



# MISSISSIPPI STATE RAIL PLAN UPDATE

March 2016

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ADA	Americans with Disabilities Act of 1990
Amtrak	National Railroad Passenger Corporation
CAP	Capital Improvement Revolving Loan Program
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CTC	Centralized Traffic Control
DIP	Development Infrastructure Grant Program
EDA	Economic Development Administration
FAST	Fixing American’s Surface Transportation Act of 2015
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal Year
HB	Mississippi Legislature House Bill
HUD	United States Department of Housing and Urban Development
MAP-21	Moving Ahead for Progress in the 21 <sup>st</sup> Century Act of 2012
MCIP	Multimodal Capital Improvement Program
MDA	Mississippi Development Authority
MDOT	Mississippi Department of Transportation
MFN	Mississippi Freight Network
MSFP	Mississippi Statewide Freight Plan
MSRP	Mississippi State Rail Plan
MULTIPLAN	Mississippi’s Statewide Transportation Plan
NAFTA	North American Free Trade Agreement
OTP	On-Time Performance
PRIIA	Passenger Rail Investment and Improvement Act of 2008
PTC	Positive Train Control
PTD	MDOT Public Transit Division
RAC	Rail Advisory Committee
RAIL	Rail Service Revolving Loan Program
RESTORE	Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2012
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users of 2005
SRC	Southern Rail Commission
STIP	Statewide Transportation Improvement Program
STRACNET	Strategic Rail Corridor Network
TIFIA	Transportation Infrastructure Finance and Innovation Act of 1998
TIGER	Transportation Investment Generating Economic Recovery (TIGER) grants starting in 2009

# Executive Summary

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Passenger and freight rail are important parts of Mississippi's transportation network. For both freight shippers and receivers and for the general public, rail services provide transportation choices, enhanced economic competitiveness, and improved access for communities and neighborhoods. A healthy, efficient freight rail system provides cost-effective access to markets, supports important supply chains, and reduces the toll of heavy trucks on the state's highways. Passenger rail services create options for users as they plan their long-distance trips and provide an environmentally-friendly transportation alternative and opportunities to connect the state's major economic centers, improving access to jobs, services, and labor.

The Mississippi Department of Transportation (MDOT) has updated the Mississippi State Rail Plan (MSRP) to set a vision for the state's freight and passenger rail system, to identify its needs and the opportunities that the system affords, and to identify network improvements that might be advanced by MDOT participation. This updated version of the 2011 MSRP reflects changes in Mississippi's economy, its rail and overall transportation system, and various institutional changes.

MDOT prepared the plan within a framework established by federal legislation, the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), which directs the National Railroad Passenger Corporation (Amtrak), the Federal Railroad Administration (FRA), states, and other stakeholders to improve service, operations, and facilities for passenger rail. MDOT consulted with the state Rail Advisory Committee (RAC), an advisory group consisting of representatives of Mississippi's business community, as state agencies, FRA, Amtrak, the Southern Rail Commission (SRC), and the railroads operating in the state. MDOT also made information from the draft report available for public comment in conjunction with a series of public meetings held for updating of the Department's Statewide Transportation Plan, MULTIPLAN 2040.

## Mississippi Rail Today

### Passenger Services

Passenger rail service is provided over two Amtrak long-distance routes. The *City of New Orleans* provides daily north-south service as it traverses Mississippi from Chicago to New Orleans on Illinois Central Railroad Company tracks (a CN subsidiary). The *Crescent* provides daily service as it traverses the southern part of the state over the NS mainline along its route from Washington, DC to New Orleans.

The services had a combined ridership of 110,000 passengers in 2014, from ten Mississippi rail stations. Two major initiatives to expand passenger rail service are being led by the SRC, including resuming service along the Gulf Coast that terminated following Hurricane Katrina and initiating service from Meridian to Dallas/Ft. Worth, Texas, in the corridor parallel to I-20 through Jackson known as the Meridian Speedway.

## Freight Services

Mississippi in 2015 has a 2,400 mile rail system serving all regions of the state. There are five Class I railroads<sup>1</sup> (BNSF, KCS, CN/IC, CSX, and NS) that carry most of the rail-borne freight moving into and out of the state. The primary mainlines of the Class I carriers are key elements of the Mississippi Freight Network (MFN) that was established in the Mississippi Statewide Freight Plan (MSFP) in 2015.

Class I railroad service is supplemented by 21 regional or local (short line) rail carriers that serve many of the smaller markets in the state. In 2011, over 118 million tons of freight, valued at over \$126 billion moved into, out of, through, or within the state by rail.<sup>2</sup>

## Mississippi's Rail System: Needs and Opportunities

The study examined the infrastructure and operations of Amtrak's long-distance passenger services and the freight railroads to identify needs and opportunities for improvement or expansion.

### Passenger Rail Challenges

Current intercity passenger service in Mississippi consists of two once-daily Amtrak routes serving the state as parts of Chicago to New Orleans and Washington, DC to New Orleans service. While the state is fortunate in that both routes serve Mississippi stations during daylight hours, offering opportunity to coordinate with local public transportation and to use station activity as a supporting element of urban development efforts, there are challenges to ongoing passenger rail effectiveness.

**Growth of Freight Rail Traffic:** The greatest challenge to reliable passenger rail service in Mississippi is growth of rail freight traffic, with corresponding fewer windows for consistent passenger trains. Currently the growth of rail freight traffic has resulted in the freight rail industry requiring some capacity improvements for even one daily round-trip. Increased freight train frequency may impact reliability for passenger service.

**Funding:** Funding is a challenge for passenger rail at a time when state budgets are in substantial distress. States will be challenged to raise the required 20 percent match for capital investments and especially challenged to identify long-term funding flows needed to cover yearly operating costs.

### Passenger Rail Opportunities

Opportunities for enhanced passenger rail service and ridership include establishing new services, adding stations on existing routes, coordinating passenger rail service with local or regional transit, and better marketing existing services.

**Expanded Passenger Service:** The SRC, which includes the member states of Mississippi, Louisiana, and Alabama, is actively seeking to renew service along the Gulf Coast that was lost when Hurricane Katrina severely damaged the rail line that carried Amtrak's *Sunset Limited*. SRC is working with Amtrak to re-establish service east from New Orleans to Mobile and later to Orlando.

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<sup>1</sup> Class I railroads are those with minimum carrier operating revenues of \$467.0 million or more in 2013.

<sup>2</sup> MSFP, 2015, page 2-14.



SRC is also active in investigating the feasibility of new service along the I-20 corridor from Meridian, where a new service could interchange with the *Crescent*, to Dallas/Fort Worth, Texas.

**New and Improved Stations:** Following years of discussion and negotiation, the City of Marks, Quitman County, Amtrak, and CN reached an agreement in May 2015 to establish a flag stop in Marks, MS along the City of New Orleans route. The city and county are now working to finance and construct the station. Also, ongoing Amtrak efforts nationwide to upgrade stations to be compliant with Americans with Disabilities Act (ADA) requirements in terms of station facilities and platforms can enhance accessibility and ridership.

**Enhanced Existing Services:** There is opportunity to improve ridership on Amtrak’s long-distance routes in the state by increasing awareness, coordinating local access to existing stations, and adding new stations. Initiatives that could be pursued by MDOT and its state, regional, or local partners to improve awareness and access are:

- Ensuring that local transit routes serve Amtrak stations, and that this access is marketed; this is a particularly strong objective in those cities where the local transit system is housed in or operates transfer centers in conjunction with the Amtrak station
- Partnering with Amtrak reservations by linking the Amtrak and MDOT’s transit websites together
- Expanding the Thruway bus service currently offered between Jackson and Mobile and between Jackson and Dallas, both in connection with the *City of New Orleans* route, and between Meridian and Dallas in connection with the *Crescent* route
- Ensuring that rural transit services supported by MDOT are facilitating access to Amtrak, either in actual routing or in promotional materials

## Freight Rail Challenges

With five Class I railroads providing service to all regions of the state, and with a diverse network of short line railroads able to provide cost-effective service to smaller rail markets outside of the major market areas, Mississippi is blessed with good overall competitive rail service. Even so, Mississippi faces significant freight rail challenges that should be addressed if the state’s freight movement and economic development needs are to be addressed by a robust, multimodal freight system across all regions of the state.

**Embargoed Routes:** The north central region of the state is currently dealing with extended sections of embargoed track, leaving those regions without rail service, even though short line railroads maintain ownership of the track. The cost to repair the embargoed track is likely beyond the ability of owning railroads to fund the needed repairs.

**“Last Mile” Connections to Ports and Other Intermodal Facilities:** Beyond conditions on the primary facilities of the freight network corridors, there is a challenge in meeting the “last mile” deficiencies for both roadway and rail connectors to important intermodal facilities such as ports, rail-highway interchange sites, or major warehousing/distribution centers. Congestion or operating restrictions on these connectors can adversely affect freight movement reliability and public safety. For the Mississippi

Development Authority (MDA), effective connections is frequently an important element in its efforts to attract new industry.

**Railroad Weight Capacity:** Consistent railroad weight capacity is important to maintaining freight rail movement efficiency and cost advantage. Shippers on rail lines that cannot handle standard 286,000-pound gross carloads may either be forced to use trucks or to break loads inefficiently. Mississippi's railroads are generally maintained to handle carloadings of up to 286,000 pounds. However, there are significant lines that do not, including the Mississippi Freight Network (MFN) Tier II US 45/KCS Artesia subdivision mainline from West Point to Corinth.

**Railroad Safety:** The key point of contact between freight railroads and the public is at rail-highway grade crossings. Mississippi currently has 2,206 public rail crossings statewide based on the latest USDOT Rail Crossing Inventory data, which is constantly being updated. According to the latest USDOT Rail Crossing Inventory data:

- Approximately 5% have no warning devices (i.e., no signs, no flashers, and no gates)
- Approximately 52% have only passive warning devices (i.e., crossbucks or stop signs)
- Approximately 43% have some sort of active warning device (approximately 20% have flashers only and approximately 23% have flashers and gates)

**Port Rail Needs:** 12 Mississippi ports are served by rail and one is planning for rail service. All 13 ports have rail infrastructure needs and include projects such as track rehabilitation and expansion projects.

## Freight Rail Opportunities

MDOT's response to these freight rail challenges has advanced since completion of the last State Rail Plan in 2011, primarily through development of the state's first Statewide Freight Plan in 2015.

**Identification of Mississippi Freight and Rail Network:** A key element in the development of the MSFP (2015) was identification of key freight corridors in the state, in terms of their movement of freight within and through the state, and the access that they provide to both internal and external markets and to major freight shippers. **Figure ES.1** shows the MFN from the MSFP, including Tier I and Tier II rail lines.

Improvements to rail elements of the MFN included in the MSFP are:

- Upgrade all Tier I grade crossings (Collector road or higher) to full active crossing warning devices
- Develop rail access directly into Port of Gulfport (I-10/CSXT Corridor)
- CN track improvements in Greenwood and north of Jackson to raise line speed (I-55/CN Corridor)
- NS track improvements in Laurel and Picayune to raise line speed (I-59/NS Corridor)

MDOT has received indication that CN and NS are not interested in advancing the last two of these improvements.



## Mississippi Rail Vision and Objectives

Understanding the freight and passenger rail challenges and opportunities facing Mississippi, and based on the feedback received from the outreach effort, MDOT has developed the following vision statement for rail transportation in the state.

*The future Mississippi rail system will provide safe, reliable mobility for people and goods while protecting and enhancing the human and natural environment. The state's rail infrastructure and service will be improved, and expanded as necessary, to provide increased transportation efficiency, accessibility, capacity and intermodal connectivity to meet freight and passenger market demands. The state will continue to make strategic investments to accomplish these goals, as well as to improve the economic competitiveness of Mississippi, while improving environmental quality and enhancing the overall safety of the state rail system.*

Reflecting this vision, MDOT has defined objectives to guide its potential activities and investments for both passenger and freight rail for the state. These objectives are stated below.

### Passenger Rail Objectives

While no changes in frequency and capacity of Amtrak services are planned in Mississippi, MDOT does see opportunity to enhance service and ridership, and has developed performance objectives for passenger rail service in the state that aim to increase ridership, improve on-time performance, and improve access.

- **Increase Ridership:** Based on noted opportunities to add service on new routes and to improve local access through improved marketing and coordination, the MSRP's objective is to increase passenger rail ridership by 15 percent over the next 20 years (by 2034), an objective endorsed by the RAC. This would equate to total statewide ridership in 2034 of 125,910 passengers.
- **Improve Access:** Passenger rail station and service access could be improved by enhancing coordination with local and regional transit providers. The MSRP's objective is to improve coordination between Amtrak and the local and regional transit providers in cities served by passenger rail to offer timely connections with Amtrak routes.

### Freight Rail Objectives

To help guide identification and evaluation of potential freight rail network improvements in the MSRP, the freight objectives from the MSFP (2015) were used during the development of the MSRP. Endorsed by the RAC as a basis for this update to the MSRP, they include:

- Increase public investment to facilitate freight system improvements that generate jobs and enhance Mississippi's competitive position.
- Provide reliable and predictable travel times along major freight corridors by reducing time delays.
- Reduce the number and rate of freight-movement related fatalities and injuries.

- Continuously improve infrastructure conditions that affect freight bottlenecks and reliability issues.
- Implement freight-specific environmental stewardship programs to reduce the impact of freight movement on the state's communities.

## Mississippi's Rail Service and Investment Program

The 2008 PRIIA legislation requires State Rail Plans to include a Short-Range Rail Investment Program, which comprises rail capital projects to be considered for the next four years, and a Long-Range Investment Program, which comprises rail capital projects to be considered for years 5 through 20 that are expected to be undertaken or supported by the state. The estimated total cost of the 20-year Rail Program is \$808 million. This cost only reflects the cost of projects that could be identified at this time.

### Passenger Element

**Passenger Rail Existing System Access Improvements:** Short-range improvements that would improve access to the existing Amtrak system and are expected to increase ridership are recommended for passenger rail. These improvements include station upgrades for ADA compliance, a new station in Marks, Mississippi, improved marketing and local transit coordination, and improving intermodal connections between intercity bus service and passenger rail. The cost for the station upgrades is estimated at \$7.6 million but no funding source has been identified, other than the \$1.1 million cost for the new station in Marks. The cost for improving marketing and local transit funding as well as improving intermodal connections is still to be decided.

**New Passenger Rail Service:** Expanded long-distance passenger rail service should be pursued to reinstate passenger rail service on the Gulf Coast from New Orleans to Orlando and to initiate new passenger rail service along the I-20 corridor from Meridian to Vicksburg. Studies by the SRC and Amtrak, as well as a Gulf Coast Rail Service Working Group initiated by the Fixing America's Surface Transportation (FAST) Act of 2015, are underway to identify ridership, revenue, cost and source of funding for these new passenger rail services.

### Freight Element

**Freight Rail Grade Crossing Safety Projects:** Two groups of improvements to the freight rail system are included in the MSRP that will improve public safety at grade crossings in Mississippi. In the short-range period, MDOT has 56 projects planned across the state that will improve approaches and grade crossings that will cost approximately \$13 million and be funded by Federal Section 130 Highway-Rail Grade Crossing Program funds.

Also, in accordance with the MSFP, the MSRP recommends upgrading all MFN Tier I rail grade crossings at collector roads or higher to full active warning devices. This program overlaps with the program of improvements funded by Federal Section 130 funds mentioned above. However, only 5 of the 139 MFN Tier I grade crossings at collector roads or higher are included in the current list of the Section 130 projects. It is recommended, therefore, that approximately \$41.5 million be identified to improve the remaining 134 grade crossings included in the MFN Tier I corridors.

**Freight Rail System Upgrades:** The short-range program of projects include several projects to upgrade Class I as well as short line railroads identified in coordination with the railroads. These projects would increase the 286,000-pound carload capacity of several railroads, improve access to the freight rail system, provide more efficient operations, help maintain a good state-of-repair, and improve public safety. The cost for the short-range program of projects is estimated to be \$6.8 million with funding coming primarily from MDOT Railroad Multimodal Funds with potential funding coming from TIGER grants. Approximately \$309 million more will be needed to fund the rest of the upgrades to the Class III railroads in the long-range program. Funding for these projects is still to be decided but would likely come from MDOT Railroad Multimodal Funds, MDA funds, TIGER grants, and other sources yet to be determined.

Deployment of Positive Train Control (PTC) is also included in the short-range freight rail projects list. Recent federal legislation has extended this deadline to December 31, 2018. PTC requirements currently exclude short line railroads that have no passenger service. However, trains of short line railroads that operate on lines that must have PTC are also required to be PTC-equipped. All the Class I railroads have stressed that they would continue to work diligently to meet the recently extended deadline of December 31, 2018.

**Port Rail Access Projects:** MDOT, MDA, and Mississippi ports authorities have identified the need for improved rail access to realize the potential for the ports. These include projects such as track and bridge rehabilitation and new rail connections. The port rail access projects are expected to enhance economic development, increase the 286,000-pound carload capacity of several railroads, improve access to the freight rail system, provide more efficient operations, improve public safety, and help maintain a good state-of-repair. The cost for the short-range program of projects is estimated to be \$66.6 million with funding coming from multiple sources including MDOT Port Multimodal Funds, MDOT Railroad Multimodal Funds, TIGER grants, MDA funds, and private investment. The cost for the long-range program of projects is estimated to be \$120.5 million with the source of funding yet to be decided.

**New or Renewed Freight Rail Service:** In the short-range program for new or expanded freight rail service, a project has been identified that will involve the re-opening of the embargoed Grenada Railway line between Grenada and Canton. This project is expected to provide new access for shippers and enhance economic development in central Mississippi. A plan has been developed by the railroad to upgrade the rail line and funding is currently being identified for the improvements. The total cost for this plan is currently estimated at \$78.2 million.

In the long-range program for new freight rail service, one of the projects that is recommended for further study will provide a new short line railroad in southeast Mississippi. The East Mississippi Intermodal Railroad (EMIR) is a proposed 56-mile short line corridor that would connect the Meridian Southern Railroad (MDS) at Waynesboro to the Mississippi Export Railroad (MSE) at Evanston. This project would provide new access to shippers and could enhance economic development. The total cost for this project is currently estimated at \$178 million. Another long-range project that is recommended is to re-open the embargoed section of the Columbus and Greenville Railway line between Greenwood and West Point in northcentral Mississippi. However, this is a not a formal project and does not have funding identified.

## Rail Studies and Reports

As a next step, this MSRP calls for several studies of passenger and freight rail initiatives to be considered. These include:

- Gulf Coast Rail Service Working Group Report: a study is required by the FAST Act of 2015 to develop a recommendation of the preferred option for passenger rail service from New Orleans to Orlando, including costs and benefits, and identification of funding sources. This study will likely use the **Potential Gulf Coast Service Restoration Options** report by Amtrak submitted to the SRC in December 2015 as a starting point.
- Meridian to Vicksburg Passenger Service: feasibility study for Meridian to Vicksburg leg of a new passenger rail route from Meridian to Fort Worth
- East Mississippi Intermodal Railroad (EMIR): environmental analysis and preliminary engineering for rehabilitation of 19 miles of abandoned Gulf Mobile and Ohio (GM&O) Railroad from Waynesboro, MS to State Line, MS, and additional 37 miles of new rail between State Line and Evanston, MS., to restore rail access long the entire eastern border of MS
- Port Bienville Railroad Connection to NS: environmental analysis and preliminary engineering for new rail line to connect PBVR and the NS rail line near I-59, to provide dual Class I rail service to the port

## Passenger and Freight Rail Capital Program

The projects identified above have been defined as either short-range or long-range projects. A summary of the short-range and long-range programs of projects and their costs are shown in the table below.

<b>Short-Range Program of Projects in Years 1-4</b>	<b>Cost in Millions<sup>1</sup></b>
Passenger Rail Existing System Access Improvements	\$8.7
Freight Rail Grade Crossing Safety Projects	\$13.0
Freight Rail System Upgrades	\$6.8
Port Rail Access Projects	\$66.6
Renewed Freight Rail Service	\$78.2
<b>Short-Range Total</b>	<b>\$173.3</b>
<b>Long-Range Program of Projects in Years 5-20</b>	<b>Cost in Millions<sup>1</sup></b>
New Passenger Rail Service (Two Routes)	TBD
Freight Rail Grade Crossing Safety Projects	\$41.5
Freight Rail System Upgrades	\$309.0
Port Rail Access Projects	\$120.5
New or Renewed Freight Rail Service	\$178.0
<b>Long-Range Total</b>	<b>\$649.0</b>
<b>Rail Program Total</b>	<b>\$822.3</b>

<sup>1</sup> Costs only reflect projects with identified costs.

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# 1 The Role of Rail in Mississippi

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## 1.1 Purpose of the Rail Plan

The purpose of the Mississippi State Rail Plan (MSRP) update is to set a vision for the state’s freight and passenger rail system that is grounded on what the users of the rail system – the rail shippers, passengers, and communities served, and railroads – want and need for their rail service. This document articulates that vision for the Mississippi rail system, describes the process that developed that vision, and presents a program of improvements over time needed for its implementation. In updating the 2011 version of the MSRP, the new plan will reflect changes in Mississippi’s economy, its rail and overall transportation system, and various institutional changes.

The MSRP update has been developed within a framework for state rail plans established by federal legislation and supporting guidance. The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) reauthorized the National Railroad Passenger Corporation (Amtrak) and strengthened the intercity passenger rail network in the U.S. by directing Amtrak, the Federal Railroad Administration (FRA), states, and other stakeholders to improve service, operations, and facilities for passenger rail. Section 303 of PRIIA also requires states to develop FRA-accepted State Rail Plans in order to be eligible for the capital grants authorized in PRIIA. FRA developed the *State Rail Plan Guidance* (September 2013) to assist states in fulfilling that requirement.

The MSRP was developed by the Mississippi Department of Transportation (MDOT) in consultation with the state Rail Advisory Committee (RAC). The RAC consisted of representatives of Mississippi’s business community, state agencies, FRA, Amtrak, and the Southern Rail Commission (SRC), and the railroads operating in the state. It contains both freight and passenger components. The last rail plan was prepared in 2011. Ultimately, this and other state rail plans will become components of a National Rail Plan being formulated by FRA.

This chapter describes Mississippi’s goals for multimodal transportation, the role of rail in Mississippi’s transportation system, and how the state is organized to provide political, legal, and financial support to rail development.

## 1.2 Mississippi’s Goals for its Multimodal Transportation System

This rail plan has been prepared to reflect the broad planning framework for Mississippi that is defined by the State’s most recent statewide long range transportation plan, MULTIPLAN 2035 and also the findings and conclusions of the recently adopted Mississippi Statewide Freight Plan (MSFP).

In adopting MULTIPLAN 2035 in 2011, MDOT established the following goals for the State’s multimodal transportation system:

- Accessibility and Mobility: Improve accessibility and mobility for Mississippi’s people, commerce and industry
- Safety: Ensure high standards of safety in the transportation system

- Maintenance and Preservation: Maintain and preserve Mississippi’s transportation system
- Environmental Stewardship: Ensure that transportation development system development is sensitive to human and natural environment concerns
- Economic Development: Provide a transportation system that encourages and supports Mississippi’s economic development
- Awareness, Education, and Cooperative: Create effective transportation partnerships and cooperative processes that enhance awareness of the needs and benefits of an intermodal system
- Finance: Provide a sound financial basis for the transportation system

Building on those multimodal goals, the MSFP defined a set of freight-centric goals and objectives that have been the basis for evaluating Mississippi’s freight rail needs. Those freight goals are shown in **Table 1.1**. For passenger rail services, the MULTIPLAN 2035 goals control.

**Table 1.1: Mississippi Freight Goals and Objectives**

<b>MSFP Freight Goals</b>	<b>Freight Objectives</b>
<b>Economic Development:</b> Improve economic benefits of the statewide freight network.	Increase public investment to facilitate freight system improvements that generate jobs and enhance Mississippi’s competitive position.
<b>Accessibility and Mobility:</b> Improve reliability and reduce congestion on the priority freight corridors.	Provide reliable and predictable travel times along identified freight corridors by reducing time delays.
<b>Safety:</b> Protect the safety and security of freight infrastructure.	Reduce the number and rate of freight-movements related fatalities and injuries.
<b>Maintenance and Preservation:</b> Maintain the Mississippi freight network infrastructure in a state of good repair.	Continuously improve infrastructure conditions that affect freight bottlenecks and reliability issues.
<b>Environmental Stewardship:</b> Protect and enhance the environment while enhancing the freight network performance.	Implement freight-specific environmental stewardship programs to reduce impact of freight movement on the state’s communities.

