

Interim Report Task 05
**Highway & Freight Systems
Existing Conditions**

May 2025

Prepared by:

HNTB



Mississippi Department of Transportation

MULTIPLAN 2050

This Plan was prepared as a cooperative effort of the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Mississippi Department of Transportation (MDOT), and local governments in partial fulfillment of requirements in Title 23 USC 134 and 135, amended by the IIJA, Sections 11201 and 11525, October 1, 2021. The contents of this document do not necessarily reflect the official views or policies of the USDOT.

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1.0 Introduction to Highway and Freight Systems in Mississippi

The mission of the Mississippi Department of Transportation (MDOT) is to ensure the safety, efficiency, and environmental sustainability of the state's intermodal transportation network. This includes planning, designing, constructing, and maintaining state-owned highways, as well as administering federal and state funding for eligible portions of the system outside of the state-owned network. MDOT also shares joint responsibility with the Mississippi's four metropolitan planning organizations (MPOs) for planning, programming, and allocation of federal transportation funds in urbanized areas (UAs) with populations exceeding 50,000. These UAs include the metropolitan areas around:

- Memphis, TN
- Jackson, MS
- Hattiesburg, MS
- Gulf Regional Planning Area

This report presents the existing infrastructure conditions along Mississippi's highways supporting freight movements based on the 2020 MULTIPLAN 2045, 2022 Mississippi Statewide Freight Plan, 2024 Mississippi Truck Parking Study, and data provided by MDOT.

2.0 Role of MDOT

2.1 Agency Responsibilities

MDOT and the Mississippi Office of State Aid Road Construction (OSARC) manage, plan, and operate the various highway networks within the state. OSARC administers the State Aid Program, which supports the maintenance and construction of non-state-owned roads and bridges. This State Aid System consists of principal collector and distributor routes that make up the state's secondary road network.¹ MDOT and OSARC are jointly responsible for administering federal and state funds to the rural and urban areas of the counties in the construction and maintenance of secondary, non-state-owned roads.

¹ Mississippi Department of Transportation Office of State Aid Road Construction. Retrieved at: <https://www.osarc.ms.gov/about/>

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Metropolitan Planning Organizations (MPOs) plan regional transportation, including public transit, freight, and bicycle/pedestrian, and advise local officials on implementing federal transportation funds. They also ensure a fair regional decision-making process and involve the public and other affected groups in these decisions. Mississippi has four MPOs – the Gulf Regional Planning Commission Metropolitan Planning Organization, the Hattiesburg-Petal-Forrest-Lamar Metropolitan Planning Organization, the Central Mississippi Planning and Development District Metropolitan Planning Organization, and the Memphis Urban Area Metropolitan Planning Organization.

In addition to these agencies, the Mississippi Freight Advisory Committee serves as a partner to MDOT in the management of the state's freight highway network by providing input for consideration and facilitating collaboration among various stakeholders, including government agencies, industry representatives, and local communities.

2.2 Funding

MDOT receives both federal and state revenue from various sources which are appropriated annually by the Mississippi State Legislature. Total revenue for fiscal year (FY) 2024 was approximately \$1.44 billion. Dedicated taxes such as the state motor fuel taxes and federal funding accounted for 79.1% of total funding for FY 2024. The remaining state funding was supplied by various sources including truck fees, vehicle tags, and contractor's taxes. The MDOT Annual Report (2024)² reported investments in different categories like roads and bridges for FY 2024. In addition to state and federal funding, MDOT receives around \$80 million each fiscal year from the Mississippi Lottery to fund infrastructure projects; however, based on current legislation, this source of funding is set to expire in 2028.

Federal funds are granted by Congress, which provides funding through the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), and the Federal Aviation Administration (FAA). This funding is derived from revenues collected by the U.S. Treasury from federal taxes on fuel, tire sales, and other sources, which are kept in the Federal Highway Trust Fund. Funding assistance for federal infrastructure projects comes from the Federal Aid Highway Program. Funds for construction of infrastructure projects are reimbursable

² Mississippi Department of Transportation Annual Report 2024. Retrieved at: <https://mdot.ms.gov/documents/Administration/Reports/FY%202024/2024%20Annual%20Report.pdf>

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by the Federal government, however MDOT must appropriate adequate state funds until the federal funds are available.

According to the 2024 MDOT Annual Report, in FY 2024, MDOT invested a total of \$1.38 billion into the development and maintenance of the 163,000 lane miles that make up the state and local road and bridge system. Just over \$16 million was collected in permit fees to be spent on state highway maintenance. Approximately \$1.2 billion was awarded for MDOT road and bridge contracts, and \$937 million was spent on active MDOT road and bridge contracts. This funding resulted in:

- 1,052 lane miles of roadway resurfaced,
- 264 lane miles of roadway sealed,
- 1,388 miles of unpaved shoulders reshaped, and
- 1,298 miles of new pavement striping applied.

Approximately \$227 million was invested in routine maintenance projects such as overlays, restriping, patching potholes, controlling invasive plants, and chip sealing on roadways.

Emergency Road and Bridge Repair Fund

MDOT recognizes transportation infrastructure is vital for a healthy economy and critically important to the mobility of its citizens. The Emergency Road and Bridge Repair Fund (ERBRF) was established in 2018 by the Mississippi Legislature to revitalize public roads and bridges across the state. The program was initially funded at \$250 million.³ Projects are selected for funding based on factors such as:

- Safety and asset condition
- Economic impacts
- Traffic and truck volumes
- Regional significance
- Emergency Vehicle Access
- Project Readiness
- Facility Type
- Innovative Financing or Design
- Access to Schools

MDOT awards funds based on project prioritization through collaboration and input from the ERBRF Advisory Board, and local governments are also involved in submission of projects for consideration.

³ Mississippi Department of Transportation. Retrieve at: https://mdot.ms.gov/portal/erbrf_2023

Strategic Multi-Modal Investments Fund

The Mississippi Legislature established the Strategic Multi-Modal Investments Fund (SMIF) in 2024 to help fund the increased capacity for the movement of freight at airports, ports, and railroads. The program was initially funded up to \$30 million.⁴

2.3 Planning

MDOT 3-Year Plan (2024-2026)

MDOT's 3-Year Plan for FFY (Federal Fiscal Year) 2024-2026 fulfills the requirement in Section 65-1-141 Mississippi Code of 1972 Annotated for the maintenance, construction, reconstruction, and relocation of the State Highway System. The Transportation Commission adopted the following criteria on which to assign priorities for maintenance and construction projects:

- Safety/public necessity
- Present and future economic benefit
- Present and future traffic census
- Route continuity

The 3-Year Plan includes pavement programs, bridge programs, highway safety improvement programs, capacity projects, operational improvement programs, and planning programs for 2024-2026 FFY.

Statewide Transportation Improvement Program, 2025-2028

MDOT implements the Statewide Transportation Improvement Program (STIP) to enhance and develop the state's transportation system over a four-year period. MDOT prioritizes projects in four critical areas: system preservation, bridge replacement, highway safety improvements, and increasing highway capacity. The STIP includes federally funded projects as well as non-federally funded projects that are of regional significance. A "regionally significant" project is a transportation project on a facility serving regional transportation needs such as a state highway giving access to and from another region or to major activity centers. Some types of projects are not included in the STIP including particular safety projects, most emergency relief projects, and most planning and research activities. One of the projects included in the 2025-2028 STIP is the US 80 Bridge Investment Program in Lauderdale County.

⁴ Mississippi Department of Transportation. Retrieve at: https://mdot.ms.gov/portal/erbrf_2023

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Projects in the STIP are normally funded by matched federal dollars with either state or local funding sources. Usually, matching ratios are 80% federal funds and 20% state funds for most projects. For some safety-related improvement projects, federal funds may be used to cover the entire project. For transit capital projects, FTA will normally cover up to 80% of the cost of those projects, while funding guidelines for transit operating assistance require that state and local sources cover at least half of the total amount required for safe operation of the system.

Statewide Truck Parking Study

Freight is primarily transported through trucks traveling along the state's 163,000 lane miles of public road. MDOT conducted a Truck Parking Study⁵ in September 2024 to evaluate current and anticipated future parking supply/availability and demand on the state's primary freight corridors.

Commercial truck parking access is a concern for the trucking industry in the state of Mississippi as well as across the U.S. When trucks do not have adequate parking availability, it leads to unauthorized parking, creating potentially hazardous situations along highway ramps and local roads with limited shoulder widths. Over 273 million tons of freight were transported by truck in Mississippi in 2019; by 2045, freight quantities are expected to increase by 47%.⁶ The demand for authorized truck parking will only increase as the number of trucks on the road also increase.

The goal of the Truck Parking Study was to provide recommendations for addressing parking challenges on Mississippi's Tier I Highway Freight network. This network is shown in Section 3, Statewide Significance. The study incorporated past studies, surveys of representatives in the trucking industry, and analyses of existing conditions to formulate recommendations.

Mississippi Statewide Freight Plan

The 2022 Mississippi Statewide Freight Plan⁷ serves to strategize and reflect economic trends that drive changes to the movement of goods, consumer behaviors, and industry needs. The Plan attempts to:

⁵ Mississippi Department of Transportation Truck Parking Study. Retrieved at: <https://mdot.ms.gov/documents/Planning/Studies/MDOT%20Truck%20Parking%20Study.pdf>

⁶ Mississippi Department of Transportation Truck Parking Study. Retrieved at: <https://mdot.ms.gov/documents/Planning/Studies/MDOT%20Truck%20Parking%20Study.pdf>

⁷ Mississippi Statewide Freight Plan (2022). Retrieved at: <https://mdot.ms.gov/documents/Planning/Transportation%20Asset%20Management%20/MS%20Freight%20Plan/MS%20Statewide%20Freight%20Plan%202022-Amendment%20%2005.pdf>

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- Create synergy with other MDOT transportation plans including MULTIPLAN 2045,
- Assess the condition and performance of freight systems,
- Understand the role freight takes within the broader transportation initiative, and
- Address freight needs by developing strategies and goals.

2.4 Key Highlights

Bipartisan Infrastructure Law

The Bipartisan Infrastructure Law⁸ (BIL) was enacted on November 15, 2021, and is the largest long-term investment in U.S. infrastructure in the nation's history. The BIL funds \$550 billion over FY 2022 through FY 2026 for the nation's roads, bridges, transit projects, water infrastructure, resilience, and broadband. Highway programs were allocated \$350 billion over a 5-year period.

Project Highlights

Mississippi had a historical 2024 fiscal year, receiving record levels of funding from various sources to improve the state's infrastructure with some notable projects.⁹ A record-setting \$1.2 billion in approved projects in FY 2024 surpassed previous benchmarks, such as the 2022 record by over \$255 million. The Appalachian Development Highway System (ADHS) Corridor V in North Mississippi (State Route 76) opened to traffic in Itawamba County, connecting sections of State Routes 25 and 23 through a \$97 million project that serves as a critical link in the tri-state supply chain for auto manufacturers. Another North Mississippi project worth \$7.8 million, which kicked off construction in February 2023, includes a new roundabout at the intersection of U.S. 72 and State Route 7 in Benton County. The roundabout opened to traffic in July 2024. This roundabout was designed to support wide loads such as semi-trailers and aims to increase traveler safety by lowering motorists' speed and decreasing severe crashes. This project was the first of its kind in the U.S.

The Ripley Bypass was launched in 2024, a \$195 million initiative in Tippah County that enhances safety and economic growth through widened roadways and a new corridor. Another capacity-enhancing project launched in 2024 was the I-10 Capacity

⁸ U.S. Department of Transportation Federal Highway Administration. Retrieved at: <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/>

⁹ Mississippi Department of Transportation. Retrieved at: https://mdot.ms.gov/portal/news_release_view/1728

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Enhancement project, a \$155 million Gulf Coast project to expand and modernize a critical transportation corridor.

In the Mississippi Delta, major progress was made to construct a new roadway including 16 miles of new highway known as the U.S. 82 Greenville Bypass, a \$216 million project. The bypass will help support economic growth, strengthen connectivity in the Delta, as well as make area roads safer for travelers.

The \$212 million State Route 57 widening and bypass project in Jackson County kicked off in 2023 and continues into 2024. One of the goals of this massive project is to alleviate the congestion along the corridor and to improve its functionality as a designated hurricane evacuation route. The identified projects are only a handful of the many network improvements funded during Mississippi's 2024 fiscal year with many more underway.

