

2000+
CENTERLINE
MILES OF
INTERSTATE
HIGHWAYS, US
HIGHWAYS, STATE
ROUTES AND
LOCAL ROADS

Freight Networks and Facilities

Georgia's freight network consists of roads, bridges, railways, pipelines, seaports, and airports, including major hubs like Hartsfield-Jackson Atlanta International Airport and the Ports of Savannah and Brunswick. This extensive system connects Georgia with the rest of the United States and the world, facilitating the movement of goods for manufacturers, importers, exporters, and consumer markets. It includes three interstate highways, two Class I railroads, multiple intermodal terminals, and short line railroad tracks.

This chapter provides an overview of the MATS planning area's various freight networks and facilities, which includes roadway networks as well as networks facilitating transport of goods via rail, air, truck, and pipeline. The following sections broadly inventory the existing assets and summarize their condition and performance. For more information about freight networks within the MATS area, please refer to the Freight Needs Assessment in the appendices to this plan.

Roads and Highways

Over 2,000 centerline miles of streets and highways of various functional classifications traverse the MATS planning area, as shown in Figure 03. Key roadway assets, including bridges and intelligent transportation systems (ITS) are discussed in this section due to their importance to freight transportation. Some corridors are specially designated as freight networks by state and federal agencies to signify their importance in facilitating various types of freight. These designated freight networks may warrant special consideration and prioritization for freight-focused network improvements. They may also be eligible for special funding for improvements due to their importance to state and national freight transportation.

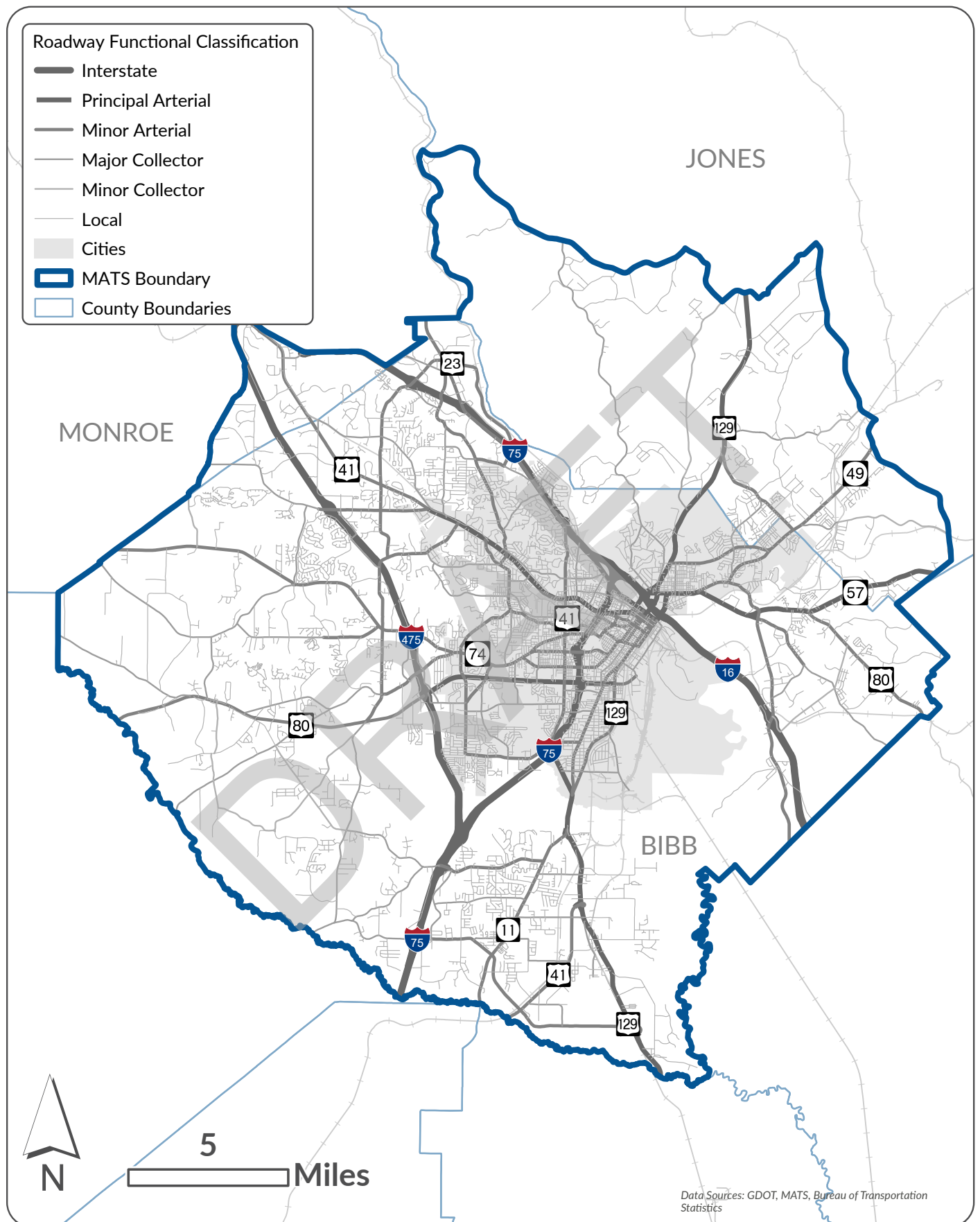


Figure 03. MATS Area Roadways by Type in MATS Planning Area

Designated Freight Networks

The Federal Highway Association (FHWA) established the National Highway System (NHS) in order to focus resources and policies on roadways important to the United States' economy, military, and mobility. The NHS includes several subsystems, including the entire Interstate Highway System, Intermodal Connectors, the Strategic Highway Network (STRAHNET), Principal Arterials, and Major STRAHNET Connectors. The STRAHNET is a system of roads designated to support deployment of military equipment and personnel and the movement of commodities to support military installations, and STRAHNET Connectors provide access between major military installations and highways. Intermodal connectors and Principal arterials provide strategic access to intermodal facilities.⁵

The State of Georgia has its own Statewide Freight Network, comprised of interstate highways, state routes, and inter-city roadways that connect to intermodal facilities and industrial facilities. The planning area includes portions of each of these networks. All of the interstate highways within the MATS area (I-16, I-75, and I-475) as well as some arterials, collectors, and local roads are categorized as NHS roadways and/or state-designated freight corridors.

The FHWA also established the National Highway Freight Network (NHFN) in order to strategically direct federal resources towards highway portions of the national freight system.⁶ Within the MATS area, the NHFN includes all of the interstate highways (I-16, I-75, and I-475). Some segments of the NHFN within the MATS area are also designated as part of the Primary Highway Freight System (PHFS), indicating that they are the most critical highway portions of the national freight transportation network. Within the MATS area, the PHFS includes I-16, I-475, and the portion of I-75 south of the I-475 bypass. Designated freight networks in the MATS planning area are shown in Figure 04.

Bridges

Per the FHWA's National Bridge Inventory (NBI)⁷, there are 247 roadway bridges in the MATS planning area (includes bridges within 500 feet of MATS boundary). Bridges throughout the study area are located along a variety of arterial, collector, and local roads, as well as interstate highways.