As explained in following chapters, the MSRP has been prepared so as to reflect and support each of these multimodal and freight-specific goals, in defining rail objectives, assessing the performance of the rail system, and considering public investment and policy initiatives to support the state’s economy and well-being.

### **1.3 The Role of Rail in Mississippi’s Transportation System**

Passenger and freight rail play an important role including the provision of transportation choices, enhanced economic competitiveness, community support, and improved access for communities and neighborhoods. Passenger rail services can strengthen the intermodal transportation system, creating new options for users as they combine different transportation modes to complete a trip. Attractive multimodal trip options require solid and convenient connections between the different modes of travel.

Currently, passenger and freight rail transport face shortcomings when competing with auto, air, and truck travel. These shortcomings are often due to rail being less convenient and less connected than other modes of travel. However, increased demand and continued reliance on auto and air travel for passenger trips and on trucks for freight movement can lead to negative impacts and degradation in livability, including increased congestion, additional safety concerns, and the depletion of natural resources.

From the early days of railroads, they have played a key role in Mississippi's history. Since more agrarian days, they have combined with waterways to move agricultural commodities to both domestic and international markets, have brought products and raw materials into the state for consumption and production, and before the Interstate highway system, were the primary mode for long-distance travel between major cities and from smaller towns located along the rail lines.

While much of the early rail dominance has diminished over the years, railroads still form a vital part of the state's transportation system, moving materials critical to the state economy both into and out of the state, and providing the most reliable and accessible alternative to the automobile for travelers in big parts of the state.

Passenger rail services are seen to strengthen the intermodal transportation system by creating additional options for users as they plan a trip. Providing more reliable and convenient connections between different modes of travel helps to attract multimodal trips. In addition, intercity rail provides an environmentally-friendly transportation alternative and opportunities to connect the state's major economic centers, improving access to jobs, services, and labor.

As reported in the 2015 MSFP and detailed later in this MSRP Update, the state's railroads companies, with responsibility for operating and maintaining the freight rail system, are likely to continue to face their historical challenge in raising the capital funding needed to provide efficient operations. Predicted reduction in mode share is likely to exacerbate that challenge, particularly if reductions in coal movement are experienced. Nationally, evidence is growing that as the economy recovers and rail freight increases, railroads are experiencing challenges in processing freight through major hubs. With the recent joint investment by the Mississippi State Ports Authority and KCS in upgrading the KCS line connecting Jackson, Hattiesburg, and Gulfport, that line will be able to handle the standard 286,000-pound cars and double-stack trains, a significant boost for that important Gulf port.

## **1.4 Institutional Structure of Mississippi's Rail Program**

This section describes the institutional structure for application and implementation of state and federal passenger and freight rail programs in Mississippi. Under the terms PRIIA, states are to prepare state rail plans in order to be eligible for certain rail program funding, and are expected to assume primary responsibility in four functional areas.<sup>3</sup> Each of these is listed below, with brief explanation of Mississippi's compliance with these requirements.

- a) Establish a State authority to develop the State rail plan and designate officials with approval authority of the plan – MDOT has been designated by the Governor as the State Rail

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<sup>3</sup> State Rail Plan Guidance, FRA, 2013.

Transportation Authority, the state agency authorized to prepare the State's rail plan, maintain (i.e., update), coordinate, and administer the state rail plan; further, the Transportation Commission has been designated as the State Rail Plan Approval Authority, authorized to approve the rail plan and to approve investment of public funds for rail projects.

- b) Coordinate with other planning activities being carried out in the statewide/nonmetropolitan and metropolitan transportation planning processes funded by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) – as established in the MSRP update, MDOT is preparing this plan within the framework of its MULTIPLAN, links its state rail plan findings and recommendations to the recently adopted Statewide Freight Plan, and has reached out through the MULTIPLAN public involvement process other statewide and regional planning agencies in the state.
- c) Involve the public and key stakeholders in the planning process – the rail plan has been prepared in consultation with its statewide RAC, comprised of representatives of other state agencies, the rail industry, Amtrak and the SRC, and various industry groups.
- d) Coordinate with, and secure program implementation commitments as needed, from neighboring States, especially where multi-state corridors and transportation systems are involved – MDOT has coordinated with adjacent state departments of transportation, examining their plans to identify opportunities for coordination and cooperation.

MDOT's certification of compliance with Title 49 US Code Section 2201 can be found at the end of this section.

Beyond these PRIIA-responsive requirements, public railroad and rail service, planning, preservation and improvement of passenger and freight railroads in Mississippi involve a number of public agencies at the state and local levels:

- MDOT – lead agency for rail planning and rail safety
- The Mississippi Development Authority (MDA) – lead agency for state economic development activities, including grant funding for rail service projects in support of industrial development efforts
- SRC – multi-state commission with lead responsibility for promoting improved passenger rail service within, to, and from Mississippi, Alabama, and Louisiana
- Multiple local and regional rail authorities – Mississippi public authorities with ownership or operating authority over regional or local switching railroads

The respective roles of these agencies are discussed below.

### **1.4.1 Mississippi Department of Transportation**

MDOT is Mississippi's lead agency for rail planning and for administering rail safety and rail improvement programs. MDOT's Traffic Engineering Division administers preparation of the State Rail Plan. The State Rail Plan is conducted in coordination with MDOT's Planning Division, which is responsible for developing

the statewide multimodal and freight transportation plans and the Statewide Transportation Improvement Program (STIP).

The Traffic Engineering Division also administers the State's railway-highway crossing program. Using funding from FHWA through the Section 130 Highway-Rail Grade Crossing Program, the Division evaluates the traffic control devices relating to the railway-highway grade crossing and installs flashing lights and gates as appropriate. The Division also makes signage and pavement marking recommendations to local municipalities who are the local roadway authority in order to comply with the latest edition of the *Manual on Uniform Traffic Control Devices*.

Additionally, the Traffic Engineering Division oversees the Multimodal Transportation Improvement Program and the Railroad Revitalization Fund. Railroad signal and track inspections are handled by MDOT's Office of Enforcement in conjunction with the Federal Railroad Administration.

### **1.4.2 Mississippi Development Authority**

The MDA is the lead agency in the state's economic and community development effort. Its mission is "to foster a strong state economy and vibrant communities through innovation, use of talent and resources to improve our citizen's lives."<sup>4</sup> In recognition of the role played by rail in fulfilling its mission, the MDA has adopted several means of assisting in retaining and improving rail infrastructure and service. These include the Freight Rail Service Revolving Loan Program (RAIL) which makes loans available to municipalities and counties.

More information on RAIL and other MDA funding programs are discussed in **Section 1.5** below and in **Chapter 2** of this document.

### **1.4.3 Southern Rail Commission**

The primary impetus for improved passenger rail service in Mississippi in recent years has been the SRC. Established by an act of Congress in 1982, the SRC has as its stated mission to engage and inform public and private rail interests to support and influence passenger rail initiatives across its member states of Alabama, Louisiana and Mississippi. The SRC is comprised of 18 members, appointed by the Governors of their respective states.<sup>5</sup>

### **1.4.4 Public Authorities**

There are a number of local and regional public authorities in Mississippi that also have roles in preserving, constructing, and operating railroads. These include the following.

#### **1.4.4.1 County and Regional Railroad Authorities**

Any county or municipality in Mississippi in which there are railroad properties, or in which such properties existed but were abandoned after Feb. 5, 1976, may create a railroad authority (Section 19-29-7), and two

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<sup>4</sup> Taken from MDA website as are other parts of the discussion.

<sup>5</sup> Taken from SRC website (<http://www.southernrailcommission.org/>). The majority of the information presented in this discussion of SRC was obtained from the same source.

or more counties can together create a regional railroad authority. Among other powers, those authorities have the power “To plan, establish, acquire, construct, enlarge, reconstruct, improve, operate, maintain, replace, repair, extend, improve, regulate and protect railroad properties and facilities within its boundaries” (Section 19-27-17). The authorities also, under the same Section, have the power to lease rail properties under their control to others.

#### **1.4.4.2 Port Commissions**

Counties bordering on the Mississippi River are not eligible for county railroad authorities if they have a port commission that has the power to acquire railroads or railway facilities deemed necessary for development of its port (Section 59-7-453).

#### **1.4.4.3 County Industrial Development Authorities**

Local Industrial Development Authorities are empowered to engage in work of internal improvement, including the construction of railroads necessary or required for industrial or commercial use and development within the county (Section 51-3-1(1)).

### **1.4.5 Section 22102 Compliance**

In light of the institutional structure and authorizations defined in this section, and as specified in FRA guidance, MDOT does assert that it is the designated rail authority to distribute federal funding for rail projects in the state of Mississippi, that it is in compliance with Title 49 US Code Section 22102, and is eligible to receive financial assistance under this chapter, complying with regulations the Secretary of Transportation. With completion of this update of the MSRP:

1. Mississippi has an adequate plan for rail transportation in the State and a suitable process for updating, revising, and modifying the plan.
2. The MSRP is administered or coordinated by MDOT, the designated State authority, and does provide for a fair distribution of resources.
3. The State’s designated rail authority, MDOT
  - a. Is authorized to develop, promote, supervise, and support safe, adequate, and efficient rail transportation;
  - b. Employs sufficient qualified and trained personnel;
  - c. Maintains adequate programs of investigation, research, promotion, and development with opportunity for public participation; and
  - d. Is designated and directed to take all practical steps (by itself or with other State authorities) to improve rail transportation safety and reduce energy use and pollution related to transportation.
4. MDOT ensures that it maintains or will maintain adequate procedures for financial control, accounting, and performance evaluation for the proper use of assistance provided by the United States Government.

## 1.5 State Rail Funding Authority

In Mississippi, public rail funding authority has been granted through state legislation is available through multiple programs administered by MDOT, MDA, and regional authorities. Current programs are listed below. Detail on each existing funding programs can be found in **Section 2.2.3**.

1. Highway-Rail Grade Crossing Program: MDOT administers this program to improve grade crossing safety on public roads and highway using FHWA Section 130 Highway-Rail Grade Crossing Program funds.
2. Railroad Revitalization Fund: MDOT administers this program providing no-interest loans for up to 75 percent of the costs for the rehabilitation or improvement of existing freight and passenger rail lines, construction, improvement or rehabilitation of railroad facilities, and for highway-railroad crossing safety.
3. MDOT Multimodal Transportation Improvement Program: Created in 2001 by the Mississippi Legislature, this program funds improvements of all modes of publicly owned (State, county, or municipality) transportation: rail, airport, public transit, and port improvement projects.
4. MDOT Capital Assistance Stimulus for Rail Projects Fund: The fund matches federal funding available for conventional or high-speed intercity passenger services.
5. MDA Freight Rail Service Revolving Loan Program: MDA administers multiple programs that make funds available to publicly owned railroad companies through loans or grants to build or rehabilitate rail lines with the objective of helping to create or preserve jobs.
6. Local Government Rail Assistance: Local and regional governments or governmental authorities secure grant funding or provide local matching funds to advance facility-specific construction or improvement projects.

## 1.6 Mississippi Rail Today

### 1.6.1 Passenger Services

Passenger rail service today is provided over two Amtrak long-distance routes. The *City of New Orleans* provides daily north-south service as it traverses Mississippi from Chicago to New Orleans. The *Crescent* provides daily service as it traverses the southern part of the state along its route from Washington, DC to New Orleans.

The services had a combined ridership of 110,000 passengers in 2014. Of Mississippi's ten rail stations, Jackson was the most utilized rail station, handling 47,000 boardings and alightings. Greater detail on these services and Amtrak stations in Louisiana appear in **Chapter 2**. Two major initiatives to expand passenger rail service are being led by the SRC, including resuming service along the Gulf Coast that terminated following Hurricane Katrina and initiating service from Meridian to Dallas/Ft. Worth, Texas, in the corridor parallel to I-20 through Jackson.

## 1.6.2 Freight Services

Today, Mississippi has a 2,400 mile rail system serving all regions of the state with five Class I railroads (BNSF, KCS, CN/IC, CSX, and NS) that are responsible for most of the rail-borne freight moving into and out of the state, and 21 regional or local (short line) rail carriers that serve many of the smaller markets in the state. In 2011, over 118 million tons of freight, valued at over \$126 billion moved by rail into, out of, though, or within the state.<sup>6</sup> This is 28.1% of total freight by tonnage and 23.8% by value moving within Mississippi.

Mainlines of the Class I carriers are key elements of the Strategic Freight Network that was established in the MSFP in 2015. The following lines comprise parts of six Tier I freight corridors:

- CN mainline from Memphis to New Orleans through Jackson
- BNSF mainline parallel to US 78 from Memphis to Birmingham
- NS mainline through Meridian to New Orleans
- KCS mainline parallel to I-20
- CN mainline from Jackson to Hattiesburg and KCS mainline from Hattiesburg to Gulfport
- CSX mainline parallel to I-10 along the Gulf Coast

The key multimodal freight corridors, anchored by rail mainlines and Interstate highways, facilitate Mississippi's trade relationship with the national and international markets and provide access to jobs and labor. These and the rest of the 2,400 mile freight rail system play important roles in Mississippi by providing freight movement choices, economic competitiveness, and access for markets. Freight rail can deliver cost advantages to shippers and can play a significant role in relieving truck traffic on the state's highways. Mississippi's many short line railroads provide important access to the national rail system for shippers along their lines. From an economic development perspective, the availability of rail connections greatly improves the economic competitiveness of potential development sites.

## 1.7 Organization of the Rail Plan

In keeping with the FRA Guidance, this plan includes an inventory of Mississippi's existing passenger and freight rail system; establishes a vision for freight and passenger rail in Mississippi; and provides a short- and long-range investment program for existing and proposed freight and passenger rail infrastructure and services in the state. The state's railroads, rail users, railroad associations, and regional stakeholders were involved in the development of this plan.

Organization of the MSRP is as follows:

Chapter 1. The Role of Rail in Mississippi – defining Mississippi's goals for multimodal transportation, the role of rail in Mississippi's transportation system, and how the state is organized to provide political, legal, and financial support to rail development.

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<sup>6</sup> MSFP, 2015, page 2-14.



- Chapter 2. Mississippi’s Rail System – provides an overview and inventory of Mississippi’s existing rail system as a baseline for planning and decision making; it describes demographic, economic, and transportation demand trends that impact the need for rail service in Mississippi. This chapter concludes with a discussion of needs and opportunities for passenger and freight rail service in the state.
- Chapter 3. Proposed Passenger Rail Improvements and Investments – describes potential improvements to existing passenger rail service to help Mississippi achieve performance objectives, including station improvements, improved intermodal connections, and enhanced marketing; the chapter examines potential new or expanded passenger rail service that might be pursued by Mississippi, either in conjunction with initiatives in neighboring states, or on a stand-alone basis.
- Chapter 4. Proposed Freight Rail Improvements and Investments – describes improvements and investments that could address the freight rail needs of Mississippi; Class I and short line railroad projects are discussed, as well as grade crossing safety projects, Positive Train Control (PTC) implementation, and port rail access projects.
- Chapter 5. Mississippi’s Rail Service and Investment Program – describes Mississippi’s long-term vision for rail service and its role in the statewide multimodal transportation system; proposes priorities for specific projects, programs, policies, and funding necessary to achieve that vision, and describes the project impacts and funding sources of proposed actions.
- Chapter 6. Coordination and Review – chapter describes how stakeholders were involved in the development and coordination of the rail service and investment program component of the State rail plan.

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## 2 Mississippi's Existing Rail System

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### 2.1 Introduction

This chapter provides an overview and inventory of Mississippi's existing rail system as a baseline for planning and decision making. It goes on to describe demographic, economic, and transportation demand trends that will impact the need for rail service in Mississippi. This chapter concludes with a discussion of needs and opportunities for passenger and freight rail service in the state.

### 2.2 Mississippi's Existing Rail System: Description and Inventory

The 2,400-mile Mississippi rail system is operated by five Class I (major) railroads,<sup>7</sup> one Class II (regional) railroad<sup>8</sup> and 20 Class III (local) railroads<sup>9</sup> with combined 1,833 employees. The Class II and Class III railroads are also referred to as *short line* railroads in this report. Each Class I railroad has one or two principal routes through the state fed by its own branch lines and connecting carriers. Many of the short line railroads own and/or operate lines abandoned or spun off by Class I carriers.

The information presented in the discussion of each railroad below was obtained from carrier surveys, websites of carriers and carrier organizations, reports submitted to various governmental agencies such as the Surface Transportation Board, and studies and reports prepared for MDOT.

#### 2.2.1 Existing Freight Network

##### 2.2.1.1 Class I Railroads

Approximately 1,700 miles, or two-thirds of the state's rail system mileage, are owned by the Class I railroads. Each railroad's routes are shown on **Figure 2.1** and statewide mileages, including both miles owned and miles operated, are listed in **Table 2.1**. A summary of each Class I carrier is provided below. Proposed freight rail improvements and corridor initiatives are discussed in **Section 2.4.1** and **Chapter 4**.

##### **BNSF Railway Company**

Burlington Northern and Santa Fe Railway (BNSF) was created on September 22, 1995, from the merger of Burlington Northern Inc., parent company of Burlington Northern Railroad, and Santa Fe Pacific Corporation, parent company of the Atchison, Topeka and Santa Fe Railway. The railroad was later renamed the BNSF Railway, and in February of 2010 became a wholly-owned subsidiary of Berkshire Hathaway, Inc. The railroad operates 32,500 route miles in 28 states and three Canadian provinces, and as such, covers the western two-thirds of the United States, stretching from major Pacific Northwest and Northern and Southern California ports to the Midwest, Southeast and Southwest, and from the Gulf of

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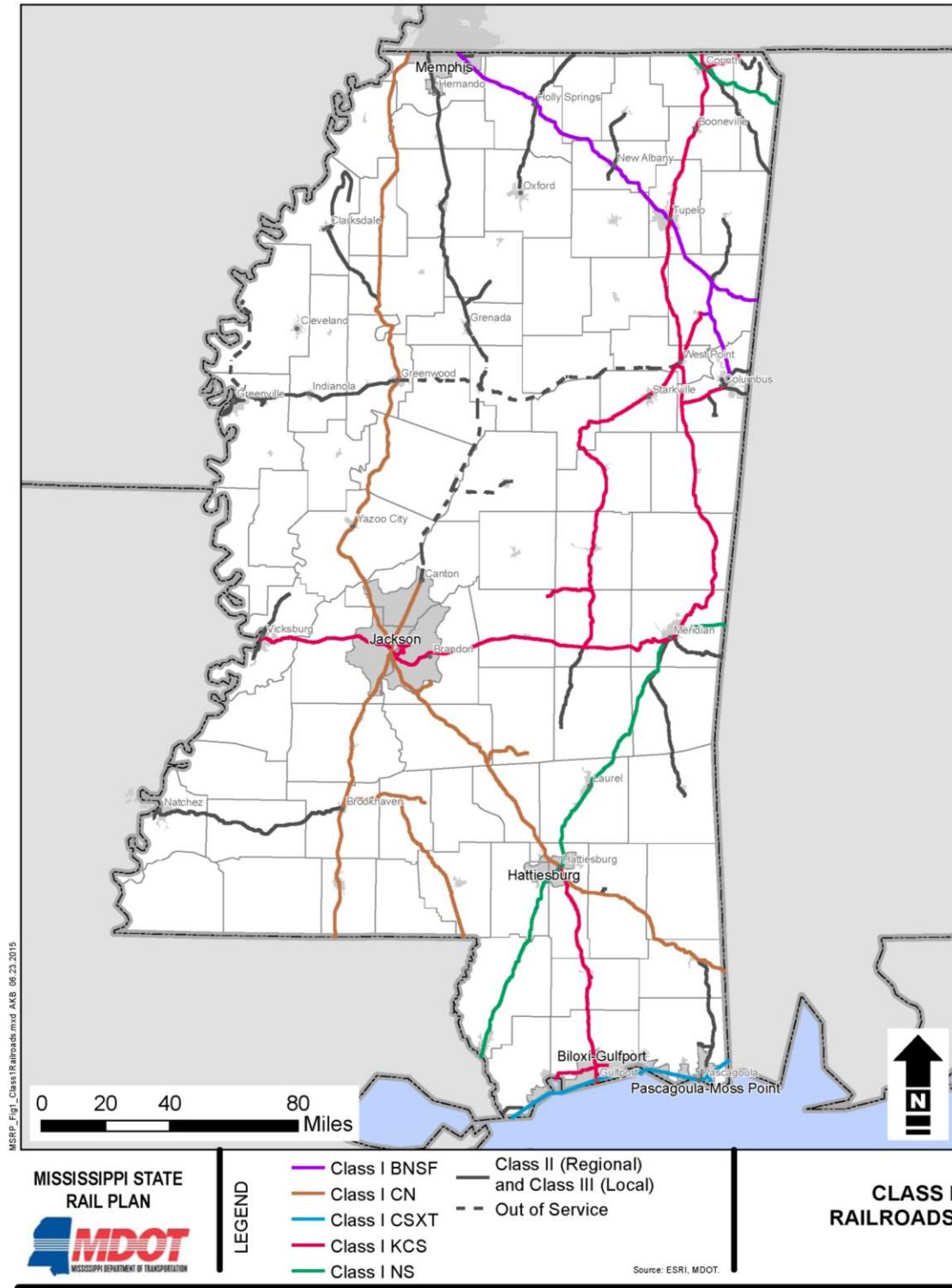
<sup>7</sup> Class I railroads are those with minimum carrier operating revenues of \$467.0 million or more in 2013.

<sup>8</sup> Class II railroads are those with annual carrier operating revenues of less than \$467.0 million, but more than \$36.4 million in 2013.

<sup>9</sup> Class III railroads are those with annual carrier operating revenues of \$37.4 million or less, and all switching and terminal railroads regardless of operating income.

Mexico to Canada. BNSF employs over 48,000 people system wide, approximately 300 in Mississippi, and in 2014 earned some \$23 billion in operating revenue.

**Figure 2.1: Mississippi Class I Rail Routes**



**Table 2.1: Mississippi Rail System in 2015**

Railroad	Reporting Marks	Mississippi Route Miles			
		Operated	Owned	Trackage Rights <sup>2</sup>	Leased <sup>3</sup>
<b>Class I Railroads:</b>		<b>1,971</b>	<b>1,695</b>	<b>329</b>	<b>1</b>
BNSF Railway Company	BNSF	179	166	13	
CSX Transportation	CSXT	94	74	20	
Illinois Central Railroad Co. <sup>1</sup>	CN	780	598	182	
Kansas City Southern Railway Co.	KCS	707	648 <sup>4</sup>	112	1
Norfolk Southern Railway Co.	NS	211	209	2	
<b>Class II (Regional) Railroads:</b>		<b>46</b>	<b>13</b>	<b>33</b>	
Alabama and Gulf Coast Railway	AGR	46	13	33	
<b>Class III (Local) Railroads:</b>		<b>731</b>	<b>700</b>	<b>51</b>	<b>174</b>
Alabama Southern Railroad <sup>1</sup>	ABS	23		17	6
Columbus and Greenville Railway <sup>1,6</sup>	CAGY	85	150	27	
Golden Triangle Railroad	GTRA	22	15	7	
Grenada Railway, LLC <sup>6</sup>	GRYR	106	208		
Luxapalila Valley Railroad, Inc. <sup>1</sup>	LXVR	12	12		
Meridian and Bigbee Railroad, LLC <sup>1</sup>	MNBR	19	19		
Meridian Southern Railway, LLC	MDS	60	60		
Mississippi Central Railroad Co.	MSCI	108	56		52
Mississippi Delta Railroad	MSDR	60			60
Mississippi Export Railroad <sup>1</sup>	MSE	42	42		
Mississippi Southern Railroad	MSR	28			28
Mississippian Railway Cooperative, Inc. <sup>1</sup>	MSRW	22	22		
Natchez Railway, LLC <sup>1</sup>	NTZR	68	68		
Old Augusta Railroad <sup>1</sup>	OAR	3			3
Port Bienville Railroad	PBVR	9	9		
R.J. Corman-Tennessee Terminal	RJCK	4			4
Ripley & New Albany Railroad Company <sup>1</sup>	RNA	27	27		
Vicksburg Southern Railway	VSOR	21			21
West Tennessee Railroad	WTNN	2	2		
Yellow Creek Port Railroad <sup>5</sup>	YCRK	10	10		
<b>TOTALS</b>		<b>2,748</b>	<b>2,408</b>	<b>413</b>	<b>175</b>

Source: Unless otherwise noted, mileage data was taken from American Association of Railroads (AAR) Rail Fast Facts for 2012.