3.0 Statewide Significance

3.1 Role of Highways and Freight in Statewide System

Highway Facilities Inventory

The state system consists of Mississippi's public roads and roads under the jurisdiction of OSARC as described in Section 2.0. Mississippi's state network is shown by federal designation including the National Highway System (NHS) and functional classification in lane-miles in Figure 1 and Figure 2.

There are approximately 163,000 lane-miles of public roads in Mississippi. Of this total, 18% of the system is urban and 82% is rural. Urban and rural areas of Mississippi differ in the population of people served, the ways in which land is used, the density of roadway networks, trends in travel patterns, and other factors. Areas with a bigger and denser population, that produce more traffic, including greater numbers of freight traffic, and contain more business are designated urban areas. Areas with overall less structural development, lower commercial and residential density and lower population levels are designated rural areas. All roadways are divided into different functional classifications based on mobility and access regardless of urban or rural designation. Functional classifications are as follows:

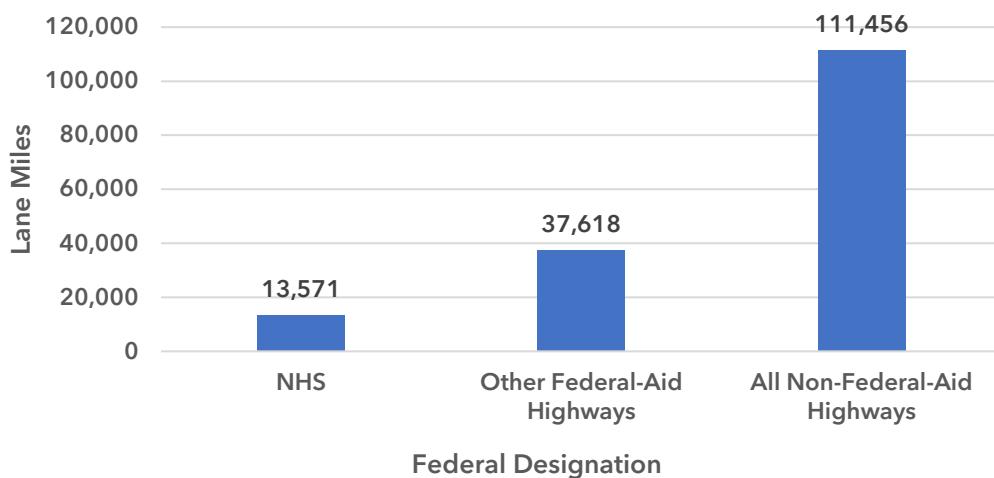
- **Interstates** are the highest classification of roadways in the U.S. These arterials provide the highest level of mobility and permit the highest maximum speeds over the greatest distances.
- **Other freeways and expressways** are directional travel roadways with a physical barrier separating directional traffic. There are limited on and off ramps and minimal at-grade intersections.
- **Other principal arterials** include freeways, multilane highways, and other roadways that contribute to the Interstate System. These arterials connect principal urbanized areas, cities, and industrial centers and have a high degree of mobility, but are not access-controlled.
- **Minor arterials** are designed for moderate-length trips. Minor arterials offer connectivity to the higher principal arterial system. These often have more frequent access points.
- **Collectors (Major & Minor)** are characterized as either major or minor roads that connect local roads and streets with arterials. Collectors balance access to land with mobility, although they provide less mobility than arterials. They generally permit lower maximum speeds over shorter distances. Major

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collectors are longer and spaced at greater intervals than minor collectors, and in general, do not support statewide travel.

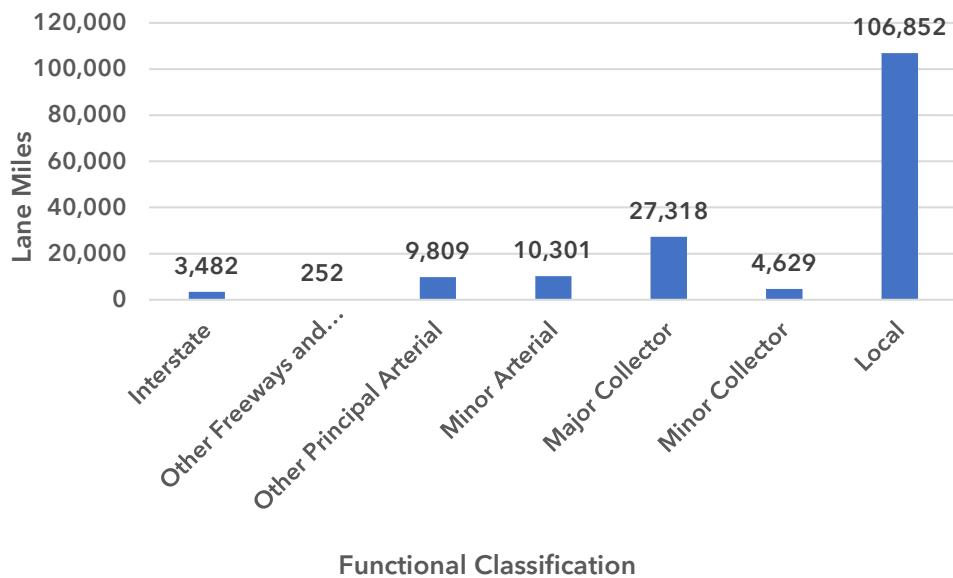
- **Local** roadways provide limited mobility and are not intended for use in long-distance travel. Primarily, local roads are the primary access to residential areas, businesses, farms, and other local destinations. Often, local roads are designed to discourage large volumes of traffic flow but are available for access by the general public.

Figure 1. Mississippi Lane-Miles by Federal Designation, 2022



Source: U.S. DOT FHWA Office of Highway Policy Information, Highway Statistics 2022 (Accessed October 29, 2024)

Figure 2. Mississippi Lane-Miles by Functional Classification, 2022



Source: U.S. DOT FHWA Office of Highway Policy Information, Highway Statistics 2022 (Accessed October 29, 2024)

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The NHS includes a network of strategic roadways in the U.S. including the Interstate Highway System and other roadways serving airports, ports, military bases, transit and freight facilities, railroad stations, and other important transportation facilities. The NHS network includes interstate highways, principal arterials that serve major transportation facilities, Strategic Highway Network (STRAHNET) consisting of highways important for national defense, STRAHNET connectors that serve major military bases or deployment locations and designated intermodal connectors connecting major intermodal facilities and the NHS network.

Public roads are further classified by their designation as federal-aid roadways if they are part of the NHS. NHS facilities are critical infrastructure that supports the national economy, the nation's ability to protect itself in times of war, aid in recovery in the aftermath of natural and/or manmade disasters or provide support during other emergencies. Federal-aid highways are not classified as local or rural minor collectors. They include state, county, and city roads and are eligible for financial assistance from the Federal Aid Highway Program for construction, maintenance and upkeep, and other operations. Approximately 32% of the state's roads are included in the federal-aid system. Approximately 13,600 lane-miles of the state's roads are on the NHS, which equates to 8.3% of the mileage. Almost 66% of the NHS in Mississippi is rural.¹⁰

Most of the highway network is owned and maintained by counties (69%) and municipalities (15%). MDOT owns 14% of all roads. However, the Department is responsible for the upkeep of the majority of the state's roads with the highest functional classifications and travel demand. MDOT owns:

- Nearly 3,400 centerline miles on the NHS, which is 93% of mileage of total NHS mileage across the state. In addition to Interstates, all other freeways, expressways, and other undivided principal arterials are included in this number.
- Nearly 10,730 centerline miles, or 49% of all roads eligible for funding under the Federal-aid highway system programs.

Table 1 and Table 2 provide the state system lane-miles in urban and rural areas by functional classification and federal designation. Table 3 and Table 4 present the state system miles by ownership under each functional classification and federal designation category.

¹⁰ Office of Highway Policy Information. Retrieved at: Highway Statistics 2022 - Policy | Federal Highway Administration

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Table 1. Mississippi Lane-Miles by Functional Classification, 2022

| Functional Classification/System | Rural | Urban | Total Rural/Urban | Share of Total |
|---|---------|--------|-------------------|----------------|
| Interstate | 2,326 | 1,156 | 3,483 | 2.14% |
| Other Freeways & Expressways | - | 252 | 252 | 0.15% |
| Other Principal Arterial | 6,536 | 3,273 | 9,809 | 6.03% |
| Minor Arterial | 7,673 | 2,628 | 10,301 | 6.33% |
| Major Collector | 24,012 | 3,306 | 27,318 | 16.80% |
| Minor Collector | 4,608 | 21 | 4,629 | 2.85% |
| Local | 88,410 | 18,442 | 106,852 | 65.70% |
| TOTAL | 133,565 | 29,078 | 162,644 | 100.00% |

Source: U.S. DOT FHWA Office of Highway Policy Information, Highway Statistics 2022 (Accessed October 29, 2024)

Table 2. Mississippi Lane-Miles by Federal Designation, 2022

| Federal Designation | Rural | Urban | Total Rural/Urban | Share of Total |
|---|---------|--------|-------------------|----------------|
| National Highway System (a) | 8,936 | 4,635 | 13,571 | 8.34% |
| Other Federal-Aid-Highways (b) | 31,615 | 6,003 | 37,618 | 23.13% |
| All Federal-Aid Highways (c) = (a) + (b) | 40,550 | 10,638 | 51,188 | 31.47% |
| All Non-Federal-Aid Highways (d) | 93,015 | 18,441 | 111,456 | 68.53% |
| Total (e) = (c) + (d) | 133,565 | 29,079 | 162,644 | 100.00% |

Source: U.S. DOT FHWA Office of Highway Policy Information, Highway Statistics 2022 (Accessed October 29, 2024)

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Table 3. Mississippi Centerline, Single Direction Miles by Functional Classification & Ownership, 2022

| Functional Classification/ System | MDOT | County | Municipal | Other ¹ | Federal Agencies ² | Total | Share of Total |
|---|--------|--------|-----------|--------------------|-------------------------------|--------|----------------|
| Interstate | 831 | - | - | - | - | 831 | 1.07% |
| Other Freeways & Expressways | 61 | - | 2 | - | - | 63 | 0.08% |
| Other Principal Arterial | 2,497 | 17 | 203 | - | - | 2,717 | 3.50% |
| Minor Arterial | 3,682 | 174 | 680 | 3 | 310 | 4,849 | 6.24% |
| Major Collector | 3,653 | 8,507 | 1,357 | - | 10 | 13,527 | 17.40% |
| Minor Collector | 58 | 2,178 | 51 | 2 | 27 | 2,316 | 2.98% |
| Local | 163 | 42,929 | 9,736 | 102 | 496 | 53,426 | 68.73% |
| TOTAL | 10,945 | 53,805 | 12,029 | 107 | 843 | 77,729 | 100.00% |

Source: U.S. DOT FHWA Office of Highway Policy Information, Highway Statistics 2022 (Accessed October 29, 2024)

Notes ¹Includes state park, other state agency, other local agency, and roadways not identified by ownership;

²Roadways in national parks, forests, and reservations that are not part of the state and local highway systems

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Table 4. Mississippi Centerline, Single Direction Miles by Federal Designation & Ownership, 2022

| Federal Designation | MDOT | County | Municipal | Other ¹ | Federal Agencies ² | Total | Share of Total |
|---|--------|--------|-----------|--------------------|-------------------------------|--------|----------------|
| National Highway System (a) | 3,399 | 30 | 206 | 3 | - | 3,638 | 4.68% |
| Other Federal-Aid-Highways (b) | 7,327 | 8,688 | 2,039 | - | 320 | 18,374 | 23.63% |
| All Federal-Aid Highways (c) = (a) + (b) | 10,727 | 8,718 | 2,245 | 3 | 320 | 22,013 | 28.32% |
| All Non-Federal-Aid Highways (d) | 221 | 45,096 | 9,784 | 104 | 523 | 55,728 | 71.68% |
| Total (e) = (c) + (d) | 10,948 | 53,814 | 12,029 | 107 | 843 | 77,741 | 100.00% |

Source: U.S. DOT FHWA Office of Highway Policy Information, Highway Statistics 2022 (Accessed October 29, 2024)