Of the 247 bridges in the MATS region, none are classified as poor condition. Most bridges (191) are in good condition, and the remaining 56 bridges are classified as fair, as shown in Figure 05. Ten bridges in the MATS planning area are load posted, or have a weight restriction, where commercial trucks are not permitted to travel. None of these bridges are over highways or railroads, but rather over creeks, streams, and other water bodies.

5 U.S. Department of Transportation, Federal Highway Administration. National Highway System, https://www.fhwa.dot.gov/planning/national_highway_system/

6 U.S. Department of Transportation, Federal Highway Administration. National Highway Freight Network, <https://ops.fhwa.dot.gov/freight/infrastructure/nfn/index.htm>

7 U.S. Department of Transportation, National Bridge Inventory, <https://geodata.bts.gov/datasets/usdot::national-bridge-inventory/explore?location=32.804411%2C-83.660782%2C11.60>

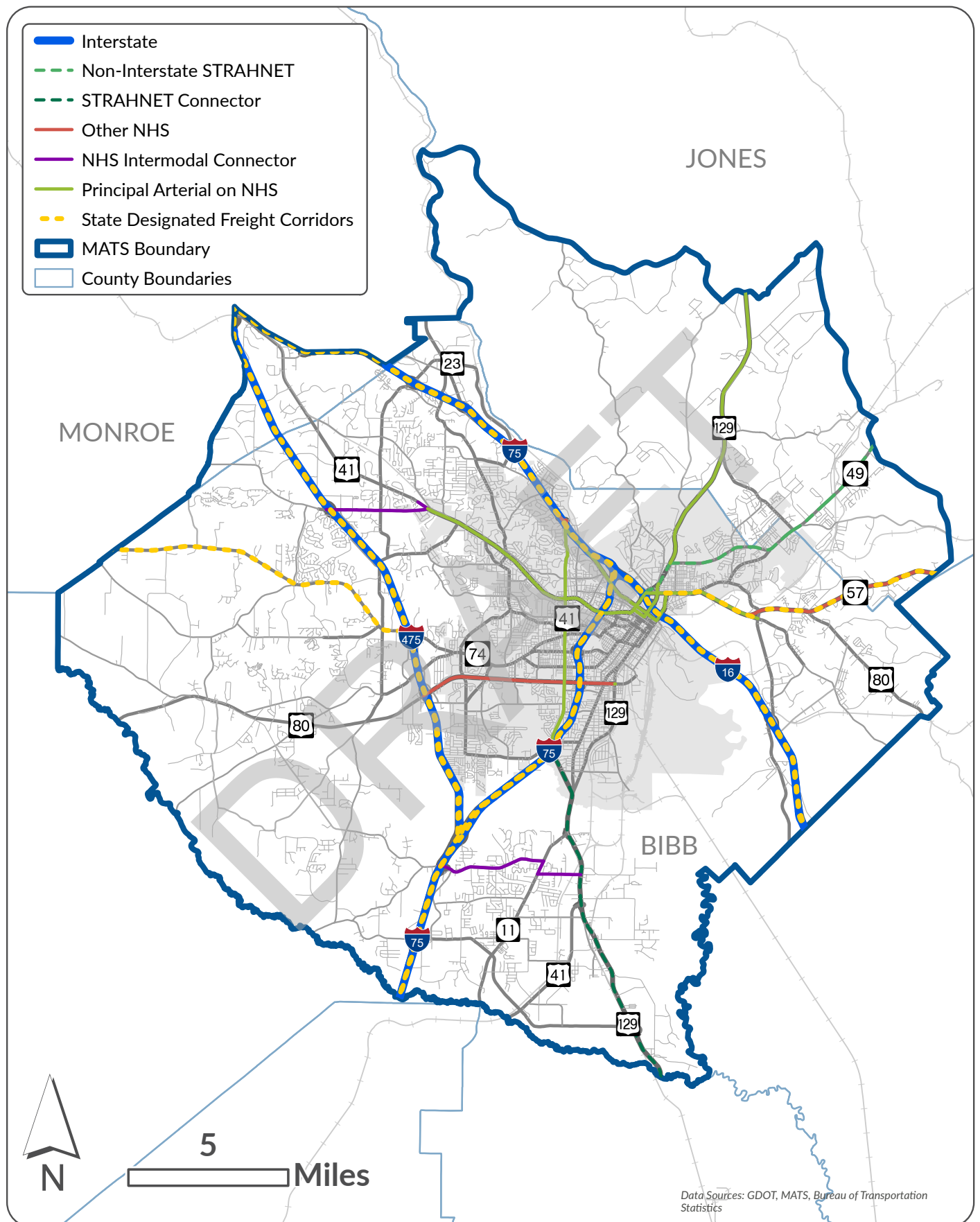


Figure 04. Designated Highway Freight Network in MATS Planning Area

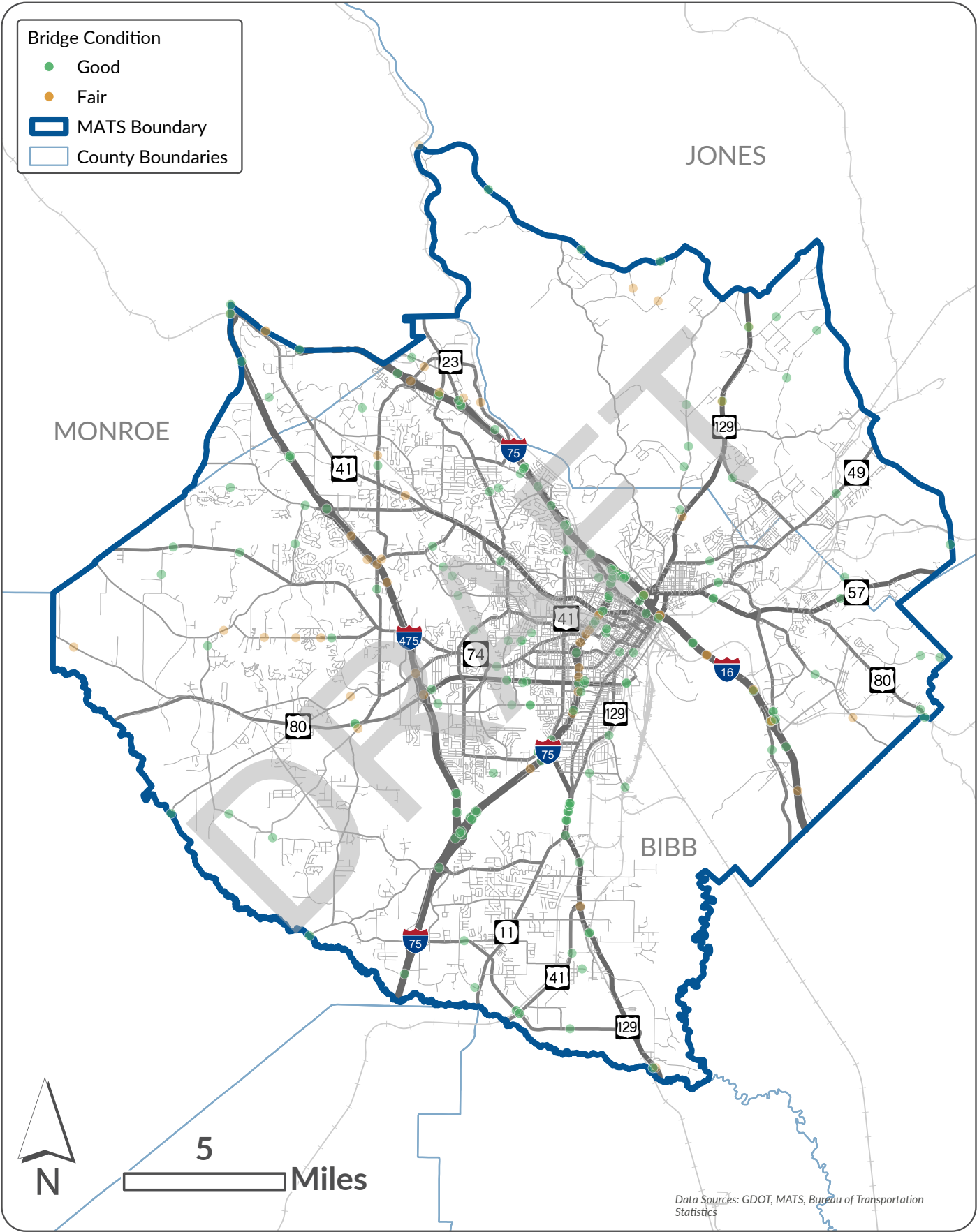


Figure 05. Bridges in the MATS Planning Area

Intelligent Transportation Systems

Intelligent transportation systems (ITS) are the communication technologies integrated into transportation infrastructure and vehicles to enhance safety and mobility for roadway users. The roadway networks in the MATS planning area employ a variety of devices connected to GDOT's centralized servers. These devices are connected through GDOT's statewide advanced traffic management systems (ATMS) and monitored and managed around the clock at GDOT's Traffic Management Center (TMC) in Atlanta.

Connected devices within the MATS area include traffic demand sensors, closed-circuit television (CCTV) cameras, and dynamic messaging signs. GDOT also monitors and actively manages ITS-enabled traffic signals through their statewide SigOps program.