- 1 Mileage data obtained from correspondence or surveys of Class I and local/regional railroads.
- 2 Trackage rights are arrangements where the company that owns the line retains all rights, but allows another company to operate over certain sections of its track. These deals can be long- or short-term, can include the right to serve customers or not, and can be exclusive or not.
- 3 A railroad may lease a connecting line from another company. A typical lease results in the lessee paying the owner of the line a certain annual rate in order to have full control of the line, including operation.
- 4 Includes 54 track miles that KCS owns but does not operate
- 5 Not listed in AAR data; information from 2011 MSRP
- 6 These railroads own lines (or portions of lines) that are currently embargoed or out of service.

In Mississippi, BNSF operates over 179 route miles cutting through the northeast corner of the state from Memphis to Birmingham via Tupelo with a branch from Amory to Columbus and trackage rights beyond Columbus. The single main track is capable of handling 286,000-pound gross car weights, but there are weight restrictions along a portion of the Amory subdivision. Operations are governed by a Centralized Traffic Control system (CTC), whereby a dispatcher in a remote location controls trains through wayside signals. The route is included in the BNSF intermodal network and serves as a conduit for Powder River

Basin coal to utilities in the Southeast along with building materials and intermodal traffic. The railroad has yards at Tupelo and Amory and interchanges traffic with five other carriers in Columbus, although its principal regional facility is located in Memphis.

### **CSX Transportation**

Based in Jacksonville, Florida, CSX Transportation (CSXT) is one of the nation's leading transportation companies and operates the nation's third-largest rail network serving all major metropolitan areas east of the Mississippi River with extensions into the Canadian provinces of Ontario and Quebec. Geographic coverage is roughly comparable to that of the Norfolk Southern, reflecting the rough geographic symmetry of the "Big Four" in today's North American railroad scene (BNSF and UP in the West; CSXT and NS in the East). CSXT provides rail, intermodal and rail-to-truck transload services and solutions to customers across a broad array of markets, including energy, industrial, construction, agricultural, and consumer products. The company's annual average number of employees was 32,000 in 2014. In 2014, the company generated \$12.7 billion in revenue system-wide. Also in 2014, CSXT handled more than 253,000 carloads of freight in Mississippi and employed more than 60 people in the state.

CSXT has access to more than 70 ocean, river and lake port terminals along the Atlantic and Gulf Coasts, the Mississippi River, the Great Lakes, and the St. Lawrence Seaway. CSXT also serves thousands of production and distribution facilities through track connections to approximately 240 short line railroads.

CSXT's network in Mississippi includes only 74 miles of owned track with another 20 miles operated via trackage rights. The railroad serves the busy Gulfport-Biloxi-Pascagoula region and Mississippi's Gulf Coast ports enroute to New Orleans and connections with western railroads. CSXT's single-tracked main line is governed by a CTC system.

### **Illinois Central Railroad Company**

Canadian National Railway Company (CN) is Canada's largest carrier traversing Canada from the Atlantic Ocean to the Pacific Ocean and is a major player in the United States rail market as well. CN added to its US holdings by acquiring a number of U.S. carriers including the Illinois Central Railroad, Wisconsin Central Railroad, Great Lakes Transportation, and the Elgin, Joliet and Eastern Railway, all of which operate under the CN U.S. subsidiary Grand Trunk Corporation. Acquisition of the Illinois Central extending south to the Gulf of Mexico resulted in a "Y" shaped network of 20,421 route miles connecting with Atlantic, Pacific and Gulf Coast ports. CN operating revenue in 2014 totaled \$12.1 billion, with 40 percent of its revenue (2014) comprised of U.S. domestic and cross-border traffic. Total U.S. and Canadian employment is 25,500.

In the United States, CN only does business via its wholly owned subsidiary companies. In Mississippi, that subsidiary is Illinois Central Railroad Company. CN (doing business as Illinois Central) has the largest network presence in Mississippi, operating over 780 track miles, 598 owned and 182 via trackage rights. The railroad's principal route extends southward from Memphis to Jackson, with the main track route continuing almost due south to New Orleans. The line is principally single track although there are short double track sections located at Jackson, Wanilla and McComb. 92% of CN's main line is capable of handling car weights of 286,000 pounds, and operations are governed by a CTC system. Amtrak's *City of*

*New Orleans* uses CN track between Memphis and New Orleans. A secondary main extends from Jackson through Hattiesburg enroute to Mobile.

### **Kansas City Southern Railway**

Kansas City Southern Railway (KCS) is the nation's smallest Class I carrier, operating over 3,726 miles in 10 states. KCS is a "NAFTA"<sup>10</sup> railroad extending its operations to Mexico. KCS is one unit of a transportation holding company, Kansas City Southern, which also owns Kansas City Southern de Mexico, operator of the premier rail route from Laredo, Texas to Mexico City, and the Texas Mexican Railway Company, owner of KCS's link to the border at Laredo. Combined, the three rail systems generated over \$2.5 billion in annual revenue in 2014.

KCS was founded in 1887 to provide the Midwest with direct access to the Gulf of Mexico, and this north-south trade emphasis continues today. The limited access to northern markets has been addressed with a series of formal marketing agreements. In Mississippi, KCS has haulage agreements and limited trackage rights between Jackson and Mobile, and operates via trackage rights over CN between Palmer and Hattiesburg, thus enabling KCS access to its north-south Palmer-Gulfport line.

KCS operates over 707 route miles in Mississippi, including the Meridian Speedway LLC (MSLLC) between Meridian, Jackson, Vicksburg, and Shreveport, Louisiana – nearly 20 percent of the entire KCS system. Of the miles operated, 112 are comprised of trackage rights and 1 is leased. In addition, the railroad owns 54 miles it does not operate, but which are operated by short line carriers. In all, the railroad owns 27 percent of the Mississippi rail system and thus is the largest railroad in the state based on ownership. The railroad's principal Mississippi line, the Meridian Speedway is single-tracked and capable of handling 286,000-pound car weights.

KCS routes in Mississippi include:

- The east-west MSLLC
- The north-south Jackson-Gulfport line with the Jackson-Palmer's Crossing portion of the route consisting of a haulage agreement with Canadian National. The Palmer's Crossing-Gulfport segment is a recent recipient of a TIGER grant to improve the line for faster operating speeds, raise the carload weight capability, and make certain safety improvements to prepare for traffic increases including double-stack containers.
- A north-south Corinth-Meridian route extending into Tennessee and passing through West Point. About one-half of this route is weight-restricted to 264,000-pound maximum carloads

Mississippi's only large-scale, carrier-owned, bulk-transload facility and intermodal facility are owned by KCS. Both are located in Richland on the outskirts of Jackson. Yards are located in Vicksburg, Jackson, and Meridian.

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<sup>10</sup> North American Free Trade Agreement (NAFTA), signed by the US, Canada and Mexico.

## **Norfolk Southern Railway**

Norfolk Southern (NS), owned and operated by Norfolk Southern Corporation, operates 21,000 route miles in 22 eastern states, the District of Columbia and the Province of Ontario. Its service network, which generated over \$11 billion in railroad operating revenue in 2013, blankets the eastern United States, with principal western gateways at Chicago, St. Louis, Kansas City, Memphis, and New Orleans. The railroad's employment averaged 30,103 in 2013.

In the past several years, NS has expressed a willingness to explore new business models for capacity enhancements that include a public sector role. In Mississippi this includes the Crescent Corridor to run from New Orleans to the Northeast with six states, one of which was Mississippi, joining NS in an application for TIGER grant funding.

Norfolk Southern has two principal routes in Mississippi with one cutting diagonally across the northeast corner of the state via Corinth (part of an NS main line running from Chattanooga to Memphis). The other route stretches from Meridian to Hattiesburg and Picayune enroute to New Orleans from Birmingham and points north and east. Total Mississippi mileage operated is 211, including 209 owned track miles and 2 miles of trackage rights. Both lines are single-tracked, with the exception of some double track through Meridian. Yards are located at Hattiesburg, Laurel, and Meridian. All of the NS main line route miles can accommodate 286,000-pound rail cars.

Norfolk Southern routes in Mississippi are included in the development of freight and passenger corridor initiatives. Both lines are components of the Crescent Corridor, and the line through Corinth is the southern connection for the joint NS-CN MidAmerica Corridor. The Meridian-Hattiesburg-Picayune alignment is also designated as part of the Gulf Coast High-Speed Rail Corridor, and currently hosts the daily Amtrak Crescent that operates between New York and New Orleans.

### **2.2.1.2 Regional (Class II) Railroads Serving Mississippi**

The Alabama and Gulf Coast Railway (AGR) is the only regional (Class II) railroad currently serving Mississippi. It is one of 40 railroads located in 20 states and three Canadian provinces that are operated by RailAmerica, Inc., a holding company located in Jacksonville, Florida. The AGR is one of the larger short lines located in the Southeast with 348 route miles owned or leased and with trackage rights extending from Amory to Mobile and Pensacola. It handles 61,000 annual carloads.

The railroad operates in Mississippi over 46 miles of track, 13 miles of which it owns, between the Alabama - Mississippi state line and Columbus, and 36 miles of trackage rights over BNSF running from Columbus and Amory, the latter point being its principal BNSF interchange point. The AGR line is shown on **Figure 2.2**. It interchanges with three other carriers at Columbus: KCS, CAGY, and LXVR. Carload weights on the line are limited to 263,000 pounds. None of the AGR track can accommodate 286,000-pound rail cars.

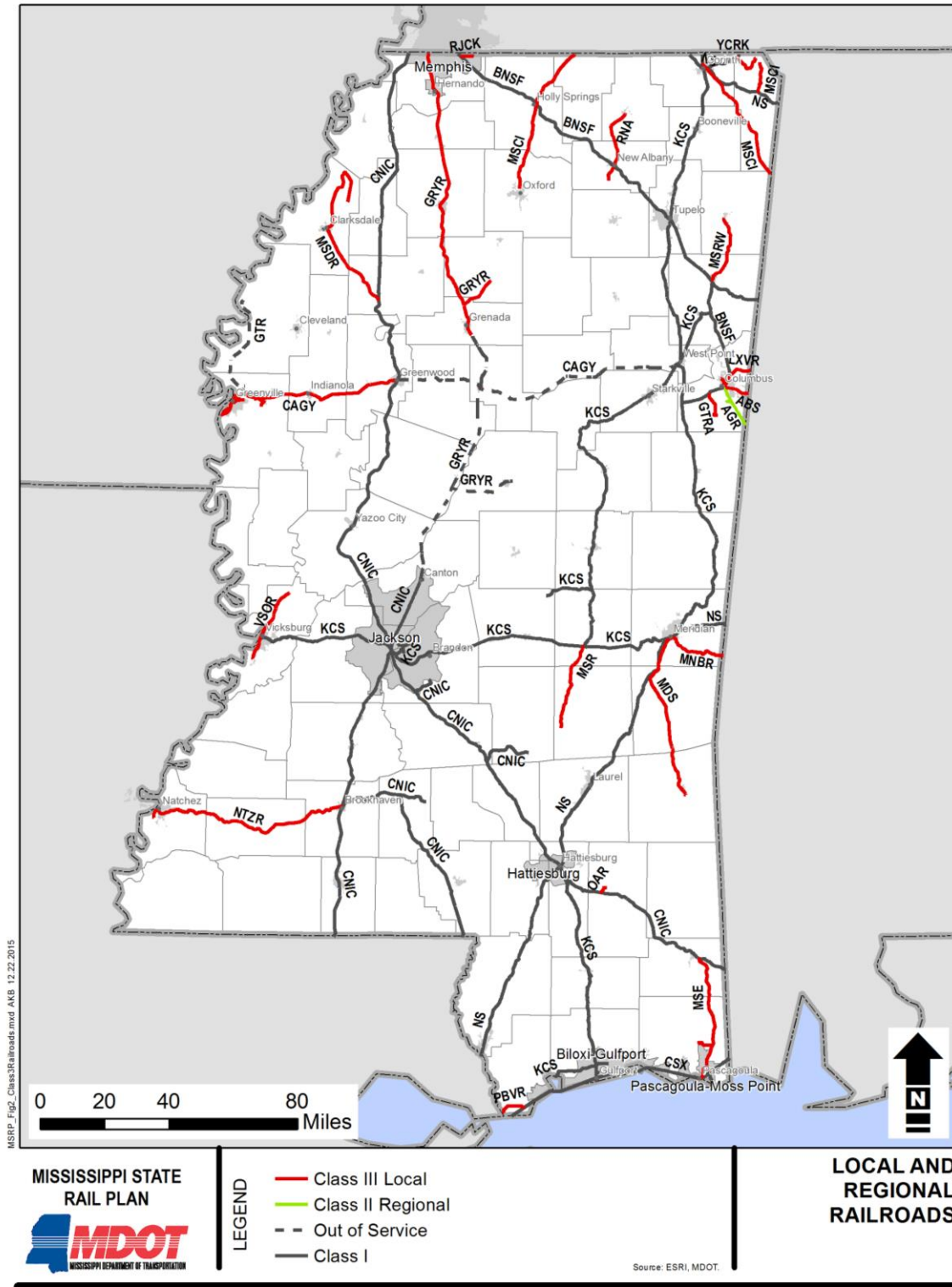
### **2.2.1.3 Local (Class III) Railroads Serving Mississippi**

Mississippi has an extensive network of local railroads. These 20 smaller railroads provide connecting service to the Class I railroads and comprise 26 percent of the state system in terms of track ownership.



The location of these smaller railroads is shown on **Figure 2.2**, and lengths are contained in **Table 2.1**. A brief description of each follows.

**Figure 2.2: Mississippi Local and Regional Railroads**



**Alabama Southern Railroad** (ABS) operates over 85 route miles between Columbus, Mississippi and Brookwood, Alabama passing through Tuscaloosa. The line from Columbus to Tuscaloosa was leased from KCS in 2005 and is operated as one of the holding company (Watco Companies, Inc.) rail carriers.

In Mississippi, the railroad operates two trains per day on 23 miles of track, 6 miles of which it leases from KCS between the Alabama state line and Columbus, and it operates via trackage rights on nearly 17 miles of track between Columbus and Artesia. The railroad interchanges traffic with KCS in Artesia, CSXT in Brookwood, and NS in Tuscaloosa. The line is capable of handling 286,000-pound car weights.

**Columbus and Greenville Railway** (CAGY) began operation in October 1975, between Columbus and Greenville on 162 miles of track formerly owned by the Illinois Central Gulf Railroad. Genesee and Wyoming, Inc., another railroad holding company, purchased the line from CAGY Industries in 2008. CAGY currently operates over 85 miles of track; it owns 150 miles of track and operates 27 miles on trackage rights from KCS. It operates on two separate segments: one from the port of Greenville to Greenwood (5-10 trains per week) and the other from West Point to Columbus (5-10 cars per month). Of the 150 miles owned by CAGY, 92 miles between Greenwood and West Point are currently out of service. There are no immediate plans to revive this portion of the line, but it is expected to be active at some point in the future. CN is CAGY's largest interchange connection, with all such traffic handled via Greenwood. Approximately 65 percent of the line can handle 286,000-pound car weights.

**Golden Triangle Railroad** (GTRA) is a small switching carrier that supports the movement of forest products to and from Weyerhaeuser's Trinity pulp mill. Operations have been managed by a unit of Weyerhaeuser's Columbus mill. The line operates over 22 miles of track in Mississippi and is capable of handling 286,000-pound carloadings. The railroad has trackage rights over seven miles of KCS track to reach Columbus where it interchanges with six different carriers. GTRA is owned by the Patriot Rail Corporation, another short line railroad holding company.

**Grenada Railway, LLC** (GRYR) runs from Southaven (just below the Tennessee-Mississippi state line at Memphis) to Canton (northeast of Jackson), and has its operating headquarters in Grenada. The railroad operates over 187 miles of track, all of which it owns. The 81-mile portion of the line between Grenada and Canton has been without service since it was embargoed in 2011, but GRYR is working to reopen the line. Seven counties served by the railroad have formed the North Central Mississippi Regional Railroad Authority (NCMRRRA), and in June 2015, NCMRRRA announced that it had reached a final agreement with GRYR to acquire the company and all rail assets of the Grenada branch line. Pursuant to a 15-year agreement, Iowa Pacific Holdings, LLC (IPH) will operate the line through its newly-formed subsidiary, Grenada Railroad. The operator will continue to do business under the Grenada Railway name. In Memphis, the railroad interchanges with CN, (and through an intermediate switch arrangement with CN) CSXT, BN, UP, and NS; an interchange with CN in Canton is expected to be reinstated when that line segment is reopened. The main commodities hauled by the railroad include forestry products, plastics, petroleum products, flour, and grain. IPH has also inaugurated its "Polar Express" Christmas-themed tourist passenger event at Batesville. GRYR also acquired the *Kosciusko and Southwestern Railway* (KSRY), a former Illinois Central branch line. The KSRY line was acquired by the State of Mississippi in 1997 and was the only state-owned rail segment. The State of Mississippi donated the line to GRYR in June 2015. The line runs

approximately 21 miles between Aberdeen Junction and Munsons Crossing. GRYR expects to reopen the line for storage of surplus railcars.

**Luxapalila Valley Railroad, LLC (LXVR)** is a subsidiary of Genesee and Wyoming, which also operates the Columbus and Greenville Railway and the Meridian and Bigbee Railroad. The majority of LXVR revenue is derived from Georgia-Pacific and Weyerhaeuser, 24 miles beyond the state line in Belk, Alabama. Commodities transported include forest products and waste products. Twelve miles are owned and operated in Mississippi. Traffic is brought into Columbus for interchange with CAGY, KCS, and NS.

**Meridian and Bigbee Railroad (MNBR)** is a 145-mile short line that bridges the Alabama-Mississippi state line and provides direct connections with all major carriers serving the Southeast: KCS, NS, CSXT, and BNSF, as well as AGR. The railroad runs from Meridian to Burkeville, Alabama and has trackage rights over CSXT from Burkeville to Montgomery. MNBR has been held by Genesee and Wyoming since 2005.

MNBR owns and operates over 19 miles in Mississippi. It depends heavily on on-line traffic but also serves as an east-west bridge carrier for traffic routed between the KCS and CSXT systems. It served as a detour route for CSXT post-Katrina. The line has a 263,000-pound weight restriction.

**Meridian Southern Railway (MDS)** acquired and commenced operating over 60 miles of a former KCS branch line between Meridian and Waynesboro in 2000. The carload weight limit for the railroad is 263,000 pounds, resulting in large part from the condition of 72 bridges on the line. KCS is currently the railroad's only interchange partner, although it has received authority and a state grant to access NS in Meridian using a 1,800-foot connecting track. The railroad is one component of the East Mississippi Intermodal Rail Corridor project being considered by the Rail Authority of East Mississippi.

**Mississippi Central Railroad Company (MSCI)** operates a total of 108 miles in Mississippi. MSCI serves far north central Mississippi along 56 miles it owns from Oxford, connecting with BNSF at Holly Springs and with Norfolk Southern at Grand Junction, Tennessee, just a few miles north of the state line. The railroad also leases 11 miles in Iuka in the northeast corner of Mississippi and 41 miles between a NS connection in Corinth and Sunshine Mills in Red Bay, Alabama (just east of the state line). MSCI is owned by Pioneer-RailCorp of Peoria, Illinois. The railroad's main commodities are wood products, fertilizer, and feed ingredients. Carload weights are limited to 263,000 pounds.

**Mississippi Delta Railroad (MSDR)**, in its current configuration, was created in March 2001 as Coahoma County assumed ownership of three contiguous Class I railroad light density lines extending north from the CN interchange at Swan Lake. The combined lines total 60 miles and serve Clarksdale, Lula and Jonestown. Delta Oil Milling in Jonestown is the anchor shipper for the railroad. The lines are operated through a lease with C&J Railroad of Jeffersonville, Indiana and are limited to maximum gross carload weights of 263,000 pounds.

**Mississippi Export Railroad (MSE)** owns and operates the 42-mile short line just west of the Alabama state line in southeast Mississippi between a connection with CN at Evanston south to Pascagoula where it connects and interchanges with CSXT and serves the Port of Pascagoula. It also interchanges with NS at Mobile and Hattiesburg and with KCS in Jackson via haulage agreements. MSE works closely with the Port of Pascagoula to develop new import and export opportunities. Access to the port is via a switch

arrangement with CSXT. The entire railroad is capable of handling 286,000-pound carloadings, and most of it can handle 315,000-pound carloads.

**Mississippi Southern Railroad** (MSR) runs from a junction with KCS at Newton to its terminal at Bay Springs. It operates on 28 miles of track, all leased from KCS. MSR is leased by Watco Companies from, and interchanges with, KCS. Carload weight limits are 263,000 pounds, although some of the line is capable of handling 286,000-pound carloads.

**Mississippian Railway Cooperative** (MSRW), or "Mississippian", owns and operates a single 22-mile alignment northeastward from a BNSF connection in Amory to Fulton. It was purchased by the Itawamba Development Authority in 1986 to preserve service to local rail-served industries. Rail customers and the MDA banded together to raise public and private funds for the line's purchase and then turned day-to-day governance over to a shipper-appointed board. On-line Homan Industries now operates the railroad, which is rated for 263,000-pound maximum carload weight limits. Approximately 35 percent of the line can accommodate 286,000-pound rail cars.

**Natchez Railway** (NTZR) was created in 2009 following the acquisition of Illinois Central Railroad's branch line between Brookhaven and Natchez. The original Natchez railroad line was established more than one hundred years ago. Historically, the 68-mile railroad has been a main artery for transporting goods to Southwest Mississippi. All traffic is interchanged with the Illinois Central Railroad at Brookhaven. Currently, the main products hauled on the line are crude oil for Genesis in Natchez and empty cars for the American Railcar Industries car repair facility in Bude. The line also serves the Natchez-Adams County Port and Industrial Park in Natchez.

**Old Augusta Railroad** (OAR) is an indirect wholly owned subsidiary of Georgia-Pacific, LLC (GP). It serves both a GP wood mill and wood pulp manufacturing facility. The line was constructed in 1983 and runs one to two trains per day on 2.5 leased miles from the CN interchange in New Augusta, MS to the manufacturing facilities in Augusta, MS. The line is capable of handling 286,000-pound carloads.

**Port Bienville Railroad** (PBVR) owns and operates over nine miles in Hancock County to serve the Port Bienville industrial park. The line interchanges with CSXT in Ansley, MS. Volumes have grown in recent years and trackage is now capable of handling 286,000-pound carload weights. Car cleaning, repair, maintenance and storage services are also offered to rail customers. As an arm of the Hancock County Development Commission, PBVR is anxious to attract new clients and industries to the area. A multimodal transload facility is located within the designated Foreign Trade Zone in the Port Bienville industrial park.

**R.J. Corman-Tennessee Terminal** (RJCK) is a four-mile line running east from a junction and interchange with BNSF at Olive Branch. The line is owned by R.J. Corman Railroad Group, a short line railroad holding company, and leased from BNSF. The line continues into Tennessee and provides industrial switching operations over a total of 47 miles.

**Ripley & New Albany Railroad Company** (RNA), a wholly owned subsidiary of Pioneer Railcorp, owns and operates 26.5 miles of track from New Albany to Ripley, MS. The railroad interchanges with both KCS and BNSF in New Albany. The line can accommodate 286,000-pound rail cars.

**Vicksburg Southern Railroad** (VSOR) is a Watco Companies affiliate operating over 21 miles of track in the Vicksburg area, including the Port of Vicksburg and north to Redwood. The rail lines are leased from KCS with whom the carrier interchanges in Vicksburg. Carload weights are limited to 263,000 pounds.