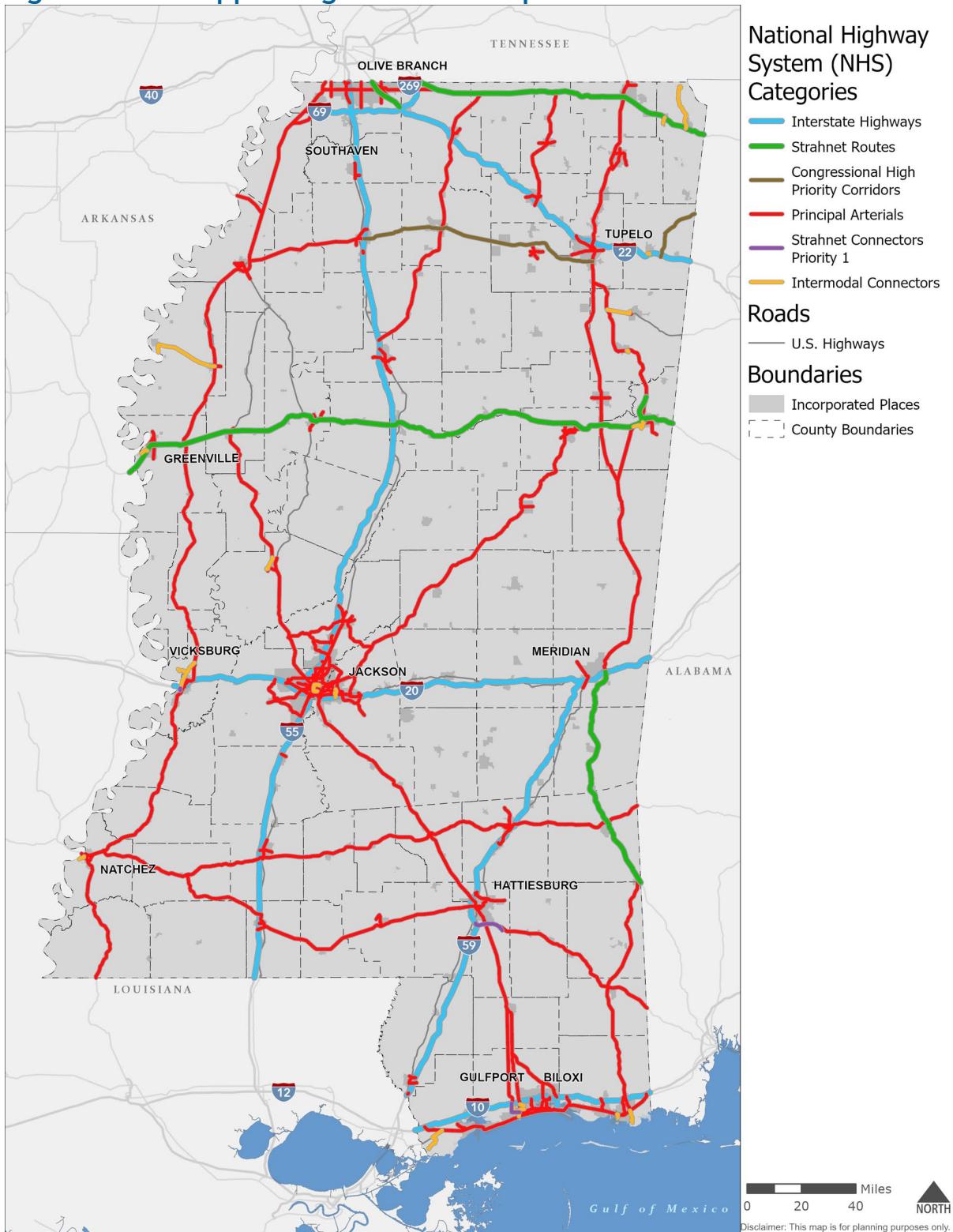
Notes ¹Includes state park, other state agency, other local agency, and roadways not identified by ownership;

²Roadways in national parks, forests, and reservations that are not part of the state and local highway systems

Figure 3 shows the NHS portion of the federal-aid system. Figure 4 illustrates the location of all federal-aid highways in the State.

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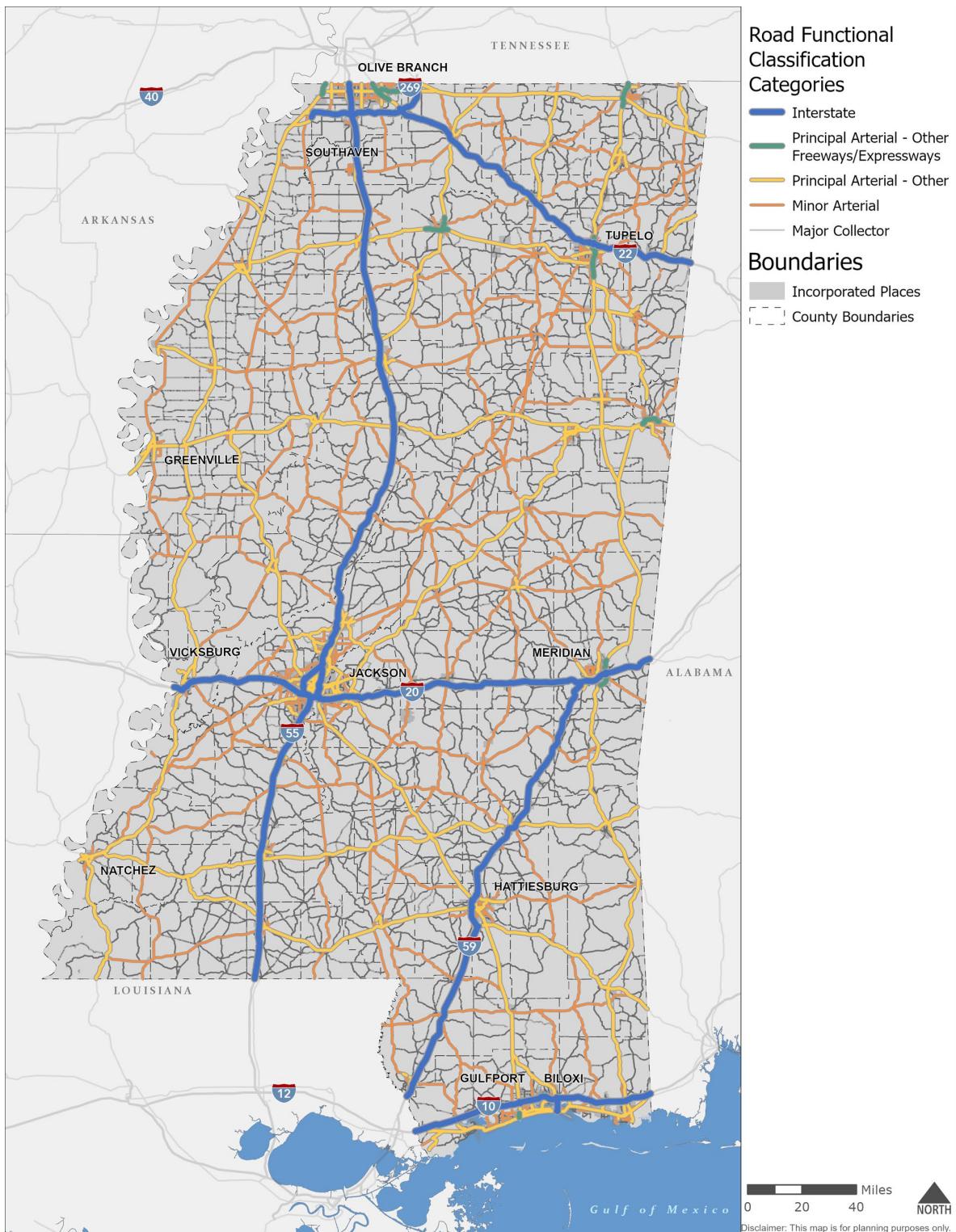
Figure 3. Mississippi Designated NHS Map



Source: U.S. DOT Bureau of Transportation Statistics, National Transportation Atlas Database (NTAD), 2024

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Figure 4. Mississippi Federal-Aid Highways Map



Source: U.S. DOT Bureau of Transportation Statistics, National Transportation Atlas Database (NTAD), 2024

Freight Highways Inventory

Mississippi highways are organized into tiers to prioritize certain corridors important for moving freight. The tiers are based on factors related to economic competitiveness and goods movement levels such as whether they directly serve areas with high freight-intensive employment and level of freight activity.

- **Tier I** corridors mainly consist of Interstate highways which are crucial for moving goods across the state and nationally.
- **Tier II** highways are corridors within the state that provide access to the Tier I network, while also serving as primary east-west or north-south corridors for regions of the state without Interstate highways.
- **Tier III** freight corridors are routes that connect major freight locations and areas where freight is produced. Common Tier III corridors are intermodal connectors, rural freight corridors, and urban freight corridors.

These corridors were also identified based on their ability to provide market access and connectivity and have been reassessed according to federal regulations and input from stakeholders. Corridors designated the National Highway Freight Network (NHFN) are also included in the state's freight network.

Tier I and Tier II Freight Corridors

There are several primary multimodal corridors that accommodate the flow of goods. Within each of these corridors, main highways provide primary access and movement of trucks. Tier I highways boost the economic growth of Mississippi and have strategic implications for national freight transportation management. Tier II highways serve as regional corridors; these highways are vital for providing access to the priority Tier I network.¹¹ The state has about 2,400 miles as designated Tier I and Tier II highways, as shown in Figure 5.

The following primary highways for truck movements have been identified as Tier I highways:

- I-55 Southaven-McComb Corridor
- I-10 Bienville-Gulfport-Pascagoula Corridor
- I-20 Vicksburg-Meridian Corridor
- I-22/US 78 Olive Branch-Tupelo-Fulton Corridor
- I-59 Picayune-Meridian Corridor
- I-69/I-269 Corridor

¹¹ MDOT Statewide Freight Plan 2022.

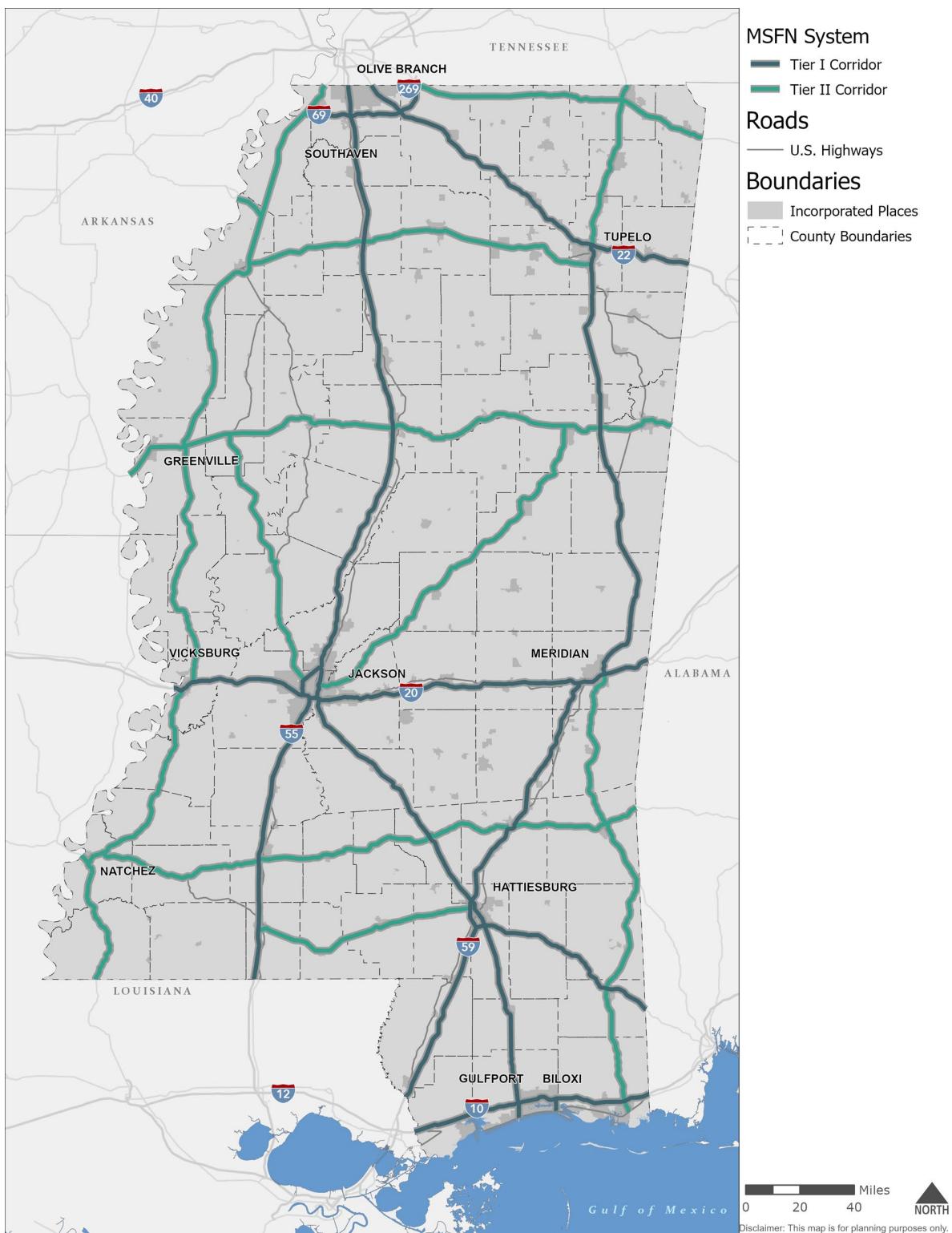
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- I-110 in Biloxi/D'Iblerville
- I-220 in Jackson
- US 45/US 45 Alt. Tupelo-Meridian Corridor
- US 49 Jackson-Hattiesburg-Gulfport Corridor
- US 98 Hattiesburg-Lucedale Corridor