- CCTV cameras relay visual data on traffic congestion and incidents, and operate in conjunction with other devices such as ramp meters. Within the MATS MPO area, there are numerous CCTV cameras along I-75, I-475, US 80, US 74, US 41, US 23, and US 129.
- Dynamic message signs display real-time traffic information to motorists, such as travel times, incidents or road closures ahead, and emergency information such as AMBER alerts. Within and adjacent to the MATS MPO area, there are six dynamic message signs along interstate highways (I-75, I-475, and I-16).

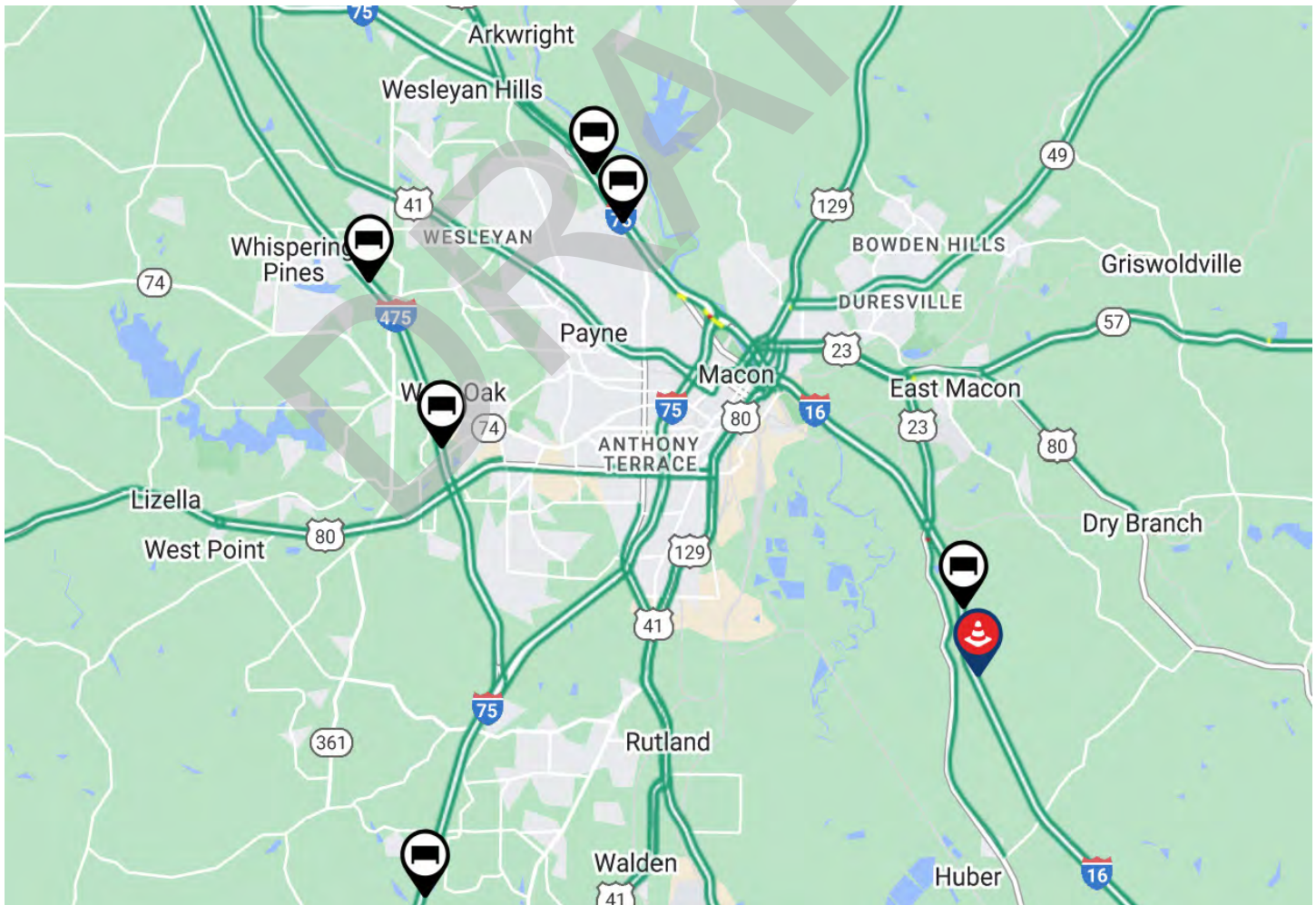


Figure 06. Dynamic Message Signs throughout MATS Planning Area

Source: GDOT Georgia 511, <https://511ga.org/>

Operational Findings

Traffic volumes and congestion on roadway networks are linked to a complex web of sociological factors, such as travel patterns, land use and development patterns, and changes in population and employment. Over time, population growth, changing development patterns, larger vehicles, and a wider variety of travel modes have led to increasing competition for limited space on area roadways. Sometimes these changes in travel patterns and development outpace changes in infrastructure, resulting in traffic congestion on smaller streets that were not designed to handle large volumes of traffic. Roads should be designed to handle expected traffic volumes, as well as the variety of vehicles used on them.

Traffic Volumes and Level of Service

GDOT and its partners use travel demand models to assess current and future traffic conditions. These models are complex and based on various factors like demographics, mode share, and household characteristics. The most recent model for the MATS planning area had a base year of 2015 with a future planning horizon of 2050. An update to this model, with a base year of 2020, is currently in development and will be used in the MPO's next MTP update in 2027. Outputs from GDOT's Statewide Travel Demand Model (GSTDM) for the MATS region, including base year data for 2020, is used for this assessment.