**West Tennessee Railroad** (WTNN) operates a collection of former Illinois Central and Norfolk Southern branch lines. Extending southward from Fulton, Kentucky through the Jackson, Tennessee area and into the far northeastern corner of Mississippi, the railroad connects and interchanges with KCS and NS at Corinth. The carrier owns and operates two miles in Mississippi. The railroad is a component of the NS-CN Mid-America Corridor

**Yellow Creek Port Railroad** (YCRK) is controlled by the Yellow Creek Inland Port Authority over which service is provided by KCS. The railroad runs over 10 miles from Sharp, Mississippi, on the KCS line from Corinth, to Counce, Tennessee, to Yellow Creek Port where it terminates.

#### **2.2.1.4 Major Freight Terminals**

The only active intermodal rail-highway trailer-container facility within the State is located in Richland near Jackson. The terminal is a joint facility used by CN and KCS and is located adjacent and connected to the KCS High Oak Yard. Terminal operations are provided by KCS. It is located on 85 acres with an annual capacity of approximately 90,000 lifts per year and onsite storage for 300 containers. Containers are placed onto or taken off trains by the facility's single crane or one of its three side lifts. The lack of trailer/container transfer facilities in Mississippi does not mean that the State's businesses do not have access to them. There are several located in neighboring states that are accessible from many locations within the State.

With three commercial waterways in the state, there are numerous ports handling both barges and deep-draft vessels. Of the State's 16 water ports, four are associated with the Gulf of Mexico, six with the Mississippi River, and six lie along the Tennessee-Tombigbee (Tenn-Tom) Waterway. Twelve are rail served, and one (Aberdeen) is planning for rail service (**Table 2.2**).

The largest ports in the State as measured by cargo handled at both public and private port terminals are Pascagoula and Gulfport. They are also the State's only ports capable of receiving deep draft vessels. Pascagoula is the largest port in the State, and Gulfport is the only deep water container port in the State with the number of TEUs<sup>11</sup> generated just below neighboring New Orleans and greater than Mobile. Some of the river ports are involved in container-on-barge (COB) services.

The ports are multimodal in nature, but they are also involved in the development of industrial properties that in most cases, especially relative to the river ports, generate much greater transportation demand than the port terminals themselves. Thus, while each port plays a role in the State's intermodal system facilitating water and land cargo transfers, many are more industrial development tools than intermodal facilities per se, and carload freight is the rule rather than containers that are more commonly associated with intermodal transport.

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<sup>11</sup> TEU stands for twenty-foot equivalent unit, or a small marine container.

**Table 2.2: Mississippi Rail-Served Water Ports**

Port	Associated Waterway	Serving Rail Carrier <sup>1</sup>
Aberdeen <sup>2</sup>	Tenn-Tom	KCS
Amory	Tenn-Tom	BNSF
Bienville	Gulf of Mexico	PBVR
Greenville	Mississippi	CAGY
Gulfport	Gulf of Mexico	KCS, CSXT
Itawamba	Tenn-Tom	MSRW
Lowndes County	Tenn-Tom	KCS, CAGY
Natchez	Mississippi	NTRZ
Pascagoula	Gulf of Mexico	MSE, CSXT
Rosedale	Mississippi	GTR
Vicksburg	Mississippi	VSOR
Yazoo County	Mississippi	CN
Yellow Creek	Tenn-Tom	KCS

<sup>1</sup> Reporting marks for railroads.

<sup>2</sup> Planned rail service; no existing rail service.

### 2.2.1.5 Abandoned and Rail-Banked Lines

Very little mileage of the state rail system has been abandoned since the last state rail plan was published in 2011. Based on surveys of Class I and local rail companies, only Illinois Central noted that they have had a number of very small abandonments, totaling less than 10 miles.

The process by which inactive rail corridors are preserved for possible future rail use is called rail banking. A typical means of rail banking lines is converting them for use as trails. According to the Rails to Trails Conservancy,<sup>12</sup> Mississippi has 13 rail-trails totaling 120 miles. The Tanglefoot Trail is Mississippi's longest Rails to Trails conversion, measuring 43.6 miles through the foothills of the Appalachian Mountains between New Albany and Houston on an old Mississippi Tennessee Railroad line.<sup>13</sup> Construction was completed in the summer of 2013. The trail has a 10-foot paved path.

Longleaf Trace is a 40.5-mile trail between Prentiss and Hattiesburg that opened in 2010.<sup>14</sup> The trail, which occupies a former rail line of the Mississippi Central Railroad, is 10 feet wide and paved with asphalt. Mississippi's trail system also includes several smaller trails, ranging from 0.2 to 10 miles, on abandoned rail lines.

### 2.2.1.6 Out-of-Service and Weight-Limited Rail Lines

Rail lines that have not been abandoned but are either out of service (i.e., embargoed) or of such condition that they cannot handle standard 286,000-pound carloadings can have an adverse impact on shippers and the local economies that rely on the shippers for jobs and revenues. As traffic on rail lines diminishes, or as funds are not available for needed maintenance, lines are sometimes taken out of service or are

<sup>12</sup> Rails to Trails Conservancy: <http://www.railstotrails.org/our-work/united-states/mississippi>

<sup>13</sup> Tanglefoot Trail website: [www.tanglefoottrail.com](http://www.tanglefoottrail.com)

<sup>14</sup> Longleaf Trace website: [www.longleaftrace.org](http://www.longleaftrace.org)

abandoned. In some cases, abandoned lines are rail-banked, meaning they are converted to other uses, as a way to retain the underlying right of way for future rail use. As noted on **Figure 2.2**, several extended sections of rail line are out of service. As described in the railroad summaries in **Section 2.2.1.3**, 92 miles of the Columbus and Greenville line between Greenwood and West Point are currently out of service; the 81-mile portion of the Grenada Railway line between Grenada and Canton has been without service since it was embargoed in 2011; and the 21-mile Kosciusko and Southwestern Railway between Aberdeen Junction and Munsons Crossing, recently acquired by the Grenada Railway, is out of service as a result of the Grenada Railway line embargo. **Table 2.3** lists the railroads and their mileage of track that is embargoed.

**Sections 2.2.1.1** through **2.2.1.3** also noted several Class I and short line railroads that have weight limitations. **Table 2.3** also lists the railroads and their mileage of weight-limited track.

**Table 2.3: Embargoed and Weight-Limited Rail Mileage in 2015**

Railroad	Reporting Marks	Mississippi Route Miles		
		Operated <sup>1</sup>	Embargoed Track	Weight-Limited Track <sup>2</sup>
<b>Class I Railroads:</b>		<b>1,971</b>	<b>&lt;10</b>	<b>162</b>
Illinois Central Railroad Co.	CN	780	<10	62 <sup>3</sup>
Kansas City Southern Railway Co.	KCS	707	0	100
<b>Class II (Regional) Railroads:</b>		<b>46</b>	<b>0</b>	<b>46</b>
Alabama and Gulf Coast Railway	AGR	46	0	46
<b>Class III (Local) Railroads:</b>		<b>731</b>	<b>194</b>	<b>362</b>
Columbus and Greenville Railway	CAGY	85	92	25
Grenada Railway, LLC	GRYR	106	102	0
Luxapalila Valley Railroad, Inc	LXVR	12	0	11 <sup>3</sup>
Meridian and Bigbee Railroad, LLC	MNBR	19	0	19
Meridian Southern Railway, LLC	MDS	60	0	60
Mississippi Central Railroad Co.	MSCI	108	0	56
Mississippi Delta Railroad	MSDR	60	0	60
Mississippi Southern Railroad	MSR	28	0	28
Mississippian Railway Cooperative, Inc.	MSRW	22	0	14 <sup>3</sup>
Natchez Railway, LLC	NTZR	68	0	68 <sup>3</sup>
Vicksburg Southern Railway	VSOR	21	0	21
<b>TOTALS</b>		<b>2,748</b>	<b>204</b>	<b>570</b>

1 To allow for comparison, the total operated mileage for each railroad class includes all railroads in Mississippi, even though the table only includes railroads that reported embargoed or weight-limited mileage.

2 Track that is not able to accommodate 286,000-pound carloads.

3 These weight-limited mileages are based on correspondence or survey responses. CN reported that 8% of its line is weight-limited; LXVR reported that 95% of its line is weight-limited; and MSRW reported that 65% of its line is weight limited.

## 2.2.2 Existing Passenger Services

### 2.2.2.1 Existing Routes

Current passenger rail service in Mississippi is provided by two traditional long-distance trains operated by the National Railroad Passenger Corporation (Amtrak). Amtrak assumed operations of most of the nation's passenger rail trains in 1971 due to financial losses sustained by the freight railroads (especially

the Penn Central Railroad) on their passenger operations. The National Railroad Passenger Corporation is a congressionally chartered corporation owned by the U.S. Department of Transportation and operated as a quasi-nonprofit corporation.

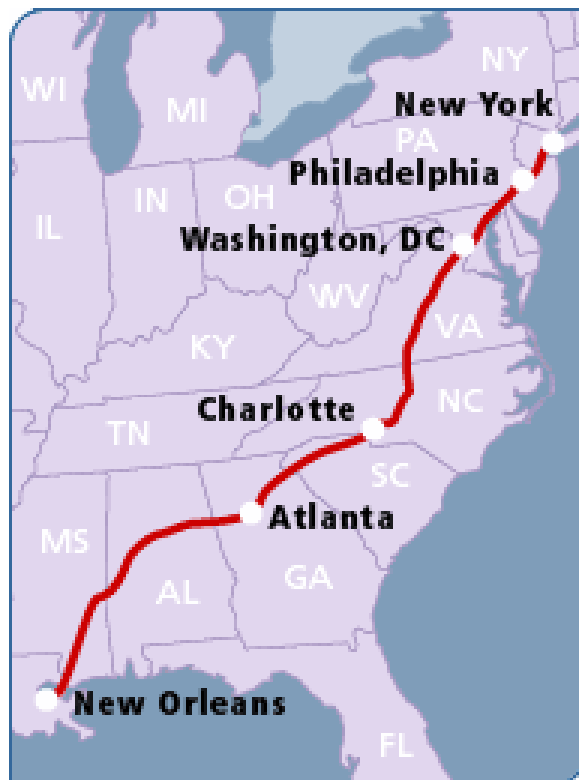
Existing Amtrak service to Mississippi includes two long distance trains: the Crescent and the City of New Orleans, each described below. Until 2005 a third train, the Sunset Limited, also served Mississippi along the Gulf Coast route; that service was discontinued following the severe damage to the track caused by Hurricane Katrina. Amtrak is looking at three options for potential restoration of that service. Proposed passenger rail service is discussed in **Section 2.4.2** and **Chapter 3**.

Based on a summary of 2014 Amtrak data developed by the National Association of Railroad Passengers, the average length of trips beginning or ending at Mississippi stations is 424 miles and the average fare is \$73. The top city pairs by ridership in 2014 were Jackson, MS to New Orleans, LA and Jackson, MS to Chicago, IL.

### Crescent Service

The *Crescent* operates between New York and New Orleans, a distance of 1377 miles. The service consists of one daily round-trip, stopping at Picayune, Hattiesburg, Laurel, and Meridian within Mississippi. Intermediate stops outside Mississippi include Birmingham, AL, Atlanta, GA, Charlotte, NC, Washington, DC, Baltimore, MD, Philadelphia, PA, and Newark, NJ. Southbound the train leaves New York 2:15 PM and arrives in New Orleans 7:32 PM the following day. Northbound the train leaves New Orleans at 7:00 AM and reaches New York at 1:46 PM the following day. The *Crescent's* schedule offers daytime service through Mississippi in both directions with stops in the afternoon (southbound) at 2:58 PM (Meridian), 4:01 PM (Laurel – flag stop), 4:38 PM (Hattiesburg), and 5:42 PM (Picayune – flag stop). The *Crescent* travels northbound in the morning with stops at 8:22 AM (Picayune – flag stop), 9:30 AM (Hattiesburg), 10:05 AM (Laurel), and 11:02 AM (Meridian). A map of the *Crescent* route is shown in **Figure 2.3**. Through Mississippi, the *Crescent* runs for 162 miles on track owned by the Norfolk Southern Railway.

**Figure 2.3: Crescent Route**



Based on 2014 Amtrak fact sheets, ridership (combined boardings and alightings) at Mississippi stations along the Crescent route ranged from 2,517 in Picayune to 11,448 in Hattiesburg. Trips originating or terminating at Mississippi stations did not make the top ten city pairs by ridership or revenue in 2014. Birmingham, AL to New Orleans, LA, which passes through Mississippi, was the top city pair by ridership for this route.

Based on the 2010 Amtrak Ridership Profile for the *Crescent*, 89 percent of passenger trips are for non-business purposes. This includes 54 percent of trips to visit family and friends, 13 percent for vacation,



and 12 percent for leisure or recreation. The remaining non-business trips are for school (1 percent) and other purposes (1 percent). This leaves 11 percent of total passenger trips for business purposes. The majority of riders are female (71 percent) and the average age of adult passengers is 58 years. Household income averages \$76,000 per year (2010). Almost half of all travelers are employed, but a large percentage of passengers (41 percent) are retired.

### City of New Orleans Service

The *City of New Orleans* operates between Chicago and New Orleans, a distance of 962 miles. The service consists of one daily round-trip, stopping at Greenwood, Yazoo City, Jackson, Hazlehurst, Brookhaven, and McComb within Mississippi. Intermediate stops outside Mississippi include Champaign-Urbana, IL, Carbondale, IL, (with connecting Thruway bus service to St. Louis), Fulton, KY, and Memphis, TN. Southbound the train leaves Chicago 8:05 PM and arrives in New Orleans 3:32 PM the following day. Northbound the train leaves New Orleans at 1:45 PM and reaches Chicago at 9:00 AM the following day. The *City of New Orleans* schedule offers daytime service in both directions through Mississippi with stops in the late morning and early afternoon (southbound) from 9:00 AM (Greenwood) to 11:20 AM (Jackson) to 12:40 PM (McComb). Northbound, the *City of New Orleans* travels through Mississippi in the late afternoon and early evening with stops from 3:32 PM (McComb) to 5:44 PM (Jackson) to 7:37 PM (Greenwood). A map of the *City of New Orleans* route is shown in **Figure 2.4**. Through Mississippi, the *City of New Orleans* runs on Illinois Central Railway Company (a CN subsidiary) tracks for approximately 300 miles.

**Figure 2.4: City of New Orleans Route**



Based on 2014 Amtrak fact sheets, the Jackson, MS station is the fourth busiest station along this route, behind Chicago, New Orleans, and Memphis. The Jackson to New Orleans leg of the *City of New Orleans* route was one of the top four city pairs by ridership in 2014.

Based on the 2010 Amtrak Ridership Profile for the *City of New Orleans*, passengers are mostly taking non-business trips (74 percent). A large portion of trips (44 percent) are for visiting family or friends, while vacations and other recreational trips account for 19 percent of total passenger trips. As for the remaining riders, 11 percent are traveling for personal business while 12 percent are making business trips. The majority of riders are female (67 percent) and the average age of adult passengers is 56 years. Household income averages \$70,000 per year (2010). In all, 45 percent of all travelers are employed, but many passengers (40 percent) are retired.

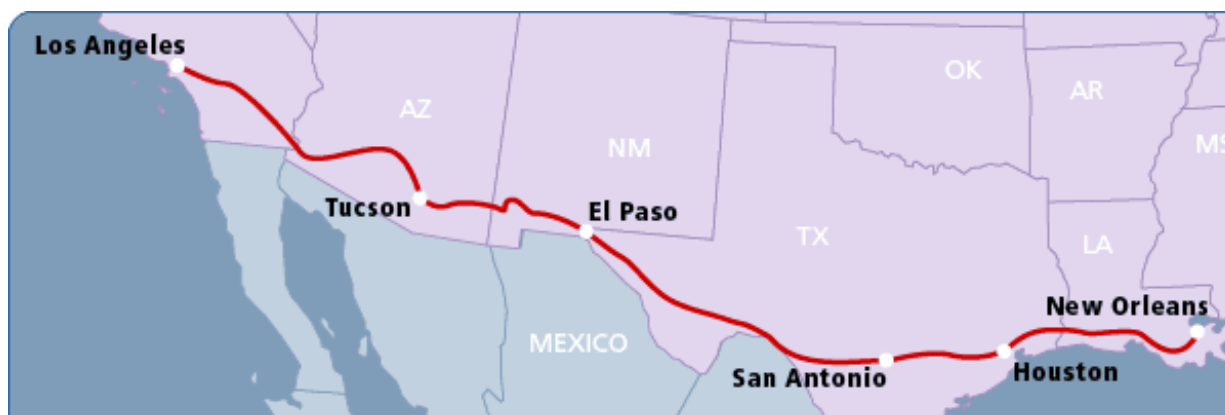
### Sunset Limited

Until Hurricane Katrina hit the Gulf coast in August 2005, Amtrak's Sunset Limited provided intercity passenger rail service along the Gulf Coast of Mississippi, as part of a transcontinental route from Miami, Florida to Los Angeles, California. The destruction to the CSXT line caused by the hurricane along the Gulf

Coast forced Amtrak to suspend the service east of New Orleans. The service remains suspended today. A map of the existing Sunset Limited route appears in **Figure 2.5**. The route is on the Union Pacific Railroad.

In July 2009, Amtrak issued its *Gulf Coast Service Plan Report*. That report delineated three options for restoring the service. Option 1 would be restoration of the thrice weekly service between Los Angeles and Orlando. Option 2 would be an extension of the daily Chicago-New Orleans *City of New Orleans* service east and south to Orlando. Option 3 would be a stand-alone daily service between New Orleans and Orlando. These options for restoring *Sunset Limited* services are discussed in greater detail in **Section 2.4.2**.

**Figure 2.5: Sunset Limited Route**



### **Thruway Bus Service**

Amtrak provides connecting bus service between rail stations and nearby communities that are not served by passenger rail service. In Mississippi, Thruway bus service is provided to complement the *City of New Orleans* route between Jackson, MS and Mobile, AL (operated by Greyhound Lines) and between Jackson and Dallas, TX (operated by Greyhound Lines). To complement the *Crescent* route, Thruway bus service is provided between Meridian and Dallas (operated by Greyhound Lines). The Thruway service is marketed as an extension of the rail service with through-tickets and fares.

#### **2.2.2.2 Passenger Stations**

As well as being gateways to trains, rail stations are frequently a focus for multiple community activities. They can foster economic development, commercial endeavors, tourism, cultural activities, civic pride and historic preservation.

As detailed in **Table 2.4**, there are 10 active Amtrak stations in Mississippi. Three of these stations – Jackson, Meridian and Hattiesburg – have been cited as prime examples of how investment in rail stations can foster a revised outlook for downtowns and generate additional private investment. McComb’s renovated station and museum highlights the importance of the railroads. Picayune’s recently rebuilt station improves service for those boarding the *Crescent*. In 2011, Brookhaven transformed its station into a new multimodal transportation center.

Of the 10 Mississippi stations, six are served by the *City of New Orleans* and four by the *Crescent*. All stations see two trains a day, one in each direction. Four of the stations (Meridian on the *Crescent* and Greenwood, Jackson, and Brookhaven on the *City of New Orleans*) are regular, scheduled train stops. Six (Yazoo City, Hazlehurst, and McComb on the *City of New Orleans* and Laurel, Hattiesburg, Picayune on the *Crescent*) are flag stops; that is, trains only stop to load or unload ticketed passengers; otherwise the train will pass the station at speed.

Only two of the stations are staffed and have baggage handling services, and only two have Amtrak's QuikTrak automatic ticket vending machines. Station facilities are either platforms with shelters or structures with enclosed waiting rooms.

Five stations are fully wheelchair accessible; five others have some barriers for wheelchairs. There are few transit connections at the stations, and limited parking is generally available at and/or near the stations.

### **ADA Compliance**

Amtrak's *A Report on Accessibility and Compliance with the Americans with Disabilities Act (ADA) of 1990*, produced in 2009, notes that four in-service Mississippi stations having scheduled stops are required to be ADA compliant. These are Greenwood, Hattiesburg, Jackson, and Meridian. The other stations are either flag stop stations or have been closed since Hurricane Katrina in 2005.

The four stations required to be ADA compliant were assessed as to the levels of ADA compliance of their station structures, platforms and pathways. Of the four, only Jackson was found to be overall generally compliant, rated at between 80-100 percent compliant. The others were found to be partially compliant, rated at 21-79 percent compliant. The same report cited preliminary cost estimates for improvements ensuring ADA compliance and a state of good repair for station structures, platforms and pathways. For the four Mississippi scheduled-stop stations these estimated costs totaled \$7.6 million.

There are also four suspended service stations in Mississippi. These are stations along *the Sunset Limited* Route from Orlando to New Orleans. The *Sunset* has not operated along this route since Hurricane Katrina, and it has not been determined if the service will be returned. The *Gulf Coast Service Plan Report* noted that should Amtrak service be restored east of New Orleans to Florida, the stations will need to be brought up to a state of good repair and made ADA compliant. The report estimated the cost to do so is \$2.4 million.