The following have been identified as Tier II highways:

- SR 25 from Jackson to Starkville
- SR 57/SR 63/US 45 from Meridian to Pascagoula
- SR 304 from US 61 to I-69
- US 45 from Tupelo to Tennessee State Line
- US 49/49W between I-220 and US 82
- US 49 from US 61 to the Arkansas State Line
- US 61 from Tennessee to Louisiana State Lines
- US 72 from Alabama to Tennessee State Lines
- US 82 from Alabama to Arkansas State Lines
- US 84/US 425 from Alabama to Louisiana State Lines
- US 98 from McComb to Hattiesburg
- US 278 from Tupelo to Clarksdale

Figure 5. Mississippi Tier I and Tier II Freight Highway Corridors



Source: FHWA National Highway System Database, 2024

Tier III Freight Corridors

Tier III comprise corridors that provide “first/last mile” linkages to freight facilities and generator. These corridors predominately include Mississippi’s NHS freight intermodal connectors (IC), critical rural freight corridors (CRFC), and critical urban freight corridors (CUFC). These corridors were selected based on federal regulation and stakeholder engagement and coordination with MDOT staff and localities. CRFCs were reevaluated following coordination with MDOT and the Mississippi Freight Advisory Committee (MS-FAC). CUFCs were reestablished following coordination with MPOs. Mileage of Tier III Freight Corridors was also expanded in accordance with the Bipartisan Infrastructure Law (BIL).

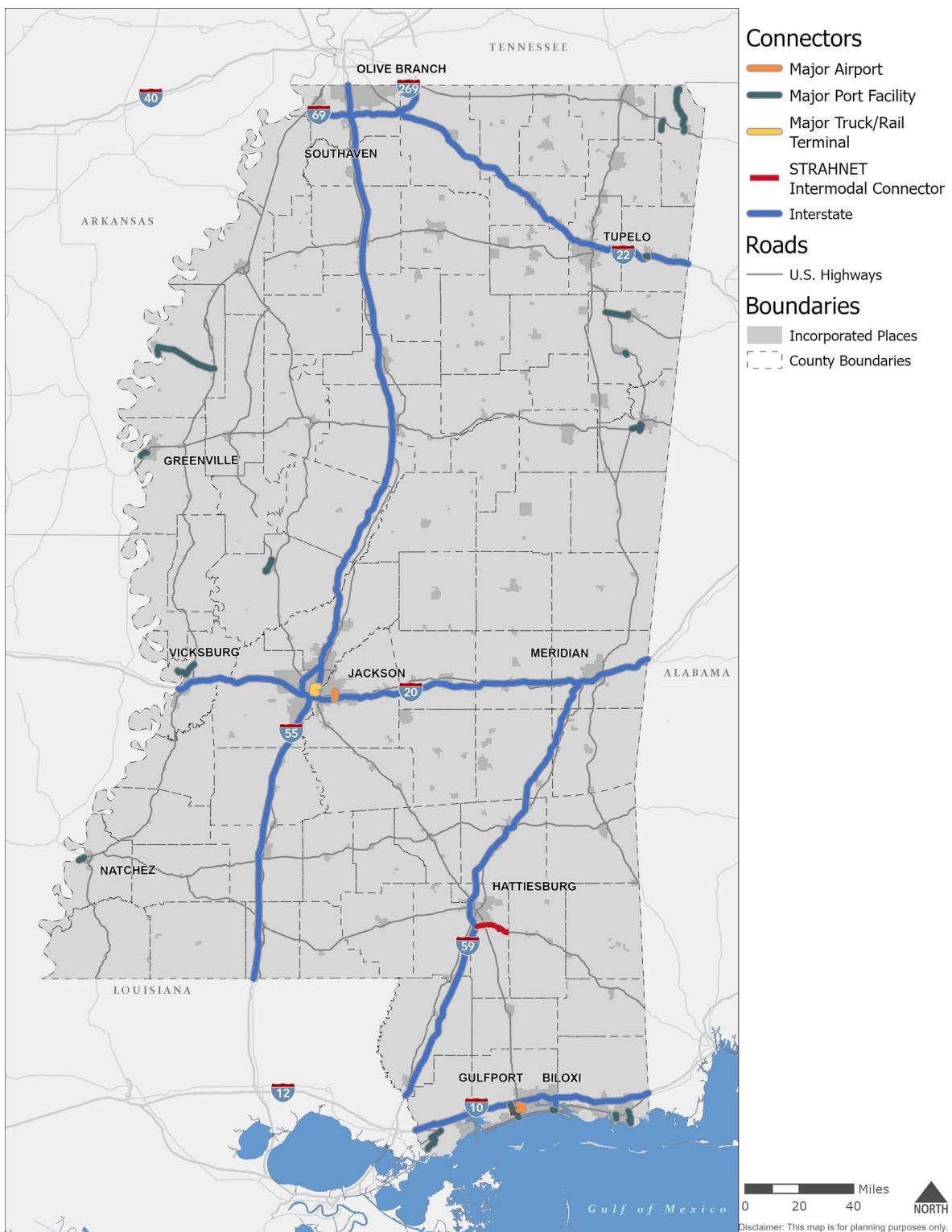
As previously discussed and shown in Figure 6, just over 3,600 centerline miles of Mississippi’s highway system are designated as part of the NHS network. NHS IC networks provide critical connections between major freight assets to NHS highways. The NHS designation assists federal, state, and local governments in prioritizing operations, maintenance, and improvements of these key arterial connections to ensure that these highways support the ports, rail yards, airports, and other freight-intensive facilities efficiently. Connector routes facilitate the best use of each individual mode and improve efficiency of regional highway networks when maintained, designed, and operated with freight in mind.

There are 27 NHS intermodal connectors that connect to an airport, port terminal, truck/rail facility, intercity bus terminal, or AMTRAK station. The majority (about 75%) of intermodal connectors provide access to port facilities. Mississippi’s major airports, the Jackson International Airport and the Gulfport-Biloxi Regional Airport, are also connected to the NHS by intermodal connectors. The remaining intermodal connectors provide access to rail facilities connecting the railroad and Jackson Amtrak Rail Facility, and the intercity bus terminal through Jackson Greyhound/Delta Bus Facility.¹²

¹² Federal Highway Administration National Highway System, Updated 4/9/2024. Accessed at: https://www.fhwa.dot.gov/planning/national_highway_system/intermodal_connectors/mississippi.cfm

Statewide Significance

Figure 6. NHS Intermodal Connectors



Source: FHWA National Highway System Database, 2024

Statewide Significance

As part of complying with the Fixing America's Surface Transportation Act (FAST Act), a CUFC/CRFC network must be designated as part of the National Highway Freight Network (NHFN). The CUFC/CRFC network serves to provide connectivity between important urban and rural freight generators and the NHFN. The criteria for CUFC/CRFC corridors are identified in the FAST Act, Section 1116 National Highway Freight Program (NHFP).¹³

The CUFC/CRFC networks for Mississippi were reassessed as part of the 2022 update to the Mississippi Freight Plan. Federal law allots every State a maximum amount of centerline miles that may be included on the CUFC and CRFC networks. Mississippi is eligible to designate a maximum of 600 miles to CRFCs and 150 miles to CUFCs.

For the CUFC network, the extent of the designated system was divided among the State's four MPO areas as shown in Table 5. In total, nearly 150 miles of CUFCs across all Mississippi's MPOs were redesignated, based on the Statewide Freight Plan (2022).¹⁴ A large portion (approximately 80%) of the CUFC mileage serves major freight generators like manufacturing, distribution, and industrial facilities.

Table 5. Critical Urban Freight Corridors

| Metropolitan Planning Organization | Miles |
|--|-------|
| Memphis Urban Area | 28.3 |
| Central Mississippi Planning and Development District | 55.1 |
| Hattiesburg-Petal-Forrest-Lamar | 11.2 |
| Gulf Regional Planning Commission | 52.9 |
| Total | 147.5 |

Source: Mississippi Statewide Freight Plan, 2022

For the CRFC network, there was a total centerline mileage of 473.1 miles across the state with rural CRFC network designations.¹⁵ Many of these network access facilities

¹³ U.S. Department of Transportation Federal Highway Administration, updated May 23, 2016. Accessed at: https://ops.fhwa.dot.gov/fastact/crfc/sec_1116_gdnce.htm

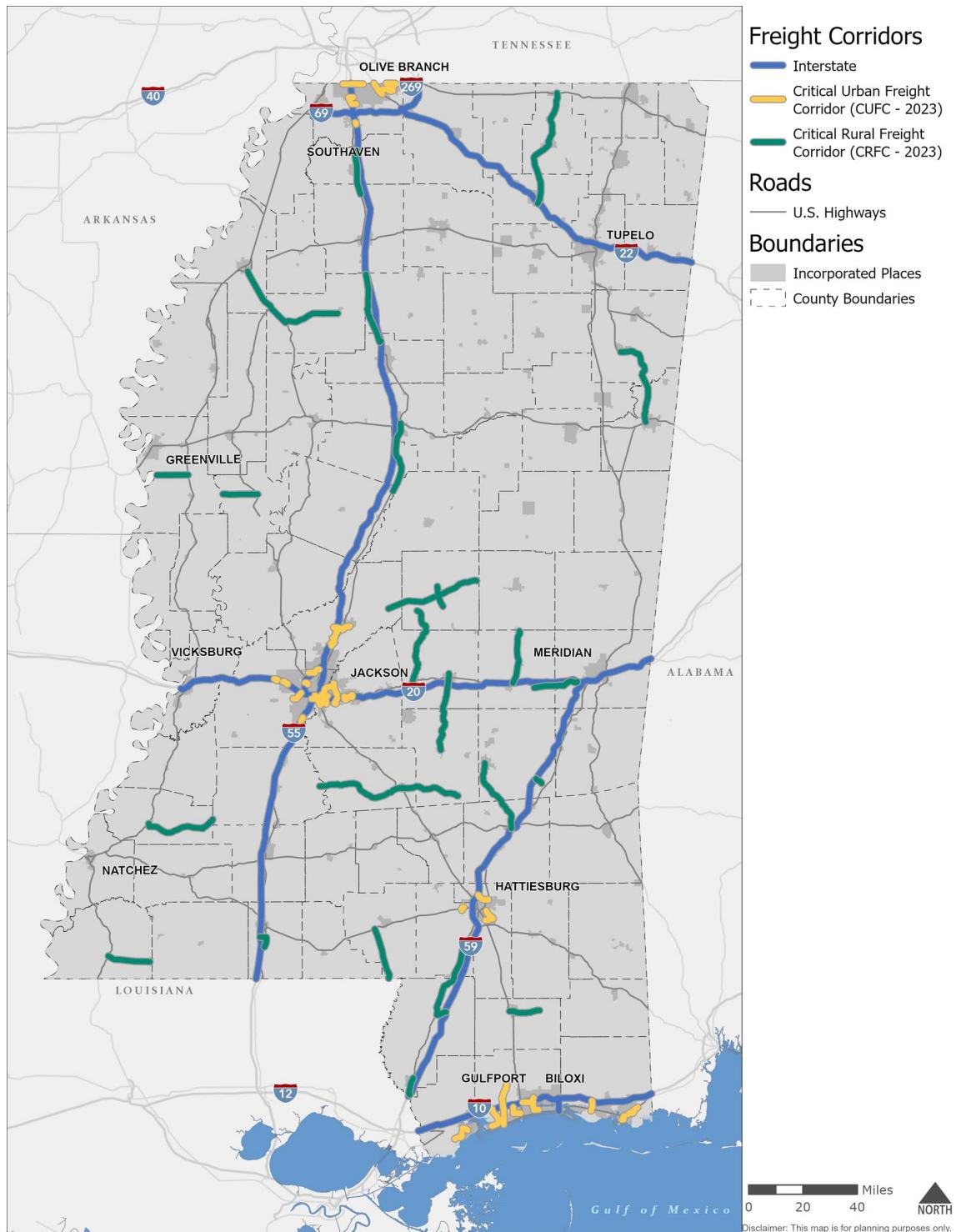
¹⁴ MDOT Statewide Freight Plan, 2022

¹⁵ MDOT Statewide Freight Plan, 2022

Statewide Significance

support the agriculture and manufacturing facilities. Figure 7 shows CUFC and CRFC networks within Mississippi.