The GSTDM shows that daily traffic volumes on key roads in the MATS area range from less than 3,000 to over 40,000 vehicles. The highest volumes are on interstate highways (particularly I-75 south of I-475), US 129/Gray Highway, US 23/Emery Highway, and US 80/SR 57/Irwinton Road. In Downtown Macon, corridors such as Vineville Avenue, Forsyth Street, Riverside Drive, and US 80/Martin Luther King Jr. Boulevard also carry significant volumes of traffic. With expected population and economic growth, it is anticipated that these roads will see an increase in volume over the next 25 years, especially near airports and job centers.

As shown in Figure 07, the highest volume of truck traffic, as of 2020, is found on the interstate highways, particularly along I-75 south of I-475 and along I-475. Roads such as US 80/Jeffersonville Road and SR 57/Irwinton Road also carry significant truck volumes. Some local roads also carry a high percentage of trucks as a proportion of total volume, including Thomaston Road in the western portion of the MPO and portions of SR 57/Irwinton Road near the edge of the MPO boundary near Ridge Road. Truck traffic accounts for approximately 12% of total vehicle-miles traveled (VMT) in the MATS planning area in 2020. By comparison, FHWA's 2020 Highway Statistics,⁸ indicates that across Georgia, trucks account for 18% of rural VMT and about 12% of VMT in urban areas.

Traffic congestion can occur when the demand for vehicle trips exceeds the capacity of a given roadway. It is typically measured according to the concept of level of service (LOS) - using a lettered scale of A through F. Generally, LOS A, B and C indicate free-flow conditions, where demand has not caught up with capacity. At LOS D, speed and freedom to maneuver in traffic become more restricted, where there is limited available capacity. LOS E indicates that a road is nearing capacity to serve traffic and the flow is unstable, with poor driver convenience and "stop and go" conditions. When a roadway exhibits LOS F, there is typically severe traffic congestion. Road segments at LOS E or F in 2020 include:

- LOS E: I-75 southbound on-ramp at Forsyth St exit, US 41/Vineville Ave north of Pierce Ave and south of Forest Hill Rd, US 80/Emery Hwy west of Jeffersonville Rd, Clinton Rd south of Shurling Dr
- LOS F: I-16/I-75 interchange, I-75 northbound off-ramp and southbound on-ramp at Riverside Dr exit, Zebulon Rd near Lamar Rd, Clinton Rd south of Shurling Dr

Base year (2020) LOS in the MATS planning area is shown in Figure 08.

⁸ FHWA. Office of Highway Policy Information, Highway Statistics Series 2020, <https://www.fhwa.dot.gov/policyinformation/statistics/2020/ps1.cfm>