**Table 2.4: Amtrak Stations in Mississippi**

Location	Brookhaven	Greenwood	Hattiesburg	Hazlehurst	Jackson
<b>Owner</b>	Amtrak/City of Brookhaven	Canadian National	City of Hattiesburg	Canadian National	City of Jackson
<b>Address</b>	440 N. Railroad Ave. Brookhaven, MS 39601	Carrolton Ave and E. Gibson St Greenwood, MS 38930	308 Newman Street Hattiesburg, MS 39401	N Ragsdale Ave and E Conway St Hazlehurst, MS 39083	300 West Capitol St Jackson, MS 39201
<b>Flag Stop?</b>	Yes	-	-	Yes	-
<b>Served by</b>	City of New Orleans	City of New Orleans	Crescent	City of New Orleans	City of New Orleans
<b>Platform Type</b>	Single	Single	Single	Single	Double (Only Single in Service)
<b>Length</b>	400'	675'	950'	360'	700'
<b>Construction</b>	Brick pavers	Brick pavers	Concrete	Concrete	Concrete
<b>Shelter</b>	Enclosed shelter (serves as main passenger waiting area)	Partial awning	Fully covered	Enclosed shelter (serves as main passenger waiting area)	Partial awning
<b>Lighting</b>	-	Fully-lit	Fully-lit	Fully-lit	Fully-lit
<b>Platform Amenities</b>	-	-	Benches	-	Benches
<b>Passenger Safety</b>	Yellow safety line	Yellow safety line	Tactile paver strip; fully fenced along length of platform	Tactile pavers	Yellow tactile strip
<b>ADA</b>	Wheel chair accessible; not all station facilities accessible	Fully accessible	Wheel chair accessible; not all station facilities accessible	Fully accessible	Fully accessible
<b>Depot Hours</b>	No hours – enclosed shelter not secured	8:30 AM - 9:30 AM; 7:00 PM - 8:00 PM	9:15 AM - 10:15 AM; 3:45 PM - 4:45 PM	No hours – enclosed shelter not secured	10:15 AM - 5:45 PM
<b>Seating Capacity</b>	~8	12	~24	~10	~160
<b>Restrooms</b>	-	-	Yes	-	Yes
<b>Vending</b>	-	-	Yes	-	Yes; Café
<b>Ticketing</b>	-	-	QuikTrak kiosk	-	Staffed counter; baggage service; QuikTrak
<b>Telephones</b>	-	Payphone	Free Telephone	-	Payphone
<b>Shared Uses</b>	-	CN Office	Public meeting spaces, intermodal facility for Hub City Transit	-	Union Station restaurant, entertainment areas, Greyhound lobby
<b>Parking</b>	~26 spaces	~16 Spaces - Shared with CN	~5 Adjacent to Depot; Auxiliary Lot across Street	Adjacent On-street Parking. Not Designated for Station.	~ 75, pay-lot adjacent to station
<b>ADA Parking Facilities</b>	1 accessible space	1 accessible space	2 accessible spaces	1 accessible space	2 accessible spaces
<b>Intermodal</b>	-	-	Transfer center for Hub City Transit w/ bus bays	-	Greyhound, JATRA City Transit

**Table 2.4: Amtrak Stations in Mississippi**

Location	Laurel	Meridian	McComb	Picayune	Yazoo
<b>Owner</b>	City of Laurel	City of Meridian	City of McComb	City of Picayune	Amtrak/CN (Parking)
<b>Address</b>	230 N Maple St Laurel, MS 39440	1901 Front Street Meridian, MS 39301	114 NE Railroad Ave McComb, MS 39648	200 South Highway Picayune, MS 39466	222 West Broadway Yazoo City, MS 39194
<b>Flag Stop?</b>	Yes	-	Yes	Yes	Yes
<b>Served by</b>	Crescent	Crescent	City of New Orleans	Crescent	City of New Orleans
<b>Platform Type</b>	Single	Double	Double (Only Single in Service)	Single	Single
<b>Length</b>	675'	300'	315'	90'	300'
<b>Construction</b>	Asphalt	Concrete	Asphalt	Asphalt	Concrete
<b>Shelter</b>	Partial awning adjacent to depot	Covered platform, awning adjacent to depot	-	Partial awning adjacent to depot	Covered shelter adjacent to platform
<b>Lighting</b>	-	Partial Lighting on Platform	-	-	Fully-Lit
<b>Platform Amenities</b>	Benches	Benches	Payphone	Benches	Benches
<b>Passenger Safety</b>	Yellow safety line	Yellow safety line	Yellow safety line	Yellow safety line	Yellow safety line, tactile edging
<b>ADA</b>	Wheel chair accessible; not all station facilities accessible	Wheel chair accessible; not all station facilities accessible	Wheel chair accessible; not all station facilities accessible	Fully accessible	Fully accessible
<b>Depot Hours</b>	-	24 hrs/day	12:00 PM - 4:30 PM	-	9:00 AM - 11:00 AM; 6:30 PM - 7:30 PM
<b>Seating Capacity</b>	~20	~60	~42	~24	~12
<b>Restrooms</b>	Yes	Yes	Yes	Yes	-
<b>Vending</b>	-	Yes, Café	-	Yes	-
<b>Ticketing</b>	-	Staffed counter; bagged service	-	-	-
<b>Telephones</b>	Free telephone	Payphone	Payphone	-	Payphone
<b>Shared Uses</b>	Meeting rooms	Meridian Union Station. Greyhound station and ticket counter, package express counter, Meridian Transit System offices, Freight Rail Offices	Chamber of Commerce, meeting rooms, museum	Offices, museum	-
<b>Parking</b>	~21 adjacent to depot; auxiliary lot across street	~24 in lot, additional on- street	~ 8, shared with other depot tenants	~15 spaces, shared with other depot tenants	~18 spaces
<b>ADA Parking Facilities</b>	3 accessible spaces	2 accessible spaces	1 accessible space	2 accessible spaces	2 accessible spaces
<b>Intermodal</b>	-	Transfer center for City of Meridian Transit, Greyhound station	-	-	-

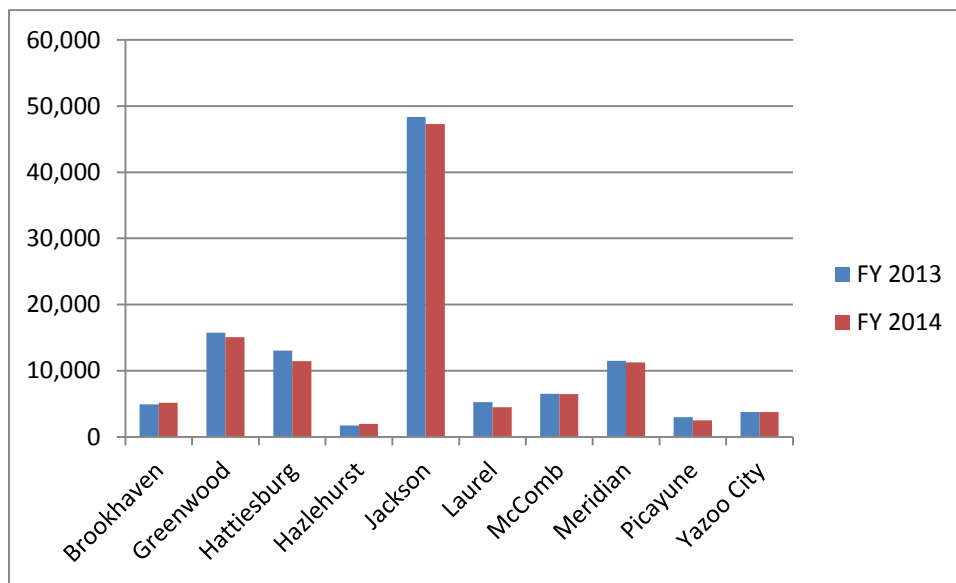
### 2.2.2.3 Performance Evaluation of Intercity Passenger Services

National intercity passenger rail ridership and revenues reached their highest levels in Amtrak history in FY 2013 with 31.6 million passengers carried and \$2.1 billion in ticket revenues. Ridership in Mississippi in FY 2013 totaled over 113,000 riders. In FY 2014, ridership declined slightly to below 110,000 riders. The following sections evaluate the performance of passenger rail service in Mississippi, in terms of ridership, financial performance, and on-time performance.

#### Ridership

Amtrak ridership in Mississippi has generally been stable in recent years, although as shown in **Table 2.5**, there was an overall 4 percent drop in state ridership between 2013 and 2014. All but two stations (Brookhaven and Hazlehurst) saw a decrease in ridership. Hazlehurst had the biggest percentage gain (15 percent) while Picayune had the biggest percentage loss (16 percent). Jackson is by far the busiest station, accounting for 43 percent of total state ridership. The following chart (**Figure 2.6**) shows the average number of boardings and alightings at each station in Mississippi for FY 2013 through and FY 2014.

**Figure 2.6: Amtrak Ridership in Mississippi, FY 2013-FY 2014**



With no major enhancements of Amtrak services planned, future intercity ridership should generally track with population growth. **Table 2.5** shows projected ridership for year 2034, twenty years in the future. The projections are based on projected population growth for counties within 30 miles of a station. The projected population growth for these counties (year over year) from 2010 to 2030 was applied to the 2014 ridership for create a 2034 ridership estimate. It is important to note that this forecast assumes no constraints on growth due to capacity limitations (e.g., train frequency or capacity).

Reflecting these assumptions, ridership is projected to increase by nearly 10 percent overall over the next twenty years, led by Hattiesburg with a 26 percent increase. Jackson will continue to be the busiest station with 46 percent of total state ridership projected in 2034.

**Table 2.5: Amtrak Ridership Forecast**

Station	Route	Boardings and Alightings		
		2013	2014	2034
Brookhaven	City of New Orleans	4,900	5,178	5,414
Greenwood	City of New Orleans	15,730	15,065	13,437
Hattiesburg	Crescent	13,056	11,448	14,418
Hazlehurst	City of New Orleans	1,728	1,994	2,043
Jackson	City of New Orleans	48,327	47,295	55,265
Laurel	Crescent	5,264	4,487	4,755
McComb	City of New Orleans	6,496	6,464	6,525
Meridian	Crescent	11,500	11,275	11,716
Picayune	Crescent	2,992	2,517	2,972
Yazoo City	City of New Orleans	3,772	3,764	3,581
<b>TOTAL</b>		<b>113,695</b>	<b>109,487</b>	<b>120,125</b>

Source: Amtrak Fact Sheets FY 2013 and FY 2014; MDOT Planning Division population projections

## Financial Performance

Amtrak's January 2015 revenue and operating cost reports reveal that the *City of New Orleans'* revenue covered 45.5 percent of its operating costs. This ratio is commonly known as the fare box recovery ratio. The figure for the *Crescent* was somewhat lower at 42.2 percent.

For the same period, Amtrak's long distance trains as a whole had a farebox recovery ratio of 51.0 percent. This indicates that the two long distance trains serving Mississippi have slightly lower financial results than Amtrak's long-distance network as a whole.

## On-Time Performance

Amtrak defines On-Time Performance (OTP) as the total number of trains arriving on-time at a station divided by the total number of trains operated on that route. A train is considered on-time if it arrives at the final destination within an allowed number of minutes, or tolerance, of its scheduled arrival time. Trains are allowed a certain tolerance based on how far they travel. In addition, Section 207 of PRIIA established metrics and standards for passenger rail, including standards for OTP and train delays. For long-distance routes, the standard for OTP is 80 percent in the first year (effective as of FY 2012) and 85 percent in the fifth year.

### *OTP Annual Trend*

The overall OTP (all stations) for Amtrak's long-distance routes in FY 2015 to date (October 2014-July 2015) was 43.2 percent. Long-distance routes are those over 500 miles that operate outside of Amtrak's Northeast Corridor between Washington, DC and Boston. For the same period, trains serving Mississippi performed marginally better than the system average; the *Crescent* and *City of New Orleans* routes both averaged 51 percent OTP. Compared to the same period in FY 2014, OTP declined 5.5 percent for the *Crescent* route and declined 1.9 percent for the *City of New Orleans* route, while overall OTP for all long-distance routes improved by 2.5 percent. A consistent and high on-time performance would make the rail

service more attractive to riders, especially those traveling shorter distances (e.g., intrastate journeys within Mississippi, or journeys between Mississippi and New Orleans, Birmingham, or Memphis).

### ***Cause of OTP Delays***

Causes for Amtrak train delays can be attributed to a number of reasons including the host railroad, Amtrak itself, or other delays such as grade crossing collisions. For the month of July 2015, there were 14,610 minutes of delay on the *Crescent* route, 24 percent attributable to Amtrak delays and 64 percent attributable to host railroad delays. On the *City of New Orleans* route, there were 9,652 minutes of delay, 25 percent attributable to Amtrak delays and 56 percent attributable to host railroad delays. For both the *City of New Orleans* and the *Crescent*, the top host railroad delay categories were freight train interference and slow orders (temporary slow orders, excluding weather-related).

## **2.2.3 Public Financing for Rail Projects and Service**

As was briefly described earlier in **Section 1.5**, Mississippi has a long history of providing financial assistance to railroads operating in the state. In 1972 the Mississippi Legislature established the Railroad Revitalization Fund. This revolving fund was designated to hold and disburse federal, state or other funding made available for railroad research, planning, and administration costs incurred by MDOT directly attributable to railroad revitalization projects, assistance to railroads for the rehabilitation or improvement of rail lines, and the construction, improvement or rehabilitation of railroad facilities. This fund complied with the provisions established by the FRA's Local Rail Freight Assistance Program. The State's contributions to this fund were derived from collections from the locomotive fuel tax.

Over time financial assistance to the State's railroads has expanded not only with regard to the level of financial assistance provided, but also by the number of governmental entities within the State that contribute funding for the rail planning and rehabilitation activities conducted with the State.

This section provides a description of existing state, local, regional, and federal programs utilized by or available to Mississippi for rail system improvements.

### **2.2.3.1 State Rail Assistance Programs**

Like many other states, Mississippi established a rail assistance program to address the rail industry's economic problems and service abandonments that began in the 1970s. State assistance programs have generally grown and become more diversified over time, evolving from branch line and short line preservation or improvement programs to address capacity constraints, enhance intermodal movements, and initiate and/or expand intercity passenger rail service. The following are existing state rail financial assistance sources available to Mississippi.

#### **MDOT Railroad Revitalization Fund**

This program has historically provided no-interest loans for up to 75 percent of the costs for rail and rail/highway crossing rehabilitation and upgrade projects. Funding available from all sources averaged \$4 million from federal funding allocations and state rail-diesel fuel tax revenue.

In 2009, the Mississippi Legislature passed HB 1713, which authorized the issuance of up to \$16 million of state general obligation bonds to fund rail system and multi-modal projects in the state. Of this amount a



total of \$12.5 million is to be deposited in the Railroad Revitalization Fund to provide assistance to publicly owned railroads for the rehabilitation or improvement of existing freight and passenger rail lines, construction, improvement or rehabilitation of railroad facilities, and for highway-railroad crossing safety. One million dollars of this amount is allocated to the Mississippi Highway-Railroad Grade Crossing Safety Account.

### **MDOT Multimodal Transportation Improvement Program**

This fund, established in 2001 by Senate Bill 2527, is to be expended by MDOT for the improvement of publicly-owned (State, county, or municipality) ports, airports, transit systems, and rail lines. Mississippi Code 65-1-707 provides guidance for the allocation of funds. During each state fiscal year, MDOT is required to distribute available funds among the various modes as follows:

- Ports – 38 percent
- Airports – 34 percent
- Transit Systems – 16 percent
- Rail – 12 percent

Funding was first provided in 2005 at \$5 million (\$600,000 for rail) and beginning in 2007, funding was doubled to \$10 million (\$1.2 million for rail). Eligible rail projects must be directly related to capital improvements or the rebuilding or rehabilitation of basic infrastructure and not for routine maintenance, administrative or operational expenses, directly related to the operation of the railroad, and for a purpose outside the normal operating budget of the railroad.

Project applications for Multimodal Improvement Program funding are reviewed by MDOT to ensure eligibility and selected by the Railroad Multi-Modal Fund Committee comprising a director of each railroad, the Executive Director of MDA, and the Executive Director of MDOT or their designees.

For State Fiscal Year 2015 \$1.275 million of Multi-Modal rail funds were allocated to four rail projects and for State Fiscal Year 2016, \$1.441 million was allocated to four rail projects, including upgrading the Mississippian Railway to a weight capacity of 286,000 pounds. These projects will be included in the Short-Term Rail Improvement Program.

### **Mississippi Highway-Railroad Grade Crossing Safety Account**

In addition to the Federal Section 130 Highway-Rail Grade Crossing Program described below under federal programs, MDOT utilizes a state highway-railroad grade crossing safety account provided via the state legislature. In the past, the account has been funded on an as-needed basis. When the program has been depleted, it has been restored as funding was available.

Eligible projects include financial incentives for the closure of public highway-railroad grade crossings, installation or upgrades to highway-railroad grade crossing signals, grade separations, and grade crossing surface improvements, among others. A grade crossing signal project must include a 10% match of federal funds.

Since the 2011 MSRP, the grade crossing safety account has been used primarily to fund grade crossing signal improvements and as incentive funds to local municipalities for the closure of grade crossings.

### **MDOT Capital Assistance Stimulus for Rail Projects Fund**

This fund was created by 2009 HB 1713 as a separate and special fund for the construction, rehabilitation, maintenance and improvement of the State's passenger rail infrastructure. The fund is intended to take advantage of and match federal funding assistance available for conventional intercity passenger, high-speed rail corridor, or other high-speed rail services. Up to \$3.5 million of the bonds authorized are allocated to this fund.

### **Mississippi Development Authority Rail Funding Programs**

MDA is Mississippi's lead economic and community development agency. MDA administers several rail improvement loan and grant programs, as described below. Many of the programs are restricted to publically owned infrastructure.

- **Freight Rail Service Revolving Loan Program (RAIL)** provides loans and grants to municipalities and counties to finance freight rail service projects in the State. Projects may involve the acquisition, construction, installation, operation, modification, renovation or rehabilitation of any freight rail service facility. Loans are limited to \$1 million per project per calendar year for a maximum term of 15 years or the life of the project, whichever is less. The loan interest rate is 1 percent below the Federal Reserve Discount Rate at the time of the loan approval. Governing authorities can in turn use the program funds received to make loans to railroad operators for qualified projects.

MDOT, in conjunction with the MDA, administers the RAIL Program to improve highway-railroad crossings in rural areas of the state. The program stipulates that the railroad must provide freight rail service and the maximum amount for the grant is \$250,000. While the program is eligible to "projects relating to the upgrading of railroad grade crossings", the program has been primarily used to install new crossing surfaces at highway-railroad grade crossings. Additionally, the program has funded grade crossing signal projects as well.

- **Capital Improvement Revolving Loan Program (CAP)** provides loans to county and municipal governmental authorities. Eligible projects include roads, bridges, and rail spurs.
- **Development Infrastructure Grant Program (DIP)** provides grants to municipalities and counties that apply on behalf of a new or expanded industry based on the public infrastructure needs of the project. The maximum grant amount per project is \$150,000. Transportation facilities directly affecting the site, including roads, bridges, and rail lines, are eligible for funding.
- **Railroad Bridges and Improvement Program** is the result of HB 1492 and HB 858 (2008) which set aside \$5 million to assist Tippah, Union, Alcorn, Tishomingo, Wayne, Clark and Lauderdale Counties and municipalities located within these counties in paying costs associated with the construction and improvement of bridges, viaducts, and overpasses spanning railroad lines and related railroad facilities, and paying the cost of railroad line improvements. All \$5 million has been obligated. The last \$50,000 is expected to be used within the next six months.

- **Mississippi Rail Grant Program** provides grants to public and private railroads to assist in paying a portion of the cost associated with the repair, rehabilitation, construction, reconstruction, upgrading, and improvement of railroad lines and related facilities, including projects necessary to ensure the safety and structural integrity of rail lines, rail beds, and bridges. This program has a 50 percent match requirement for Class I lines and a 25 percent match for all other lines. As a result of three bills between 2011 and 2013, \$9.9 million has been made available. All funding has been obligated to 16 railroads. In addition, Senate Bill 2906 (Regular Session 2015) has authorized the issuance of general obligation bonds to provide funds in the amount of \$2.6 million to assist in paying a portion of the cost associated with the improvement of the existing railroad line and related facilities running from the City of Amory, MS to the City of Fulton, MS.
- **Rural Impact Grant Fund** provides for a maximum grant of \$150,000 per project to rural communities (defined as a municipality with a population of 10,000 or less or a county with a population of 30,000 or less). Transportation facilities, including roads, bridges, and rail lines, are eligible for funding.

### 2.2.3.2 Regional and Local Government Rail Assistance

Mississippi has established a number of local and state regional authorities that contribute financial resources to conduct rail planning or other functions necessary to improve rail access and operational efficiency. The following are examples of recent projects by local authorities:

- The *Rail Authority of East Mississippi* (RAEM) is comprised of five counties working to reestablish 56 miles of rail service between Waynesboro and Lucedale in southern Mississippi. It will connect to the MDS and MSE short lines, which will provide connections via four Class I railroads. The authority has completed an implementation plan and market study to assist in pursuing federal funding for the estimated \$225 million project. The Pascagoula Port Authority, Jackson County Port Authority, and member counties contributed toward funding the study.
- Senate Bill 2913 (Regular Session 2013) designated \$1 million to assist in paying costs incurred by REAM for an environmental impact study and a study to determine economic opportunities for southeast Mississippi related to the wood pellet industry. In 2014, HB 787 designated \$500,000 to assist in paying costs incurred by REAM for the second phase of an environmental impact study. These funds are currently available. Finally, in 2015, Senate Bill 2906 designated \$1 million to assist in paying costs incurred by REAM for engineering and design services associated with the development and construction of the East Mississippi Intermodal Rail Corridor. To date, the sale of bonds has not yet occurred.
- The *Port Authority at Gulfport* was recently successful in acquiring a \$20 million federal grant to upgrade a KCS rail line to accommodate double-stack intermodal trains.

In addition to local authorities, Mississippi Planning and Development Districts provide regional community and economic development services to ten regions across the state. These agencies secure and administer grants and other funding for its member governments and provide other technical and socioeconomic services.

A number of regional authorities with funding available to study or contribute to transportation or transportation-related economic development initiatives have portions of Mississippi located within their geographic boundaries. The authorities described below have a history of providing financial assistance to study or fund rail improvements in their region.

The *Appalachian Regional Commission* (ARC) provides funding for several hundred projects throughout the Appalachian Region in support of its goals, which includes improving the capacity, efficiency, and responsiveness of the region's intermodal corridors. ARC, which includes 24 counties in northeast Mississippi, provided \$100,000 in 2009 to conduct a Phase 2 study of the proposed Columbus & Greenville Rail Revitalization project. ARC also provided grant funding to support the Tanglefoot Trail rails-to-trails project (opened in 2013).

The *Delta Regional Authority* (DRA), which encompasses eight states along the Mississippi River valley, was established under federal law to invest in economically distressed areas. Half of the funding available to DRA is earmarked for transportation and basic infrastructure improvements. The DRA may also provide matching funds for other state and federal programs. The DRA region encompasses 47 counties in West Mississippi.

### **2.2.3.3 Federal Rail Programs**

Historically, there have been few dedicated federal programs for rail capital assistance available to states. In 2008, however, PRIIA and related appropriation bills provided funds directly to states for rail intercity passenger investments. In early 2009, the American Recovery and Reinvestment Act also provided flexible transportation funding to states for capital projects as well as funding for passenger rail development.

The following describes these and other programs specifically available for rail assistance as well as programs that may be eligible for selected rail-related applications.

#### **Federal Intercity Passenger Rail and High-Speed Rail Programs**

The federal government has placed a high priority on the improvement of intercity passenger rail service both as a source of economic stimulus and as an essential future mode of passenger transportation. The following are the legislative and budget initiatives that have been approved to assist states in intercity passenger rail planning and development.

*Passenger Rail Improvement and Investment Act (PRIIA) of 2008* - This legislation authorized over \$13 billion between 2009 and 2013 for Amtrak and promotes the development of new and improved intercity passenger rail services. The Act also establishes an intercity passenger rail capital grant program for states. States are required to identify passenger rail corridor improvement projects in their State Rail Plan.

PRIIA established three new competitive grant programs for funding high-speed intercity passenger rail improvements. Each of the three programs provides 80 percent federal funding with a required 20 percent non-federal match.

- ***Intercity Passenger Rail Service Corridor Capital Assistance Program*** - This program was intended to create the framework for a new intercity passenger rail service corridor capital assistance program. The program authorized USDOT to use appropriated funds to provide grants to assist in financing the costs of facilities, infrastructure, and equipment necessary to provide or improve

intercity passenger rail transportation. States or groups of states, interstate compacts, and public intercity passenger rail agencies established by states are eligible for these grants. In addition, to be eligible for funding under this program, projects must be included in a State Rail Plan approved by the FRA.

Existing or proposed intercity passenger services are eligible under this program.

- **High-Speed Rail Corridor Development Program** - PRIIA also authorized \$1.5 billion annually to establish and implement a high-speed rail corridor development program. Funding is restricted to projects intended to develop the 10 federally-designated high-speed corridors for intercity passenger rail services (not including the Northeast Corridor) that may reasonably be expected to reach speeds of at least 110 miles per hour.

The Gulf Coast Rail Corridor from Houston, through New Orleans to Mobile and Atlanta, was designated a High-Speed Corridor by USDOT in 1998 and is eligible for funding under this program.

- **Congestion Grant Program** - This PRIIA program authorized \$325 million annually for grants to states, or to Amtrak in cooperation with states, for financing the capital costs of facilities, infrastructure, and equipment for high-priority rail corridor projects necessary to reduce congestion or facilitate intercity passenger rail ridership growth.

As noted, funding for these authorized programs associated with PRIIA must be appropriated annually. The actual PRIIA appropriation levels approved by Congress are discussed below.

## **U.S. DOT Budget Appropriations**

Federal funding authorized under PRIIA or other authorization programs must be appropriated under annual budget or other legislative bills. U.S. DOT's most recent budget appropriation (FFY 2010) provided \$2.5 billion in funding for the high-speed rail state grant program authorized under PRIIA. Funds are provided to states, on a competitive basis, up to 50 percent of the capital cost of improving intercity passenger rail service.

Previous DOT appropriation acts also provided funding that could be utilized for intercity passenger rail improvements under similar terms. The FFY 2009 DOT Appropriations Act provided \$90 million to states. The FFY 2008 DOT Appropriations Act provided \$30 million to states. Up to ten percent of the funding available under these appropriations is available for rail corridor planning grants.

No appropriations for high-speed rail grants were included in the FFY 2011 through 2013 budgets.

## **Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants Program**

This program allowed local and state governments to apply for \$1.5 billion of discretionary funding. Grants were eligible for capital investment in rail, highway, bridge, public transportation, and port projects and awarded by USDOT on a competitive basis. The Mississippi State Port Authority at Gulfport received a \$20 million TIGER grant to upgrade the KCS line to accommodate 49 mph double-stack intermodal service to the Port.

## **Section 130 Highway-Rail Grade Crossing Program**

MDOT administers the Highway-Rail Safety Improvement Program, known as the Section 130 program. Projects funded through the Section 130 program are eligible for 90 percent federal funding, with projects that involve the elimination of hazards of railway-highway crossings being eligible for 100 percent federal funding. Projects may include, but are not limited to, crossing closures, grade separations, crossing surfaces, and installation or improvements to warning devices (flashing lights and gates). Projects must be located at one of Mississippi's roughly 2,200 public crossings. At least half of Mississippi's Section 130 funds have to be used on improvements related to warning devices at highway-railroad crossings. However, MDOT uses almost all of its Section 130 funds on warning device improvements at highway-railroad crossings.