Figure 7. Critical Urban and Critical Rural Freight Corridors



Source: FHWA National Highway System Database, 2024

3.2 National Comparison

Mississippi's population is split almost evenly between urban and rural areas, with a slim majority based in rural communities, as seen in Table 6. By contrast, the total US population, including all 50 states and the District of Columbia, is predominantly urban with over 80% residents established in urban areas and close to 20% in rural areas.

Table 6. Mississippi and the US Population (in thousands), 2020

| Jurisdiction | Rural | % Rural | Urban | % Urban |
|--------------|--------|---------|---------|---------|
| Mississippi | 1,590 | 53.7% | 1,371 | 46.3% |
| US | 66,300 | 20.1% | 265,149 | 79.9% |

Data Source: U.S. DOT FHWA Office of Highway Policy Information, Highway Statistics

Table 7 depicts the difference in 2022 Lane Miles in both Mississippi and the US with a breakdown between rural and urban areas. As described in previous sections, Mississippi's highways and roads are distributed geographically to reach every region within the state. Mississippi rural lane miles represent 82% of all lane miles, compared to 68% for the US. The physical configuration of Mississippi's highways and roads allows both rural and urban communities to be well connected within the state, and by extension of the road network to the neighboring states and the continental US (excluding Alaska and Hawaii).

Table 7. Lane Miles in Mississippi and the US, 2022

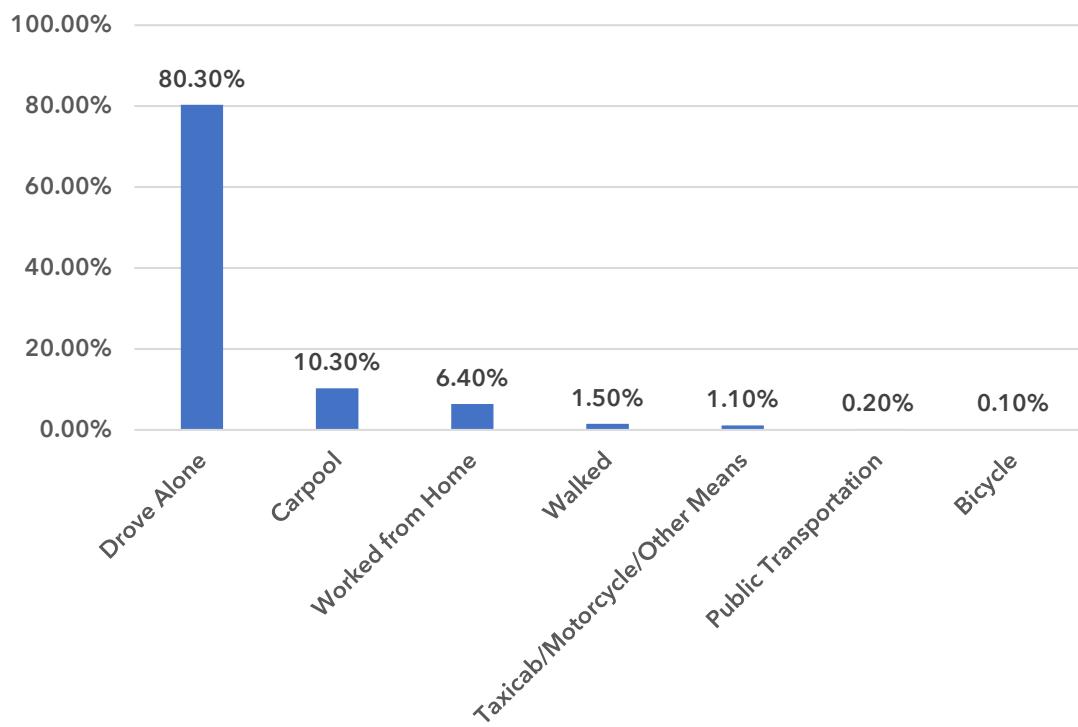
| Jurisdiction | Rural Lane Miles | % Rural Lane Miles | Urban Lane Miles | % Urban Lane Miles | Total Lane Miles |
|--------------|------------------|--------------------|------------------|--------------------|------------------|
| Mississippi | 133,565 | 82% | 29,079 | 18% | 162,644 |
| US | 5,998,565 | 68% | 2,800,054 | 32% | 8,798,619 |

Data Source: U.S. DOT FHWA Office of Highway Policy Information, Highway Statistics

Statewide Significance

The importance of Mississippi's highway and road networks is highlighted when reviewing the modal choices of Mississippi workers. As seen in Figure 8, Mississippi workers commuting to work using highway and/or road networks (i.e., drove alone, carpool) accounted for 91% of all work-related trips in 2023. Note that 6% of Mississippi residents worked from home while all other modes of transportation account for the remaining 3%.

Figure 8. Means of Transportation to Work in Mississippi (Workers 16 Years and Over), 2023



Source: 2023 American Community Survey 1-Year Estimates

Table 8 provides further clarity on modal choice among Mississippi's working population, by comparing the average travel time to work for both Mississippi and the US. At 25.2 minutes, there is a minimal difference in the amount of time Mississippi residents spend commuting to work versus the average 26.8 minutes for the US population at large.

Table 8. Average Travel Time to Work

| Jurisdiction | In Minutes |
|--------------|------------|
| Mississippi | 25.2 ± 0.4 |
| US | 26.8 ± 0.1 |

Source: 2023 US Census Data

National to State Metrics

With slightly more than half of Mississippi's population living in rural areas, the state presently manages a robust road network serving rural areas. As seen in Table 9, Mississippi ranks as the state with the twelfth highest percentage of rural lane miles in the US. This highlights the importance of the roadway network to connect Mississippi rural communities, and to connect these communities with the State's urban centers, neighboring states and the extended continental US (excluding Alaska and Hawaii) as a whole. None of Mississippi's neighboring states - Arkansas, Alabama, Louisiana and Tennessee - outrank Mississippi in this metric. Arkansas ranks sixteenth at 81.7%, Alabama is twenty-sixth with 67.9%, Tennessee is thirty-first with 64.8%, followed by Louisiana at thirty-second with 64.0%.

Table 9. State Comparison of Rural & Urban Lane Miles, 2022

| Rank | State | % Rural Lane Miles | % Urban Lane Miles | Lane Miles Rural | Lane Miles Urban |
|------|---------------|--------------------|--------------------|------------------|------------------|
| 1 | North Dakota | 96.4% | 3.6% | 173,013 | 6,382 |
| 2 | South Dakota | 95.6% | 4.4% | 158,875 | 7,305 |
| 3 | Montana | 93.2% | 6.8% | 141,752 | 10,392 |
| 4 | Nebraska | 90.8% | 9.2% | 176,617 | 17,974 |
| 5 | Wyoming | 90.0% | 10.0% | 56,366 | 6,249 |
| 6 | Vermont | 89.2% | 10.8% | 26,059 | 3,153 |
| 7 | Kansas | 89.1% | 10.9% | 253,039 | 30,875 |
| 8 | Iowa | 87.9% | 12.1% | 207,658 | 28,527 |
| 9 | Maine | 85.2% | 14.8% | 39,886 | 6,911 |
| 10 | Idaho | 84.5% | 15.5% | 99,885 | 18,295 |
| 11 | New Mexico | 83.5% | 16.5% | 126,038 | 24,942 |
| 12 | Mississippi | 82.1% | 17.9% | 133,565 | 29,079 |
| 13 | Minnesota | 82.0% | 18.0% | 241,401 | 53,097 |
| 14 | Oklahoma | 81.9% | 18.1% | 196,723 | 43,515 |
| 15 | West Virginia | 81.8% | 18.2% | 65,662 | 14,567 |

Source: FHWA, Office of Highway Policy Information (2023)

The importance of Mississippi's highways and roads over other modes of transportation is highlighted by the fact that the state ranks fourth in Annual VMT per capita in the country (after Wyoming, Alabama, and Indiana) as seen in Table 10. Mississippi's average Annual VMT per capita in 2022 is considerably higher than the US average of 10,352 VMT. Mississippi neighboring states are also highly dependent

Statewide Significance

on their highway/road networks ranking high in Annual VMT against peer states: Alabama ranks second, Arkansas sixth, Louisiana ninth, and Tennessee tenth. This fact highlights the importance of the highway/road network for linking Mississippi to the neighboring states.

Table 10. Annual VMT Per Capita - Top 15 Ranked States, 2022

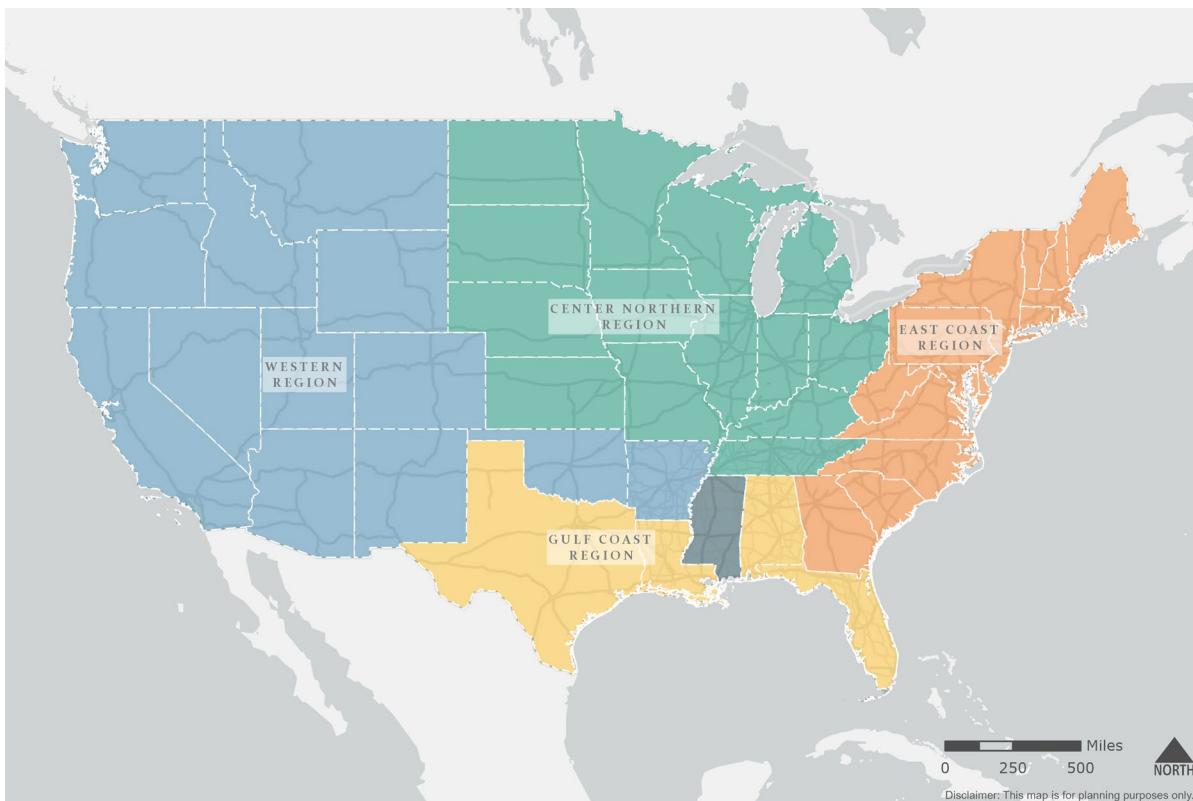
| Rank | State | VMT Per Capita |
|------|----------------|----------------|
| 1 | Wyoming | 16,164 |
| 2 | Alabama | 14,257 |
| 3 | Indiana | 14,101 |
| 4 | Mississippi | 13,491 |
| 5 | Missouri | 12,905 |
| 6 | Arkansas | 12,794 |
| 7 | New Mexico | 12,671 |
| 8 | Montana | 12,464 |
| 9 | Louisiana | 12,133 |
| 10 | Tennessee | 12,042 |
| 11 | Georgia | 12,031 |
| 12 | North Dakota | 11,783 |
| 13 | South Carolina | 11,525 |
| 14 | South Dakota | 11,469 |
| 15 | North Carolina | 11,436 |

Source: U.S. DOT FHWA Office of Highway Policy Information, Highway Statistics

National Connectivity

Mississippi's geographical location in relationship to the Commodity Flow Regions within the continental U.S. (excluding Alaska and Hawaii) is shown in Figure 9. Mississippi's road network connects origin and destination points for the movement of goods to the Gulf Coast, the East Coast, the Center Northern and Western regions of the US. In addition to being an important originator and destination of passenger traffic, Mississippi's highway network plays a vital role in supporting U.S. mobility needs, particularly for trucking and intermodal freight traffic.

Figure 9. Commodity Flow Regions



Source: MDOT, Mississippi Freight Plan, 2017.

As seen under the Highway Facilities Inventory and Freight Highways Inventory sections, the Interstate Highway System and other Freeways and Expressways connect all regions within Mississippi supporting intrastate traffic. These networks have a vital importance as they link Mississippi with all bordering states and the highway network that reaches out to the entire continental US. This allows Mississippi to be fully integrated into a freight network that allows the free flow of commodities to and from the state.

Arterials, collectors, and local roads connect Mississippi communities and businesses to the highway and road network. This supports and fosters intrastate travel for people as well as the movement of goods, strengthening trade and commerce.

The State of Mississippi hosts key intermodal facilities that generate traffic activity for the movement of goods. These facilities connect Mississippi businesses and communities as well as surrounding states and international destinations. These facilities include:

- 16 public ports
 - 4 seaports along the Gulf of Mexico
 - 6 river ports along the Mississippi River and its tributaries

Statewide Significance

- 6 river ports along the Tennessee-Tombigbee Waterway
- 8 commercial service airports
 - 1 intermodal hub in Jackson
 - 1 intermodal hub in Biloxi-Gulfport
- Additionally, the state hosts 12 intermodal rail yards

The role Mississippi plays in the movement of freight within the state as well as surrounding states through critical corridors cannot be understated. Maintaining highway assets is an important part of the movement of goods. Section 4 discusses existing conditions of highways and freight.

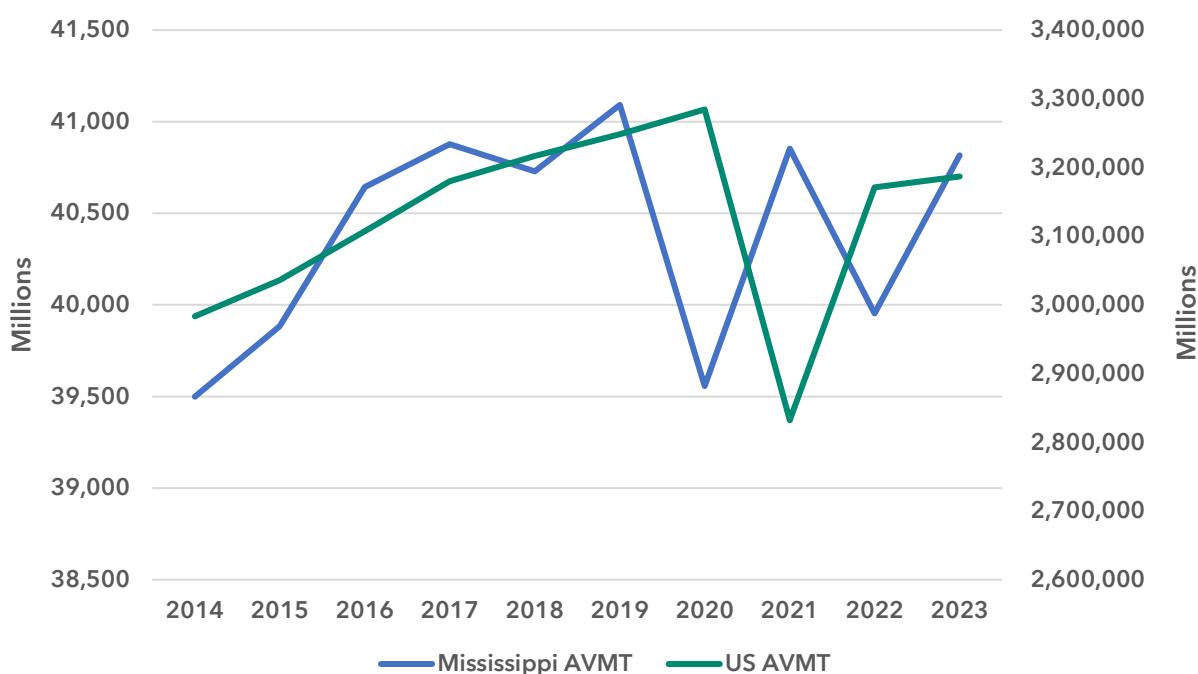
4.0 Existing Conditions

4.1 Activity

Highways

From 2014 to 2023, Mississippi VMT increased by an average of 0.4% annually; over the same period, US VMT increased by an average of 0.9% annually, indicating that Mississippi experienced lower than average VMT growth. Figure 10 shows that both Mississippi and the US VMT experienced steep declines between 2020 and 2022, in large part due to the COVID-19 pandemic and related economic factors. In 2023, Mississippi VMT remained 1.5% lower and U.S. VMT remained 3.0% lower than pre-pandemic 2019 VMT.

Figure 10. VMT in Mississippi and the U.S., 2014 to 2023

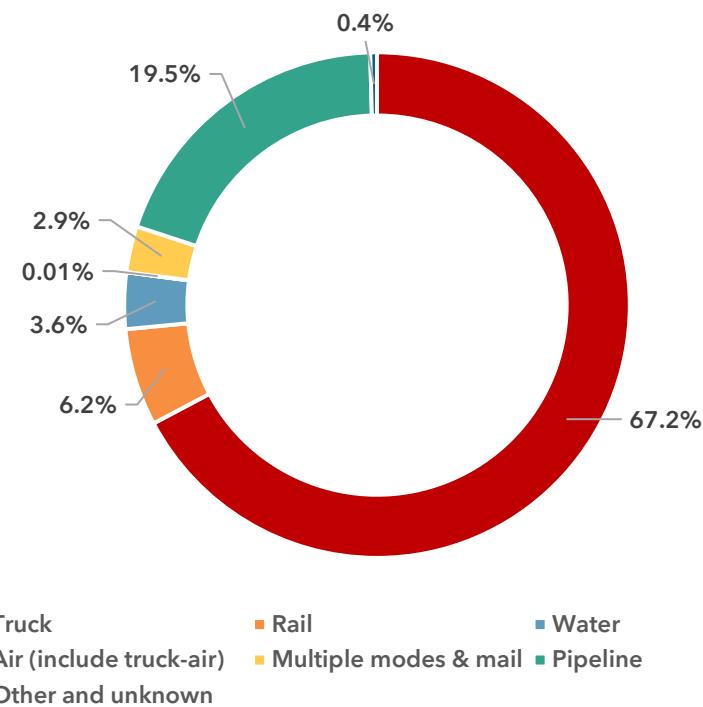


Source: FHWA, Highway Statistics Series,
<https://www.fhwa.dot.gov/policyinformation/statistics/2022/vmt422c.cfm>

Freight

Figure 11 illustrates that the vast majority of goods with approximately 67% of total tonnage are moved by trucking and 33% moved by all other modes combined. Pipelines transport the next highest tonnage at 20%, followed by rail transport of 6% of total tonnage.

Figure 11. Percent of Total Tons by Mode, 2023



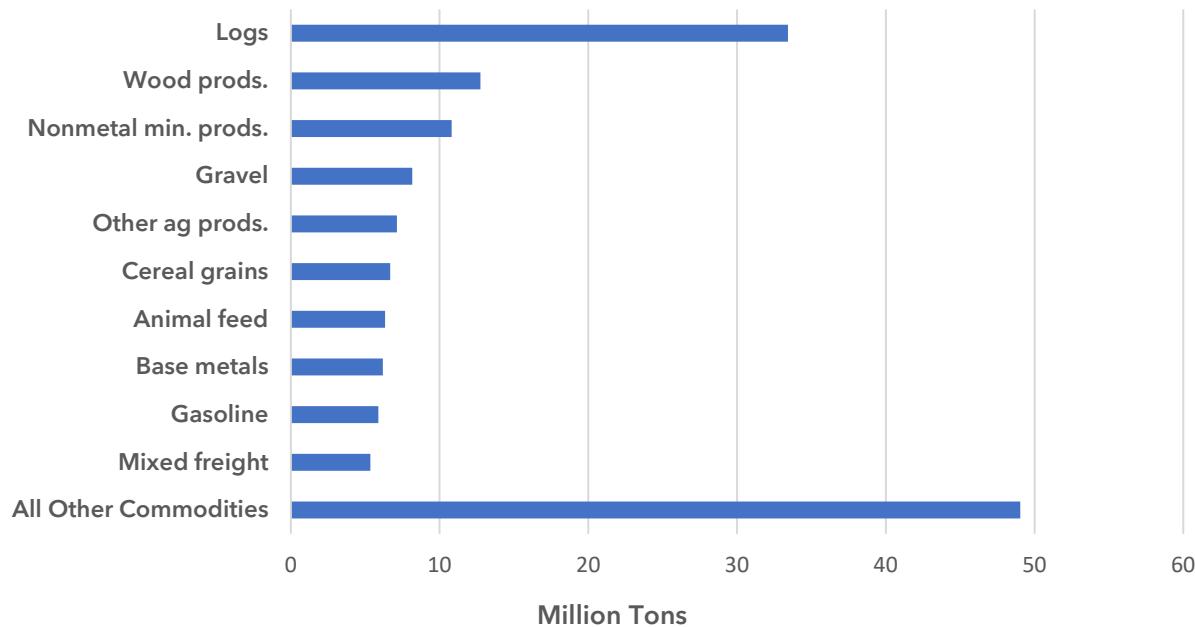
Source: Oak Ridge National Laboratory Freight Analysis Framework Version 5, <https://faf.ornl.gov/faf5/Default.aspx>

Figure 12 and Figure 13 show the top commodities transported on Mississippi's highway system by total tonnage and value. Logs and wood products represent the two commodities with the highest tonnage transported on state's highway system. The top 10 commodities account for approximately 68% of the total 152 million tons transported.

By value, the State's top commodity is pharmaceuticals. The top 10 commodities by value are reflective of its manufacturing base which includes equipment, automobiles, and food products. Those commodities account for approximately 71% of the \$250 billion in commodities transported by truck in the state.

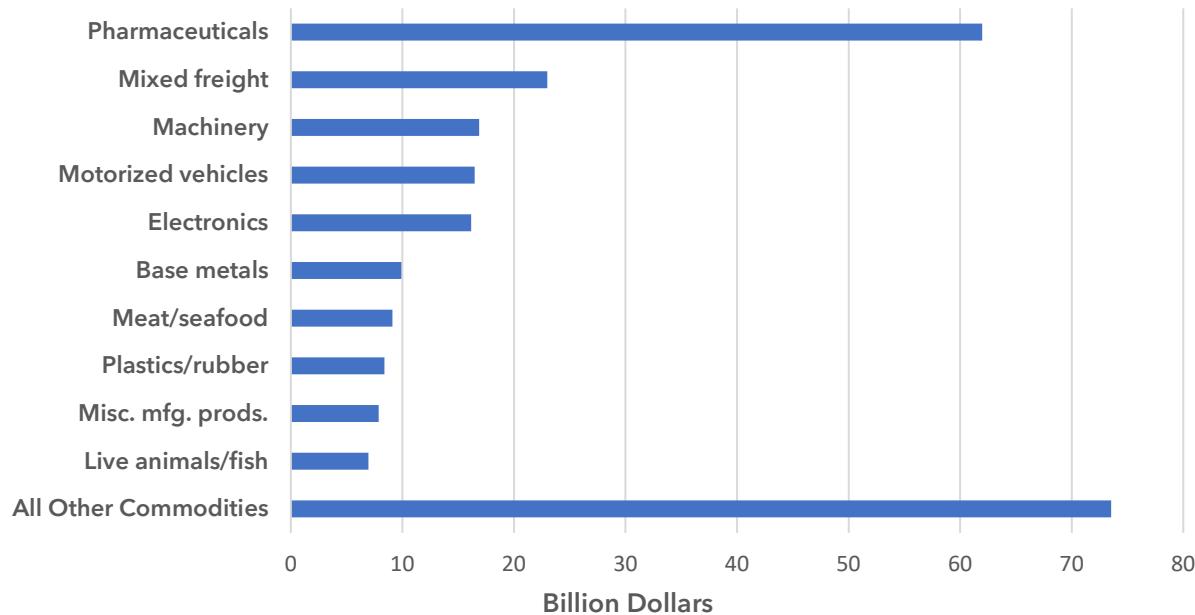
Existing Conditions

Figure 12. Top Commodities by Total Truck Tonnage



Source: Oak Ridge National Laboratory Freight Analysis Framework Version 5,
<https://faf.ornl.gov/faf5/Default.aspx>

Figure 13. Top Truck Commodities by Value



Source: Oak Ridge National Laboratory Freight Analysis Framework Version 5,
<https://faf.ornl.gov/faf5/Default.aspx>

4.2 Connectivity

Highways

Table 11 shows VMT in 2012 and 2022, by functional class, in Mississippi and the U.S. Over the 10-year period, Mississippi VMT increased by 3.2% overall, while U.S. VMT increased by 7.3%. Mississippi interstate highways, other freeways/expressways, and minor arterials were the functional classes with a positive increase (21.5%, 7.5%, and 7.1% respectively) in VMT over the period from 2012 to 2022.

Table 11. Mississippi and U.S. VMT by Functional Classification, 2012 and 2022

| Functional Classification | 2012 MS VMT (Millions) | 2012 U.S. VMT (Millions) | 2022 MS VMT (Millions) | 2022 U.S. VMT (Millions) |
|-------------------------------|------------------------------|--------------------------------|------------------------------|--------------------------------|
| Interstate | 7,088 | 730,419 | 9,033 | 834,187 |
| Other Freeways/Expressways | 482 | 244,204 | 521 | 289,590 |
| Other Principal Arterial | 10,557 | 659,835 | 10,178 | 656,633 |
| Minor Arterial | 5,740 | 520,100 | 6,044 | 534,696 |
| Major Collector | 5,613 | 350,736 | 5,538 | 381,237 |
| Minor Collector | 434 | 50,937 | 413 | 67,228 |
| Local | 8,754 | 407,266 | 8,226 | 432,621 |
| Total | 38,667 | 2,963,497 | 39,952 | 3,196,191 |

Source: FHWA, Highway Statistics Series, <https://www.fhwa.dot.gov/policyinformation/statistics.cfm>

Freight

As shown in Table 12, most highway freight in tons produced in Mississippi remains within the state. Intrastate commodity flows account for over 84 million tons of highway freight, or nearly 54%. Approximately 24% of truck freight tonnage originates in other states and outbound flows account for approximately 22%. Though intrastate movement accounts for the largest share of total tonnage, not counting through truck traffic, it is made up primarily of the lower value commodity flows, at around 18% of over \$225 million dollars in total commodity flows.

Existing Conditions

Table 12. Commodity Flows by Truck, 2023

| Direction | Tons (Millions) | Percent of Total | Value (Billions) | Percent of Total |
|--------------|-----------------|------------------|------------------|------------------|
| Inbound | 38.1 | 24.1% | \$88.7 | 39.4% |
| Intrastate | 84.4 | 53.5% | \$40.7 | 18.1% |
| Outbound | 35.4 | 22.4% | \$95.7 | 42.5% |
| Total | 157.9 | 100.0% | \$225.1 | 100.0% |

Note: Analysis does not include through truck traffic that neither originates nor terminates in Mississippi.

Source: Oak Ridge National Laboratory Freight Analysis Framework Version 5,
<https://faf.ornl.gov/faf5/Default.aspx> and
https://explore.dot.gov/#/site/FHWA/views/FAF5_5_1VisualizationFinalv1_1_09_14_2023/NationalSummaryDashboard?&id=2&:tabs=1

4.3 Condition

Highways

MDOT assesses pavement condition using Pavement Condition Rating (PCR), a function of ride smoothness and distress data. PCR is recorded as a whole number from 0 to 100, with higher numbers representing better pavement. MDOT groups pavements in Good, Fair, or Poor condition categories based on their PCR value. Table 13 contains numeric rating ranges and associated condition group descriptions. MDOT established a goal of maintaining interstate pavements in Good condition and all other State-Maintained highways in Fair or Good condition.

Table 13. MDOT Pavement Condition Rating Categories

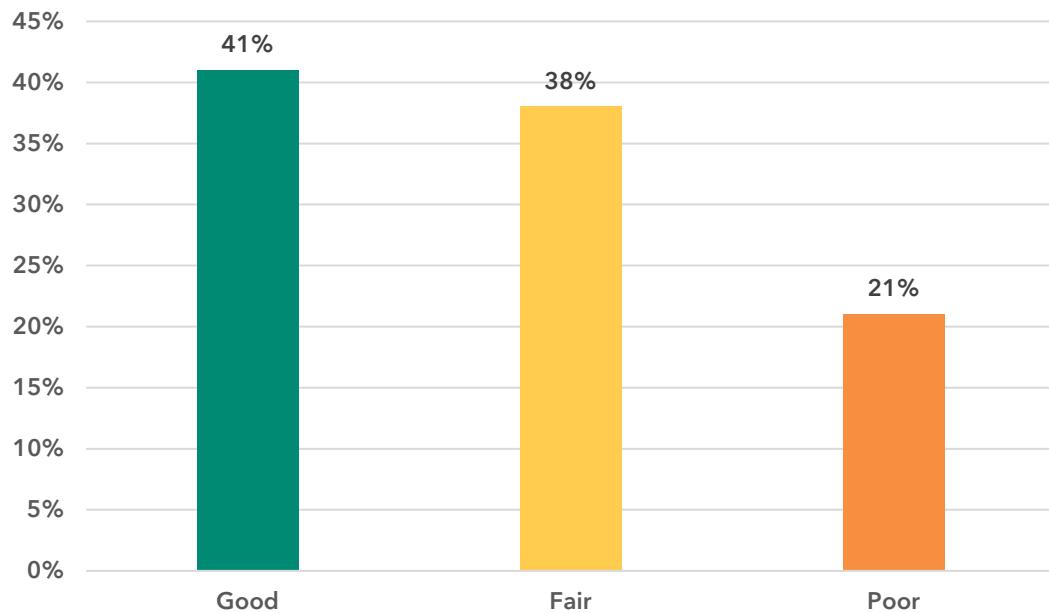
| PCR Rating | PCR Group Description |
|------------|---|
| ≥ 82 | Good Condition: May have a combination of roughness and/or distress but does not need major repairs. |
| 72 – 81 | Fair Condition: Has some combination of roughness and/or distress and may need minor rehabilitation such as an overlay. |
| ≤ 71 | Poor Condition: Generally rough and/or distressed and likely needs more costly repair such as a mill and overlay or even reconstruction. |

Source: MDOT, Pavement Condition, https://path.mdot.ms.gov/pavement_condition

Figure 16 shows the percentage of state-maintained roadway lane-miles by pavement condition rating (PCR) category. PCR data identified over 11,604 lane miles as being in good condition, 10,559 lane miles as fair, and 5,890 lane miles as poor.

Existing Conditions

Figure 14. Percent of State-Maintained Lane-Miles by PCR Category, 2024



Source: MDOT Pavement Condition Data, 2024

Table 14 indicates that interstate roadways are in better condition than non-interstate roadways. Fifty-five percent (55%) of non-interstate pavements, including Non-Interstate NHS, and 2-lane and 4-lane Non-NHS categories, are in fair or poor condition compared to 3% of interstate pavements.

Table 14. Lane Miles on State-Maintained Roadways by PCR Categories, 2024

| | Good | Fair | Poor | Total Lane-Miles |
|------------------------------------|---------------|---------------|--------------|------------------|
| NHS Interstate | 2,493 | 853 | 58 | 3,403 |
| Non-Interstate NHS | 4,336 | 3,176 | 1,909 | 9,422 |
| Non-NHS State-Maintained Four Lane | 174 | 167 | 194 | 535 |
| Non-NHS State-Maintained Two Lane | 4,601 | 6,363 | 3,729 | 14,693 |
| Total Lane-Miles | 11,604 | 10,559 | 5,890 | 28,054 |

Source: MDOT Pavement Condition Data, 2024

Existing Conditions

The U.S. Department of Transportation, under the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act, requires states to submit pavement-based performance data to the Federal Highway Administration (FHWA). FHWA's pavement condition performance measure thresholds are shown in Table 15.

Table 15. FHWA Pavement Condition Thresholds

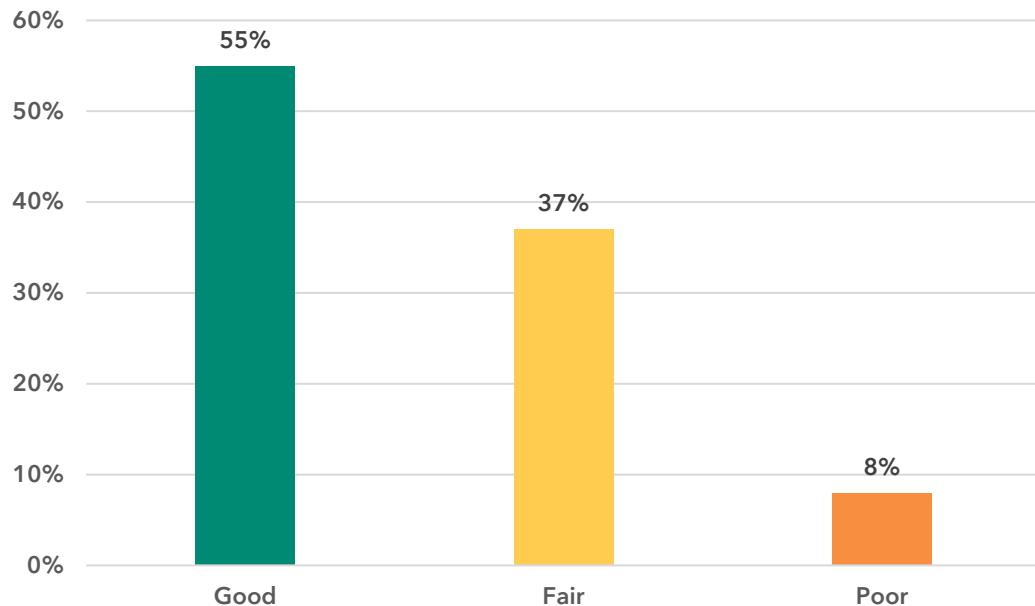
| | Good | Fair | Poor |
|--------------------------|-------------|---|--|
| IRI (inches/mile) | <95 | 95-170 | >170 |
| Rutting (inches) | <0.20 | 0.20-0.40 | >0.40 |
| Faulting (inches) | <0.10 | 0.10-0.15 | >0.15 |
| Cracking (%) | <5 | 5-20 (asphalt) 5-15 (JCP) 5-10 (CRCP) | >20 (asphalt) >15 (JCP) >10 (CRCP) |
| PSR | ≥ 4.0 | 2.0-4.0 | ≤ 2.0 |

Source: FHWA, 23 CFR 490.313

Notes: Acronyms are defined as follows, International Roughness Index (IRI), Present Serviceability Rating (PSR), Jointed Concrete Pavement (JCP), Continuously Reinforced Concrete Pavement (CRCP).

Figure 17 shows the pavement condition on MDOT-maintained roadways as measured by the International Roughness Index (IRI). About 55% of the total lane-miles are in good condition, 37% are in fair condition, and the remaining 8% are in poor condition. Most of the pavements in poor condition are non-NHS two-lane roads.

Figure 15. Percent of Lane-Miles on State-Maintained Roadways by IRI Condition, 2024



Source: MDOT Pavement Condition Data 2024

4.4 Performance

Safety

Highway safety is central to MDOT's goals and mission as a department. Safety can be measured by the number and rate of fatalities, different types of injuries, and property damage crashes. Safety information is captured in a different memorandum highlighting safety measures and where MDOT stands.

Highways

The level of service (LOS) of a roadway is dependent on various factors including traffic density, speeds, delay, and volume to capacity ratio, and others. LOS is ultimately a measurement of the quality of a roadway's traffic flow. LOS is calculated as a comparison of daily volume to capacity (V/C ratio). The V/C ratio is indicative of traffic volume relative to roadway capacity or the maximum amount of traffic that can travel on a facility. Thresholds for roadways are classified as such:

- LOS A: V/C ratio is between 0.0 and 0.3.
- LOS B: V/C ratio is between 0.3 and 0.5
- LOS C: V/C ratio is between 0.5 and 0.7.
- LOS D: V/C ratio is between 0.7 and 0.9.
- LOS E: V/C ratio is between 0.9 and 1.0.

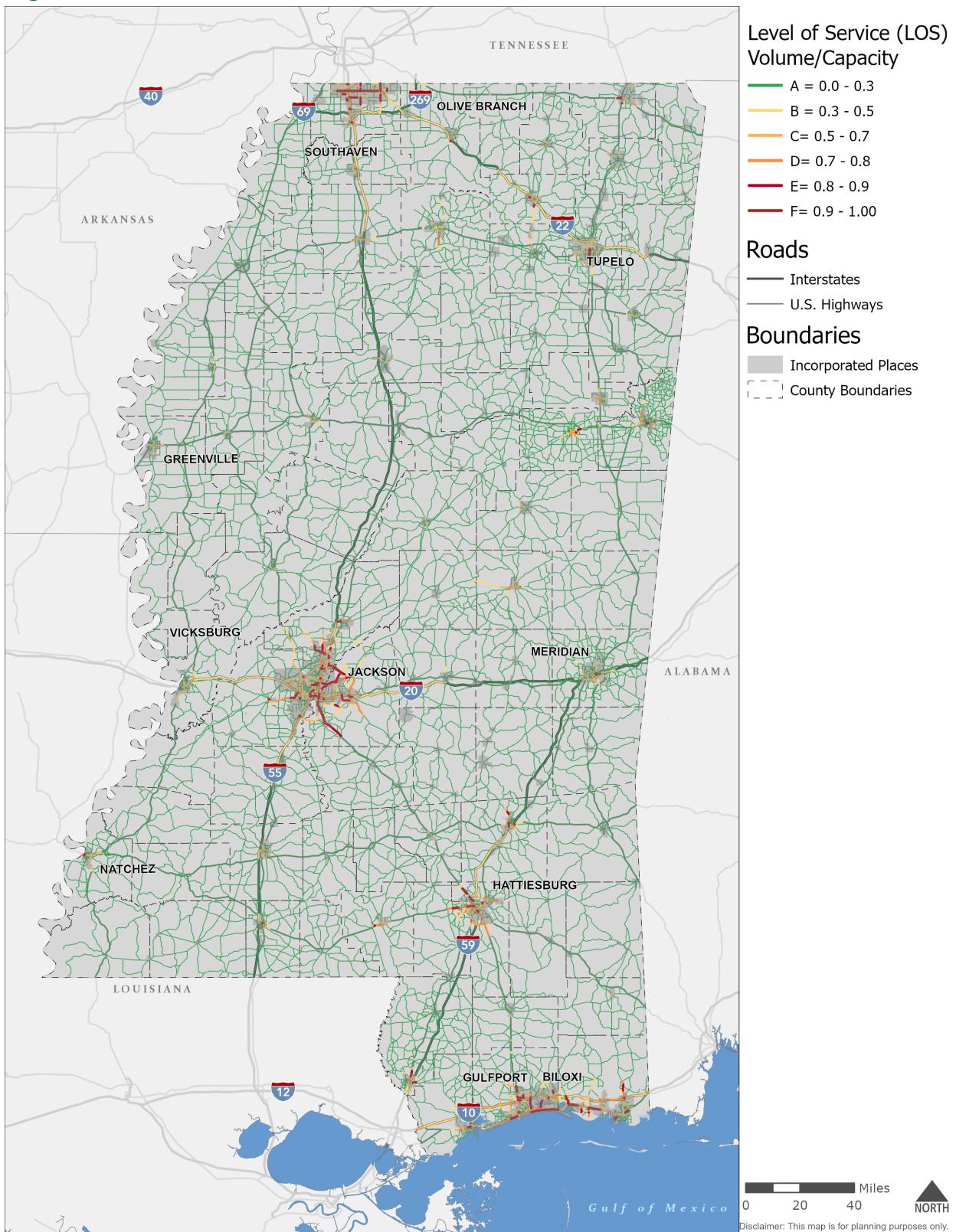
Existing Conditions

- LOS F: V/C ratio is greater than or equal to 1.0.

Figure 16 shows daily LOS by individual roadway links from the 2024 Mississippi travel demand model. Most roadways in the state have an average LOS of A, with a V/C ratio of less than 0.3. Many roadways are in rural areas where 2-lane roads are sufficient relative to the amount of traffic on the roadway, which generally results in less congested roadway networks. Interstate roadways have an average LOS of B, meaning these roadways accommodate daily travel demand without significant congestion issues. Most of the daily travel congestion occurs in urban areas, such as Jackson, Gulfport-Biloxi-Pascagoula area, Hattiesburg, as well as some congestion in other parts of the state including Meridian, Tupelo, and the area around Memphis, Tennessee.

Existing Conditions

Figure 16: Level of Service, 2024



Source: Statewide Travel Demand Model, 2024

Freight

Unreliability and bottlenecks result in direct costs to motor carriers as they must hedge against unreliable travel times and congestion by budgeting additional time into their total travel time, which can result in higher transportation costs that may be passed on to shippers. In addition, wasted time resulting from the additional buffer time needed reduces available hours of service for truck drivers. The National Performance Management Research Data Set (NPMRDS) is the travel time data source for the following existing conditions assessment of freight network bottlenecks and truck travel time reliability.

Network Bottlenecks

A traffic bottleneck is a localized disruption of traffic on roadways resulting from a variety of factors such as construction zones with unavailable existing lanes, accident sites that temporarily close lanes, increased traffic on low-capacity highways that cannot handle the increased traffic, terrain, and other factors. The MDOT Transportation Performance Management (TPM) Mid-Performance Progress Report Truck Freight Bottleneck Update (2024)¹⁶ identifies the top 10 bottlenecks in the state by evaluating Average Annual Daily Truck Traffic (AADTT) along the primary freight corridors and comparing data/cross-referencing LOS data to support potential bottleneck activity. The truck travel time reliability (TTTR) index was the main component in the identification of bottlenecks and is discussed more below in Freight. Table 16 lists the top 10 bottlenecks in Mississippi, according to the Mid-Performance Progress Report.

¹⁶ MDOT Transportation Management 2nd Performance Progress Report Freight Bottleneck Update, Updated September 20, 2024.

Existing Conditions

Table 16: Top 10 Bottlenecks in Mississippi

| Roadway | County | Limits | Bottleneck Rank |
|-------------------------|----------------|-------------------------------------|-----------------|
| I-55 Northbound | Hinds | Northside Dr. to County Line Rd. | 1 |
| US 49 Northbound | Rankin | Cleary Rd. to Old Hwy. 49 | 2 |
| US 49 Southbound | Rankin | Old Hwy. 49 to Cleary Rd. | 3 |
| I-55 Northbound | DeSoto | Pleasant Hill Rd. to Church Rd. | 4 |
| US 49 Southbound | Rankin | I-20 to Old Hwy. 49 | 5 |
| I-55 Northbound | Rankin & Hinds | I-20 to Pearl St. | 6 |
| US 49 Northbound | Harrison | I-10 to O'Neal Rd. | 7 |
| US 49 Northbound | Harrison | 28 th St. to Airport Rd. | 8 |
| US 49 Southbound | Harrison | O'Neal Rd. to I-10 | 9 |
| I-55 Southbound | Hinds | County Line Rd. to Northside Dr. | 10 |

Source: MDOT Transportation Management 2nd Performance Progress Report, Freight Bottleneck Update (2024)

The American Transportation Research Institute (ATRI) identifies significant bottlenecks in the U.S. since 2002,¹⁷ ATRI has collected and processed truck GPS data in support of the U.S. Department of Transportation Freight Mobility Initiative. This GPS extensive database is used to develop and monitor a series of key performance measures on the nation's freight transportation system. ATRI converts its truck GPS dataset into ongoing truck bottleneck analysis that is used to quantify the impact of traffic congestion on truck-borne freight at over 325 locations. The Mid-Performance Progress Report¹⁸ indicates US 49 in Richland was among the top national bottlenecks in 2021 and 2022 but fell in ranking across those years and is now not in the top 100 national bottlenecks in 2024 or 2025. None of the existing bottleneck locations in Mississippi are in the top 100 truck bottlenecks reported by ATRI in 2025.

¹⁷ American Transportation Research Institute. Retrieved at: <https://truckingresearch.org/2025/02/top-100-truck-bottlenecks-2025/>

¹⁸ MDOT Transportation Management 2nd Performance Progress Report Freight Bottleneck Update, Updated September 20, 2024.

Truck Travel Time Reliability

Truck Travel Time Reliability index (TTTR) is the freight performance metric adopted by FHWA that must be reported for Interstate highways. TTTRI calculated as the ratio of the ninety-fifth percentile travel time to the fiftieth percentile travel time. High TTTR values indicate unreliable truck travel times while low TTTR values indicate more reliable travel times. For example, a TTTR value equal to two indicates that truck travel times may be twice as long as average travel times over a given time period. Per 23 Code of Federal Regulations 490.611, the TTTR metric is calculated over the following time periods:

- "AM Peak" from 6 a.m.-10 a.m. Monday - Friday
- "Mid-Day" from 10 a.m.-4 p.m. Monday-Friday
- "PM Peak" from 4 p.m.-8 p.m. Monday-Friday
- "Overnight" from 8 p.m.-6 a.m. Sunday-Saturday
- "Weekend" 6 a.m.-8 p.m. Saturday-Sunday

The TTTR metric is an indicator of how variable travel times are on the highway network. Highly variable truck travel times result in unreliable service over the highway network. Unreliability is a direct cost to motor carriers as they must hedge against unreliable travel times by budgeting additional time into their total travel time, which can result in higher transportation costs that may be passed on to shippers. In addition, wasted time resulting from the additional buffer time needed reduces available hours of service for truck drivers. The TTTR metrics are derived from travel time data from the National Performance Management Research Dataset (NPMRDS).

The Freight Reliability measure is calculated from the TTTR metric for the Interstate highway system. The Freight Reliability measure is a length-weighted average of the highest observed TTTR metric across the five time periods. This measure is calculated by taking the maximum TTTR metric observed across the five time periods multiplied by the length of the Interstate reporting segment and divided by the total length of all Interstate reporting segments. Like the TTTR metric, a relatively high Freight Reliability measure indicates poor truck travel time reliability while a low value indicates good reliability. MDOT established the initial 2- and 4-year targets for

Existing Conditions

the Freight Reliability Measure for the baseline report of the TPM second Performance Period in 2020,¹⁹ shown in Table 17.

Table 17. TTTR Performance Goals

| Performance Area | 23 CFR Part 490 Section | Performance Measures | 2-Year Target | 4-Year Target |
|------------------|-------------------------|---|---------------|---------------|
| Freight | 490.607 | Truck Travel Time Reliability (TTTR) Index on the Interstate System | < 1.4 | < 1.4 |

Source: MDOT Transportation Management 2nd Performance Progress Report, Freight Bottleneck Update (2024)

The MDOT TPM Mid-Performance Progress Report reported a monthly index for the Mississippi interstate system ranged from 1.13 to 1.34 TTTR between January 2023 to August 2024. All monthly values were within the 2- and 4-year targets. The accumulated values for 2023 and 2024 were both 1.15. Statewide, the established TTTR index 2-year target of less than 1.4 for the interstate system which are part of Mississippi's primary freight corridors (Tier I) was met.

¹⁹ MDOT Transportation Management 2nd Performance Progress Report Freight Bottleneck Update, Updated September 20, 2024.

5.0 References

Mississippi Department of Transportation (MDOT). (2022). *Mississippi Statewide Freight Plan*. Retrieved from <https://mdot.ms.gov/documents/Planning/Plan/MS%20Freight%20Plan/MS%20Statewide%20Freight%20Plan%202022.pdf>

MDOT. (2024). *Mississippi Truck Parking Study*.

MDOT. (2024). *Annual Report 2024*.

Mississippi Legislature. (2018, September 1). *Alyce G. Clarke Mississippi Lottery Law*. Retrieved from <https://billstatus.ls.state.ms.us:https://billstatus.ls.state.ms.us/documents/20181E/html/SB/2001-2099/SB2001SG.htm>.