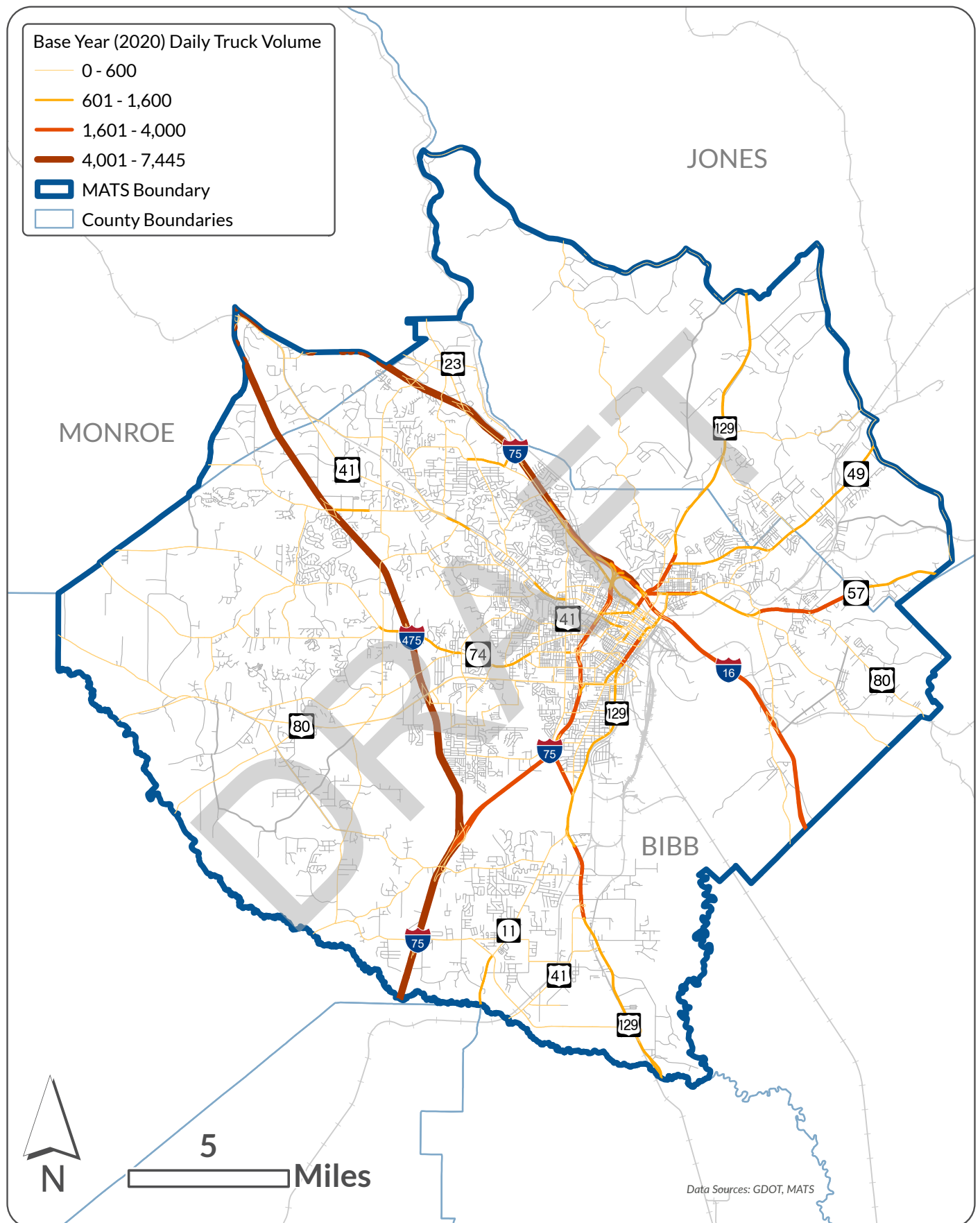


Figure 07. Base Year (2020) Truck Volume in MATS Planning Area

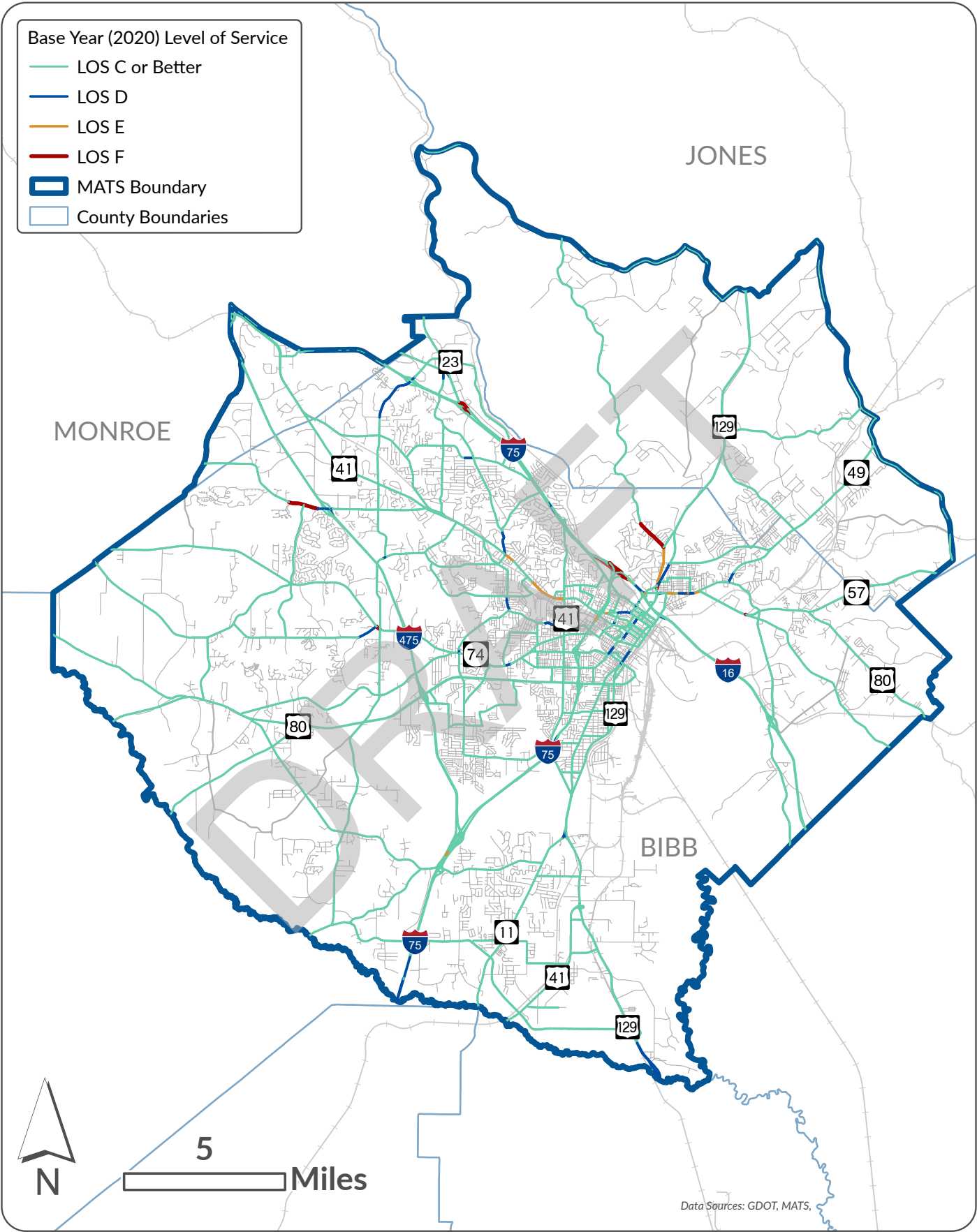


Figure 08. Base Year (2020) Level of Service in the MATS Planning Area

Railways and Intermodal Facilities

The State of Georgia has a long history of rail investment. Georgia's rail network is the largest in the Southeast. The MATS MPO planning area includes a large conglomeration of central Georgia rail lines. Nearly all of these lines are Class I freight lines, while one short line (Class III) freight rail provider maintains a single line of access between Macon and Savannah (the State of Georgia has no Class II rail lines). Macon's central location between the Port of Savannah and the Atlanta consumer market makes it a prime location for freight movements. The area is also home to a few pipeline terminals, a major sorting and classification yard, and has direct access to a number of large coastal port facilities. A map of freight rail lines in the MATS area is shown in Figure 09.

Class I Rail Lines

Four Class I rail lines cross into the MATS area from the north and three enter from the south. All of the rail lines converge at Brosnan Yard. Within the MATS planning area, Norfolk Southern operates all of the Class I rail lines (though CSX does lease access rights on some of the same lines). These lines connect Macon to major freight generators, such as the Atlanta metropolitan area, the Port of Brunswick, and the Port of Savannah.

Class III Rail Lines

The Georgia Central Railway (GC), a Class III (short line) railway, runs between Macon-Bibb and the Port of Savannah, entering the MATS area from the east and terminating at Brosnan Yard. The line is operated by Genesee & Wyoming Railroads. The railroad includes an interchange with the Heart of Georgia line in Vidalia, Georgia in addition to its terminus interchanges in Macon-Bibb and Savannah, Georgia. Notably, train speeds are currently limited to 10 mph between Macon-Bibb and Dublin, Georgia, increasing to 25 mph between Dublin and Savannah.

Strategic Rail Corridor Network

The Strategic Rail Corridor Network (STRACNET) is a national interconnected system of civil rail lines designated as being strategically important for military purposes. These rail lines often connect military installations and activities that require rail service. Rail lines designated as part of the nation's STRACNET have been confirmed to satisfy readiness requirements for military cargo. Three Class I rail corridors within the MATS area are designated as STRACNET connector lines due to their connections to the Port of Savannah, Fort Moore (near Columbus, Georgia), and Robins AFB just south of the planning area. It should be noted that military cargo can also travel over non-STRACNET lines.

Rail Yards

The most notable rail facility in the area is Norfolk Southern's Brosnan Yard, a major 960-acre sorting and classification yard near downtown Macon. The yard handles over 10,000 railcars weekly, destined for various locations in Georgia and across the country. It has an average terminal dwell time of 30.9 hours, longer than Norfolk Southern's overall average of 23.9 hours. The yard's main function is to sort freight cars by their geographic destinations for easier sorting and decoupling upon arrival. Established in the late 1960s, Brosnan Yard was one of Norfolk Southern's largest hump classification yards until 2018 when it switched to a full flat-track switching yard. Hump yards use human-made hills ("humps") to sort and classify freight cars using gravity, pushing cars up the hill and letting them roll down into

designated tracks. Flat track classification relies on locomotives to move and position cars, rather than gravity. Due to increased freight demands and pandemic-induced worker shortages, hump operations resumed at Brosnan Yard in 2022.

Major Port Connections

The MATS planning area's advantageous position in proximity to the Atlantic coastal region provides the area with direct access to three large coastal port facilities: the Port of Jacksonville (JAXPORT), the Port of Savannah, and the Port of Brunswick. Brosnan Yard, the classification yard in southeast Macon, serves as a nexus for Norfolk Southern rail lines to each of these ports as well as a Central Georgia line to the Port of Savannah. The rail lines bring a steady stream of intermodal cargo containers into the study area to be sorted at Brosnan Yard on their journey between coastal ports and destinations throughout the country. Cargo on its way to and from the ports via truck frequently travels through the study area along the interstates, with particularly high volumes of freight traffic on I-75 south of the I-475 bypass around Macon and along the I-475 bypass.

In step with the increasing nationwide consumer trends towards e-commerce, The Ports of Savannah and Brunswick will significantly expand their capacity in the coming years. The Georgia Ports Authority (GPA) approved contracts for work to expand the Port of Savannah's Ocean Terminal from an annual capacity of 300,000 twenty-foot equivalent container units (TEUs) to more than 1.5 million TEUs by late 2027. Brunswick's Colonel's Island Terminal is the nation's second busiest facility for roll-on/roll-off imports. It is expected to increase its capacity from "1,225,000 to 1,410,000 vehicles per year" as a result of recent warehousing expansions and other improvements.⁹

Brosnan Yard



Source: Inboundlogistics.com

Central Georgia Railway



Source: RailPictures.Net © Allan R Williams Jr.

Port of Savannah's Ocean Terminal



Source: Expansion Solutions Magazine

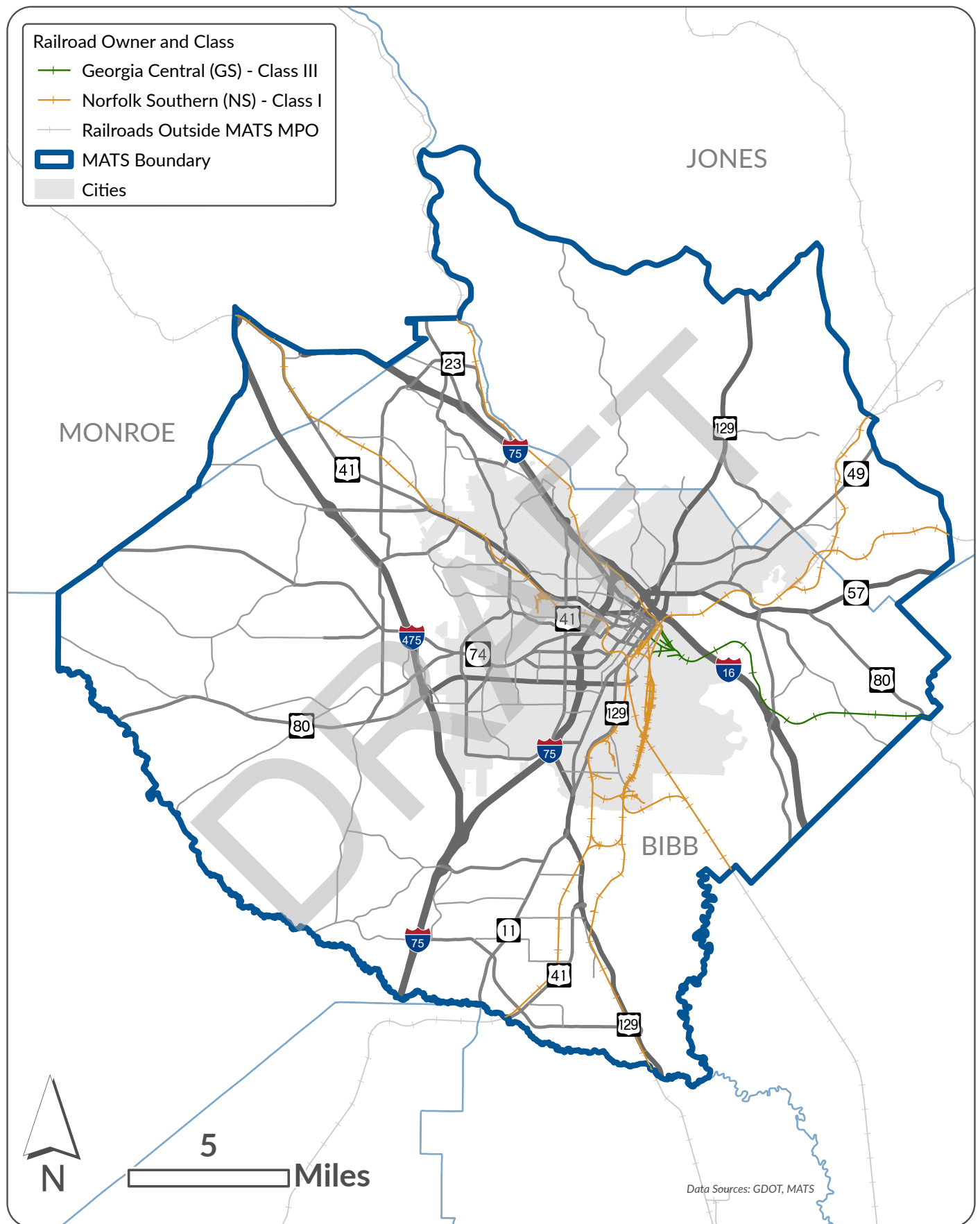


Figure 09. Freight Rail Line in the MATS Planning Area

Airport and Air Cargo Facilities

Although air cargo is a relatively small portion of overall freight transportation within the State of Georgia, the growing consumer preference for e-commerce is expected to drive expansion of air cargo activity within the state of Georgia in the future. Several air cargo demand generators are located in and around the study area, including aerospace, automotive, and pharmaceutical industries in addition to fulfillment and distribution centers. Pharmaceuticals are, by value, the leading air commodity shipped to and from Georgia.¹⁰ Within the MATS planning area, there are two general aviation airports: the Macon Downtown Airport (MAC) and the Middle Georgia Regional Airport (MCN). Robins Air Force Base (AFB) lies just outside the southern border of the study area. The following sections summarize key information about each airport.

Macon Downtown Airport

The Macon Downtown Airport (MAC) is a general aviation airport, assigned Level II by GDOT, and is owned and operated by Macon-Bibb County. Situated on 245 acres, just three miles southeast of Macon's central business district, MAC can be accessed via US 80 / SR 19 and US 23. The airport serves private, corporate, and executive aircraft. Tenants at the airport include the Georgia Forestry Commission and Middle Georgia State University's flight instruction program, among others. The airport supports flight training, military exercises, law enforcement activities, agricultural spraying, experimental aircraft, and more. Macon Downtown also supports occasional ad hoc air cargo operations. The flights departing MAC are primarily destined for places within Georgia and other southeastern states.

According to data reported in the 2018 Georgia Statewide Aviation System Plan (GSASP) has one active runway, Runway 10/28, which is 4,694 feet long and 100 feet wide. At the time of the report, the runway condition was high (good), with a pavement condition index (PCI) of 90. That same report also estimated a projected demand increase of three based aircraft between 2016 and 2035 along with an increase in annual general aviation operations from 8,800 to 9,800 during the same period. The report recommended improvements to the airport, at the time, in order to meet minimum strategic objectives, including extending the runway and taxiway, improving runway-taxiway separation, and several other items.



Middle Georgia
Regional Airport

Source: Visit Macon

Middle Georgia Regional Airport

The Middle Georgia Regional Airport (MCN) is recognized as a commercial service airport, assigned Level II by GDOT, and is owned and operated by Macon-Bibb County. Key tenants include Central Georgia Tech Aviation, Embraer Aircraft Maintenance Services, Lowe Aviation, and Dean Baldwin Painting, among others. It is located roughly nine miles south of downtown Macon, east of I-75 and south of I-16 on roughly 1,150 acres. GDOT's 2018 GSASP determined that MCN is served by two runways: 5/23 is 6,500 feet long and is equipped with a precision instrument landing system. The crosswind, or secondary runway, Runway 14/32, is 5,000 feet long. The report determined that the airport meets most minimum objectives and recommended several improvements related to navigational aids, hangar space, and parking.

The airport supports a variety of aviation activities, including commercial service, corporate/business service, recreational flying, and police/law enforcement. Contour Airlines is the primary carrier and recently announced new daily nonstop service to Washington Dulles (IAD) beginning on May 1, 2025. Charter packages are also available through other airlines. While MCN does not currently accommodate scheduled air cargo service, the airport supports one to three ad hoc air cargo operations each month, and all scheduled commercial airlines are able to carry cargo in the belly-hold of their planes. Flights from MCN reach as far as California, Maine, and Montana. Top destinations are primarily in Georgia, but also include Fernandina Beach, Florida.

MCN is considering expansions that could potential accommodate air cargo development by re-purposing existing terminals space or building new facilities on a parcel on the west side of the airport (as indicated on recent plans shared by Macon-Bibb County's Aviation Director). The airport is also considering the possibility of future electric vertical take-off and landing (EVTOL) locations, as some all-electric manufacturers have orders for aircraft to be purchased by cargo carriers.

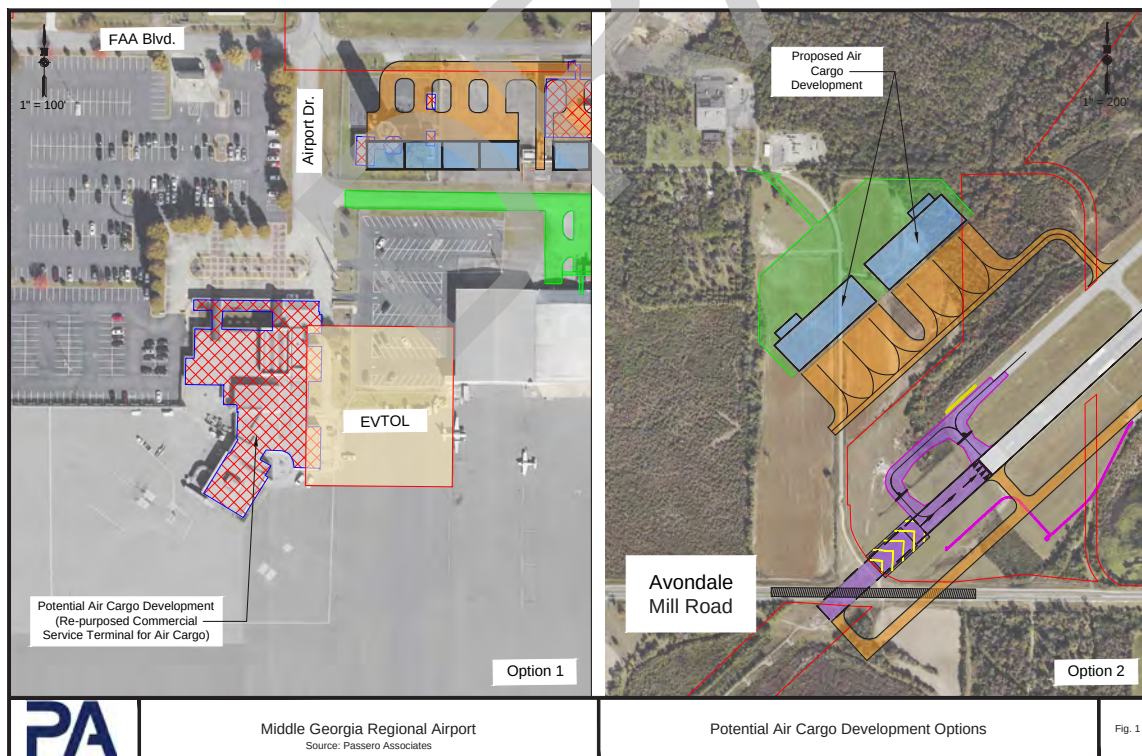


Figure 10. Possible Scenarios for Air Cargo Development at MCN

(Source: Macon-Bibb County Aviation)

Robins Air Force Base

Robins Air Force Base (AFB) is home to the 78th Air Base Wing and a host of more than 50 mission partners that comprise an important part of the Air Force team. Robins AFB is recognized as a Census-designated place since the 1980 Census; as of the 2020 Census, the population was 1,061. It is the largest single-site industrial complex in Georgia, employing a workforce of nearly 24,000 civilians, contractors, and military members. The Warner Robins Air Logistics Complex, one of three such facilities in the US, is the worldwide manager for a wide range of aircraft, engines, missiles, software and avionics and accessories components. Robins AFB has played a crucial role in several military conflicts over the years, including the Vietnam War and Persian Gulf War.

Robins AFB is situated on more than 6,935 acres, located just south of the MATS MPO planning area in Houston County. The base contains over 13 million square feet of buildings and nearly 2.5 million square yards of flight line facilities. Flight-related facilities include aprons, paved shoulders, taxiways, overruns, holding pads, dangerous cargo pads, and more.

Airport Safety Incident History

Aircraft incidents, while rare, can be extremely disruptive to airport operations when they occur at or near airports. These incidents usually impact airport facilities when planes crash during takeoff, landing, or taxiing. The National Transportation Safety Board (NTSB) keeps a publicly available aviation accident database. This database was queried for accidents over a ten year period at each of the airports within the study area: Macon Downtown Airport and Middle Georgia Regional Airport. The database only contains civil aviation accidents, so the query did not include Robins AFB. Per the NTSB database, no incidents occurred at Middle Georgia Regional over a ten year period from 2014 to 2023. Four total incidents occurred on Macon Downtown Airport grounds over the same ten year period. Table 03 below summarizes facts about these accidents.

Table 03. Airport Safety Incidents since 2014

Accident Number	Date	Flight Type	Contributing Factors	Fuel Release	Injuries
ERA14LA137	2/19/2014	General aviation (Personal)	- Pilot error - Wind gusts - Aircraft maintenance	Yes	2 serious
GAA18CA047	11/8/2017	General aviation (Personal)	Pilot error	No	None
ERA22LA073	10/11/2021	General aviation (Instructional)	Bird strike	No	None
ERA23LA303	6/24/2023	General aviation (Instructional)	Bird strike	No	None

Pipeline Facilities

The pipeline network is designed to facilitate the movement of gas and hazardous liquids in underground lines, between gathering systems and refining, processing, or storage facilities. Within the MATS planning area, there are two types of pipelines: gas transmission and hazardous liquids. These pipelines are owned and operated by various private sector companies. Transmission and hazardous liquid pipelines in Macon-Bibb County are shown in Figure 11.

In addition to the pipelines themselves, there are a number of companies that operate pipeline terminals within the MATS planning area. Terminals within the MATS planning area are shown in Figure 12. These facilities generally store and/or transfer from one mode of travel to another (e.g., truck to rail) products and materials that are transferred or travel via pipes, such as bulk petroleum products.

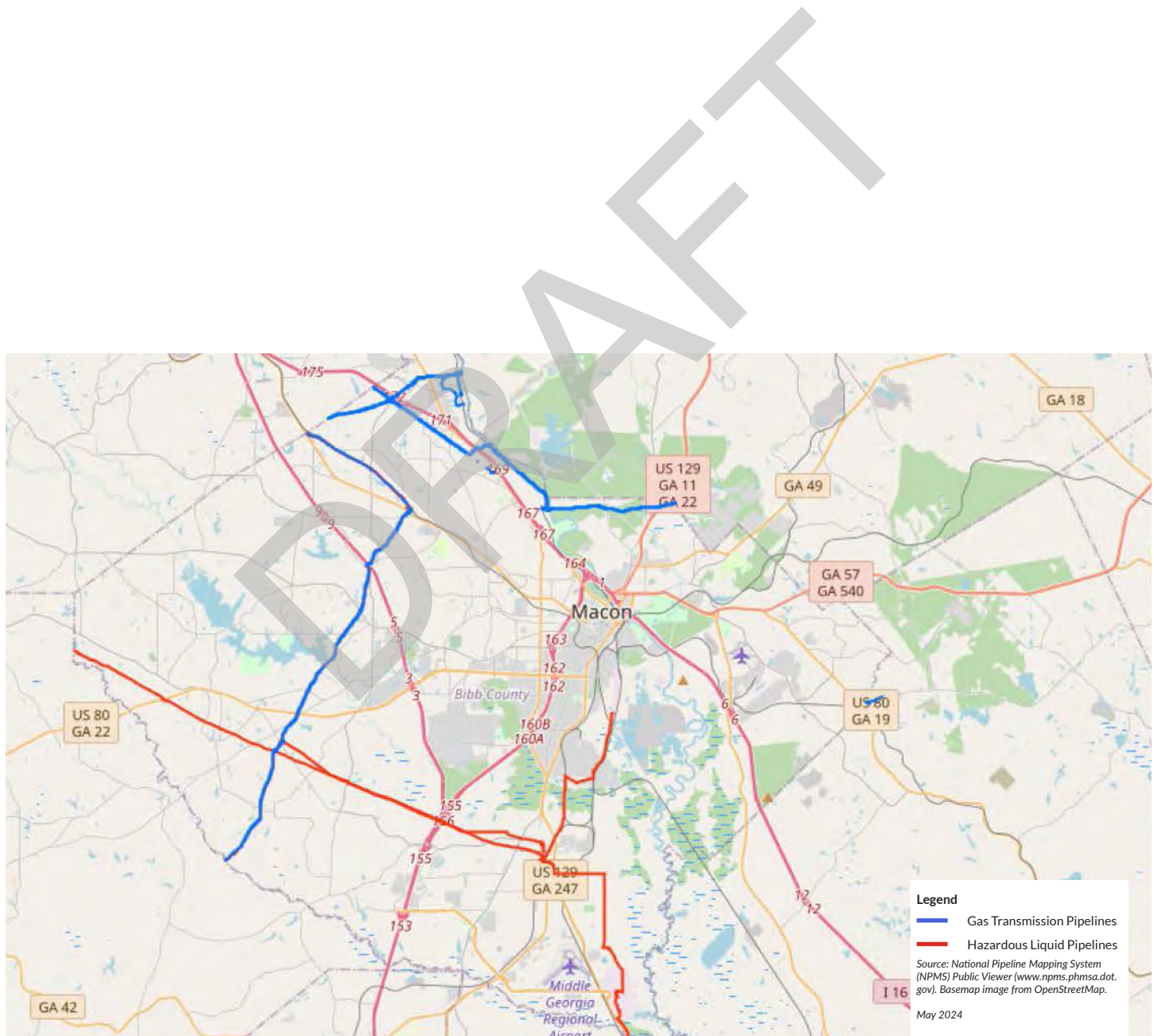


Figure 11. Pipeline Facilities in Macon-Bibb County

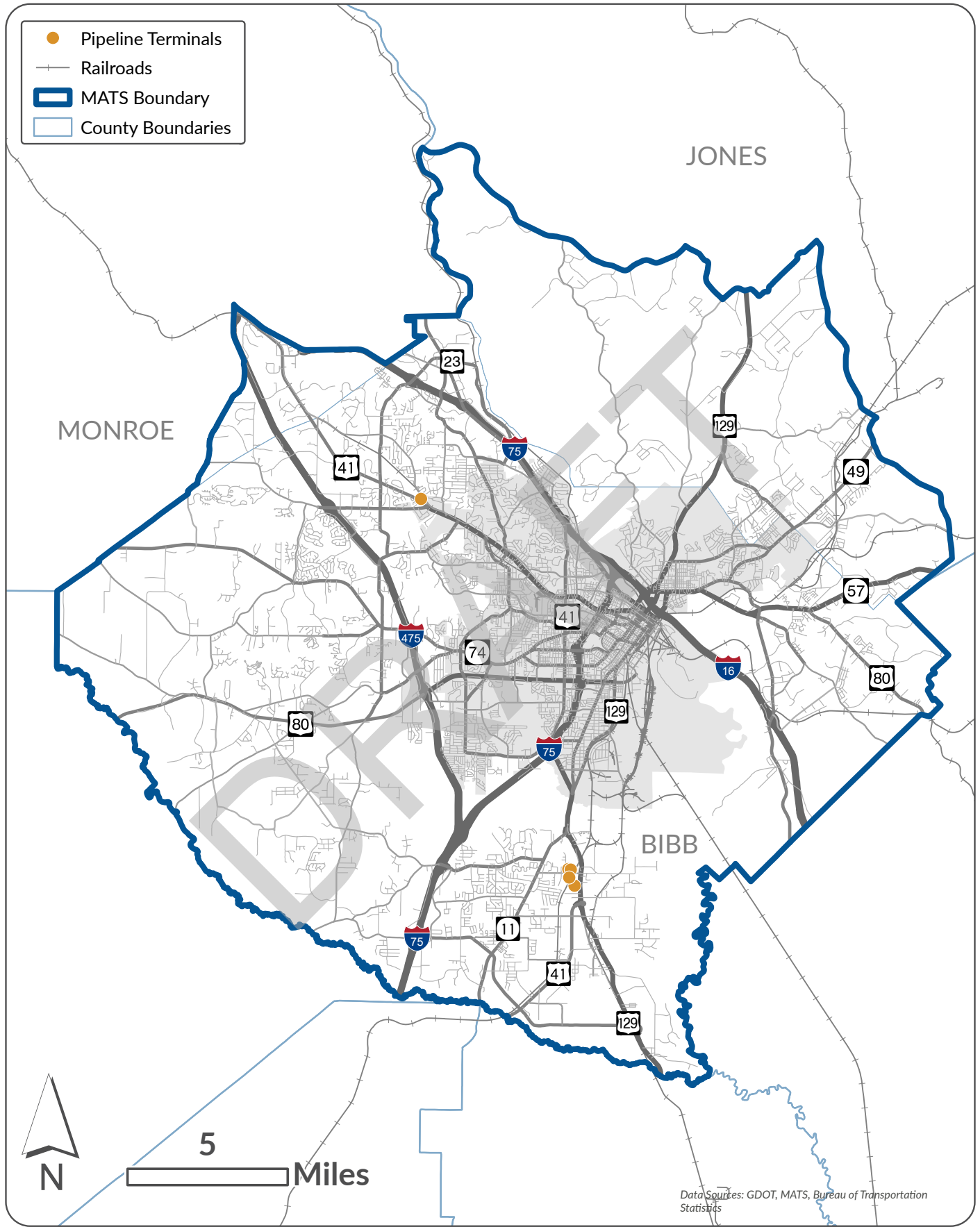


Figure 12. Pipelines and Terminal Facilities in MATS Planning Area