Projects under the Section 130 program are selected on a statewide, competitive basis. A Diagnostic Review of the crossing is held to determine the appropriate level of traffic control at a crossing. If the crossing is determined to need flashing lights and gates, it is placed on a list. This list is used to prioritize potential projects using metrics that include crash history, train volumes, train speeds and the associated required sight distance, among other items.

The amount of funds available through the Section 130 program varies from year to year. The latest funding levels have been about \$3.4 million per year. Since almost every dollar goes to warning device improvements, MDOT is able to fund around 10-15 Section 130 projects each year. Projects funded using Section 130 funds are summarized in **Section 2.2.4.2**.

## **Federal Surface Transportation Rail-Related Funding**

Federal transportation funding to states is periodically authorized through the Federal Surface Transportation Acts. Transportation funding is provided to states through apportionment by formula or discretionary funding for various programs.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was passed into law in July 2012 and authorizes funding from July through September, 2012 and for FFY 2013 and 2014 (October 1, 2012 through September 30, 2014). Congress enacted a short-term extension of this expiring law to allow more time for development and consideration of a long-term reauthorization of surface transportation programs. MAP-21 established a National Freight Policy and requires the identification of a National Freight Network.

The following is a brief description of rail-eligible programs available through MAP-21 and Mississippi's participation where applicable.

- **Rail Line Relocation and Improvement Capital Grant Program** – This program provides financial assistance for local rail line and improvement projects. Any construction project is eligible that improves the route or structure of a rail line and: 1) involves a lateral or vertical relocation of any portion of the rail line, or 2) is carried out for the purpose of mitigating the adverse effects of rail traffic on safety, motor vehicle traffic flow, community quality of life, or economic development. The federal share for these funds is 90 percent, not to exceed \$20 million.

- **Rail Rehabilitation and Improvement Financing (RRIF)** – This program provides loans and credit assistance to both public and private sponsors of rail and intermodal projects. Eligible projects include acquisition, development, improvement, or rehabilitation of intermodal or rail equipment and facilities. Direct loans can fund up to 100 percent of a capital project with repayment terms of up to 25 years and interest rates equal to the cost of borrowing to the government. A total of \$35 billion was authorized for this program, of which \$7 billion was directed to short line railroads. Eligible borrowers include railroads, state and local governments, government sponsored authorities, and corporations, and joint ventures that include at least one railroad.

### **Federal Surface Transportation Programs with Selected Rail Applications**

In addition to the above programs, a number of additional programs, although primarily intended for highway use, are eligible for rail projects at the discretion of states and with the approval of the administering federal agency. These programs include:

- **National Highway System Program** – This program can be utilized to improve designated highway intermodal connectors between the National Highway System (NHS) system and intermodal facilities, such as truck-rail transfer facilities. The federal share of NHS funding is 80 percent.
- **Congestion Mitigation and Air Quality (CMAQ) Improvement Program** – This program funds transportation projects and programs that improve air quality by reducing transportation-related emissions in non-attainment and maintenance areas for ozone, carbon monoxide, and particulate matter. Examples of CMAQ-funded rail projects include the construction of intermodal facilities, rail track rehabilitation, diesel engine retrofits and idle-reduction projects in rail yards, and new rail sidings.
- State Departments of Transportation and Metropolitan Planning Organizations select and approve projects for funding. The federal matching share for these funds is 80 percent.
- **Surface Transportation Program** – The Surface Transportation Program (STP) is a general grant program available for improvements on any Federal-Aid highway, bridge, or transit capital project. Eligible rail improvements include lengthening or increasing vertical clearance of bridges, crossing eliminations, and improving intermodal connectors.
- State Departments of Transportation and Metropolitan Planning Organizations select and approve projects for funding under this program. The federal matching share for these funds is 80 percent.
- **Transportation Infrastructure Finance and Innovation Act (TIFIA)** – This program provides credit assistance to large scale projects (over \$50 million or 1/3 of a state’s annual federal-aid funds) of regional or national significance that might otherwise be delayed or not constructed because of risk, complexity, or cost. A wide variety of intermodal and rail infrastructure projects are eligible and can include equipment, facilities, track, bridges, yards, buildings, and shops. The interest rate for TIFIA loans is the US Treasury rate and the debt must be repaid within 35 years.
- **Transportation Alternatives Program** – This program, which replaced the SAFETEA-LU Transportation Enhancement Program, provides funding to expand transportation choices and

enhance the transportation experience. Eligible projects can include the rehabilitation of historic transportation buildings or facilities, and the preservation of abandoned rail corridors. Projects are usually chosen at the local government level. The federal share of project costs is 80 percent.

- **Private Activity Bonds** – SAFETEA-LU established a new financial assistance program that provides up to \$15 billion in private activity bonds for transportation infrastructure projects. States and local governments are allowed to issue tax-exempt bonds to finance projects sponsored by the private sector. Eligible projects include privately owned-or-operated highway and rail-truck transfer facilities.
- **State Infrastructure Banks (SIB)** – This program allows all states to set aside 10 percent of highway formula grants to establish revolving funds that can be used to provide loans and other credit tools to public or private sponsors for eligible transportation projects. Multi-state SIBs may also be utilized to fund projects that cross jurisdictional boundaries. States must provide 20 percent of the capitalization amount and debt must be repaid within 30 years.

### **Other Federal Programs Available for Rail-Related Funding**

In addition to transportation programs available under the Transportation Authorization bill, other programs are administered by federal agencies for which rail-related capital projects are eligible. These programs include:

- **U.S. Dept. of Commerce Economic Development Administration** – The U.S. Department of Commerce provides Economic Development Administration (EDA) grants for projects in economically distressed industrial sites that promote job creation or retention. Eligible projects must be located within EDA-designated redevelopment areas or economic development centers. Eligible rail projects include railroad spurs and sidings. Grant assistance is available for up to 50 percent of the project, although EDA could provide up to 80 percent for projects in severely depressed areas.
- **U.S. Dept. of Agriculture Programs** – The U.S. Department of Agriculture Community Facility Program and Rural Development Program provide grant or loan funding mechanisms to fund construction, enlargement, extension or improvement of community facilities providing essential services in rural areas and towns. Grant assistance is available for up to 75 percent of the project cost. Eligible rail-related community facilities include transportation infrastructure for industrial parks and municipal docks.

#### **2.2.3.4 Funding Challenges**

According to *Mississippi's Unified Long-Range Transportation Infrastructure Plan* (MDOT, May 2011), multimodal planning presents funding challenges to MDOT. The overwhelming majority of transportation funding for MDOT comes from federal and state fuel taxes for highways, with small percentages of these state funds used to fund the Multimodal Capital Improvement Program (MCIP). Funding for public transportation comes largely from the FTA's programs. Neither the FRA, nor any other federal agency, provides regularly programmed funding to MDOT for rail transportation projects. The only exceptions are



occasional earmarked funds. MDOT's role for freight and rail transportation is oriented toward planning and policy activities.

The intention of the MCIP was to identify a dedicated funding source for funding the program. Ideally, the funding for the program can be increased to keep pace with increased needs and costs; however, finding an additional funding source outside the fuel tax revenues has been a significant barrier.

Based on feedback from the Mississippi Railroad Association, local and regional railroads face challenges when competing with Class I railroads for funding. For example, it was noted that most of the MDA's Mississippi Rail Grant Program goes to Class I railroads.

## **2.2.4 Rail Safety and Security Programs and Projects**

Over the past decade rail safety and security has been a high priority by both rail carriers and public agencies. Rail safety has historically been a priority due to its potential impacts on the general public and the efficiency of rail operations. The focus of rail security has been threats posed by terrorists using the rail mode to disrupt transportation in general or harm large numbers of citizens.

Rail safety requirements are provided through a combination of federal and state laws. Most safety-related rules and regulations fall under the jurisdiction of the FRA,<sup>15</sup> as outlined in the Rail Safety Act of 1970 and other legislation, such as the most recent Rail Safety Improvement Act of 2008.

Passenger rail operations are subject to the same FRA safety standards with regard to track safety, operating practices, and other areas as are freight railroads. In addition, FRA has specific regulations regarding passenger equipment safety standards and passenger train emergency preparedness. FRA's Railroad Safety Advisory Committee makes recommendations to FRA for proposed improvements to continually upgrade existing safety standards.

Rail safety issues generally fall into the following broad categories: employee safety; inspection and maintenance of track, signals, bridges and infrastructure; inspection of locomotives and cars; operating rules and operating practices; radio communications; control of drug and alcohol use; accident reporting; rail-highway grade crossing safety; passenger equipment safety standards; passenger train emergency preparedness; the movement of hazardous materials; the development and implementation of new technology; and other areas specific to the rail industry. The primary responsibility for enforcement of these federal regulations falls under FRA's jurisdiction, but state agencies are heavily involved in efforts to improve the safety of the rail system.

A number of federal and Mississippi state agencies, in concert with the state's rail operators, continue to make progress with regard to rail safety and security. The following is a summary of these issues and activities on-going in Mississippi.

### **2.2.4.1 Rail Safety Incident History**

Railroad incidents for the last full 10-year period 2005-2014 in Mississippi are summarized in **Table 2.6**. Reportable incidents include highway-rail grade crossing accidents or incidents as well as train

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<sup>15</sup> The FRA is the federal agency with safety oversight responsibility for the national railroad system.

derailments, collisions, and any accident involving railroad employees or trespassers that occur on railroad property and result in fatalities, injuries, or property damage exceeding an amount established by FRA. Because property damage-only crashes are included, there is no direct correlation between the number of fatalities/non-fatalities and the total number of incidents.

As shown in the table, total incidents in Mississippi were cut in half over the 10-year period. Observable is a general downward trend in all three kinds of reportable incidents: train incidents, highway-rail incidents, and other incidents (incidents other than train or crossing incidents that cause physical harm to persons). The greatest reduction was in train incidents, which declined by 76 percent.

**Table 2.6: FRA Reportable Railroad Incidents 2005-2014 in Mississippi**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Incidents	200	171	164	143	112	117	121	111	105	100
Deaths	22	17	9	18	14	15	6	11	9	10
Injuries	106	86	83	119	83	59	76	71	81	62
Train Incidents	50	36	37	34	22	22	19	19	13	12
Deaths	4					4				
Injuries	7		5		11	2	1			1
Highway-Rail Incidents	79	82	69	70	42	47	52	40	43	34
Deaths	10	13	3	14	8	8	4	5	3	2
Injuries	30	37	23	79	24	15	27	23	34	13
Other Incidents	71	53	58	39	48	48	50	52	49	54
Deaths	8	4	6	4	6	7	2	6	6	8
Injuries	69	49	55	40	48	42	48	48	47	48

Source: FRA Office of Safety Analysts

The U.S. as a whole also experienced an across-the-board decline in FRA reportable incidents (**Table 2.7**), but the nationwide reductions were not as great as those experienced in Mississippi.

**Table 2.7: FRA Reportable Railroad Incidents 2005-2014 in All States**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Incidents	14,311	13,803	13,936	12,958	11,247	11,630	11,502	11,050	11,594	11,863
Deaths	884	903	851	804	695	734	691	677	707	805
Injuries	9,550	8,797	9,669	9,062	8,023	8,377	8,425	8,429	8,712	8,471
Train Accidents	3,266	2,998	2,693	2,481	1,912	1,902	2,022	1,760	1,824	1,758
Deaths	33	6	9	27	4	8	6	9	11	2
Injuries	787	220	309	321	127	110	217	461	325	130
Highway-Rail Incidents	3,066	2,942	2,778	2,429	1,933	2,052	2,061	1,986	2,098	2,285
Deaths	359	369	339	290	248	261	250	230	232	270
Injuries	1,053	1,070	1,059	990	743	888	1,045	972	972	843
Other Incidents	7,979	7,863	8,465	8,048	7,402	7,676	7,409	7,304	7,672	7,820
Deaths	492	528	503	487	443	465	435	438	464	533
Injuries	7,710	7,507	8,301	7,751	7,153	7,379	7,163	6,996	7,415	7,498

Source: FRA Office of Safety Analysts

### 2.2.4.2 Rail Crossing Safety

The rail safety area most visible to the general public and for which the public is most exposed to potential harm from rail operations is the interface between the rail and highway systems at grade crossings. There are 4,306 highway-rail crossings in Mississippi, with 2,206 located on public roadways, 2,078 crossings on private roads, and 22 pedestrian crossings. Using Section 130 funding, MDOT has completed three crossing surface projects, eight LED flasher projects and 52 signal and gate projects.

MDOT has identified its upcoming grade crossing projects, which include projects for which a notice to proceed has been issued. These projects are listed in **Table 2.8** by county.

In addition, MDOT has identified future grade crossing improvement projects, which include projects currently under design that would likely be funded if current funding levels are maintained. These are identified by county in **Table 2.9**.

**Table 2.8: Upcoming Grade Crossing Projects**

County	Number of Projects
<b>Signal and Gate Projects</b>	
Copiah	1
DeSoto	1
Forest	8
Hancock	4
Harrison	1
Hinds	1
Jackson	3
Kemper	1
Lauderdale	1
Madison	1
Marshall	6
Monroe	1
Noxubee	2
Union	5
Yazoo	2
<b>Subtotal</b>	<b>38</b>
<b>Crossing Surface Projects</b>	
Tallahatchie	1
Marshall	1
<b>Subtotal</b>	<b>2</b>
<b>TOTAL</b>	<b>40</b>

**Table 2.9: Potential Future Grade Crossing Projects**

County	Number of Projects
<b>Signal and Gate Projects</b>	
Covington	1
DeSoto	1
Hancock	2
Jackson	1
Lee	1
Leflore	1
Monroe	1
Rankin	1
Sunflower	1
Tallahatchie	2
Tunica	2
<b>Subtotal</b>	<b>14</b>
<b>Crossing Surface Projects</b>	
Perry	1
Lucedale	1
<b>Subtotal</b>	<b>2</b>
<b>TOTAL</b>	<b>16</b>

### **2.2.4.3 Rail Safety Inspection**

The FRA enforces federal regulations and standards that apply to track, signal, train control, motive power, equipment, operating practices, and hazardous materials. The federal Rail Safety Act of 1970 authorized states to work with FRA to enforce railroad regulations at their expense.

MDOT is the lead state agency for rail safety in Mississippi. Rails Inspection is housed in the MDOT Enforcement Division.

### **2.2.4.4 Hazardous Materials**

Federal common carrier obligations mandate that railroads are required to transport hazardous materials. The U.S. Department of Transportation received the authority to regulate the transportation of hazardous materials through the Hazardous Materials Act. Federal hazardous material regulations apply to all interstate, intrastate, and foreign carriers by rail, air, motor vehicle and vessel.

At the state level, MDOT oversees the registration and regulation of transporters of hazardous waste. MDOT's Office of Enforcement oversees compliance. In the 10-year period from 2004 to 2014, five hazardous material releases in Mississippi were reported to the FRA.

### **2.2.4.5 Positive Train Control**

Positive train control (PTC) refers to technologies designed to automatically stop or slow a train before certain accidents occur. PTC is designed to prevent collisions between trains, derailments caused by excessive speed, incursions by trains on tracks under repair and by trains moving over switches left in the wrong position. PTC systems are designed to determine the location and speed of trains, warn train operators of potential problems, and take action if operators do not respond to a warning.

The Rail Safety Improvement Act of 2008 required railroads to place PTC systems in service by December 31, 2015 on Class I railroad routes with over five million gross ton miles per mile with commuter or intercity passenger operations or any amount of toxic/poison-by-inhalation hazardous materials. Recent legislation has extended this deadline by three years to December 31, 2018. PTC requirements currently exclude short line railroads that have no passenger service. However, trains of short line railroads that operate on lines that must have PTC are also required to be PTC-equipped.

In general, the rail industry considered the 2015 deadline not achievable considering that approximately 60,000 miles of rail line will be affected at a proposed cost of \$12 billion over a 20-year period. This is why Congress decided to extend the implementation deadline by three years. The cost of implementing PTC control on passenger rail routes may have implications on future passenger rail service plans.

### **2.2.4.6 Freight/Passenger Train Crash Response Plan**

In cooperation with USDOT and FHWA, MDOT developed a Comprehensive Emergency Transportation Response Plan (CETRP), which is reviewed annually and updated as necessary. Annex L of the CETRP is the Freight/Passenger Train Crash Response Plan, last updated in July 2013, which details the responsibilities of the Mississippi Department of Public Safety (MDPS), the Mississippi Highway Safety Patrol (MHSP), the affected railroad, and MDOT in the case of a freight or passenger train crash. The plan also covers evacuation procedures in the event of a hazardous material spill.

### **2.2.4.7 Rail Security**

The focus of rail security has changed significantly over the past decade. In response to potential terrorist threats to the transportation system, new federal agencies have been established to oversee and provide assistance to ensure the security of transportation modes. The following addresses specific rail security issues and Mississippi's involvement in rail security procedures.

#### **Federal and State Roles in Rail Security**

The primary agencies responsible for security related to transportation modes in Mississippi are the U.S. Department of Homeland Security, MDOT, and the Mississippi Department of Public Safety.

The U.S. Department of Homeland Security addresses rail system security through the following means:

- Training and deploying manpower and assets for high risk areas
- Developing and testing new security technologies
- Performing security assessments of systems across the country
- Providing funding to state and local partners

The Association of American Railroads, working with Homeland Security and other federal agencies, has organized the Rail Security Task Force. This task force developed a comprehensive risk analysis and security plan for the rail system that includes:

- A database of critical railroad assets
- Assessments of railroad vulnerabilities
- Analysis of the terrorism threat
- Calculation of risks and identification of countermeasures

The private railroad sector maintains communications with the U.S. Department of Defense, the U.S. Department of Homeland Security, the U.S. Department of Transportation, the Federal Bureau of Investigation, and state and local law enforcement agencies on all aspects of rail security.

The Mississippi Department of Public Safety's Office of Homeland Security acts as the state's lead agency for emergency response. This agency, with the assistance of MDOT, addresses security and emergency response issues related to rail within the state. MDOT coordinates with the U.S. Department of Homeland Security in conducting special joint enforcement details involving railroad police departments and security, along with county and city enforcement offices.

Local emergency plans must address coordination of action for emergency release of hazardous substances at sites and facilities such as shipping terminals and rail yards.

## Strategic Rail Corridor Network

The U.S. Military Surface Deployment and Distribution Command's Transportation Engineering Agency has identified the national Strategic Rail Corridor Network (STRACNET). STRACNET is comprised of a 32,000-mile interconnected network of rail corridors and associated connector lines most important to national defense. Mississippi's STRACNET system is shown in **Figure 2.7**.

Camp Shelby and Naval Construction Battalion Center (NCBC) in Gulfport are identified by the U.S. Military Surface Deployment and Distribution Command as a defense installations requiring rail service. Camp Shelby is described as being served by low density branch line connectors, i.e., the KCS Hattiesburg-Gulfport line and the CN Hattiesburg-Mobile line.

MDOT works with the Military Surface Deployment and Distribution Command to ensure the strategic nature of these corridors and connecting lines are considered in their planning process.

Figure 2.7: Mississippi Area STRACNET Map



Source: U.S. Military Surface Deployment and Distribution Command

## 2.2.5 Economic and Environmental Impacts of Rail

### 2.2.5.1 Economic Impacts

According to AAR's *Rail Fast Facts for 2012* (July 2014), nationwide, each freight rail job supports 4.5 jobs elsewhere in the economy and each \$1 billion in new rail investment supports more than 17,000 jobs.

Based on MDOT's previous MSRP (April 2011), rail service generates 1,380 direct jobs (3,500 including multiplier effects of indirect and induced jobs) in Mississippi, while rail-trade users generate 68,520 jobs

(147,450 including multiplier effects). The combination of rail service and trade-user impacts provide \$33.4 billion in output and \$6.4 billion in labor income in 2008 (11 percent of Mississippi's total income). Total rail activity economic impacts are summarized in **Table 2.10**. These impacts highlight the magnitude of rail use by manufacturers and industries across the state.

**Table 2.10: Total Rail Activity Impacts**

Measure and Type	Transport Service	Trade-User <sup>4</sup>	Total
<b>Output<sup>1</sup></b>			
Direct	\$526	\$22,570	\$23,096
Indirect	\$129	\$7,002	\$7,131
Induced	<u>\$111</u>	<u>\$3,060</u>	<u>\$3,171</u>
<b>Total</b>	<b>\$766</b>	<b>\$32,632</b>	<b>\$33,398</b>
<b>Value Added<sup>1,2</sup></b>			
Direct	\$308	\$5,658	\$5,966
Indirect	\$58	\$3,143	\$3,201
Induced	<u>\$63</u>	<u>\$1,923</u>	<u>\$1,986</u>
<b>Total</b>	<b>\$429</b>	<b>\$10,724</b>	<b>\$11,153</b>
<b>Labor Income<sup>1</sup></b>			
Direct	\$132	\$3,359	\$3,491
Indirect	\$40	\$1,799	\$1,839
Induced	<u>\$34</u>	<u>\$1,023</u>	<u>\$1,057</u>
<b>Total</b>	<b>\$206</b>	<b>\$6,181</b>	<b>\$6,387</b>
<b>Employment<sup>3</sup></b>			
Direct	1,380	68,520	69,900
Indirect	1,000	45,040	46,040
Induced	<u>1,120</u>	<u>33,890</u>	<u>35,010</u>
<b>Total</b>	<b>3,500</b>	<b>147,450</b>	<b>150,950</b>

Source: MDOT MSRP (April 2011)

- 1 Millions of 2008 dollars
- 2 Comparable with Gross State Product (GSP)
- 3 In FTE job years
- 4 Includes both inbound and outbound/intrastate related impacts. Overlap impacts associated with cargo that potentially moves in and out by rail is subtracted out.

The MDA noted the significant impact that rail availability has on economic development in the state. The three largest economic development projects in Mississippi – Nissan, Toyota, and Yokohama – all included the addition of rail line spurs to provide direct rail access. Future major developments in Mississippi will need rail spurs connecting to Class I railroads. Improved access to the national rail system, whether through short lines or new intermodal centers, will generate economic advantages to shippers and to the state as a whole. The cost of rail transportation per ton-mile is less than the typical alternative, which is truck. Transportation cost savings can be spent on more manufacturing, which can increase payrolls, which in turn would generate multiplier impacts to the service sector.

### 2.2.5.2 Social and Environmental Impacts

Currently, passenger and freight rail transportation face certain disadvantages when competing with auto, air, and truck travel. These include rail being less convenient and less connected than other modes of travel. However, increased demand for auto travel for passenger trips and trucks for freight movement can lead to increased congestion, additional safety concerns, and depletion of natural resources. The following sections discuss the impacts of rail transportation in terms of congestion mitigation, safety, noise and air quality, energy use, climate change, and land use.

#### Congestion Mitigation

Many parts of the United States are running out of highway capacity. Congestion costs the nation more than \$121 billion every year in wasted fuel (2.9 billion gallons) and excessive travel time (5.5 billion hours).<sup>16</sup> The annual congestion cost of delays due to truck traffic in Jackson, Mississippi was estimated at \$63 million in 2011.<sup>17</sup> Freight traffic is projected to increase in the coming decades, which will exacerbate congestion issues, but rail provides an alternative. A single intermodal freight train can take up to 280 trucks off the highway. It would have taken approximately 6.4 million additional trucks to handle the 116 million tons of freight that originated in, terminated in, or moved through Mississippi by rail in 2012.<sup>18</sup>

On the passenger side, by diverting traffic from highways and air to rail, Amtrak removes 8 million cars from the road and eliminates the need for 50,000 fully-loaded passenger airplanes each year.<sup>19</sup>

#### Safety Impacts

The rail mode is also one of the safest transportation modes. In 2014, 607 highway-related deaths were recorded in Mississippi, compared to 10 deaths related to railroad incidents. The overall fatality rate for long-haul train service is 0.43 per billion passenger miles. Excluding pedestrians and others not on trains (which account for 64 percent of total fatalities assigned to railroads), the fatality rate drops to approximately 0.15 per billion passenger miles.<sup>20</sup>

Reduction of at-grade rail crossings is an example of a strategy that improves transportation system safety and limits the potential impacts of passenger rail and freight movement on the safety and quality of life of the public. Removing at-grade crossings can also reduce noise (no horn required) and may increase the effectiveness of rail operations. As discussed in **Section 2.2.4.2**, MDOT spends millions of dollars each year to improve the safety of rail crossings.

#### Noise and Air Quality

Noise impacts may be reduced by creating quiet zones along freight rail lines that pass through residential areas. While it is a federal requirement for trains to blow their horns at at-grade crossings, there are some instances where alternative safety measures can be put in place to waive this requirement. The required

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<sup>16</sup> Texas Transportation Institute's *2012 Urban Mobility Report*

<sup>17</sup> Ibid.

<sup>18</sup> American Association of Railroads *Rail Fast Facts for 2012* (July 2014)

<sup>19</sup> Amtrak's *Critical Link* (July 2007)

<sup>20</sup> Savage, Ian. "Comparing the Fatality Risks in United States Transportation Across Modes and Over Time," Research in Transportation Economics, July 2013, Vol. 43, Issue 1, 9-22.



measures are site-specific and vary per intersection, but can include measures such as four quadrant gates or median barriers. Communities can apply for “quiet zone designations”, but are responsible for all costs to make their crossings qualify.

Diesel locomotives are getting ever more efficient and are burning cleaner diesel fuels. In addition, using modern generator set, or “GenSet”, locomotives, which do not consume as much fuel as diesel locomotive engines for yard operations or drayage activities, can reduce air quality impacts. The classic diesel electric locomotive has one large diesel engine which generates electric power for the traction motors sitting atop wheel sets. However, a GenSet locomotive has two or three smaller engine-generators that are programmed to start only when needed. Thus, improvements in both the fuel and locomotives are working to mitigate the worst effects of train-related air pollution.

## **Energy Use**

Passenger rail is 17 percent more energy efficient than either commercial airlines or automobiles. Even as it has increased train miles and frequencies in various states, Amtrak has been consistently reducing its consumption of diesel fuel, due to improved operating practices and conservation measures. Freight rail has a fuel consumption rate 11.5 times more energy efficient (on a BTU per ton-mile basis) than trucks.<sup>21</sup>

Freight movement is becoming increasingly more energy efficient, with programs like the USEPA SmartWay transport program working to increase the environmental efficiency of freight transportation on a national level. EPA’s SmartWay, launched in 2004, is an innovative program to increase the environmental efficiency of freight transportation by focusing on providing tools and knowledge that help freight shippers, carriers, and logistics companies improve fuel-efficiency and save money. The program’s elements include:

- Transport Partnership: freight carriers and shippers commit to benchmark operations, track fuel consumption and improve performance
- Finance Program: competitive grants for investing in fuel-saving equipment for freight carriers
- Technology Program: a testing, verification and designation program to help freight companies identify equipment, technologies and strategies that save fuel and lower emissions
- SmartWay Vehicle: program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo
- SmartWay International Interests: guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay<sup>22</sup>

In 2013, America’s railroads moved a ton of freight on average 473 miles on one gallon of fuel, the equivalent of going from Jackson to St. Louis on one gallon of fuel.<sup>23</sup> On average, railroads are four times more fuel efficient than trucks.

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<sup>21</sup> Amtrak’s *Critical Link* (July 2007)

<sup>22</sup> EPA: <http://www.epa.gov/smartway>

<sup>23</sup> American Association of Railroads *Rail Fast Facts for 2012* (July 2014)

## Climate Change

Significant economic growth is expected in the Gulf Coast megaregion, which stretches along the Gulf coast from Brownsville, TX to Pensacola, FL. This increase will be one of the major factors influencing the growth of vehicle-miles traveled (VMT). According to the U.S. EPA, transportation accounts for 25 percent of all U.S. greenhouse gas (GHG) emissions. Because there is a direct correlation of fossil fuel usage to air pollution and GHG, the anticipated growth in VMT means an equally large increase in greenhouse gas emissions absent any improvement in vehicle fuel efficiency or emissions controls. While there are technologies available to reduce greenhouse gas emissions per VMT by auto or truck (e.g., alternative fuels, hybrid and electric vehicles), shifting personal travel and freight movement to more fuel efficient modes can result in a substantial reduction in greenhouse gas emission per mile traveled. It is estimated by AAR that moving freight by rail instead of truck can reduce greenhouse gas emissions by 75 percent per ton-mile.<sup>24</sup> Shifting freight and passenger traffic to rail can also help relieve congestion and lower emissions that result from additional fuel use due to traffic congestion.

## Land Use and Community Impacts

Rail transportation can play a prominent role in the overall statewide multimodal network. By increasing its ability to safely and efficiently move people and goods within the state, rail transportation can help support local, state and federal initiatives aimed at creating more livable communities. Passenger rail service can create a sustainable transportation option for Mississippi's residents, encourage compact, smart growth development, help reduce the dependence on the automobile, and reduce VMT. New intercity rail stations should be planned and designed to accommodate connecting local and regional transit, offer safe pedestrian and bicycle connections, include drop-off facilities and provide sufficient parking and good road access. Station communities and local transportation agencies play an important role in the success of these station areas.

Sustainability is a concept that is increasingly noted in discussions of freight movement. The concept of sustainable freight movement is one that maximizes the positive features of freight movement (jobs, economic development, etc.) while minimizing the negative impacts to communities and the natural environment. Freight-generating land uses, such as agriculture, natural resources and mining, construction, warehousing, manufacturing, and port and harbor operations, can bring many benefits to a region. These benefits include direct and indirect employment associated with freight activity; business and income tax benefits to local, regional, and state economies; additional economic output; and lower costs for goods and services.

On the other hand, freight-generating industries can also produce undesirable impacts, such as noise, vibration, odor, and light pollution, and they may have a negative impact on a region's air quality. FHWA developed a *Freight and Land Use Handbook* (April 2012) to guide regions to plan appropriately to accommodate freight-generating industries while protecting the health, safety, and quality of life of residents. The goal is to find a balance between economic activity and external impacts associated with the freight industry. Educating public officials and the public at large about freight benefits and assisting

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<sup>24</sup> Ibid.

freight-generating businesses to understand and mitigate potential impacts can foster a common understanding among all stakeholders.

Environmental justice is an important consideration in the design and implementation of rail projects. Environmental justice refers to the geographically equitable distribution of the benefits and burdens of government policies, programs, and investments, and to ensure the full and fair participation by all potentially affected communities in the transportation decision-making process. Many freight facilities are located in communities which have a large number of minority or lower-income residents, and which often receive significant environmental impacts from those facilities. Strategies to reduce or mitigate these impacts must be taken into consideration when expanding freight operations or infrastructure into these communities.

## **2.3 Mississippi's Existing Rail System: Trends and Forecasts**

The purpose of this section is to describe the trends that will impact the need for rail in Mississippi. Trends which impact both passenger and freight rail include: demographic and economic growth factors, transportation demand, and the future outlook by industrial sector. These factors all contribute to the projected demand and growth for both passenger and freight rail, although many of these factors are difficult to incorporate into demand forecasting.

Globalization and new technologies have transformed economies around the world, redefining the way businesses operate, challenging supply chains and transportation networks, and creating new customer opportunities in places that were previously inconceivable. To compete in this global marketplace, businesses must optimize every asset: workforce skills, competitively priced products, and reliable highway and freight rail transportation networks to ensure their customers receive quality goods and services when they expect them. As the needs of businesses continue to evolve and the importance of trade expands nationally and internationally, Mississippi companies are more dependent than ever on integrated, agile, and efficient multimodal transportation networks to sustain and enhance their competitive position in the marketplace.

### **2.3.1 Demographic and Economic Growth**

#### **2.3.1.1 Population**

In 2014, the population of Mississippi was estimated to be 2,994,079 by the US Census Bureau. This is a 0.9 percent increase over the population count from the 2010 Census. This is much less than the national population growth over the same period of 3.3 percent. According MDOT's Planning Division, the population of Mississippi is projected to increase to 3,141,310 in 2030 and 3,530,366 in 2040. Population decrease is projected in 24 of Mississippi's 82 counties through 2040. On the other end of the spectrum, four counties (Lafayette, Lamar, Tunica, and DeSoto) are projected to see greater than 50 percent increases in population by 2040. The largest percent increase (nearly 83 percent) is projected in DeSoto County.

### **2.3.1.2 Employment**

According to the Mississippi Department of Employment Security, total employment in Mississippi in 2013 was 1.38 million. In 2040, total employment is projected to increase to 1.74 million, a 26 percent increase over the 27-year period. Consistent with projected population increase, the largest percent increase in employment is projected in DeSoto County (93 percent) over this period.

### **2.3.1.3 Industrial Outlook by Sector**

Employment projections indicate that economic sectors that have historically dominated Mississippi's economy will remain dominant for the foreseeable future. Public administration; manufacturing; retail trade; accommodation and food service; and health care and social assistance are projected to remain the top five job sectors in terms of total employment through 2030. According to Regional Economic Models, Inc. (REMI), Mississippi industries projected to see the largest increases in employment by 2030 are listed below. Note that two of the top five employment sectors (health care and social assistance, and accommodation and food service) are among those projected to see notable increases.

- Education services
- Health care and social assistance
- Arts, entertainment, and recreation
- Accommodation and food service
- Professional, technical and scientific service industries

While service industries are projected to lead Mississippi in terms of employment growth, the following industries are projected to see decreases in employment through 2030:

- Farming
- Wholesale trade
- Management of companies and enterprises
- Information services
- Retail trade

As the economy in Mississippi is undergoing the transformation and traditional industries employ fewer people, new and targeted businesses continue to emerge and locate in the state (e.g., biotechnology, optoelectronics, flexible manufacturing, energy and alternative fuels, advanced materials, aerospace, and computer software), and the freight transportation needs of these businesses will need to be addressed, as they might differ from the needs of typical industries. The MDA has identified the following targeted sectors that are highly dependent on competitive goods movement:

- Aerospace and aviation
- Automotive assembly and supply
- Advanced manufacturing

- Agribusiness
- Shipbuilding
- Distribution and warehousing (identified as a secondary industry)<sup>25</sup>

These sectors, along with the more traditional freight-intensive industries, will continue to rely on Mississippi's multimodal transportation network. The challenge will be to meet the needs of traditional industries that tend to be concerned most about the overall cost of transportation versus the transportation needs of emerging industries that might also be concerned with other aspects of freight movement operations such as dependable delivery schedules, network reliability, and security for their products.

## 2.3.2 Freight Demand and Growth

This section describes current and projected freight flows in Mississippi, with an emphasis on rail freight.

### 2.3.2.1 Current Freight Flows

In 2011, 421 million tons of the commodity freight by volume, valued at \$531 billion, used the transportation facilities in Mississippi. These facilities include highways, railroads, waterways, airports, and related ports and intermodal facilities.

Truck mode is the dominant means used for commodity freight with a share of 64 percent of the total freight movement. However, rail freight is significant in Mississippi, accounting for 28 percent of goods movement in 2011 with 118.4 million tons. In contrast to truck, rail freight typically becomes economical over a shipping distance in excess of 300 to 500 miles. As such, 79 percent of the rail flows in Mississippi are through freight while only about one percent is intrastate freight. The 13 percent share of inbound rail flow is almost double the amount for outbound. This indicates that Mississippi attracts more inbound freight through rail. **Table 2.11** shows the distribution of the commodity by transportation modes and direction of travel. **Figure 2.8** shows the distribution of rail freight by direction. In 2011, only eight percent of rail shipments in Mississippi used intermodal containers.

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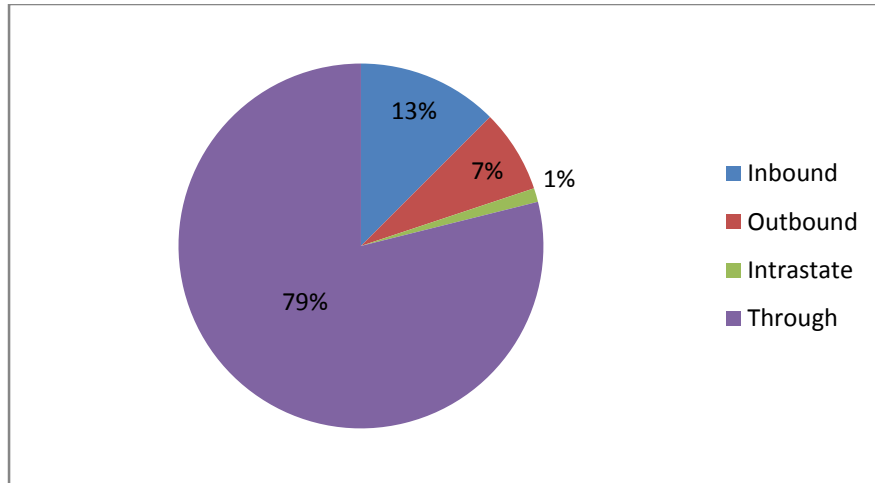
<sup>25</sup> <https://www.mississippi.org/home-page/our-advantages/target-industries-overview/>

**Table 2.11: 2011 Annual Commodity Flows**

Direction	Truck	Rail	Water	Air	Total
Tonnage (in 000s)					
Inbound	45,579	14,804	18,447	7	78,838
Outbound	37,366	8,734	14,352	1	60,452
Intrastate	32,423	1,448	285	<1	34,156
Through	154,033	93,389	<1	<1	247,421
Total	269,401	118,375	33,084	8	420,868
Value (in \$000s)					
Inbound	52,977,491	9,829,466	9,266,898	1,531,507	73,605,361
Outbound	49,762,579	11,054,535	9,289,771	63,157	70,170,042
Intrastate	13,421,809	3,025,791	195,290	<1	16,642,891
Through	268,213,527	102,789,968	<1	<1	371,003,495
Total	384,375,406	126,699,760	18,751,959	1,594,664	531,421,789

Source: MSFP, 2015 (TRANSEARCH data)

**Figure 2.8: 2011 Rail Commodity Tonnage Flow Share by Direction**



Source: MSFP, 2015 (TRANSEARCH data)

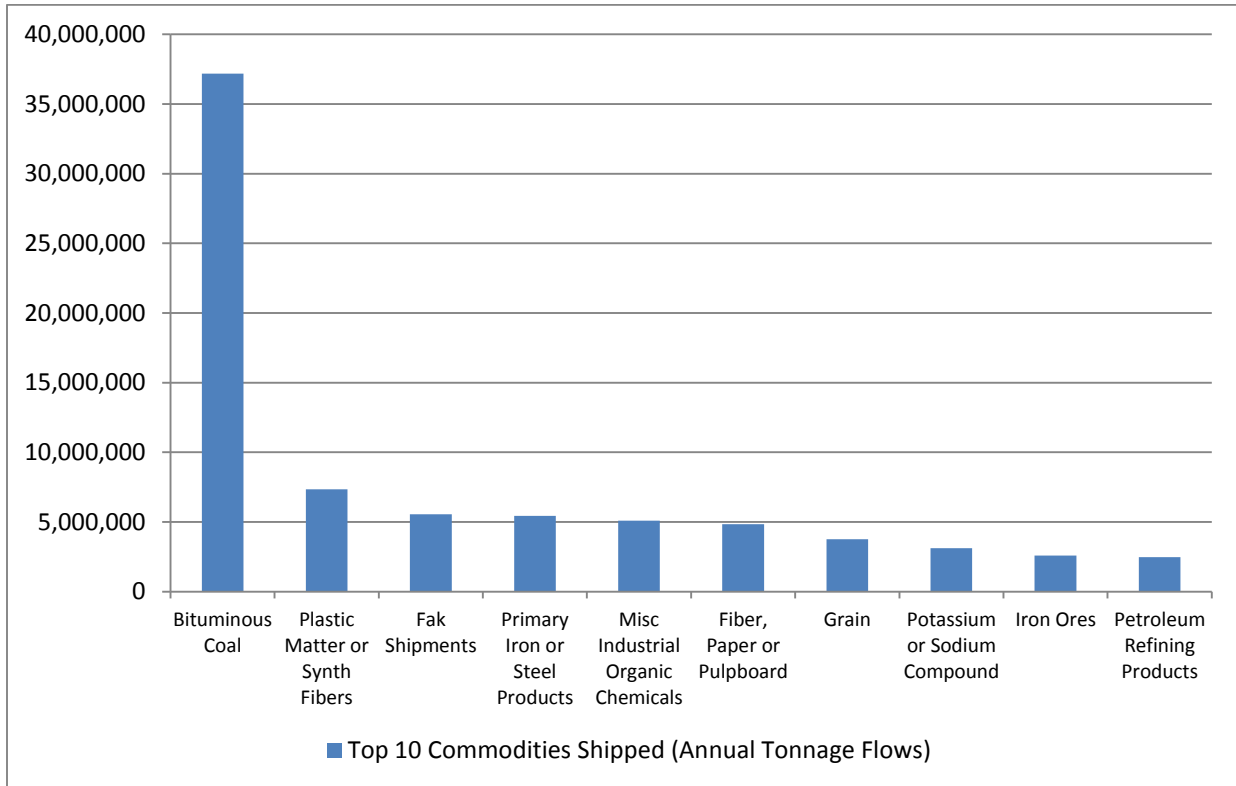
**Figure 2.9** shows the 2011 estimated rail flows in Mississippi. In the northeastern quadrant of the state, rail freight relies on the NS and BNSF railways that run parallel to highway US 72 and US 78, respectively. The NS line carries 25 million tons of goods and the BNSF carries 21 million tons. The north-south rail flow relies on Canadian National (CN) railway that parallels I-55. The section north of Jackson carries approximately 25 million tons of goods and the section south of Jackson carries 14 million tons.

The east-west rail flow uses the KCS railway which parallels I-20 and carries approximately 11 million tons of goods. In the southeastern quadrant of the state, the rail freight uses the NS and CN lines that parallel I-59 and highway US 49, respectively. The NS line carries 11 million tons of goods while the CN line carries 8 million tons. Along the Gulf Coast, 11 million tons of rail freight follows the CSX railway parallel to I-10.



In 2011, bituminous coal dominated the rail freight flows with 37 million tons, over 5 times the plastic matter and synthetic fiber which is ranked a distant second with 7.3 million tons. **Figure 2.10** shows the top 10 commodities shipped by rail in 2011.

**Figure 2.10: 2011 Top 10 Commodities Shipped by Rail (Annual Tonnage Flows)**



Source: MSFP, 2015 (TRANSEARCH data)

### 2.3.2.1 Projected Freight Flows

In 2040, a projected 624 million tons of freight, valued at a total of one trillion dollars will be shipped within or through Mississippi. This amounts to a projected 48 percent increase in total freight tonnage and an 89 percent increase in the value of shipments from 2011 to 2040. The commodities shipped wholly within the state only account for 10 percent of the total, a slight increase in share from 2011, with 57 percent through shipments, a slight decrease from 2011 levels. The share of inbound freight also decreases from 19 percent in 2011 to 18 percent, while that for outbound freight increases from 14 percent to 15 percent. This indicates that a moderately faster pace of growth in commodity productions within Mississippi is expected by 2040. **Table 2.12** shows the distribution of the projected 2040 freight flows.



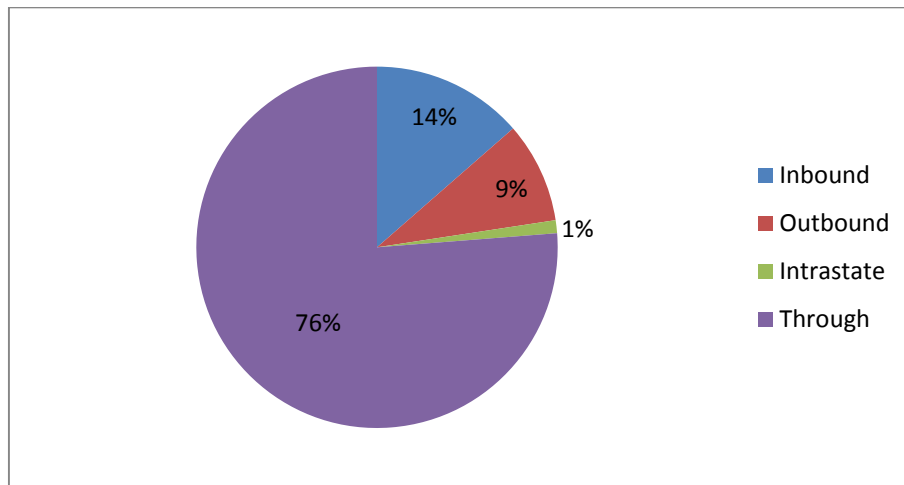
**Table 2.12: 2040 Annual Commodity Flows**

Direction	Truck	Rail	Water	Air	Total
Tonnage (in 000s)					
Inbound	66,635	20,738	22,384	17	109,773
Outbound	67,163	13,782	15,652	2	96,600
Intrastate	58,404	1,766	316	<1	60,486
Through	241,056	116,483	<1	<1	357,539
Total	433,258	152,770	38,352	19	624,398
Value (in \$000s)					
Inbound	94,806,908	13,091,722	9,816,423	4,139,842	121,854,896
Outbound	101,974,632	21,698,221	9,258,603	310,039	133,241,495
Intrastate	20,862,532	2,567,935	179,918	<1	23,610,384
Through	527,093,029	195,295,751	<1	<1	722,388,780
Total	744,737,102	232,653,629	19,254,944	4,449,882	1,001,095,556

Source: MSFP, 2015 (TRANSEARCH data)

In 2040, the through flow accounts for 76% of the 152.7 million tons of rail freight, a slight decrease from 79% in 2011, but still the highest amount by direction. The share of outbound rail freight increases slightly while the intrastate movement remains at 1% of the total. The share of the intermodal rail freight is projected to increase from 8% in 2011 to 12% in 2040. **Figure 2.11** shows the projected rail freight share by direction in 2040.

**Figure 2.11: 2040 Rail Commodity Flow Share by Direction**

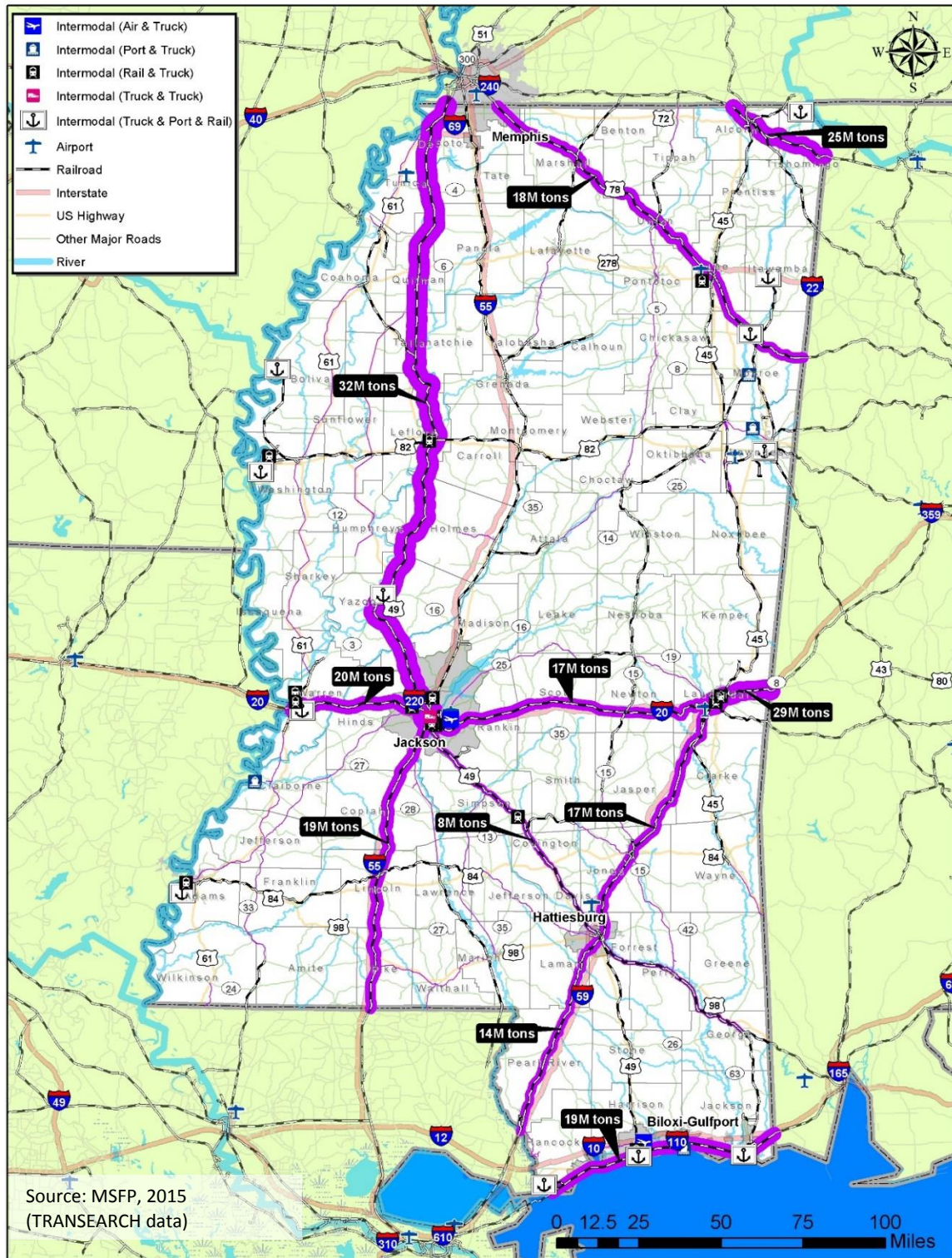


Source: MSFP, 2015 (TRANSEARCH data)

Rail freight is projected to grow at an annual rate of 0.9 percent through 2040, which is less than the 1.4 percent projected for all modes and the 1.7 percent projected for truck freight. **Figure 2.12** shows 2040 estimated rail flows. Except for the NS and BNSF lines in the northeastern quadrant of the state and the CN line along US 49 in the southeastern quadrant of the state, all other major rail corridors see a significant

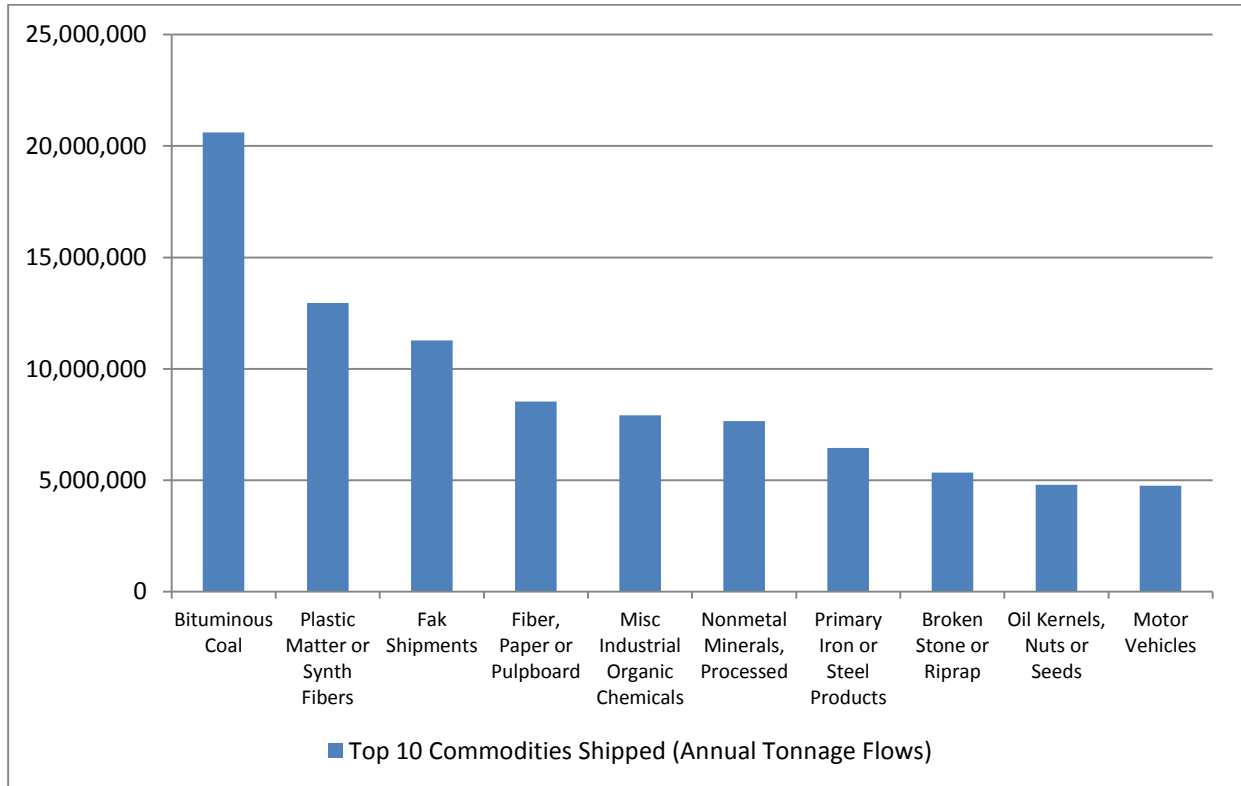
increase in the rail freight traffic, particularly on the KCS line along I-20, the NS line along I-59, and the CSX line along I-10, which see over a 70% increase in total growth from 2011 to 2040.

**Figure 2.12: 2040 Annual Rail Flows**



**Figure 2.13** shows that even though bituminous coal is still the top ranked commodity, the total tonnage is actually projected to decline from 37 million in 2011 to 21 million in 2040. This reduction has a significant impact on the total growth of the rail commodity flow. Other rail commodity freight grows in line with the total statewide freight growth.

**Figure 2.13: 2040 Top 10 Commodities Shipped by Rail (Annual Tonnage Flows)**



Source: MSFP, 2015 (TRANSEARCH data)

The freight flows summarized above highlight that large amounts of freight are already moving within Mississippi, either produced within the state and moved elsewhere, or brought here for internal consumption from other parts of the nation or the world. In 2011, nearly 80 million tons of freight moved into the state, either to support manufacturing or construction or for public consumption. By 2040, Mississippi’s transportation system will be called upon to move more freight, on all modes, both internally and externally, than today.

According to the *Mississippi Goods Movement and Trade Study* (2012), greater use of intermodal is expected in Mississippi through 2030. IHS Global Insight expects over 2.5 percent annual growth in the number of rail intermodal units at the Jackson intermodal terminal, compared with a one percent annual growth in rail carload traffic.

### 2.3.3 Passenger Travel Demand and Growth

As noted in **Section 2.2.2.3**, boardings and alightings at Amtrak stations in Mississippi are projected to grow from 109,487 in 2014 to 120,125 in 2034, a 9.7 percent increase over the 20-year period consistent with population projections for counties served by the Amtrak stations.

Overall, rail passengers comprised a very small percentage of overall travel in Mississippi, even in the corridors served by the two Amtrak routes, and this role seems likely to continue, as highway traffic and congestion remain manageable issues. Estimated growth in vehicular travel demand on Mississippi roadways between 2013 and 2040 in terms of vehicle miles traveled and vehicle hours traveled (VHT) is shown in **Table 2.13**. Overall, vehicular travel is forecast to grow by 22.8 percent between 2013 and 2040, and a large portion of that growth will be seen on the state’s interstate highway system. This growth in highway travel compares to projected population growth of 17.9 percent over the same time period.

**Table 2.13** also shows average speeds for vehicles traveling on roadways of various functional classifications in both urban and rural areas. This data shows that very little reduction in average travel speeds is expected through 2040, indicating that roadway congestion at a statewide level is not a long-term concern. In terms of implications for rail passenger travel demand, this may indicate that roadway congestion is not likely to be a driving factor for increasing demand for passenger rail. Additional discussion of highway congestion trends is presented below in **Section 2.3.6**.

**Table 2.13: Estimated Travel Demand on Mississippi Roads, 2013 and 2040**

		2013			2040		
	Functional Class	VMT	VHT	Average Speed (mph)	VMT	VHT	Average Speed (mph)
RURAL	Interstate	11,530,429	185,992	62.0	14,185,209	232,010	61.1
	Freeway	18,463,203	345,907	53.4	22,303,640	425,300	52.4
	Other Principal Arterial	9,831,041	219,149	44.9	11,333,198	254,210	44.6
	Minor Arterial	13,759,915	311,725	44.1	17,124,163	390,165	43.9
	Major/Minor Collector	1,476,371	35,190	42.0	2,000,551	48,497	41.3
	Local	440,018	13,031	33.8	571,411	17,072	33.5
	Sub-Total	55,500,977	1,110,994	50.0	67,518,171	1,367,253	49.4

**Table 2.13: Estimated Travel Demand on Mississippi Roads, 2013 and 2040**

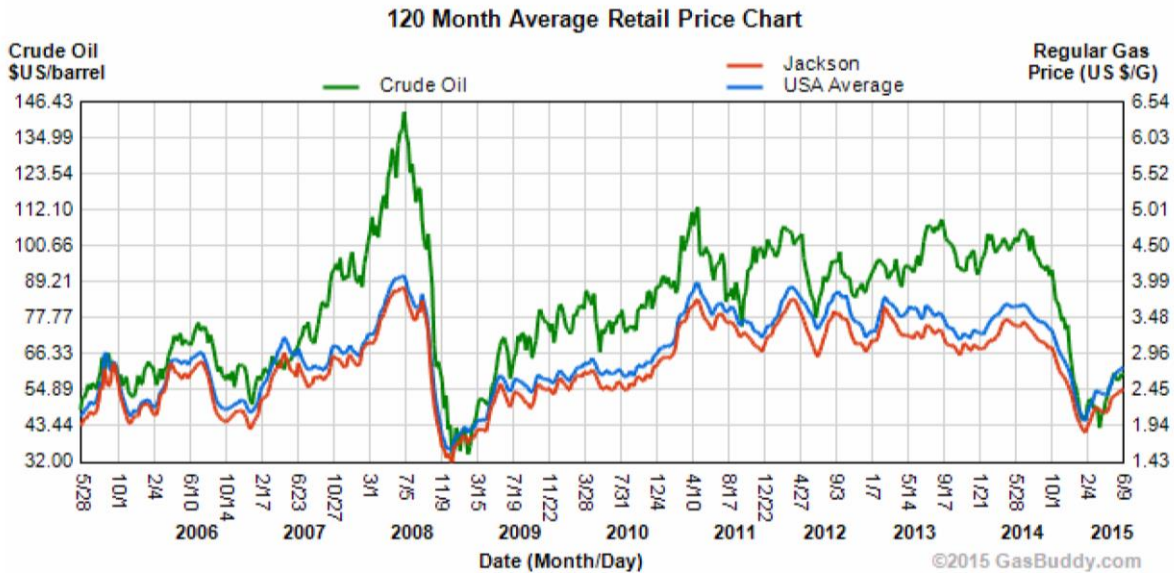
		2013			2040		
	Functional Class	VMT	VHT	Average Speed (mph)	VMT	VHT	Average Speed (mph)
<b>URBAN</b>	Interstate	9,457,721	155,907	60.7	11,759,265	197,556	59.5
	Freeway	1,801,982	29,304	61.5	2,523,589	42,414	59.5
	Other Principal Arterial	12,335,389	275,955	44.7	14,730,133	337,165	43.7
	Minor Arterial	5,679,585	136,457	41.6	7,240,867	177,706	40.7
	Major/Minor Collector	3,027,220	80,437	37.6	4,014,350	108,840	36.9
	Local	319,675	9,438	33.9	451443.8088	13,379	33.7
	Sub-Total	32,621,573	687,498	47.4	40,719,648	877,059	46.4
	<b>TOTAL</b>	<b>88,122,549</b>	<b>1,798,492</b>	<b>49.0</b>	<b>108,237,820</b>	<b>2,244,312</b>	<b>48.2</b>

Source: MDOT Planning Division

### 2.3.4 Fuel Cost Trends

Fuel cost trends can have a significant influence on freight movement costs, and in shipper decisions to ship by highway or rail. Fuel costs (crude oil and regular gasoline) over the last 10 years are shown in **Figure 2.14** for Jackson, MS compared to the national average. These are felt to reflect Mississippi costs as a whole. Costs dropped sharply during the 2008 recession, but have been steadily recovering since, with the exception of a dip in prices in early 2015. Gas prices in Jackson have generally tracked with the US average, but Jackson prices are consistently lower than the national average. The proximity of refineries along the Gulf coast is likely a contributing factor.

Figure 2.14: 10-Year Fuel Cost Trends



### 2.3.5 Rail Congestion Trends

In 2007, the *National Rail Freight Infrastructure Capacity and Investment Study* was prepared for the AAR to assess the long-term capacity expansion needs of US freight railroads. As part of the assessment, current rail corridor volumes were compared to current corridor capacity to assess congestion levels. This was done by calculating a volume-to-capacity ratio expressed as a level of service (LOS) grade ranging from LOS A to LOS F. Rail corridors operating at LOS A, B, or C are operating below capacity; they have sufficient unused capacity to accommodate maintenance work and recover quickly from incidents and weather delays. Corridors operating at LOS D are operating near capacity and have only moderate capacity to recover from incidents and delays. Corridors operating at LOS E are operating at capacity and have very limited capacity to accommodate maintenance and recover from incidents without substantial service delays. Corridors operating at LOS F are operating above capacity; train flows are unstable and service delays are persistent.

Based on 2007 levels of service, 88 percent of nationwide primary corridor mileage was operating below practical capacity (LOS A, B, or C), 12 percent was near or at practical capacity (LOS D or E), and less than one percent was operating above capacity (LOS F). Part of the track mileage identified as operating at LOS F was located along the Mississippi-Tennessee border.

Without any improvements, the report estimated that 30 percent of the nation’s primary corridor mileage would be operating above capacity (LOS F) in 2035. In Mississippi, this would include the KCS line running across the state from Meridian to Jackson to Vicksburg, in addition to the line that is currently over capacity along the Tennessee border. However, the report goes on to show that if necessary improvements are made to provide additional capacity (i.e., new tracks, signals, or yard capacity), 97 percent of primary corridor mileage will be operating below capacity (LOS A, B, or C), including all the primary corridor mileage in Mississippi.

### 2.3.6 Highway and Airport Congestion Trends

An understanding of expected trends in highway and airport congestion in Mississippi is important because of the implications that congestion can have for mode shift for either freight or passenger movement.

#### 2.3.6.1 Highway Congestion Trends

Congestion is an indicator that demand for transportation and supply of capacity are out of balance. The impacts of congestions can have negative social, economic, and quality of life impacts by decreasing productivity, reducing air quality, causing frustration, and adding to the risk of accidents. This is why state DOTs spend a large amount of time and resources on projects to manage congestion.

The following tables (**Table 2.14** and **Table 2.15**) describe how demand for state-maintained roadways in Mississippi will grow through 2040. This information is extracted from the state’s travel demand model, which estimates travel conditions based on projected population and employment growth, and planned roadway improvements.

**Table 2.14: 2013 Estimated Distribution of Vehicle Miles Traveled by Level of Service on Mississippi Roadways**

LOS	Interstate and Expressway	Arterial	Collector	Local	Total
A	25.7%	15.9%	18.8%	0.8%	61.2%
B	11.4%	4.1%	1.0%	<0.1%	16.5%
C	8.3%	3.1%	0.4%	<0.1%	11.8%
D	1.2%	2.4%	0.3%	<0.1%	3.9%
E	0.1%	2.8%	0.1%	<0.1%	3.0%
F	<0.1%	3.3%	<0.1%	<0.1%	3.3%
<b>Total</b>	<b>46.7%</b>	<b>31.6%</b>	<b>20.6%</b>	<b>0.8%</b>	

Source: MDOT Planning Division

**Table 2.15: 2040 Estimated Distribution of Vehicle Miles Traveled by Level of Service on Mississippi Roadways**

LOS	Interstate and Expressway	Arterial	Collector	Local	Total
A	20.1%	13.1%	17.0%	0.8%	51.0%
B	9.7%	3.9%	1.3%	0.1%	15.0%
C	12.5%	2.6%	1.4%	<0.1%	16.5%
D	3.3%	2.7%	0.9%	<0.1%	6.9%
E	1.3%	4.1%	0.6%	<0.1%	6.0%
F	<0.1%	4.5%	0.3%	<0.1%	4.8%
<b>Total</b>	<b>46.9%</b>	<b>30.9%</b>	<b>21.5%</b>	<b>0.9%</b>	

Source: MDOT Planning Division

According to the traffic forecasts, levels of congestion are likely to increase between current conditions and 2040. The forecasts indicate some increase in the amount of interstate travel that will occur in LOS D (from 1.2 percent to 3.3 percent) and LOS E (from 0.1 percent to 1.3 percent). Some degradation in LOS is forecast on arterial and collector streets as well. However, the forecasts do not indicate a notable increase in the percentage of interstate miles operating at LOS F by 2040. Even in 2040, 90% of all vehicle-miles driven in Mississippi will be at Levels of Service of D or better, levels generally considered to provide reasonable travel speed and reliability. Overall, highway congestion in Mississippi is not expected to be a condition that would lead freight shippers or intercity passengers to shift from highway to rail.

### 2.3.6.2 Airport Congestion Trends

The effectiveness of an airport or an airport system is commonly measured in terms of its capacity. Airport capacity is generally defined as the ability of an airport's airfield facilities (i.e., runways, taxiways, etc.) to safely and efficiently accommodate a given volume of aircraft traffic (demand) over a specified period of time. A single runway with a parallel taxiway can normally accommodate approximately 200,000 annual aircraft operations. The FAA provides guidance to help airport sponsors decide when they should consider airfield capacity improvements. Current FAA guidance recommends that capacity planning start when aircraft capacity reaches 60 to 75 percent of an airport's airfield capacity. With major airfield improvements often taking 10 years or more from concept to opening, this recommendation allows adequate lead time for improvements to be implemented before the project becomes critical.

Mississippi has 73 airports, of which eight serve both commercial service and general aviation activities, and 65 accommodate only general aviation activities. The eight Mississippi commercial service airports accommodated more than 1.2 million passengers in 2009. Mississippi's airport system currently does not



have any airfield capacity constraints. Projections of future aviation activity do not show any of Mississippi's system airports experiencing capacity constraints over the next 30 years.<sup>26</sup>

### **2.3.7 Land Use Trends**

The state of Mississippi is composed of 82 counties ranging in population (as of 2010 Census) from 1,406 people in Issaquena County, the least populated, to 245,285 people in Hinds County, the most populated. As of the 2010 Census, the state averages 63.2 people per square mile, compared to the national average of 87.4 people per square mile. The most densely populated counties in the state are Harrison (326 people per square mile), Hinds (289 people per square mile), and DeSoto (224 people per square mile). Harrison County is located along the Gulf coast and includes the major tourist destinations of Gulfport and Biloxi. Hinds County is located in the south central part of the state and includes the state capital of Jackson. DeSoto County is located along the Tennessee border near Memphis.

Mississippi is classified as a mostly rural state. Based on the 2010 Census, 63 percent of the state is classified as rural compared to 37 percent urban. Urban areas are defined as densely populated areas in and around large cities having a population of over 50,000. Urban areas also include residential areas outside of cities with a population of 2,500 or greater. Jackson had a 2010 population of 173,514 people and is the only city in the state with a population over 100,000.

Agricultural land uses dominate the northwestern portion of the state in the Mississippi Delta area. More densely populated urban areas are located around the cities of Jackson, Gulfport/Biloxi, Meridian, and Hattiesburg. Commercial, retail, and institutional land uses are concentrated in these areas. Industrial land uses related to oil and gas facilities and refineries are located in the southern portion of the state. Tourism is a major industry along the Gulf Coast of Mississippi where land uses include hotels, resorts, restaurants, golf courses, and recreational attractions.

Hurricane Katrina in August 2005 had a major effect on coastal communities along the Gulf Coast of Mississippi. The storm wiped out entire towns along the coast. The coastal counties of Harrison, Hancock, and Jackson lost a total population of nearly 50,000 people. Since the initial impact of the storm, approximately 60 percent of those people have returned. The storm also had a major economic impact on the state due to loss of revenue from tourist destinations along the coast, including beaches, golf courses, and casinos.

## **2.4 Mississippi's Existing Rail System: Rail Service Needs and Opportunities**

This section draws from the service characteristics, projections, and trends reported in the preceding sections to summarize rail freight and passenger service needs and challenges, and to identify service opportunities. These opportunities form the basis for the passenger and freight rail improvements recommended in **Chapters 3 and 4**.

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<sup>26</sup> *Mississippi's Unified Long-Range Transportation Infrastructure Plan*, Appendix J: Aviation Needs Assessment (MDOT, May 2011)

## **2.4.1 Freight Rail Services**

With five Class I railroads providing service to all regions of the state, and with a diverse network of regional and local railroads able to provide cost-effective service to smaller rail markets outside of the major market areas, Mississippi is blessed with good overall competitive rail service. Recent success in re-establishing service to coastal markets following the wide-spread damage resulting from Hurricane Katrina, in leveraging TIGER and railroad funds to improve access to the port at Gulfport, and support of major industrial location successes by funding rail access improvements has bolstered freight services to critical elements of the growing state economy.

### **2.4.1.1 Freight Rail Challenges**

Reflecting the general conditions described above, Mississippi does face several significant freight rail challenges that should be addressed if the state's freight movement and economic development needs are to be addressed by a robust, multimodal freight system.

#### **Embargoed Routes**

The north central region of the state is currently dealing with extended sections of embargoed track, leaving those regions without rail service, even though short line railroads maintain ownership of the track. The cost to repair the embargoed track may be beyond the ability of owning railroads to fund the needed repairs.

#### **"Last Mile" Connections**

Examination of Mississippi's freight network, including receipt of input from the RAC and other freight stakeholders, has revealed that beyond conditions on the primary facilities of the freight network corridors, there is a challenge in meeting the "last mile" deficiencies for connectors to important intermodal facilities such as ports, rail-highway interchange sites, or major warehousing/distribution centers. Often, these intermodal connectors are not elements of the national highway network or even of Mississippi's secondary highway network, but are county or municipally-maintained roads or streets. Congestion or operating restrictions can adversely affect freight movement reliability and public safety.

Rail connections are important factors in attracting industrial development. The MDA is currently promoting three industrial development sites as listed below, all of which include rail spurs:

- George County Industrial Park is a 50-acre development within a 1,200 acre greenfield site in Lucedale, Mississippi. The site is served by Mississippi Export Railroad with connections to CN, CSXT, KCS, and NS.
- Helena Industrial Park is a 131-acre site located in Jackson County, seven miles north of Moss Point on the Gulf Coast. The site is served by Mississippi Export Railroad with connections to CN, CSXT, KCS, and NS.
- Moss Point Industrial and Technology Complex is Jackson County's newest master planned industrial park addition. The former site of International Paper offers 200 acres served by the Mississippi Export Railroad with connections to CN, CSXT, KCS, and NS.

## Railroad Weight Capacity

Railroad weight capacity is and will continue to be critical to maintaining freight rail movement efficiency and cost advantage. All major Mississippi Freight Network (MFN) rail carriers are projected an increase in cargo volumes and commodity flows in the future except for the NS and BNSF lines in the northeastern quadrant of the state and the CN line along US 49 in the southeastern quadrant of the state. As part of the national rail system, Mississippi's railroads are generally maintained to handle carloadings with a gross weight of up to 286,000 pounds. Consistency with this standard means that Mississippi shippers can optimize their shipments and reduce shipping costs. However, when the weight capacity on a rail line is less than that amount, shippers are put at a competitive disadvantage. The majority of Mississippi's rail network is capable of handling 286,000-pound loadings, but, as shown in **Table 2.3**, there are significant lines that are not, including the Tier II US 45/KCS Artesia subdivision mainline from West Point to Corinth.

It was noted in an interview with the Mississippi Railroad Association during development of this plan that they would like to help the local and regional railroads upgrade their weight limits to 286,000 pounds through increased funding, but this is a significant challenge because it required building up the base underneath the railroad tracks and also involves rebuilding or substantially upgrading bridges.

## Railroad Safety

While maintenance of the rail network is the responsibility of the privately owned railroad companies, the key point of contact between freight railroads and the public is at rail-highway grade crossings. As Mississippi's economy grows and freight traffic increases on both major rail lines and on highways, an indicator of rail safety is grade crossing safety. Mississippi currently has 2,206 public rail crossings statewide based on the latest USDOT Rail Crossing Inventory data, which is constantly being updated. According to the latest USDOT Rail Crossing Inventory data:

- Approximately 5% of all public crossings do not have any warning devices (i.e., no signs, no flashers, no gates)
- Approximately 52% of all public crossings have only passive warning devices (i.e., crossbucks or stop signs)
- