MATS region.

Section 4.2 of the MTA-SP identifies the following performance measures required by the National Public Transportation Safety Plan, and sets the target values to be achieved:

- Fatalities - Total number of reportable fatalities and rate per total vehicle revenue miles (VRM) by mode (The thresholds for "reportable" fatalities, injuries, and events are defined in the NTD Safety and Security);
- Injuries - Total number of reportable injuries and rate per total VRM by mode;
- Safety Events - Total number of reportable events and rate per total VRM by mode; and
- System Reliability - Mean distance between major mechanical failures by mode.

Specific targets safety performance measures are updated annually. Section 5 of the MTA-SP identifies the specific methods used to attain and maintain the targets.

Pursuant to directions originally established by MATS Policy Committee under the resolution adopted on 8/1/2018, the MATS MPO anticipates updating Transit Asset Management Plan an/or Public Transportation Agency Safety Plan (PTASP) targets adopted by Georgia Dept. of Transportation into the MATS 2050 Metropolitan Transportation Plan and current Transportation Improvement Plan through the Administrative Modification process.

APPENDIX XX:

Georgia MPO Travel Demand Models: Socio Economic Data Development Guides



GEORGIA MPO TRAVEL DEMAND MODELS

SOCIO-ECONOMIC DATA DEVELOPMENT GUIDES

August 2018

PREPARED FOR

GDOT

PREPARED BY

HNTB Corporation

191 Peachtree Street NE, Suite 3300

Atlanta, Georgia 30303

Phone: (404) 946-5700

Fax: (404) 841-2820

www.hntb.com

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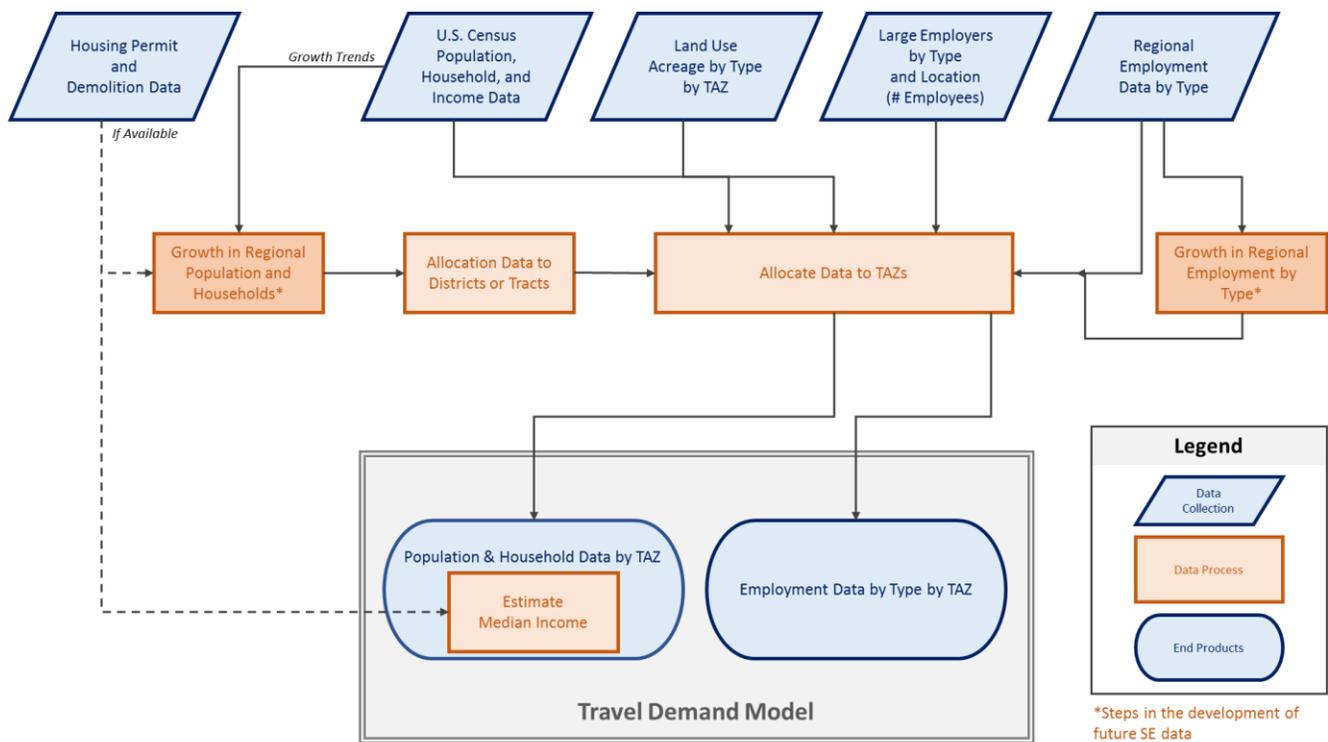
1. INTRODUCTION

This document is intended to serve as a guide for preparing socio-economic (SE) data for Georgia's regional travel demand models (TDM). The purpose of this document is to assist consultants or planners in Metropolitan Planning Organizations (MPOs) that may not have established methodologies or are considering revising their current methodologies. Base year SE data produced by MPOs is critical for the calibration of their regional travel demand models. Future year SE data developed by MPOs serves as one of the major key model inputs and will drive the model forecasting results.

Figure 1-1 displays a generalized socio-economic data development process that is recommended by GDOT. This process can be applied in developing base year and future year data, although specific steps in the process may differ. This document provides an overview of a generalized data development process.

To support the development and review of socio-economic data, a review panel (i.e., MPO's Transportation Coordinating Committee (TCC) and/or other local government technical personnel) should be formed. The purpose of the panel is to provide another level of review of the socio-economic data for reasonableness.

Figure 1-1: Generalized Travel Model Socio-Economic Data Development Process



2. BASE YEAR DATA

The data required for each Traffic Analysis Zone (TAZ) and potential data sources are shown in Table 2-1 below.

Table 2-1: Socio-Economic and General Data Required by TAZ

Data Variables	Potential Data Sources
Population	U.S. census tract-level, block-group-level and block-level data (www.census.gov); local building and demolition permits
Households	
Median Income	
Total Employment	U.S. Census, Georgia Department of Labor (www.dol.state.ga.us), commercial sources (such as Dun & Bradstreet), local county building permit data, local employment data; and Bureau of Economic Analysis (www.bea.gov) Census Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES)
Retail Employment	
Service Employment	
Manufacturing Employment	
Wholesale Employment	
School Enrollment (K-12)	Georgia Department of Education, County/Municipalities Boards of Education, Georgia Independent Schools Association, local school systems, private schools, and Georgia Board of Regents
University/College Enrollment	Georgia Department of Education, university or college
Acres	Geographic Information Systems

2.1 POPULATION AND HOUSEHOLDS

U.S. Census data is the primary source for developing population and household data at the TAZ level. Population and occupied housing units as households are available at the Census block level in the Decennial Census. TAZ boundaries should not cross Census block boundaries, so estimation of population and household data are usually aggregation processes.

Currently MPOs in Georgia will adopt their LRTP around 2019-2021 timeframe. 2015 will be used as the base year for MPOs' travel demand models in this round of plan updates. The US Census does not provide block-level data for the years between each decennial census. The smallest geographic area data for 2015 can be found from American Community Survey (ACS) 5-Year Estimates at census tract level released in December 2016. It is recommended MPOs and their consultants calculate the 2015 traffic analysis zone (TAZ)-level population and households based on 2010 census block-level data, 2010 census tract level data and 2015 ACS 5-Year Census tract-level estimate. The recommended calculation steps are:

- Calculate the 2010 to 2015 growth rate for each census tract within the MPO area based on the 2010 and 2015 census tract data;

- Apply the growth rate to all 2010 Census block population and household data within each census tract to get the 2015 Census block-level estimate;
- It is recommended that after the calculation, use 2015 Census county-level population and household data as a reference to check the accuracy of the results.
- Assign/aggregate the calculated block level values to their respective TAZs (ArcGIS is the recommended software for this task)

All referenced census data, including 2010 Census block-level data, 2010 Census tract data, 2015 ACS 5-Year Census block group/tract estimates, and 2015 county total data, can be found at www.census.gov.

Adjustments to population and households need to be taken for instances where group quarters exist. Common examples of this type of housing include: prisons, hospitals, nursing homes and dormitories. While these group quarters have a distinct population, residents do not make trips in a typical fashion. For prisons and hospitals, the population should be removed from the socio-economic data used in the modeling process. It is recommended MPOs to contact local agencies or facilities (hospitals, medical centers, jails or other correctional facilities) to obtain the population estimates. The obtained population for group quarters should be compared to census block data, that already includes group quarter population, to determine how much population should be removed. In other examples, a more representative population should be used to model the population utilizing the transportation network. In the examples mentioned above, the group quarters should also correspond to a certain level of employment, e.g., hospital staff. In the case of a hospital, this employment will generate trips to the TAZ that is more representative of true conditions.

2.2 INCOME

Income data is available at the census-tract (and block-group) level from 2015 ACS 5-year estimates. Since detailed income data is not available for smaller geographic areas, TAZ income data can be estimated from its associated census tracts (or block groups) data. Income should be reported in 2015 dollars.

2.3 EMPLOYMENT BY TYPE

There are multiple sources of employment data available for MPOs to estimate their base year (2015) employment. The following section lists the data sources.

- Census Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) serves as a useful source for employment by type for small areas. LODES employment data is available at the census-block level online.¹ LODES data for all census blocks that are within a TAZ can be aggregated as the total employment. As with all small-area employment data sources, LODES data summarized at the TAZ level should be reviewed for reasonableness, including the issues previously described regarding GDOT and private-vendor data. LODES data currently (Feb 2017) provides employment data from 2002 to 2014. Data for 2015 is yet to be released. LODES data for previous years can be used as a reference to obtain historic trends. Based on the LEHD data, OnTheMap is a web-based mapping and reporting application that shows

¹ <https://onthemap.ces.census.gov/>

where workers are employed and is a good source for visualizing employment locations. To access the LODS data, follow the following steps:

1. Go to <https://onthemap.ces.census.gov>.
 2. Type in the area in the search box.
 3. Select the area in the list.
 4. Select "Perform Analysis on Selection Area."
 5. Select "Work" under "Home/Work Area."
 6. Select study year.
 7. Select "All Jobs."
 8. Click "Go." The point data should show up for your study area.
 9. Click "Export Geography."
 10. Click "ShapeFile (Results, All Years).
 11. Click Ok and "Download Geography Export." The downloading should start.
- Georgia Department of Labor (GDOL) employment data - GDOL provides county profiles and other reports that include county employment totals by employment class.
 - The U.S. Census Bureau produces County Business Patterns reports, which provide employment by type at the county level.
 - The U.S. Department of Commerce Bureau of Economic Analysis (BEA) produces county employment estimates by the North American Industry Classification System (NAICS) categories that could be used as control totals for Georgia MPO models. County-level employment data can be downloaded from the BEA website.² BEA data serves as a good source for control totals because the estimates include employment for industries that are not covered, or not fully covered, by unemployment insurance programs, where most other data sources exclude a significant amount of employment.

It is recommended that MPOs estimate their 2015 employment data and compare the total and the geographic distribution across different data resources. It is also important that MPOs confirm the accuracy of the data based on their local knowledge and observation.

Table 2-2 summarizes how NAICS employment data should be grouped to produce the required GDOT control totals for employment by type for the regional TDM development. Please note that the SE data categories have been updated in conjunction with the recent MPO TDM enhancements. The updated categories include 1) Agriculture, Mining and Construction, 2) Manufacturing & Transportation, Communication, Utilities, and Warehousing (TCUW), 3) Retail and, 4) Service. The Agriculture, Mining and Construction is added as a new category and the Wholesale is combined with Manufacturing and other categories as the new "Manufacturing & Transportation, Communication, Utilities and Warehousing (TCUW)". It is recommended that MPOs develop the 2015 TDM employment data aggregating the NAICS categories into the new four categories based on Table 2-2 below. It is not recommended that MPOs use the old 2010 SE data as a base to project the 2015 employment due to the inconsistency of the categories.

² <http://www.bea.gov> [Interactive Data > Regional Data GDP & Personal Income> Begin Using the data > Local Area Personal Income & Employment > Total full-time and part-time employment by industry (CA25, CA25N) > NAICS (2001 forward) > County > Georgia > Select applicable counties > Unit of Measure: Levels > Statistic: All Statistics in table> Select year:2015 > then download]

Table 2-2: GDOT NAICS Employment Equivalency Table

NAICS Code	NAICS Category	TDM Category	Notes
11	Agriculture, forestry, fishing, and related activities	Agriculture, Mining & Construction	It is a new category created for 2015 TDM SE Data.
21	Mining	Agriculture, Mining & Construction	
22	Utilities service employment	Agriculture, Mining & Construction	
23	Construction	Agriculture, Mining & Construction	
31-33	Manufacturing	Manufacturing & Transportation, Communication, Utilities, and Warehousing (TCUW)	Wholesale was a separate category in the previous TDM (2010 or earlier). However, it is currently included in the Manufacturing & TCUW for 2015 TDM SE data.
42	Wholesale trade	Manufacturing & TCUW	
44-45	Retail trade	Retail	
48-49	Transportation and warehousing	Manufacturing & TCUW	
51	Information	Service	
52	Finance and insurance	Service	
53	Real estate and rental and leasing	Service	
54	Professional, scientific, and technical services	Service	
55	Management of companies and enterprises	Service	
56	Administration and waste services	Service	
61	Educational services	Service	
62	Health care and social assistance	Service	
71	Arts, entertainment, and recreation	Service	
72	Accommodation and food services	Service	
81	Other services, except public administration	Service	
92	Government and government enterprises	Service	

If geocoded employment data (geocoded GDOL data or LEHD data) is available for a base year, it can be allocated to a TAZ using a Geographic Information System (GIS) tool such as ArcGIS. This is a good option for assigning employment to TAZs because it represents relatively accurate estimates of small-area employment by type and offers a systematic method to allocate employment to TAZs. GDOL and LEHD data often experience common issues that should be considered when used, including:

- Some employer headquarters may be outside the county in which the employment is located.
- Some employer records are not geocoded.
- Some records may be grouped to an arbitrary location within the county when the address could not be geocoded.
- There may be some duplication of records.
- GDOL data does not include sole proprietorships or other classes of employment that are not covered by unemployment compensation through the state.

In each instance, these items must be checked to determine if the data needs to be modified to correctly represent the amount and location of employment within the county. Employment for large employers and the geocoded location of large employers should be verified, because they have significant potential influence on work trips. Employment for school districts should be checked to ensure that it represents employment at individual schools rather than just the school district headquarters location.

If small-area employment data is unavailable, TAZ estimates should be developed using a step-down process. The largest employers in a county should be identified and employment totals (by category) assigned to their respective TAZ. Employment is then allocated to TAZs based on each TAZ's share of the county's corresponding land-use category.³ Retail employment can be allocated based on a TAZ's share of the county's commercial land-use acreage. Service employment can be allocated based on a TAZ's share of the commercial and residential acreage. Manufacturing employment can be allocated based on a TAZ's share of the county's industrial land-use acreage. Wholesale employment can be allocated based on a TAZ's share of the county's industrial and commercial acreage. Residential acreage can be used in conjunction with census data to allocate county population to TAZs (particularly in future allocation). Rural/vacant developable acreage and un-developable acreage is useful in determining developable acreage for each TAZ (i.e., subtracting from total acreage). Developable acreage can serve as a weighting factor for data allocation (growth from the base year to the future year). A step-down process can also begin with exogenously estimated district-level employment control totals. Then, the previously described step-down process could be applied within each district separately, instead of at the county-level. The following list of potential variables should be included in the land-use analysis for existing and future employment data development (if available):

- Total Acres
- Existing Commercial Acres (including land for retail and service business)

³ Future data development can be supported by similar land use acreage assignments based on proposed future land use plans.

- Existing Residential Acres (best if stratified into density classes)
- Existing Industrial Acres (including land for manufacturing & transportation, communication, utilities and warehousing)
- Existing Rural/Vacant Developable Acres (including land for agriculture)
- Undevelopable Acres
- Future Commercial Acres
- Future Residential Acres (best if stratified into density classes)
- Future Industrial Acres
- Future Rural /Vacant Developable Acres

2.4 SCHOOL ENROLLMENT (K-12)

It is preferable to obtain K-12 enrollment totals for each school in the study area (Elementary, Middle, High School, and Private Schools). If individual enrollments are not available, then system-wide totals by type of school could be an option. When combined with a comprehensive list of schools, an average school size could be calculated and allocated to each school (by type) equally. School enrollments should be available from school systems or through directly contacting individual schools. However, other potential data sources also exist, such as the State Board of Education, the Georgia Department of Technical and Adult Education, or the State Board of Regents.

2.5 UNIVERSITY OR COLLEGE ENROLLMENT

University or college enrollment should be separated from K-12 enrollment if the universities or colleges in a MPO study area have large campus or dormitories. In the cases that university/college campus or dormitory buildings locate in different TAZs, the enrollment data should be allocated accordingly. University or college enrollment data should be available through directly contacting individual schools. National Center for Education Statistics website provides estimates on university/college student population as well⁴.

2.6 ACRES

TAZ acreage can be estimated best using GIS and crosschecked with published land-area data. MPOs should each maintain a GIS layer for TAZ boundaries. A regularly maintained land-use database would also assist in developing consistency in socio-economic data estimates. For MPOs receiving TAZs provided by GDOT, acres will be included in the TAZs data.

⁴ <https://nces.ed.gov/collegenavigator/>

3. FUTURE YEAR PROJECTIONS

All MPOs are encouraged to consider future land-use plans and significant infrastructure changes (sewer extensions, new highway access, economic development plans, etc.) into future long-range socio-economic forecasts.

The first step in developing future year projections is to estimate total regional population growth. The estimated population control total serves as the base for projecting other variables including total employment and total school enrollment. For example, future total employment can be estimated by multiplying the base year ratio of employment and population to the projected population. The socio-economic data committee could provide guidance on shifts in the employment base that may need to be applied to future employment totals by type (e.g., reflect national trends of shifting to a more service-oriented economy). Future school enrollment control totals (by type of school) can be estimated using the base year ratio of school enrollment and population. Average enrollments can then be allocated to schools by type. Unless significant changes in unemployment rates and age distributions are expected, assuming employment and school enrollments follow the growth in population should be sufficient for transportation planning purposes.

There are many methods (and assumptions) for projecting population. Each MPO is responsible for developing future population forecasts and ensuring that growth forecasts are reasonable. GDOT conducts reasonableness checks on the socio-economic data at the aggregated regional level and disaggregation into individual TAZs. After reviewing zonal socio-economic data, GDOT provides a review document that may include recommended adjustments.

There are many approaches to develop future year socio-economic data for travel demand models. The following section provides standard approaches with descriptions for developing socio-economic data.

3.1 POPULATION AND HOUSEHOLDS

Future year projections of population and household will be based on existing distribution, future region wide growth, and specific land-use development plans. The recommended methodology includes the following procedures:

- Collect county growth projections from the Georgia Office of Planning and Budget (OPB) to use as a potential guide for MPO growth assumptions. OPB currently provides the population projections by county through 2050.
- Obtain the population projection of REMI model data from GDOT.
- At some MPOs, the socio-economic data is reviewed by a local review panel. The review panel reviews the regional growth assumption developed by the MPO and recommends appropriate modifications.
- Develop and document the future regional projection methodology.
- Allocate future population growth to TAZs.
- Submit future year data for developing the future year travel models to GDOT for review.

3.2 MEDIAN INCOME

Income for future years usually does not change. Base year 2015 income data would serve as future year income.

Relatively significant changes in development patterns (e.g., high-cost homes constructed in a low-income area) are expected to produce significant changes in median household income at the census-tract level. Such changes often occur slowly, so most TAZs will not require adjustments from census income data. However, if specific TAZs have considerable changes in development patterns in the future year, some adjustments to the income data may be needed.

3.3 EMPLOYMENT BY TYPE

Future year projections of total employment and employment by type will be based on existing distribution and future region-wide growth assumptions, the county/city comprehensive plan, land-use plan, and business permits. The recommended methodology includes the following procedures:

- Estimate future employment control totals as a function of projected population growth and projected shifts in the economic base of the region.
- A socio-economic data review panel reviews employment projections and recommends appropriate modifications.
- Allocate future employment growth to TAZs.

3.4 SCHOOL ENROLLMENT (K-12) AND UNIVERSITY/COLLEGE ENROLLMENT

Future K-12 school or university/college enrollment would be developed based on existing school or university/college enrollment, region-wide population growth, and plans with future school or university/college addition/relocation. Primary data sources include local school boards, private schools, State Board of Education, State Board of Regents, the Georgia Department of Technical and Adult Education, County Comprehensive Plan, City Comprehensive Plans, University/College Plans, etc. If future school or university/college relocation or addition plans are available from the sources listed above, the following steps can be performed to obtain future school enrollment:

- Obtain school system total enrollments by type of school.
- Obtain lists of schools and assign each school to its appropriate TAZ.
- Assign the estimated or planned number of students to each school's TAZ.
- Ensure TAZ service employment is reasonable for zones with schools to account for employment at schools.

4. PROCEDURES TO CHECK THE SOCIO-ECONOMIC DATA

4.1 POPULATION PER HOUSEHOLD RATIO

- Population-per-household ratio normally does not exceed 7 persons-per-household.
 - › Areas with over 7 persons-per-household should be explainable by some form of group housing within the TAZ.
 - › Do not include population in hospitals, nursing homes, and prisons since the people who reside in these facilities are not making trips on the network. These populations are removed from the TAZ. For these types of businesses, the employment alone will reasonably generate the trips associated with these facilities.
- Population-per-household ratio will decrease gradually over time, but not more than a few tenths of a percent/person. A drop of more than 0.5 persons per household over a 20-year span is significant.
- Population-per-household ratio typically is greater in suburban counties than in the center of a city.
- Population per household ratio should not be less than 1.0 – this would correspond to a household that has no population, which by-definition does not exist (household is a populated home).

4.2 HOUSEHOLDS (OCCUPIED)

- **Do not decrease** from existing to future projections without an explainable reason (e.g., redevelopment of a residential area into a commercial property, which is not a common occurrence).
- Change in households should show a similar pattern to change in population.

4.3 HOUSEHOLDS PER ACRE

- Over 4 households-per-acre would represent multifamily housing. Multifamily housing is typically located nearby a higher functional classification road (i.e., they are not generally located in rural or isolated areas).
- Over 6 households-per-acre would signify multistory buildings. Again, check location for reasonableness.

4.4 EMPLOYMENT

- About half of the available land can generally be considered for the building. Use the following to see if the size of the building is in line with the acreage of the TAZ. Include households as well (4 households-per-acre unless it is multifamily).
 - › Office: 250 square feet per employee
 - › Retail: 300 square feet per employee
 - › Wholesale: 700 square feet per employee
 - › Manufacturing: 700 square feet per employee

4.5 WORKFORCE UTILIZATION

- The ratio of population-to-employees generally stays constant. There should not be a significant change.

4.6 INCOME

- Income data usually does not change over years. Keep in similar dollars for future forecasts. Do not adjust for inflation.

4.7 SCHOOL ENROLLMENT (K-12)

- K-12 School enrollment is generally around 20 percent of the population.
- The ratio of K-12 school enrollment-to-population should remain relatively similar from the base to future year.

4.8 SE DATA DOCUMENTATION AND REVIEW

It is recommended that MPOs document the base year and future year SE data development process and methodology. After the reasonableness check, it is recommended that MPOs submit the documentation for GDOT to review and comment on. While GDOT is not responsible for developing the MPOs SE data, GDOT will provide comments based on the requirements and reasonableness from a travel demand model development aspect for MPO's consideration.

APPENDIX XX:

Data Development Methodology Notes for:

- MATS 2015 Baseline
Population and Employment
Estimates
- MATS 2050 Population and
Employment Forecasts

General Notes on MATS Preliminary 2015 Base Year Data Assembly

1. All GIS and data assembly tasks were performed using the following software packages:
 - a. Spatial Analysis/GIS – ArcGIS 10.7.1, ArcINFO license
 - b. Tabular data organization:
 - i. Microsoft Access 2013
 - ii. Microsoft Excel 2013
2. All GIS and Spatial Analysis tasks were standardized to the NAD 1983 Georgia Statewide Lambert Conical Form coordinate system. Unless otherwise noted, measurement units are in U.S. Feet.
3. All variable names listed below are underlined
4. Contact information/questions regarding data development:

Mike Greenwald
Planning Director/MPO Technical Coordinator
Macon-Bibb Co Planning & Zoning Commission
682 Cherry Street, Suite 1000
Macon, GA 31201
478-338-9472;
MGreenwald@mbpz.org

Data Assembly Notes v. 6/17/2021

GIS Methodology

Census Blocks

Census blocks were assigned to a specific TAZ based on which TAZ the Census Block centroid fell within; centroids for convex polygons were assigned to a location inside the interior of the polygon boundary (using ArcGIS 10.7.1 Feature to Point tool, with “Inside” option selected).

Census blocks with multi-part polygons either had no households and no population associated with them (n=6), or were editing errors associated with neighboring counties not within the jurisdictional boundaries covered by this project (i.e., Crawford County blocks on the border with Bibb and/or Monroe County; Jasper and/or Putnam County blocks bordering Jones County; n=11)

Original Data Source: N=13,394 Census Blocks across Bibb, Crawford, Houston, Jones, Monroe Peach and Twiggs Counties

Final Dataset: N=13,394 Blocks, comprising 139 block groups across 976 Transportation Analysis Zones spanning all of Bibb, Crawford, Houston, Jones, Monroe Peach and Twiggs Counties.

Primary and Secondary Schools, Universities and Technical Colleges

Primary and secondary school locations were obtained from the Bibb County School District (private schools operating in Macon-Bibb County), Macon-Bibb County Planning & Zoning Department archives (public schools only), and the Middle Georgia Regional Commission (public schools only). According to the Jones County School District there were no private schools operating in Jones County in 2010. Only one private school was located in that portion of Monroe County covered by the MATS MPO jurisdiction, and that was identified through the data provided by the Bibb County School District.

Locations for private schools were geocoded using the multi-phasic composite geocoder maintained by the Macon-Bibb County GIS Manager. These results were then validated against Google Earth satellite imagery to ensure proper placement in the TAZ system. Crawford, Houston, Jones, Monroe, Peach and Twiggs County locations were similarly validated. Finally, all records were consolidated into a single, MPO region wide, school location point file. This master file was then edited to remove closed or ineligible sites, and then spatially joined to the TAZ system map layer.

Final Data Set: N = 140 primary and secondary school locations (public and private) across Bibb, Crawford, Houston, Jones, Monroe, Peach and Twiggs Counties.

County	Total Schools	Charter School	Private School	Public School
Crawford	4	0	1	3
Houston	47	0	10	37
Jones	10	0	1	9
Macon-Bibb	62	2	19	41
Monroe	6	0	1	5
Peach	7	0	1	6
Twiggs	4		1	3

University and technical college campuses were collected individually, and then geocoded using the same data assembly and spatial validation procedures as for primary and secondary schools.

Final Data Set: N = 23 university and technical college campuses across Bibb, Crawford, Houston, Jones, Monroe, Peach and Twiggs Counties. Details of each campus can be found in the *College Enrollment and On-Campus Housing Estimates* variable description, below

Variable Definitions

Indexing Variables

These variables are used to uniquely identify each TAZ in the data set. The combination of values for these three variables provides a primary key index for all TAZs in this data set.

MPOArea_EDITED – The MPO area associated with each Transportation Analysis Zone. This variable is necessary because the indexing system for TAZs repeats depending on the MPO Area where the zone is located (e.g., there is a TAZ #1 for the MATS MPO area, and also a TAZ #1 for the WRATS MPO area, etc.).

This variable takes on one of three values:

MATS MPO – The TAZ is associated with the Macon Area Transportation Study (MATS) MPO area

WRATS MPO - The TAZ is associated with the Warner Robins Area Transportation Study (WRATS) MPO area

Outside MPO Boundary – The TAZ falls outside the currently defined boundaries of an MPO area.

TAZ_NEW_EDITED – The Transportation Analysis Zone for which the data is being collected. TAZ indexing reflects the zone systems developed by GDOT and HNTB for the MATS area, WRATS area and Crawford, Jones, Monroe, Peach and Twiggs County areas not covered by an existing MPO boundary.

County_EDITED – The County in which the TAZ is located. By definition, a TAZ cannot span a County boundary; all TAZs must be fully contained within an individual county.

Land Area and Population

These variables contain information on the size and composition of the land mass and population for each TAZ

TAZCalcAcres – The total acreage of the TAZ, as calculated by ArcMap 10.7.1.

LandOnlyAcres – The total amount of TAZ area that is identified as exclusively Land. This value is calculated by taking all Census Blocks within the TAZ that are identified as ALAND>0 and AWATER=0, calculating the area in ArcMap. 10.7.1, and summing up the individual Census Block areas by TAZ.

WaterOnlyAcres – The total amount of TAZ area that is identified as exclusively Water (i.e., rivers, lakes, tributaries, etc.). This value is calculated by taking all Census Blocks within the TAZ that are identified as ALAND=0 and AWATER≠0, calculating the area in ArcMap. 10.7.1, and summing up the individual Census Block areas by TAZ.

LandAndWaterAcres – The total amount of TAZ area that is identified as both land area and water bodies. This value is calculated by taking all Census Blocks within the TAZ that are identified as ALAND≠0 and AWATER≠0, calculating the area in ArcMap. 10.7.1, and summing up the individual Census Block areas by TAZ.

TAZ_TtlPop2015 – The estimated number of persons identified as living in the specific TAZ, as of July 1, 2015. Values are based on U.S. Census 2010 population counts reported at the block level of geography (U.S. Census 2010 Summary File 1, Table P12: SEX BY AGE), broken down by the following age groups.

Age 0 to 4 Years
Age 5 to 9 Years
Age 10 to 14 Years
Age 15 to 19 Years
Age 20 to 24 Years
Age 25 to 29 Years
Age 30 to 34 Years
Age 35 to 39 Years
Age 40 to 44 Years
Age 45 to 49 Years
Age 50 to 54 Years
Age 55 to 59 Years
Age 60 to 64 Years
Age 65 to 69 Years
Age 70 to 74 Years
Age 75 to 79 Years
Age 80 to 84 Years
Age 85 Years and Older

These values were then multiplied by an expansion factor for each age group, in each county. Factor was developed as follows:

Estimated Population as of July 1, 2015 for Age Group in Specific County
Reported Population as of April 1, 2015 for Age Group in Specific County

Source: “US Census Annual County Resident Population Estimates by Age, Sex, Race, and Hispanic Origin: April 1, 2010 to July 1, 2019” (<https://www2.census.gov/programs-surveys/popest/datasets/2010-2019/counties/asrh/cc-est2019-alldata-13.csv>)

Block estimates were then aggregated to each TAZ to generate TAZ population estimates.

TAZ_TtlHh2015 – The estimated total number of households identified as living in the specific TAZ, as of July 1, 2015. Values are based on the number of occupied housing units reported at the block level of geography (U.S. Census 2010 Summary File 1, Table H3: Housing Units—Status=OCCUPIED), multiplied by a countywide expansion factor based on the number of estimated housing units for the county.

Factor was developed as follows:

Estimated number of Housing Units as of July 1, 2015 for a Specific County
Reported number of Housing Units as of April 1, 2010 for a Specific County

Source: “Annual Estimates of Housing Units for Counties in Georgia: April 1, 2010 to July 1, 2019”
<https://www2.census.gov/programs-surveys/popest/tables/2010-2019/housing/totals/CO-EST2019-ANNHU-13.xlsx>

Block estimates were then aggregated to each TAZ to generate TAZ population estimates.

Supplemental: There are additional fields for TAZ Population and Household Estimates, based on ethnic groups recognized by U.S. Census: White {White}, African American {AfrAm}, American Indian/Alaskan Native {AIAN}, Asian, Native Hawaiian/Pacific Islander {NHPI}, Other {Other}, Two or More Races {TwoRace}, Hispanic Origin {Hisp}. Those population and household estimates were generated as follows:

TAZ {Ethnic Group}TtlPop2015 – The estimated number of persons in a particular census ethnic category living in a specific TAZ, as of July 1, 2015. Estimation method is similar to that for TAZ TtlPop2015, with the following modifications:

- Population values are based on U.S. 2010 Census Summary File 1, Tables P12A: SEX BY AGE (WHITE ALONE) through P12H: SEX BY AGE (HISPANIC OR LATINO)
- Expansion factors are calculated by specific ethnic group, rather than for county overall population. The same core dataset (“US Census Annual County Resident Population Estimates by Age, Sex, Race, and Hispanic Origin: April 1, 2010 to July 1, 2019”; see link above) provides the necessary information to create expansion factors by age and ethnic categories

TAZ {Ethnic Group}Hh2015Est – The estimated number of households of a particular census ethnic category living in a specific TAZ, as of July 1, 2015. Estimates were created using the following process:

- Calculate the average household size, by ethnic group, for 2010, using the following formula:

$$\frac{\sum_{B=1}^n U.S. Census 2010 Block Count of Total Population in Occupied Housing Units (Table H11X)}{\sum_{B=1}^n U.S. Census 2010 Block Count of Occupied housing units of particular ethnic group (Table H16X)}$$

Where B = set of all block groups within a specific TAZ

X = Relevant ethnic group data subset (A = White; B = African American;
 C = American Indian/Alaskan Native; D = Asian, E = Native Hawaiian/Pacific Islander;
 F = Other; G = 2 Or More Races; H = Hispanic or Latino)

- If the TAZ had no 2015 population estimate for of a particular ethnic category (see variable description above), or there was no estimated 2010 average household size based on the previous step, the value was assigned to be **Null**. Otherwise, the estimated number of households for a particular ethnic category was calculated as:

$$\text{TAZ}_{\{\text{Ethnic Group}\}}\text{Hh2015Est} = \frac{\text{TAZ}_{\{\text{Ethnic Group}\}}\text{TtlPop2015}}{\text{Average Hh Size}_{\{\text{Ethnic Group}\}} 2010}$$

Household Income Data Source

Household income information was collected from the American Community Survey 5 Year Estimate data release for 2013-2017 (ACS13_17), at the Census Block Group level of geographic detail. This data source and version release was chosen because:

1. Census Block Group is the highest level of geographic detail (i.e., the smallest geographic area) at which household income estimates are provided;
2. The 2015 base year falls exactly in the middle of the 2013-2017 time period covered by the ACS13_17 data release;

Dollar values from the ACS13_17 are reported in 2017 constant adjusted dollars. To adjust for inflation back to the 2015 base year, all ACS13_17 estimates were adjusted using the U.S. Dept. of Labor, Bureau of Labor Statistics, Historical Consumer Price Index for All Urban Consumers (CPI-U) in the South, Not Seasonally Adjusted.

(https://data.bls.gov/timeseries/CUUR0300SA0?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true). These adjustments to the ACS13_17 estimates were incorporated before any additional steps were applied to create the variables described below.

TAZAvgHhInc2015 – The estimated average household income (in 2015 Constant Dollars) for the TAZ. Because TAZs and Census Block Groups are not necessarily fully encapsulated, the following rules were developed to estimate average household income:

1. If a TAZ has no households in 2010, the average household income assigned to it is \$0;
2. If a TAZ spans one or more Census Block Groups, the average household income is assigned using the following formula

$$\sum_{b=1}^B \frac{\text{2010 Households in Specific Block and TAZ}}{\text{ALL 2010 Households in TAZ}} \times (\text{2015 Block Group Household Avg. Income})_b$$

Where:

B = set of all block groups intersecting a specific TAZ

Supplemental: There are additional fields for Average Income Estimates, based on ethnic groups recognized by U.S. Census: White {White}, African American {AfrAm}, American Indian/Alaskan Native {AIAN}, Asian, Native Hawaiian/Pacific Islander {NHPI}, Other {Other}, Two or More Races {TwoRace}, Hispanic Origin {Hisp}. Those population and household estimates were generated as follows:

TAZ{EthnicGroup}AvgHhInc2015 – The average household income (in 2015 Constant Dollars), for households of a particular ethnic group, in the TAZ. Because TAZs and Census Block Groups are not necessarily fully encapsulated, the following rules were developed to estimate average household income:

1. If a TAZ has no households in 2010, the average household income assigned to it is \$0;

2. If a TAZ spans one or more Census Block Groups, the average household income is assigned using the following formula

$$\sum_{b=1}^B \left(\frac{\text{2010 Households of Ethnic Group [X] in Specific Block and TAZ}}{\text{ALL 2010 Households of Ethnic Group [X] in TAZ}} \right) \times (\text{2015 Block Group Household Avg. Income of Ethnic Group [X]})$$

Where:

B = set of all block groups intersecting a specific TAZ

[X] = Relevant ethnic group data subset for the U.S. 2010 Census (A = White; B = African American; C = American Indian/Alaskan Native; D = Asian, E = Native Hawaiian/Pacific Islander; F = Other; G = 2 Or More Races; H = Hispanic or Latino)

EstMedHhInc2015 – The estimated 2015 median household income for the TAZ, as computed from ACS13_17, Table B19013. Because TAZs and Census Block Groups are not necessarily fully encapsulated, the following rules were developed to estimate average household income:

1. If a TAZ has no households in 2010, the median household income assigned to it is \$0;
2. If a TAZ is fully covered by a single Census Block Group, the median household income assigned to it is the median household income of the Census Block Group. Block Group median household income is taken from ACS13_17, Table B19013, with adjustment to 2015 Constant Dollars)
3. If a TAZ is covered by multiple Census Block Groups, the median household income is estimated using the frequency distribution of all the composite Block Groups intersecting the TAZ.

$$\sum_{b=1}^B \frac{\text{2010 Households in Specific Block and TAZ}}{\text{ALL 2010 Households in TAZ}} \times (\text{2015 Block Group Household Median Income})_b$$

Where:

B = set of all block groups intersecting a specific TAZ

Group Quarters Housing

Group Quarters residency information was estimated using the values in the categories for U.S. 2010 Census, Summary File 1, Table P42 - Group Quarters Population by Group Quarters Type, using Census Block geography. The 2010 Block values were then aggregated to each TAZ to generate TAZ level population estimates. These values were then multiplied by a Group Quarters expansion factor for each county, based on U.S. Census estimates. Factor was developed as follows:

$$\frac{\text{Estimated Group Quarters Total Population as of July 1, 2015 for Specific County}}{\text{Estimated Group Quarters Total Population as of April 1, 2010 for Specific County}}$$

Source: “Annual Resident Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for States and Counties: April 1, 2010 to July 1, 2019” (<https://www2.census.gov/programs-surveys/popest/datasets/2010-2019/counties/totals/co-est2019-alldata.csv>)

TAZ_GQttlPop2015Est – The 2015 estimate of total population living in group quarters, across all categories of group quarters. This is effectively a control total across all sub-categories listed below.

TAZ_GQInstPop2015Est – The 2015 estimate of total population living in **Institutionalized** group quarters (Adult Correctional Facilities, Juvenile Facilities, Nursing Homes, and Other Institutional Facilities). This is effectively a control sub-total for group quarters institutionalized populations across all sub categories listed below.

TAZ_JailAdultPop2015Est – The 2015 estimate of total population living in **Adult Correctional Facilities**.

TAZ_JailJuvPop2015Est – The 2015 estimate of total population living in **Juvenile Facilities**.

TAZ_NursHmPop2015Est – The 2015 estimate of total population living in **Nursing Homes**.

TAZ_OthrGQInstPop2015Est – The 2015 estimate of total population living in **Other Institutional Facilities**.

TAZ_GQNonInstPop2015Est – The 2015 estimate of total population living in **Non-Institutionalized** group quarters (College/University Dormitories, Military Quarters, Other Non-Institutional Facilities). This is effectively a control sub-total for group quarters non-institutionalized populations across all sub categories listed below.

TAZ_DormPop2015Est – The 2015 estimate of total population living in **College/University Dormitories**.

TAZ_BaracksPop2015Est – The 2015 estimate of total population living in **Barracks/Military Quarters**.

TAZ_OthrGQNonInstPop2015Est – The 2015 estimate of total population living in **Other Non-Institutional Facilities**.

Student Enrollment

Student enrollment totals for the Academic Year 2015/2016 were obtained from the Georgia Dept. of Education annual reporting website (https://oraapp.doe.k12.ga.us/ows-bin/owa/fte_pack_enrollgrade.entry_form).

Enrollment data was collected for the 2015 Fall Quarter, by grade level, for public schools and State recognized charter schools. The 2015 Fall Quarter was chosen as the reference value because that value would most accurately correspond to the July 1, 2015 County population estimates (see description of TAZ_TtlPop2015, above, for further details). Data for private schools was obtained by contacting the County School District Office, or the individual school directly.

Individual schools were spatially joined to the TAZ where they were located, and then the total enrollments by grade level across all schools were aggregated for the corresponding TAZ.

ERRATTA NOTES:

- The data for student enrollment does not include the totals for the Head Start program. The only known Head Start locations in the study area were associated with Macon-Bibb County Equal Opportunity Commission. The enrollment totals for the 2015 Program Year were lost in the migration to a new database system.

The Head Start locations associated with the 2015 Program Year have subsequently been closed and their activities re-assigned to different locations in Macon-Bibb and Monroe Counties.

- Two private schools in Houston County (Christ School, and The Winning Academy) did not respond to multiple requests for their 2015 enrollment information.

EnrollmentTtIK12Fall2015: – The total primary and secondary school enrollment, as of Fall 2015, in the TAZ.

StudentsPreK2015 – The total number of Pre-Kindergarten students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

StudentsKind2015 – The total number of Kindergarten students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students1stGrade2015 – The total number of 1st Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students2ndGrade2015 – The total number of 2nd Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students3rdGrade2015 – The total number of 3rd Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students4thGrade2015 – The total number of 4th Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students5thGrade2015 – The total number of 5th Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students6thGrade2015 – The total number of 6th Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students7thGrade2015 – The total number of 7th Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students8thGrade2015 – The total number of 8th Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students9thGrade2015 – The total number of 9th Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students10thGrade2015 – The total number of 10th Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students11thGrade2015 – The total number of 11th Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Students12thGrade2015 – The total number of 12th Grade students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

Employment Data Sources

All employment data for the 2015 base year are collected from the National Establishment Time-Series Database, 2019 Release (NETS 2019), produced by Walls & Associates. This data was obtained as part of a purchase through Dun & Bradstreet. The particular version of the NETS 2012 obtained covers all economic activities in Bibb, Crawford, Houston, Jones, Monroe Peach and Twiggs Counties from 1990 through 2019, and includes the total employment at the particular establishment, along with the 8 digit Standard Industrial Classification (SIC) Code (version 1987) and 6 digit North American Industrial Classification System (NAICS) for up to six economic activities at a particular establishment.

Summary Statistics for the NETS 2019 data set for the Macon-Warner Robins Census Combined Statistical Area (CSA)

Total Number of Records for CSA:	92,840
• Within 7 County Area (By County FIPS):	85,606
○ Bibb	40,056
○ Jones	4,448
○ Monroe	5,338
○ Houston	27,075
○ Peach	5,457
○ Crawford	1,919
○ Twiggs	1,313
• And has reported 2015 employment (By County):	25,898
○ Bibb	11,888
○ Jones	1,446
○ Monroe	1,900
○ Houston	8,102
○ Peach	1,617
○ Crawford	561
○ Twiggs	384

Employment and Geographic Code Detail Breakdown, by County

County Name	Establishment Employment Level of Detail	Total	Census Block	Street Level	Census Tract Centroid	Zip Code Centroid
Bibb County	Actual Employment Figure	6819	6772	21	0	26
Bibb County	Bottom of Range	118	118	0	0	0
Bibb County	Dun & Bradstreet Employment Estimate	1693	1625	7	1	60
Bibb County	Walls & Associates Estimate	3258	3163	6	0	89
Jones County	Actual Employment Figure	297	271	16	0	10
Jones County	Bottom of Range	4	4	0	0	0
Jones County	Dun & Bradstreet Employment Estimate	108	99	3	1	5
Jones County	Walls & Associates Estimate	152	137	4	2	9
Monroe County	Actual Employment Figure	4577	4513	24	1	39
Monroe County	Bottom of Range	69	69	0	0	0
Monroe County	Dun & Bradstreet Employment Estimate	1197	1129	3	1	64
Monroe County	Walls & Associates Estimate	2259	2183	8	0	68
Houston County	Actual Employment Figure	775	757	7	1	10
Houston County	Bottom of Range	7	7	0	0	0
Houston County	Dun & Bradstreet Employment Estimate	270	259	0	0	11
Houston County	Walls & Associates Estimate	394	371	3	0	20
Peach County	Actual Employment Figure	1043	1016	12	0	15
Peach County	Bottom of Range	8	8	0	0	0
Peach County	Dun & Bradstreet Employment Estimate	353	326	2	0	25
Peach County	Walls & Associates Estimate	496	465	3	0	28
Crawford County	Actual Employment Figure	957	902	37	0	18
Crawford County	Bottom of Range	9	9	0	0	0
Crawford County	Dun & Bradstreet Employment Estimate	222	209	3	0	10
Crawford County	Walls & Associates Estimate	429	400	6	0	23
Twiggs County	Actual Employment Figure	216	210	3	0	3
Twiggs County	Bottom of Range	3	1	1	0	1
Twiggs County	Dun & Bradstreet Employment Estimate	78	74	0	0	4
Twiggs County	Walls & Associates Estimate	87	81	1	0	5

Employment and Geographic Code Detail Breakdown, by County (Marginal Percentages; All Counties Total 100%, each)

County Name	Establishment Employment Level of Detail	Total	Census Block	Street Level	Census Tract Centroid	Zip Code Centroid
Bibb County	Actual Employment Figure	57.36%	56.97%	0.18%	0.00%	0.22%
Bibb County	Bottom of Range	0.99%	0.99%	0.00%	0.00%	0.00%
Bibb County	Dun & Bradstreet Employment Estimate	14.24%	13.67%	0.06%	0.01%	0.50%
Bibb County	Walls & Associates Estimate	27.41%	26.61%	0.05%	0.00%	0.75%
Jones County	Actual Employment Figure	52.94%	48.31%	2.85%	0.00%	1.78%
Jones County	Bottom of Range	0.71%	0.71%	0.00%	0.00%	0.00%
Jones County	Dun & Bradstreet Employment Estimate	19.25%	17.65%	0.53%	0.18%	0.89%
Jones County	Walls & Associates Estimate	27.09%	24.42%	0.71%	0.36%	1.60%
Monroe County	Actual Employment Figure	56.49%	55.70%	0.30%	0.01%	0.48%
Monroe County	Bottom of Range	0.85%	0.85%	0.00%	0.00%	0.00%
Monroe County	Dun & Bradstreet Employment Estimate	14.77%	13.93%	0.04%	0.01%	0.79%
Monroe County	Walls & Associates Estimate	27.88%	26.94%	0.10%	0.00%	0.84%
Houston County	Actual Employment Figure	53.60%	52.35%	0.48%	0.07%	0.69%
Houston County	Bottom of Range	0.48%	0.48%	0.00%	0.00%	0.00%
Houston County	Dun & Bradstreet Employment Estimate	18.67%	17.91%	0.00%	0.00%	0.76%
Houston County	Walls & Associates Estimate	27.25%	25.66%	0.21%	0.00%	1.38%
Peach County	Actual Employment Figure	54.89%	53.47%	0.63%	0.00%	0.79%
Peach County	Bottom of Range	0.42%	0.42%	0.00%	0.00%	0.00%
Peach County	Dun & Bradstreet Employment Estimate	18.58%	17.16%	0.11%	0.00%	1.32%
Peach County	Walls & Associates Estimate	26.11%	24.47%	0.16%	0.00%	1.47%
Crawford County	Actual Employment Figure	59.18%	55.78%	2.29%	0.00%	1.11%
Crawford County	Bottom of Range	0.56%	0.56%	0.00%	0.00%	0.00%
Crawford County	Dun & Bradstreet Employment Estimate	13.73%	12.93%	0.19%	0.00%	0.62%
Crawford County	Walls & Associates Estimate	26.53%	24.74%	0.37%	0.00%	1.42%
Twiggs County	Actual Employment Figure	56.25%	54.69%	0.78%	0.00%	0.78%
Twiggs County	Bottom of Range	0.78%	0.26%	0.26%	0.00%	0.26%
Twiggs County	Dun & Bradstreet Employment Estimate	20.31%	19.27%	0.00%	0.00%	1.04%
Twiggs County	Walls & Associates Estimate	22.66%	21.09%	0.26%	0.00%	1.30%

TAZtlEmp2015 – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across all categories classified by GDOT.

Emp2015AgMinConst – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across NAICS Categories 11 (Agriculture, Forestry, Fishing and Related Activities), 21 (Mining), 22 (Utilities Service Employment) and 23 (Construction).

Emp2015ManufTCUW – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across NAICS Categories 31-33 (Manufacturing), 42 (Wholesale Trade), and 48-49 (Transportation and Warehousing).

Emp2015Retail – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across NAICS Categories 44-45 (Retail Trade).

Emp2015Service – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across NAICS Categories 51 (Information), 52 (Finance and Insurance), 53 (Real Estate and Rental and Leasing), 54 (Professional, Scientific and Technical Services), 55 (Management of Companies

and Enterprises), 56 (Administration and Waster Services), 61 (Educational Services), 62 (Health Care and Social Assistance), 71 (Arts, Entertainment and Recreation), 72 (Accommodation and Food Services), 81 (Other Services, except Public Administration), and 92 (Government and Government Enterprises).

College Enrollment and On-Campus Housing Estimates

Estimates for university and technical college enrollments and on-campus housing estimates for Fall 2015 were collected by contacting the individual campus registrar offices. For the study region, there were eight (23) institutions identified:

Institution Name	Street Address	City	ZIP	MPO
Central GA Technical College - Aerospace Traning Center #1	1821 Avondale Mill Rd.	Macon	31216	MATS MPO
Central GA Technical College - Aerospace Traning Center #2	199 East Dr.	Macon	31216	MATS MPO
Central GA Technical College - Crawford County	640 GA Hwy 128	Roberta	31078	Outside MPO Boundary
Central GA Technical College - Jones County	161 West Clinton St.	Gray	31032	Outside MPO Boundary
Central GA Technical College - Jones County Career Academy	129 Gordon St.	Gray	31032	Outside MPO Boundary
Central GA Technical College - Macon	3300 Macon Tech Dr.	Macon	31206	MATS MPO
Central GA Technical College - Monroe County	433 US Hwy 41 S	Forsyth	31029	Outside MPO Boundary
Central GA Technical College - Peach County	425 James E Khoury Dr.	Fort Valley	31030	Outside MPO Boundary
Central GA Technical College - Twiggs County	952 Main St.	Jeffersonville	31044	Outside MPO Boundary
Central GA Technical College - Warner Robins	80 Cohen Walker Dr.	Warner Robins	31088	WRATS MPO
Fort Valley State University	1005 State University Dr.	Fort Valley	31030	Outside MPO Boundary
Georgia College	433 Cherry St.	Macon	31201	MATS MPO
Georgia Military College-Warner Robins	801 Duke Avenue	Warner Robins	31093	WRATS MPO
Mercer Downtown	433 Cherry St.	Macon	31201	MATS MPO
Mercer University	1501 Mercer University Dr.	Macon	31207	MATS MPO
Mercer University Law School	1021 Georgia Ave.	Macon	31201	MATS MPO
Mercer University Med School	1501 Mercer University Dr.	Macon	31206	MATS MPO
Middle GA State University - Macon Bibb	100 University Pkwy	Macon	31206	MATS MPO
Middle GA State University - Warner Robins	100 University Blvd.	Warner Robins	31093	WRATS MPO
Miller Motte Technical College	175 Tom Hill Sr. Blvd	Macon	31210	MATS MPO

Navicent Medical Center	790 First St.	Macon	31201	MATS MPO
VECTR Center	1001 S Armed Forces Blvd.	Warner Robins	31088	WRATS MPO
Wesleyan College	4760 Forsyth Rd.	Macon	31210	MATS MPO

Institutions were geocoded according to their respective campus addresses, then joined to their respective TAZs. Special note should be taken of the following:

- a. Estimates for Macon State College/Middle GA State University on campus housing are not fully validated. The 2010-11 academic year was the first year that campus housing was offered as an option, and the staff person in charge of keeping those records has since left the institution.
- b. Mercer University Medical School is on the same campus as the main Mercer University campus. However, the entire campus has been segmented into 3 distinct TAZs.
- c. Miller Motte Technical College (TAZ #407, MATS MPO Area) refused to provide any information on 2015 enrollment totals

UnivTtl2015 – The total college population across all undergraduate, graduate and/or professional programs attending classes at campuses located within the TAZ.

UnivFT2015 – The college population across all undergraduate, graduate and/or professional programs attending classes **full time** at campuses located within the TAZ.

UnivPT2015 – The college population across all undergraduate, graduate and/or professional programs attending classes **part time** at campuses located within the TAZ.

List of Non Local Supplemental Data Sets Used

1. American Community Survey 2013-2017 5 Year Averages (Block Group Geography)
 - a. Table B19013 – Median Household Income
 - b. Table B19025X – Aggregate Household Income In The Past 12 Months (In 2012 Inflation Adjusted Dollars)
 - i. X = Relevant ethnic group data subset (A = White; B = African American; C = American Indian/Alaskan Native; D = Asian, E = Native Hawaiian/Pacific Islander; F = Other; G = 2 Or More Races; H = Hispanic or Latino)
2. U.S. 2010 Census, Summary File 1, Tables
 - a. H11X - TOTAL POPULATION IN OCCUPIED HOUSING UNITS BY TENURE
 - i. X = Relevant ethnic group data subset (A = White; B = African American; C = American Indian/Alaskan Native; D = Asian, E = Native Hawaiian/Pacific Islander; F = Other; G = 2 Or More Races; H = Hispanic or Latino)
 - b. H16X - TENURE BY HOUSEHOLD SIZE [17] (Universe: Occupied Housing Units)
 - i. X = Relevant ethnic group data subset (A = White; B = African American; C = American Indian/Alaskan Native; D = Asian, E = Native Hawaiian/Pacific Islander; F = Other; G = 2 Or More Races; H = Hispanic or Latino)
 - c. P12X – AGE BY SEX
 - i. X = Relevant ethnic group data subset (A = White; B = African American; C = American Indian/Alaskan Native; D = Asian, E = Native Hawaiian/Pacific Islander; F = Other; G = 2 Or More Races; H = Hispanic or Latino)
 - d. P42 - Group Quarters Population by Group Quarters Type
3. U.S. Dept. of Labor, Bureau of Labor Statistics, Historical Consumer Price Index for All Urban Consumers (CPI-U) in the South, Not Seasonally Adjusted.
(https://data.bls.gov/timeseries/CUUR0300SA0?amp%253bdata_tool=XGtable&output_view=ata&include_graphs=true)
4. “Annual Estimates of Housing Units for Counties in Georgia: April 1, 2010 to July 1, 2019”
(<https://www2.census.gov/programs-surveys/popest/tables/2010-2019/housing/totals/CO-EST2019-ANNHU-13.xlsx>)
5. “Annual Resident Population Estimates, Estimated Components of Resident Population Change, and Rates of the Components of Resident Population Change for States and Counties: April 1, 2010 to July 1, 2019” (<https://www2.census.gov/programs-surveys/popest/datasets/2010-2019/counties/totals/co-est2019-alldata.csv>)
6. National Establishment Time-Series Database, 2019 Release, produced by Walls & Associates
7. Georgia Dept. of Education: Enrollment By Grade Level 2015Q3
(https://oraapp.doe.k12.ga.us/ows-bin/owa/fte_pack_enrollgrade.entry_form)

General Notes on MATS 2050 Forecast Year Data Assembly

1. All GIS and data assembly tasks were performed using the following software packages:
 - a. Spatial Analysis/GIS – ArcGIS 10.7.1, ArcINFO license
 - b. Tabular data organization:
 - i. Microsoft Access 2016
 - ii. Microsoft Excel 2016
2. All GIS and Spatial Analysis tasks were standardized to the NAD 1983 Georgia Statewide Lambert coordinate system. Distance measurement units are in Feet.
3. All variable names listed below are underlined
4. Contact information/questions regarding data development:

Mike Greenwald
Planning Director/MPO Technical Coordinator
Macon-Bibb Co Planning & Zoning Commission
200 Cherry Street, Suite 300
Macon, GA 31201
478-338-9472
MGreenwald@mbpz.org

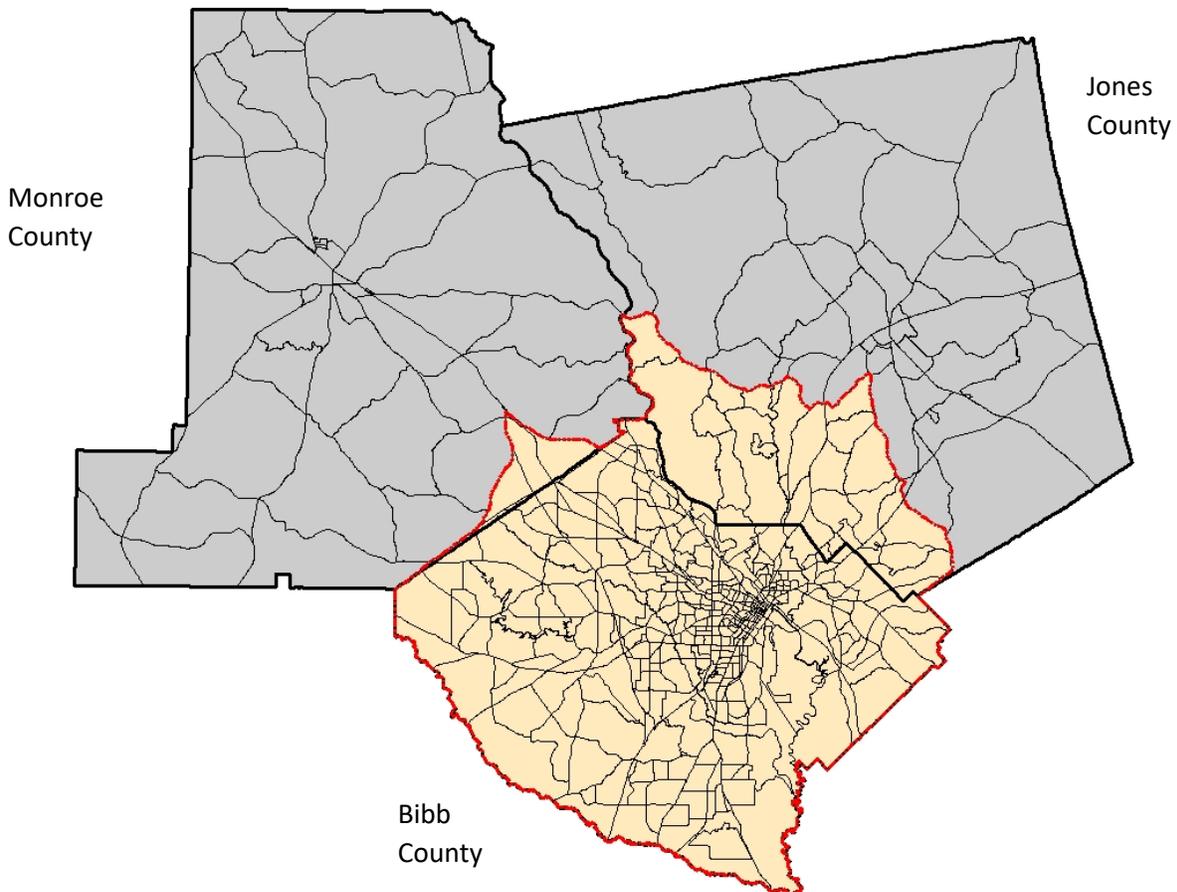
Continuity with 2015 Base Year Data Assembly

This forecast data uses the same TAZ zone system and base year data as the 2015 Base Year data assembly for the Macon Area Transportation Study (MATS) 2040 Long Range Transportation Plan Update (2040 LRTP Update).

Estimates in this data set are expressed as marginal changes (i.e., increases or decreases) over the 2015 Base Year estimate. In many cases, the corresponding original 2015 Base Year estimate is included as a frame of reference. In those cases where the original 2015 Base Year is included in this data set, these base year values are the same (and therefore follow the same definitions and data assembly methodology) as those delivered on July 28, 2021. For full details on base year variables see **FINALIZED_MATS_Area_2015_TAZ_ForUpdate_20210929.xlsx**, or contact Dr. Michael J. Greenwald, AICP at the Macon-Bibb County Planning and Zoning Commission (see contact information on previous page).

Sources for Population Growth Estimation

The jurisdiction of the MATS area covers the entirety of Bibb County, and portions of neighboring Jones and Monroe Counties (see red outline in Fig. 1, below)



Population forecasts for Bibb, Jones and Monroe Counties were obtained by starting from the 2010 U.S. Census and 2020 Census State Redistricting Data (Public Law 94-171) Summary File for Georgia. From these values, a county-wide estimated growth factor was calculated according to the following formula:

County Growth Factor =

$$\sqrt[10]{2020 \text{ Redistricting Population Value} - 2010 \text{ Census County Population}}$$

Using that growth factor, the population was expanded from 2020 forward to 2050. Because of the level of geographic detail in the 2020 Census State Redistricting Data (Public Law 94-171) Summary File, it was possible to calculate separate population growth rates (and forecasts) for the individual counties overall, and for the corresponding MATS areas. The results of this method are:

Table 1: Total MPO Population Estimates through 2050, By County

County	2010 Census Totals		2020 Redistricting File		Annualized Growth Rate (over 10 years)		Projected 2050 Population (Based on Annualized Growth Rate Carried Forward over 30 Years)	
	Total Pop	MATS MPO	Total Pop	MATS MPO	Total Pop	MATS MPO	Total Pop	MATS MPO
Jones County	28,669	11,800	28,347	12,244	0.998871	1.00370048	27,403	13,679
Macon-Bibb County	155,547	155,547	157,346	157,346	1.001151	1.00115059	162,869	162,869
Monroe County	26,424	1,707	27,957	1,695	1.005655	0.99929478	33,111	1,660

Carrying the 2015 Population Estimates over from the base year dataset, the following 2050 population projections were generated:

Table 2: Estimated Marginal Population Growth 2015 – 2050, By County and by MPO Sub Area

County	Pop Est 2015		Pop Est 2050		Margins		% Growth (Loss)	
	TtlPop2015	MATS MPO	TtlPop2050	MATS MPO	Ttl Pop	MATS MPO	Ttl Pop	MATS MPO
Jones County	28441	11700	27403	13679	-1038	1979	-3.6497%	16.9145%
Macon-Bibb County	153945	153945	162869	162869	8924	8924	5.7969%	5.7969%
Monroe County	26708	1749	33111	1660	6403	-89	23.9741%	-5.0886%

Population Growth and Household Increase Apportionment

Using the county marginal totals from Table 1 as upper limits of anticipated growth in each county, population was assigned to households based on the following rules:

1. Macon-Bibb County

a. Step 1 – Assessment of Existing Capacity

TAZs where future growth is anticipated were identified by conversations with Macon-Bibb Planning & Zoning Commission Staff. From those conversations, the operating assumptions used to develop the future population allocations are:

Population growth will continue to follow where existing residential capacity exists, until exhausted, then:

Population will extend to land available for residential development (i.e., Zoned Agricultural, Single Family/Multi-Family Residential, Planned Development Extraordinary and/or Planned Development Residential).

Parcels that were identified as either completely or partially within the 100 yr. floodplane were removed from consideration. It is the normal practice in Macon-Bibb County to prohibit new residential construction on parcels within the 100 yr. floodplane.

Finally, parcels that were identified as either having received residential development between 1/1/2015 and 12/31/2015 (based on a search of the issued Zoning Permits), or being located in a Census Block having at least one estimated housing unit in 2015 in the Census Block, were removed from consideration. This allowed for identification of parcels which were vacant and open for development.

Available parcel acreage was then estimated using the following rule:

- If a parcel was listed as undeveloped and the number of housing units in the Census Bloc was equal to 0, the total acreage of the site was identified as available;
- If either of the conditions was not true, the available acreage on the parcel was multiplied by the estimated vacancy rate (i.e., Unoccupied Housing Units/Total Housing Units) to estimate the number of possible available acres.

Available acreage was cross tabulated by TAZ and Zoning category. Each category of aggregated acreage was multiplied by the maximum residential density allowed under the Macon-Bibb County Zoning code, to estimate the number of potential dwelling units available for development on the site.

Next, the aggregated units were multiplied by the Average Household Size in the TAZ, in order to estimate the total population capacity currently available within a specific TAZ.

Finally, the TAZs with permits issued from 2015 through 2020 were prioritized as most ready to accept the anticipated growth.

Step 1 Result: 5,415 persons capable of being accommodated in Macon-Bibb County TAZs with pattern of development consistent with what was observed from 2015 through 2020

b. Step 2 – Accounting for Multi-Family Growth from 2015 through 2020

In addition to the TAZs identified in Step 1, there was also additional new development from 2015 through 2020, involving new multi-family and condominium developments not identified as part of the original Zoning permit review. According to a review of the 2020 Census State Redistricting Data , compared with local knowledge, this increase corresponds with a marginal population increase of approximately **2,443 persons** across **986** housing units. The affected TAZs are: 30, 31, 34, 37, 80, 313, 395 and 416.

While this additional population does not significantly affect the results from Step 1, it does result in additional potential for student enrollment that needed to be accounted

for. See discussion on methodology for Pre-K and Kindergarten through 12th grade growth apportionment, described in *School Age Population Growth Estimation* below.

c. *Step 3 – Identification of Where Balance of Future Growth Is Anticipated To Go*

The results from Step 1 leaves a balance of 3,509 persons to be accounted for in the projected population growth. Based on conversations with the Zoning Director for Macon-Bibb County Planning & Zoning, applications for development were identified in the following Bibb County TAZs:

Table 3: Estimated Marginal Population Growth in Future Development TAZs in Macon-Bibb County

TAZ_NEW_ED_1	MPOArea_EDITED	County_EDITED	TAZ DU Capacity (Rounded)	TAZ_AvgHhSize_2010 (Rounded)	TAZ Pop Capacity (Rounded)
286	MATS MPO	Macon-Bibb County	262	3.5	916
346	MATS MPO	Macon-Bibb County	0	2.5	0
358	MATS MPO	Macon-Bibb County	8	2.54	20
365	MATS MPO	Macon-Bibb County	575	2.66	1529
381	MATS MPO	Macon-Bibb County	823	2.31	1905

Step 2 Result: 4,370 persons capable of being accommodated in Macon-Bibb County TAZs identified for forthcoming future development.

Grand Total: 12,228 persons accommodated, out of an estimated potential **8,924**

2. Jones County

The methods used to distribute anticipated Jones County growth are similar, though not absolutely identical to, the methods used for Macon-Bibb County. Based on conversations with Jones County Planning & Zoning staff, it appears that the practice has been for new residential development on new sites rather than in-fill development.

Starting from that assessment, MATS MPO staff geocoded all residential permits issued by Jones County Planning & Zoning and certified for occupancy, from 1/1/2015 through 12/31/2015. These permits were then spatially joined to both the underlying parcel layer (to identify which parcels were associated with the issued permits; data from Jones County permitting system is not currently GIS enabled), and to the TAZ layer (to place the permits in their respective TAZs).

Removing all the parcels from the Jones County Parcel layer that were already developed or otherwise encumbered, MATS MPO staff was able to estimate how much remaining land was available for residential development in each TAZ. The MATS MPO portion of Jones County is primarily designated future land use Suburban Residential or Rural Residential (as per maps on pg. 132 of the 2017 Joint Comprehensive Plan for Jones County and the City of Gray; <https://www.jonescountyga.org/wp-content/uploads/2017/10/Jones-County-the->

[City-of-Gray-Adopted-Updated-Comprehensive-Plan.pdf](#)), which corresponds with Single Family Dwelling type development. The amount of available acreage was multiplied by the average household size for the TAZ (based on 2010 Census data), which resulted in an estimate of the amount of marginal population carrying capacity available in each TAZ.

At this point in the process, Jones County Planning & Zoning was provided with a draft map showing how the geocoded permits data overlaid the TAZs for the MATS MPO, for the purpose of identifying the priority in which TAZs could be expected to develop from 2020 through to 2050. Using priority of development provided by the Jones County Planning and Zoning Office, the MATS MPO staff took samples of the residential parcels in the Jones County TAZs most likely to develop (n=896 parcels, across 7 TAZs), and calculated an average parcel size for residential developments.

The amount of available acreage in each high development priority TAZ was divided by the average parcel size for residential development, in order to estimate the potential for new dwelling units. The number of potential dwelling units was multiplied by the average household size for the TAZ (based on 2010 Census data), which resulted in an estimate of the amount of marginal population carrying capacity available in each TAZ. Expressed mathematically:

$$\text{TAZ Raw Population Capacity} = \frac{\text{Net Acreage Available for Residential Development in a TAZ}}{\text{Average Parcel Size for Residential Development in a TAZ}} \times \text{Average TAZ Household Size (based on 2010 U.S. Census)}$$

After calculating these Raw Population Capacity values for the TAZs identified by Jones County, it was observed that any one TAZ could handle the entire estimated population growth within its own boundaries. Since it is unlikely that all future growth would concentrate to a specific TAZ, MATS MPO staff chose to allocate the future growth according to the proportions observed in the patterns of residential permits issued between 2015 and 2020. The results are as follows:

Table 4: Estimated Marginal Population Growth in Future Development TAZs in Jones County

TAZ_NEW	MPO Area	Growth Priority	Avg Residential Parcel Acre Size	Future Acres Available	Max Hh Growth Capacity (Rounded)	TAZ Avg Hh Size (Based on 2010 Census)	Max Pop Growth Capacity (Rounded)
507	MATS MPO	Very High	0.346666667	1111.25	3206	3.404761905	10914
528	MATS MPO	Very High	0.4304	3052.74	7093	2.803278689	19883
518	MATS MPO	High	0.803157895	2688.12	3347	2.707964602	9063
526	MATS MPO	High	7.83625	527.48	67	2.794117647	188
500	MATS MPO	High	0.876666667	412.54	471	2.83011583	1332
529	MATS MPO	High	1.56	3326.91	2133	2.657894737	5668
505	MATS MPO	High	1.5	962.82	642	2.668831169	1713
Group Totals				12081.86	32634		48761
TAZ_NEW	MPO Area	Growth Priority	Residential Permits 2015 Thru 2020	Estimated Proportional Hh Growth (Rounded)	Estimated Proportional Pop Growth (Rounded)		
507	MATS MPO	Very High	51	918	269		
528	MATS MPO	Very High	26	468	167		
518	MATS MPO	High	19	342	126		
526	MATS MPO	High	8	144	52		
500	MATS MPO	High	3	54	19		
529	MATS MPO	High	2	36	14		
505	MATS MPO	High	1	17	7		
Group Totals			110	1979	654		

Result: 1,979 persons capable of being accommodated in Jones County TAZs identified for forthcoming future development.

3. Monroe County – This portion of the MATS area is a special case. According to review of the 2020 Census State Redistricting Data (Public Law 94-171) Summary File for Georgia, this area is anticipated to lose **89 persons** based on current growth patterns. This population forecast cannot be used because:
 - a. Modeling guidance from HNTB documentation specifically prohibits reducing population and households from TAZs, absent a clear explanation (such as re-development). No such explanation is readily apparent; and
 - b. Field review of TAZ #601 indicates there is a new single family subdivision currently under development (N = 55 units)

Based on these findings, **55 households** have been manually added to TAZ #601. Using Average Household Size for the TAZ (based on 2010 Census values), this translates into approximately **141 additional persons** being added to the population for this area.

Employment Growth Apportionment

Future year employment estimates were generated by expanding the employment estimates generated as part of the base year dataset, using the factors identified in the REMI 2020 dataset, provided by Georgia Dept. of Transportation on 8/18/2021. The REMI dataset estimated employment for the 2050 target year for Macon-Bibb and Jones County, in their entirety. The method for distributing that anticipated growth was performed as follows:

- a. **Classify the REMI Employment Categories according to the 2-digit NAICS categories, and their associated TDM employment groups.** This was done by reconciling the REMI Employment classifications with the classifications codes provided by the Bureau of Labor Statistics (https://www.bls.gov/bls/naics_aggregation.htm) and the TDM Category groupings found on pg. 5 of the HNTB data Development Guide (Georgia MPO Travel Demand Models Socio-Economic Data Development Guides, HNTB Corporation, August 2018)
- b. **Reduce Growth Factors by removing employment in TDM Categories identified by partners as location specific development.** The reduced jobs are added back later in the process, as specific adjustments to the individual TAZs where the future jobs are to be located.
The only specific employment adjustments made at this point in the process were the result of advice provided by Macon-Bibb County Industrial Authority, based on the following:

Table 5: Adjustments to REMI 2050 Forecast Data, by TDM Employment Categories, Prior to Development of Adjusted Employment Expansion Factors

TDM Employment Category	Adjustment	Justification
Manufacturing/TCUW	-610	New Recycling Plant announced for South Bibb County (-110 jobs); Forthcoming development of Industrial Park near Middle GA Regional Airport (-500)
Agriculture/Mining/Construction	-100	New jobs anticipated at aircraft painting and repair facility near Middle GA Regional Airport
Retail	-75	Anticipated new jobs related to forthcoming medicinal cannabis dispensary (-50 to -100; avg. 75)

- c. **After making the adjustments in Part b.), aggregate the 2015 Employment Counts and Adjusted 2050 Employment Counts by TDM Category**
- d. **Divide the results in Part c.) to generate Employment Expansion Factors for each TDM grouping, based on REMI forecast data.** The specific values for the Employment Factors are:

Table 6: Adjusted Employment Expansion Factors, by TDM Employment Categories, based on REMI 2050 Employment Forecast

Calculate EmpExpansion Factors by TDM Industry Grps_20210926				
TDM Employment Category	TDM Employment in 2015 (From REMI dataset)	TDM Employment in 2050 – Original (From REMI dataset)	TDM Employment in 2050 – Adjusted (based on explanations in Part a.)	2015 – 2050 Employment Expansion Factor (reflecting Adjustments described in Part a.)
Agriculture, Mining & Construction	4.86699981591664	5.42169341106048	5.32169341106048	1.09342379542667

Calculate EmpExpansion Factors by TDM Industry Grps_20210926

TDM Employment Category	TDM Employment in 2015 (From REMI dataset)	TDM Employment in 2050 – Original (From REMI dataset)	TDM Employment in 2050 – Adjusted (based on explanations in Part a.)	2015 – 2050 Employment Expansion Factor (reflecting Adjustments described in Part a.)
Manufacturing & TCUW	12.8869999933522	14.5157047350239	13.9057047350239	1.07904902166503
Retail	15.4449996948242	12.7178880323686	12.6428880323686	0.818574832125467
Service	86.6859997939318	98.8529185389804	98.8529185389804	1.14035621408268

- e. **Apply Expansion Factors to each TDM Employment Group for 2015.** This expands the TDM category for each TAZ up to its 2050 anticipated level, based on all available background information *except* local knowledge. This necessarily assumes growth/expansion is contained within the TDM (i.e., no relocations).
- f. **For adjustments made in Part b.), add the employment reduced as part of generating the Adjusted Expansion Factors back to the individual TAZs where they will eventually be assigned.** This inflates the TAZ anticipated employment growth back to its anticipated correct level, *based on* local knowledge. The individual TAZ adjustments are as follows:

Table 7: Post Expansion Adjustments to Employments, by TAZ and TDM Employment Categories,

TAZ	Employment Category	Amount	Justification
287	Manufacture/TCUW	+110	New recycling plant announced by Macon-Bibb County Industrial Authority
292	Manufacture/TCUW	+500	Reflect plans by Macon-Bibb County Industrial Authority for industrial park near Middle GA Regional Airport
293	Ag/Mining/Const	+100	New jobs anticipated at Dean Baldwin aircraft painting & repair facility
333	Retail	+75	Anticipated new jobs at Fine Fettle medicinal cannabis dispensary (50 to 100 jobs; avg. 75)

- g. **Sum TDM Employment Groups across categories to develop a Total Employment Estimate for target year 2050.**
- h. **Round results from Part f. and Part g. into integer values.** This step is performed because the GDOT modeling consultant has indicated in previous e-mails that they require/prefer integer values for their modeling process.
- i. **Using the results from Part h., calculate marginal change from 2015 to 2050 in each Employment Category, and for Total Employment Overall.** This step is not critical; it is

performed for the convenience of the modeler using the data set to help with analysis of the impact of any marginal employment changes within a TAZ, or set of TAZs.

With the noted exceptions identified in Part b.) and Part f.) above, the data model assumes growth at existing establishments, as opposed to generation of new business entities at greenfield or infill locations. Therefore, while the total employment growth estimate is presumed to be accurate in the aggregate, the future location is subject to revisions.

Public School Enrollment Changes, College/University Enrollments and On Campus Housing Growth

All estimates of 2015 student enrollment and on-campus housing estimates are carried over from the 2015 base year data set; please see **L RTPBaseYear2015TAZDataDocumentation_20210706** for full details.

Student growth at the elementary and secondary levels were deconstructed into components based on:

- a) How much growth could be anticipated from population growth; and
- b) How would that growth be distributed, based on service areas for schools within MATS MPO planning area

MATS MPO has not been advised of any changes to school facilities/capacities out to the 2050 target year, in either Macon-Bibb or Jones Counties. The most recent school adjustment in the MATS area was the movement of Gray Elementary School from TAZ 542 to TAZ 543 during the 2015-2016 School Year. This adjustment should already be reflected in the MATS 2015 Base Year dataset.

School Age Population Growth Estimation

School growth anticipated by population growth was estimated in a multi-step process:

1. Calculate the anticipated growth rate in school age population, for each county, using the proportions for the plan year 2050 found in the "Governor's Office of Planning & Budget County Population Projection by Age 2020 to 2065," adjusting the population totals for the revised MATS Area Population the revised based on the following formula:
 - a. **Estimate Marginal Proportion of Population Estimated in Each Age Group (Updated to Revised 2050 Total), for each County;**
 - b. **Estimate Proportion of Population that Falls Within Each Age Group within MATS MPO area, for each County;**
 - c. **Divide Results from Part b.) by MPO Area Total Population Estimates for each County (see Table 1) to generate a marginal population proportion for each age group.**
2. Once the proportion by Age Group were estimated for the county specific MATS Areas, the proportions were further apportioned by percentages for individual grade level, using the following logical rules (source: Georgia Dept. of Education Ask DOE- New Student Requirements: <https://www.gadoe.org/External-Affairs-and-Policy/AskDOE/Pages/New-Student-Requirements.aspx>):
 - a. All Children age 4 were considered eligible for Pre-K and/or daycare;
 - b. The minimum age for enrollment in Kindergarten in Georgia is 5 years old;
 - c. The minimum age for enrollment in 1st Grade in Georgia is 6 years old;

- d. Rules for Part a.) and Part b.) establish minimum age thresholds for the remaining grades.

See Table 8 (below) for anticipated specific school age population proportions for the MATS MPO Area

3. The marginal proportions by grade level, for each county, are multiplied by the anticipated 2050 marginal population for each TAZ where growth is anticipated
Result: Estimate of the 2050 school age population generated in each growth TAZ. This student growth will be distributed to destination TAZs in subsequent steps.

School Age Population Growth Distributions

Once the marginal increases in school age population were forecast for the originating TAZs, the next step was to distribute said growth proportionally to the TAZs where the schools are located. The methods for achieving this were conducted as follows:

Pre-K Marginal Growth Destination Assignment

1. Generate a list of immediately neighboring TAZs for each TAZ in the MATS area (using ArcGIS 10.7.1 "Polygon Neighbors" Proximity Tool)
2. For all TAZs with new population growth, use the list developed in Step 1 to identify neighboring TAZs which have Pre-K enrollment in 2015.
3. From Step 2, for each originating TAZ, distribute the new originating Pre-K Enrollment to the neighboring destination TAZs, based on the marginal proportions of 2015 Pre-K enrollment in the destination TAZs (Pre-K enrollment for TAZs would have been generated as part of 2015 Base Year dataset).

Table 8: Marginal Percentages of Population By Age, Anticipated in 2050 (Adjusted for Updated Population Forecasts from Table 1)

		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
Original Projection	Bibb County	8,654	9,038	8,924	9,467	9,287	9,415	9,865	9,637	9,531	8,674	9,370	10,321	9,107	7,427	6,340	6,227	5,014	1,607	147,905
Revised Projection	Bibb County	9530	9952	9827	10425	10227	10368	10863	10612	10495	9552	10318	11365	10028	8178	6981	6857	5521	1770	162869
MATS Area Proportion		9530	9952	9827	10425	10227	10368	10863	10612	10495	9552	10318	11365	10028	8178	6981	6857	5521	1770	162869
Marginal Percentage		5.8513%	6.1104%	6.0337%	6.4008%	6.2793%	6.3659%	6.6698%	6.5157%	6.4438%	5.8648%	6.3352%	6.9780%	6.1571%	5.0212%	4.2863%	4.2101%	3.3898%	1.0868%	100.00%
Original Projection	Jones County	1,323	1,478	1,660	1,791	1,766	1,813	1,686	1,838	2,016	2,019	1,772	1,787	1,626	1,649	1,685	1,685	1,511	459	29,564
Revised Projection	Jones County	1226	1370	1539	1660	1637	1680	1563	1704	1869	1871	1642	1656	1507	1528	1562	1562	1401	425	27402
MATS Area Proportion		612	684	768	829	817	839	780	851	933	934	820	827	752	763	780	780	699	212	13680
Marginal Percentage		4.4737%	5.0000%	5.6140%	6.0599%	5.9722%	6.1330%	5.7018%	6.2208%	6.8202%	6.8275%	5.9942%	6.0453%	5.4971%	5.5775%	5.7018%	5.7018%	5.1096%	1.5497%	100.00%
Original Projection	Monroe County	1,592	1,692	1,735	1,878	2,055	1,959	1,913	1,906	1,943	1,939	1,742	1,508	1,667	1,490	1,452	1,509	1,464	852	30,296
Revised Projection	Monroe County	1740	1849	1896	2052	2246	2141	2091	2083	2124	2119	1904	1648	1822	1628	1587	1649	1600	931	33110
MATS Area Proportion		87	93	95	103	113	107	105	104	106	106	95	83	91	82	80	83	80	47	1660
Marginal Percentage		5.2410%	5.6024%	5.7229%	6.2048%	6.8072%	6.4458%	6.3253%	6.2651%	6.3855%	6.3855%	5.7229%	5.0000%	5.4819%	4.9398%	4.8193%	5.0000%	4.8193%	2.8313%	100.00%
<i>Sources:</i>																				
<i>Georgia Governor's Office of Planning & Budget "County Projections by Age 2020 to 2065"</i>																				
<i>U.S. Census 2020 Redistricting Files</i>																				
<i>U.S. Census 2010 Population Files</i>																				
Marginal Population Percentages by Grade Level																				
		Pre-K	Kindergar	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	Sub-Total				
Macon-Bibb		1.1703%	1.2221%	1.2221%	1.2221%	1.2221%	1.2221%	1.2067%	1.2067%	1.2067%	1.2067%	1.2067%	1.2802%	1.2802%	1.2802%	21.8360%				
Jones		0.8947%	1.0000%	1.0000%	1.0000%	1.0000%	1.0000%	1.1228%	1.1228%	1.1228%	1.1228%	1.1228%	1.2120%	1.2120%	1.2120%	18.7237%				
Monroe		1.0482%	1.1205%	1.1205%	1.1205%	1.1205%	1.1205%	1.1446%	1.1446%	1.1446%	1.1446%	1.1446%	1.2410%	1.2410%	1.2410%	20.2892%				

4. For originating TAZs where no immediately neighboring TAZ had any 2015 Pre-K enrollment, assign destination TAZs were manually
5. Sum marginal Pre-K enrollment assignments for destination TAZs to generate total estimated Pre-K enrollment.

Kindergarten through 12th Grade Destination Assignment

Macon-Bibb County

1. For all TAZs generating new elementary, middle and/or high school population marginal growth, the TAZ was intersected with the Macon-Bibb County consolidated school service areas. Areas of overlap were identified and calculated (using ArcGIS 10.7.1 “Intersect” Overlay Tool). Each consolidated school service area polygon identified the combination of public elementary, middle and high school covered by the particular boundary.
2. Using the school service area overlap, each origin TAZ with marginal population growth assigned student growth to destination school based on proportion of service area overlap, and grade level.
3. Proportional estimates from Step #2 were multiplied by each school grade level marginal enrollment increase.
4. Individual schools were associated with the Destination TAZ in which they were located
5. The resulting proportional enrollments from Step 3 were given the Destination TAZ for their schools, based on the results in Step 4
6. Using the results in Step 5, the grade specific marginal enrollments proportions were summed up by Destination TAZs for the schools.

Result: Marginal enrollments, by grade, for public school Destination TAZs (based on a full population growth capacity of 9,785 persons, exceeding the 8,924 persons anticipated; approximately 1680 students across all grades).

Jones County

Jones County public schools did not provide service area polygons like the ones available to Macon-Bibb County. So, the Jones County student growth for the TAZs exhibiting population growth were distributed according to proportional balance of students, by grade level, in 2015.

Although the forecasted population growth originated from TAZs in the MATS MPO area, the majority of the school destination zones are outside the MATS MPO area. Table 9 lists where the Jones County schools are located, relative to the MPO boundary area.

Table 9: Jones County Schools, by Type and TAZ

TAZ	County	MPO Area	TYPE	Public/Private
500	Jones County	MATS MPO	Middle School	Public School
507	Jones County	MATS MPO	Elementary School	Public School
524	Jones County	MATS MPO	Indeterminate	Private School
533	Jones County	Outside MPO Boundary	School	Public School
536	Jones County	Outside MPO Boundary	Elementary School	Public School
542	Jones County	Outside MPO Boundary	Pre-K Program	Public School
542	Jones County	Outside MPO Boundary	Middle School	Public School
542	Jones County	Outside MPO Boundary	High School	Public School
543	Jones County	Outside MPO Boundary	Elementary School	Public School
552	Jones County	Outside MPO Boundary	Elementary School	Public School

Result: Marginal enrollments, by grade, for public school Destination TAZs (based on a full population growth capacity of 1,979 persons; approximately 340 students across all grades)

Monroe County

While it is anticipated that the assigned growth of **141** persons in Monroe County will result in approximately **23** total new school aged children, across all grades, between 2015 and 2050, there is insufficient information to determine where those students should be assigned w/r/t TAZs for the purposes of future trip estimation. All schools of significant size (i.e., schools other than home schools and/or charters with single digit enrollments; all public schools) in the Monroe County area are located outside the County portion of the MPO planning area.

University Population Estimation

For University population estimates, the 2015 population was simply expanded by the percent population growth for each County (see Table 2). MATS MPO is not aware of any immediately plans for the local universities to significantly expand their campus footprints to incorporate more on campus residents in the MPO planning area.

Variable Definitions

Indexing Variables

These variables are used to uniquely identify each TAZ in the data set. The combination of values for these three variables provides a primary key index for all TAZs in this data set.

MPOArea_EDITED – The MPO area associated with each Transportation Analysis Zone. This variable is necessary because the indexing system for TAZs repeats depending on the MPO Area where the zone is located (e.g., there is a TAZ #1 for the MATS MPO area, and also a TAZ #1 for the WRATS MPO area, etc.).

This variable takes on one of two values:

MATS MPO – The TAZ is associated with the Macon Area Transportation Study (MATS) MPO area

Outside MPO Boundary – The TAZ falls outside the currently defined boundaries of an MPO area.

TAZ_NEW_EDITED – The Transportation Analysis Zone for which the data is being collected. TAZ indexing reflects the zone systems developed by GDOT and HNTB for the MATS area, WRATS area and Crawford, Jones, Monroe, Peach and Twiggs County areas not covered by an existing MPO boundary.

County_EDITED – The County in which the TAZ is located. By definition, a TAZ cannot span a County boundary; all TAZs must be fully contained within an individual county.

Land Area and Population

These variables contain information on the size and composition of the change in total population for each TAZ, from the 2015 Base Year to the 2050 Planning Horizon Year

TAZ_TtlPop2015_UPDATED_RAW – An updated value corresponding to the TAZ TtlPop2015 value (see definition below). This is the raw, unadjusted population value (i.e, does not correct for discounts like various forms of group quarter housing, or other population not identified as living in households). This value is included as a reference value for the TAZ. When summarized by the County_EDITED variable, the sum total will aggregate to the 2015 population control values found in Table 2 (above).

TAZ_TtlPop2015_UPDATED_RAW_Rounded – The rounded version of the variable TAZ_TtlPop2015_UPDATED_RAW, described above. This value has been rounded to the nearest integer value.

TAZ_TtlPop2015 – The estimated number of persons identified as living in the specific TAZ, as of July 1, 2015. Values are based on U.S. Census 2010 population counts reported at the block level of geography (U.S. Census 2010 Summary File 1, Table P12: SEX BY AGE), broken down by the following age groups. This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Pop2015Diff – The difference between the values for TAZ_TtlPop2015_UPDATED_RAW_Rounded and TAZ_TtlPop2015.

MarginalPopGrowth2050 – The marginal change in population anticipated to occur in the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

MarginalPopGrowth2050Round – The rounded version of the variable MarginalPopGrowth2050, described above. This value has been rounded to the nearest integer value.

TAZ_TtlHh2015 – The total number of households identified as living in the specific TAZ. Values are based on the 2015 estimated household counts reported at the block group level of geography, summed up to the TAZ level.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

MarginalHhGrowth2050 – The marginal change in households anticipated to occur in the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

MarginalHhGrowth2050Round – The rounded version of the variable MarginalHhGrowth2050, described above. This value has been rounded to the nearest integer value.

TAZ_MedHhInc2015 – The average household income for the Census Block Groups covering the TAZ, in 2015 constant dollars.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Student Enrollment

These variables contain information on the size and composition of the change in student population arriving in each TAZ, from the 2015 Base Year to the 2050 Planning Horizon Year

StudentsPreKFall2015 – The total number of Pre-Kindergarten students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

StudentsPreK2050_Marginal – The anticipated growth in Pre-Kindergarten students enrolled at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

StudentsPreK2050_Marginal_Round – The rounded version of the variable StudentsPreK2050_Marginal, described above. This value has been rounded to the nearest integer value.

StudentsKindFall2015 – The total number of Kindergarten students enrolled at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

StudentsKind2050 Marginal – The anticipated growth in Kindergarten students enrolled at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

StudentsKind2050 Marginal Round – The rounded version of the variable StudentsKind2050 Marginal, described above. This value has been rounded to the nearest integer value.

Students1stGrdFall2015 – The total number of students enrolled in 1st Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students1stGrade2050 Marginal – The anticipated growth in students enrolled in 1st Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students1stGrade2050 Marginal Round – The rounded version of the variable Students1stGrade2050 Marginal, described above. This value has been rounded to the nearest integer value.

Students2ndGrdFall2015 – The total number of students enrolled in 2nd Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students2ndGrade2050 Marginal – The anticipated growth in students enrolled in 2nd Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students2ndGrade2050 Marginal Round – The rounded version of the variable Students2ndGrade2050 Marginal, described above. This value has been rounded to the nearest integer value.

Students3rdGrdFall2015 – The total number of students enrolled in 3rd Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students3rdGrade2050 Marginal – The anticipated growth in students enrolled in 3rd Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students3rdGrade2050 Marginal Round – The rounded version of the variable Students3rdGrade2050 Marginal, described above. This value has been rounded to the nearest integer value.

Students4thGrdFall2015 – The total number of students enrolled in 4th Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students4thGrade2050 Marginal – The anticipated growth in students enrolled in 4th Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students4thGrade2050 Marginal Round – The rounded version of the variable Students4thGrade2050 Marginal, described above. This value has been rounded to the nearest integer value.

Students5thGrdFall2015 – The total number of students enrolled in 5th Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students5thGrade2050 Marginal – The anticipated growth in students enrolled in 5th Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students5thGrade2050 Marginal Round – The rounded version of the variable Students5thGrade2050 Marginal, described above. This value has been rounded to the nearest integer value.

Students6thGrdFall2015 – The total number of students enrolled in 6th Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students6thGrade2050 Marginal – The anticipated growth in students enrolled in 6th Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students6thGrade2050 Marginal Round – The rounded version of the variable Students6thGrade2050 Marginal, described above. This value has been rounded to the nearest integer value.

Students7thGrdFall2015 – The total number of students enrolled in 7th Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students7thGrade2050_Marginal – The anticipated growth in students enrolled in 7th Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students7thGrade2050_Marginal_Round – The rounded version of the variable Students7thGrade2050_Marginal, described above. This value has been rounded to the nearest integer value.

Students8thGrdFall2015 – The total number of students enrolled in 8th Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students8thGrade2050_Marginal – The anticipated growth in students enrolled in 8th Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students8thGrade2050_Marginal_Round – The rounded version of the variable Students8thGrade2050_Marginal, described above. This value has been rounded to the nearest integer value.

Students9thGrdFall2015 – The total number of students enrolled in 9th Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students9thGrade2050_Marginal – The anticipated growth in students enrolled in 9th Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students9thGrade2050_Marginal_Round – The rounded version of the variable Students9thGrade2050_Marginal, described above. This value has been rounded to the nearest integer value.

Students10thGrdFall2015 – The total number of students enrolled in 10th Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students10thGrade2050_Marginal – The anticipated growth in students enrolled in 10th Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students10thGrade2050_Marginal_Round – The rounded version of the variable Students10thGrade2050_Marginal, described above. This value has been rounded to the nearest integer value.

Students11thGrdFall2015 – The total number of students enrolled in 11th Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students11thGrade2050 Marginal – The anticipated growth in students enrolled in 11th Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students11thGrade2050 Marginal Round – The rounded version of the variable Students11thGrade2050 Marginal, described above. This value has been rounded to the nearest integer value.

Students12thGrdFall2015 – The total number of students enrolled in 12th Grade at all public and private school facilities located within the TAZ, as of Fall 2015.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

Students12thGrade2050 Marginal – The anticipated growth in students enrolled in 12th Grade at all public and private school facilities located within the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year, based on the calculation methodologies described in the previous section.

Students12thGrade2050 Marginal Round – The rounded version of the variable Students12thGrade2050 Marginal, described above. This value has been rounded to the nearest integer value.

UnivTtl2015 – The total college population across all undergraduate, graduate and/or professional programs attending classes at campuses located within the TAZ.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

UnivTtl2050 Est – The estimated total college population across all undergraduate, graduate and/or professional programs attending classes at campuses located within the TAZ, in the 2050 Plan Horizon Year, based on the calculation methodologies described in the previous section.

UnivTtl2050 Est Round – The rounded version of the variable UnivTtl2050 Est, described above. This value has been rounded to the nearest integer value.

UnivTtl2050 Marginal – The difference between the values for UnivTtl2050 Est Round and UnivTtl2015. This value represents the anticipated growth in university enrollments expected to be associated with this TAZ between the 2015 Base Year to the 2050 Planning Horizon Year

Employment Growth

These variables contain information on the size and composition of the anticipated changes in employment in each TAZ, from the 2015 Base Year to the 2050 Planning Horizon Year

TtITAZEmp2015 – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across all categories classified by GDOT.

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

TtITAZEmp2050 Est – The total employment anticipated in the TAZ in 2050, estimated by the procedures described in the methodology above. This variable is the sum of the estimates for the EmpAgMinConst 2050Est, EmpManufTCUW 2050Est, EmpRetail 2050Est and EmpServ 2050Est. It is intended to serve as a control total.

TtITAZEmp2050 Est Rounded – The rounded version of the variable TtITAZEmp2050 Est, described above. This value has been rounded to the nearest integer value.

TtEmpMarginal 2050 – The difference between the values for TtITAZEmp2050 Est Rounded and TtITAZEmp2015. This value represents the anticipated growth in total employment expected in the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year.

Emp2015AgMinConst – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across NAICS Categories 11 (Agriculture, Forestry, Fishing and Related Activities), 21 (Mining), 22 (Utilities Service Employment) and 23 (Construction).

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

EmpAgMinConst 2050Est – The amount of employment anticipated in the TAZ in 2050 Planning Horizon Year, in the TDM Category Agriculture, Mining & Construction, as estimated by the procedures described in the methodology above (Note: For adjustments to specific TAZs for employment values in this category, please refer to the **Employment Growth Apportionment** section, above).

EmpAgMinConst 2050Est Rounded – The rounded version of the variable EmpAgMinConst 2050Est, described above. This value has been rounded to the nearest integer value.

EmpAgMinConstMarginal 2050 – The difference between the values for EmpAgMinConst 2050Est Rounded and Emp2015AgMinConst. This value represents the anticipated growth in the TDM Category Agriculture, Mining & Construction expected in the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year.

Emp2015ManufTCUW – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across NAICS Categories 31-33 (Manufacturing), 42 (Wholesale Trade), and 48-49 (Transportation and Warehousing).

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

EmpManufTCUW_2050Est – The amount of employment anticipated in the TAZ in 2050 Planning Horizon Year, in the TDM Category Manufacturing & TC UW, as estimated by the procedures described in the methodology above (Note: For adjustments to specific TAZs for employment values in this category, please refer to the **Employment Growth Apportionment** section, above).

EmpManufTCUW_2050Est_Rounded – The rounded version of the variable EmpManufTCUW_2050Est, described above. This value has been rounded to the nearest integer value.

EmpManufTCUWMarginal_2050 – The difference between the values for EmpManufTCUW_2050Est_Rounded and Emp2015ManufTCUW. This value represents the anticipated growth in the TDM Category Manufacturing & TC UW expected in the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year.

Emp2015Retail – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across NAICS Categories 44-45 (Retail Trade).

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

EmpRetail_2050Est – The amount of employment anticipated in the TAZ in 2050 Planning Horizon Year, in the TDM Category Retail, as estimated by the procedures described in the methodology above (Note: For adjustments to specific TAZs for employment values in this category, please refer to the **Employment Growth Apportionment** section, above).

EmpRetail_2050Est_Rounded – The rounded version of the variable EmpRetail_2050Est, described above. This value has been rounded to the nearest integer value.

EmpRetailMarginal_2050 – The difference between the values for EmpRetail_2050Est_Rounded and Emp2015Retail. This value represents the anticipated growth in the TDM Category Retail expected in the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year.

Emp2015Service – The total employment in the TAZ in 2015 identified in the NETS 2019 database, summed across NAICS Categories 51 (Information), 52 (Finance and Insurance), 53 (Real Estate and Rental and Leasing), 54 (Professional, Scientific and Technical Services), 55 (Management of Companies and Enterprises), 56 (Administration and Waster Services), 61 (Educational Services), 62 (Health Care and Social Assistance), 71 (Arts, Entertainment and Recreation), 72 (Accommodation and Food Services), 81 (Other Services, except Public Administration), and 92 (Government and Government Enterprises).

This variable carries over from the 2015 Base Year file submitted on 7/6/2021 and finalized on 7/28/2021. For specific details on how it was developed, please see

L RTPBaseYear2015TAZDataDocumentation_20210706

EmpServ_2050Est – The amount of employment anticipated in the TAZ in 2050 Planning Horizon Year, in the TDM Category Service, as estimated by the procedures described in the methodology above (Note: For adjustments to specific TAZs for employment values in this category, please refer to the **Employment Growth Apportionment** section, above).

EmpServ_2050Est_Rounded – The rounded version of the variable EmpServ_2050Est, described above. This value has been rounded to the nearest integer value.

EmpServMarginal_2050 – The difference between the values for EmpServ_2050Est_Rounded and Emp2015Serv. This value represents the anticipated growth in the TDM Category Service expected in the TAZ between the 2015 Base Year to the 2050 Planning Horizon Year.

Appendix XX:

Completed Freight Surveys



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Macon Area Transportation Study

Macon - Bibb County MPO Freight & Goods Movement Survey 2040 Long Range Transportation Plan Update

If you have any questions or concerns about this survey, please contact Gregory L. Brown @ 478.751.7463 or gbrown@mbpz.org. Please use additional sheets as needed! We genuinely desire your input by Friday, November 4, 2016. This survey can also be found online @ <http://www.mats2040.org/wp-content/uploads/2016/10/Website-Freight-Movement-Cover-Letter-and-Survey-2040-LRTP-Update.pdf>

October 5, 2016

Re: Request for input into the 2040 LRTP Update: Freight & Goods Movement
Macon Area Transportation Study

RECEIVED
OCT 14 2016
MBCPZC

Greetings:

As part of its Freight and Goods Movement Study, the Macon-Bibb County Planning & Zoning Commission (MPO) is currently updating the freight and goods movement component of the 2040 Long Range Transportation Plan (LRTP) update for the Macon Area Transportation Study (MATS). The MPO has previously undertaken goods movement studies and research in previous LRTP updates and the completion of the *"Goods Movement Study, June 1995"*. The completion of the Freight and Goods Movement Study by the MPO represents a continued effort in developing an integrated freight-planning program for the Macon Area Transportation Study.

Therefore, we respectfully request your assistance in completing the enclosed survey that will assist transportation planners with prioritizing future roadway improvements. Your assistance in providing information on activities and needs regarding freight and goods movement in Macon-Bibb County is greatly appreciated. Please feel free to use additional sheets for your responses, if needed.

If you have any questions or concerns about this survey, please contact Gregory L. Brown @ 478.751.7463. Please find enclosed a stamped return envelope for your convenience, or you may fax your completed survey to 478.751.7467 or by email to gbrown@mbpz.org. We genuinely desire your input by Friday, November 4, 2016.

Thank you for being a part of this study!

Sincerely,

Gregory L. Brown, Senior Planner
Macon - Bibb County Planning and Zoning Commission

**Macon - Bibb County MPO Freight & Goods Movement Survey
 2040 Long Range Transportation Plan Update**

If you have any questions or concerns about this survey, please contact Gregory L. Brown @ 478.751.7463 or gbrown@mbpz.org. Please use additional sheets as needed! We genuinely desire your input by Friday, November 4, 2016. This survey can also be found online @ <http://www.mats2040.org/wp-content/uploads/2016/10/Website-Freight-Movement-Cover-Letter-and-Survey-2040-LRTP-Update.pdf>

1. Please provide the following demographic information. The name of your organization will not be listed in the results of the survey. However, it will be used solely for informational purposes of future Macon's MPO Long Range Transportation Plan updates:

- Name: Casey Smack
- Company Name: Fedex Freight
- Address: 2750 Ruff Avenue
- City: Macon State: GA Zip: 31204
- Country: USA
- Email Address: Casey.Smack@Fedex.com
- Phone Number: 478-464-1014

2. How would you describe the primary type of facilities / industries of your company? (Check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Truck Terminal | <input type="checkbox"/> Distribution Center |
| <input type="checkbox"/> Manufacture | <input type="checkbox"/> Retail / Wholesale Trade |
| <input type="checkbox"/> Warehouse | <input type="checkbox"/> Liquid or Dry Bulk |
| <input checked="" type="checkbox"/> Freight / Logistics Provider | <input type="checkbox"/> Other: (please specify) |

3. What are the primary types of shipments handled at this site? (Check all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Less than truckload | <input type="checkbox"/> Shipping containers |
| <input type="checkbox"/> Truckload | <input type="checkbox"/> Waste materials |
| <input type="checkbox"/> Parcels | <input type="checkbox"/> Hazardous materials |
| <input type="checkbox"/> Mail | <input type="checkbox"/> Other: (please specify) |
| <input type="checkbox"/> Bulk commodity shipments in rail cars | |

4. During what hours do you usually receive/ship deliveries of your major inbound and outbound products? (Check all that apply)

- | | |
|---|---|
| <input checked="" type="checkbox"/> 6AM - 12 Noon | <input checked="" type="checkbox"/> 8PM - ²²⁰⁰ 12 Midnight |
| <input checked="" type="checkbox"/> 12 Noon - 4PM | <input checked="" type="checkbox"/> 12 Midnight - 6AM |
| <input checked="" type="checkbox"/> 4PM - 8PM | <input type="checkbox"/> 24 hours a day |

5. How many trucks on average does your company use on a daily basis for freight and goods movement in Macon - Bibb County?

- | | |
|--------------------------------------|---|
| <input type="checkbox"/> Less than 5 | <input checked="" type="checkbox"/> 11 - 25 |
| <input type="checkbox"/> 6 - 10 | <input type="checkbox"/> 25 or More |



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Macon Area Transportation Study

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Macon - Bibb County MPO Freight & Goods Movement Survey 2040 Long Range Transportation Plan Update

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6. What roadways are used most by your company's vehicle in the movement of freight and goods in Macon - Bibb County? This information will assist transportation planners with prioritizing future roadway improvements. (Check all that apply)

- I-75
- I-16
- I-475
- SR 247 (Pio Nono Avenue)
- SR 49 (Shurling Drive; Industrial Highway)
- SR 74 (Mercer University; Thomaston road)
- US 41 (Forsyth Road; Vineville Avenue; Hardeman Avenue)
- US 80 (Eisenhower Parkway; Jeffersonville Road)
- US 129 (Gray Highway)
- Other (please specify) _____

7. What other routes would be more preferable to use that are not identified as truck routes?

- Highway Names: ~~_____~~ W. K. Brown

8. Which, if any, of the following movement problems does your truck(s) encounter on the local roadway? (Check all that apply)

- Narrow Roads
- Rail Crossings
- Difficult Turn Movements
- Width of Bridges
- Other (please specify) Trees/Brush

9. Where are the specific locations / areas where truck or rail traffic causes recurring congestion in Macon - Bibb County?

- Please Name: 2nd Street

10. What improvements could be easily made to the roadway system to improve the movement of freight and goods in Macon - Bibb County?

- Please List: Trees/Brush off Ave. Updated Intersections
upgrade lane width

Thank You!



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Macon Area Transportation Study

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October 5, 2016

Re: Request for input into the 2040 LRTP Update: Freight & Goods Movement
Macon Area Transportation Study

Greetings:

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If you have any questions or concerns about this survey, please contact Gregory L. Brown @ 478.751.7463. Please find enclosed a stamped return envelope for your convenience, or you may fax your completed survey to 478.751.7467 or by email to gbrown@mbpz.org. We genuinely desire your input by Friday, November 4, 2016.

Thank you for being a part of this study!

Sincerely,

Gregory L. Brown, Senior Planner
Macon – Bibb County Planning and Zoning Commission



Macon - Bibb County MPO Freight & Goods Movement Survey 2040 Long Range Transportation Plan Update

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1. Please provide the following demographic information. The name of your organization will not be listed in the results of the survey. However, it will be used solely for informational purposes of future Macon's MPO Long Range Transportation Plan updates:

- Name: WILL BUTTS
- Company Name: ARF
- Address: 711 GUY PAINE ROAD
- City: MACON State: GA Zip: 31206
- Country: USA
- Email Address: wbutts@freight.arf.com
- Phone Number: 478-788-6424

2. How would you describe the primary type of facilities / industries of your company? (Check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Truck Terminal | <input type="checkbox"/> Distribution Center |
| <input type="checkbox"/> Manufacture | <input type="checkbox"/> Retail / Wholesale Trade |
| <input type="checkbox"/> Warehouse | <input type="checkbox"/> Liquid or Dry Bulk |
| <input checked="" type="checkbox"/> Freight / Logistics Provider | <input type="checkbox"/> Other: (please specify) |

3. What are the primary types of shipments handled at this site? (Check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Less than truckload | <input type="checkbox"/> Shipping containers |
| <input type="checkbox"/> Truckload | <input type="checkbox"/> Waste materials |
| <input type="checkbox"/> Parcels | <input checked="" type="checkbox"/> Hazardous materials |
| <input type="checkbox"/> Mail | <input type="checkbox"/> Other: (please specify) |
| <input type="checkbox"/> Bulk commodity shipments in rail cars | |

4. During what hours do you usually receive/ship deliveries of your major inbound and outbound products? (Check all that apply)

- | | |
|---|--|
| <input checked="" type="checkbox"/> 6AM - 12 Noon | <input type="checkbox"/> 8PM - 12 Midnight |
| <input type="checkbox"/> 12 Noon - 4PM | <input type="checkbox"/> 12 Midnight - 6AM |
| <input checked="" type="checkbox"/> 4PM - 8PM | <input type="checkbox"/> 24 hours a day |

5. How many trucks on average does your company use on a daily basis for freight and goods movement in Macon - Bibb County?

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Less than 5 | <input type="checkbox"/> 11 - 25 |
| <input checked="" type="checkbox"/> 6 - 10 | <input type="checkbox"/> 25 or More |



Macon - Bibb County MPO Freight & Goods Movement Survey 2040 Long Range Transportation Plan Update

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6. What roadways are used most by your company's vehicle in the movement of freight and goods in Macon - Bibb County? This information will assist transportation planners with prioritizing future roadway improvements. (Check all that apply)

- I-75
- I-16
- I-475
- SR 247 (Pio Nono Avenue)
- SR 49 (Shurling Drive; Industrial Highway)
- SR 74 (Mercer University; Thomaston road)
- US 41 (Forsyth Road; Vineville Avenue; Hardeman Avenue)
- US 80 (Eisenhower Parkway; Jeffersonville Road)
- US 129 (Gray Highway)
- Other (please specify) _____

7. What other routes would be more preferable to use that are not identified as truck routes?

- Highway Names: NONE

8. Which, if any, of the following movement problems does your truck(s) encounter on the local roadway? (Check all that apply)

- Narrow Roads
- Rail Crossings
- Difficult Turn Movements
- Width of Bridges
- Other (please specify) _____

9. Where are the specific locations / areas where truck or rail traffic causes recurring congestion in Macon - Bibb County?

- Please Name: ALLEN ROAD, 7TH STREET, 5TH STREET

10. What improvements could be easily made to the roadway system to improve the movement of freight and goods in Macon - Bibb County?

- Please List: NONE

Thank You!



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Macon Area Transportation Study

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Macon - Bibb County MPO Freight & Goods Movement Survey 2040 Long Range Transportation Plan Update

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Thank you for being a part of this study!

Sincerely,

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Macon - Bibb County Planning and Zoning Commission



Macon Area Transportation Study

Macon - Bibb County MPO Freight & Goods Movement Survey 2040 Long Range Transportation Plan Update

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1. Please provide the following demographic information. The name of your organization will not be listed in the results of the survey. However, it will be used solely for informational purposes of future Macon's MPO Long Range Transportation Plan updates:

- Name: Rico Ferriman
- Company Name: SAVE-A-LOT
- Address: 7595 Industrial Hwy
- City: MACON State: GA Zip: 31214
- Country: USA
- Email Address: Rico.D.Ferriman@SaveA Lot.com
- Phone Number: 478-788-6811

2. How would you describe the primary type of facilities / industries of your company? (Check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Truck Terminal | <input checked="" type="checkbox"/> Distribution Center |
| <input type="checkbox"/> Manufacture | <input type="checkbox"/> Retail / Wholesale Trade |
| <input type="checkbox"/> Warehouse | <input type="checkbox"/> Liquid or Dry Bulk |
| <input type="checkbox"/> Freight / Logistics Provider | <input type="checkbox"/> Other: (please specify) |

3. What are the primary types of shipments handled at this site? (Check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Less than truckload | <input type="checkbox"/> Shipping containers |
| <input checked="" type="checkbox"/> Truckload | <input type="checkbox"/> Waste materials |
| <input type="checkbox"/> Parcels | <input type="checkbox"/> Hazardous materials |
| <input type="checkbox"/> Mail | <input type="checkbox"/> Other: (please specify) |
| <input type="checkbox"/> Bulk commodity shipments in rail cars | |

4. During what hours do you usually receive/ship deliveries of your major inbound and outbound products? (Check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> 6AM - 12 Noon | <input type="checkbox"/> 8PM - 12 Midnight |
| <input type="checkbox"/> 12 Noon - 4PM | <input type="checkbox"/> 12 Midnight - 6AM |
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5. How many trucks on average does your company use on a daily basis for freight and goods movement in Macon - Bibb County?

- | | |
|--------------------------------------|---|
| <input type="checkbox"/> Less than 5 | <input checked="" type="checkbox"/> 11 - 25 |
| <input type="checkbox"/> 6 - 10 | <input type="checkbox"/> 25 or More |



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- I-16
- I-475
- SR 247 (Pio Nono Avenue)
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- SR 74 (Mercer University; Thomaston road)
- US 41 (Forsyth Road; Vineville Avenue; Hardeman Avenue)
- US 80 (Eisenhower Parkway; Jeffersonville Road)
- US 129 (Gray Highway)
- Other (please specify) _____

7. What other routes would be more preferable to use that are not identified as truck routes?

- Highway Names: _____
- _____
- _____

8. Which, if any, of the following movement problems does your truck(s) encounter on the local roadway? (Check all that apply)

- Narrow Roads
- Rail Crossings
- Difficult Turn Movements
- Width of Bridges
- Other (please specify) _____

9. Where are the specific locations / areas where truck or rail traffic causes recurring congestion in Macon – Bibb County?

- Please Name: _____
- _____

10. What improvements could be easily made to the roadway system to improve the movement of freight and goods in Macon – Bibb County?

- Please List: _____
- _____

Thank You!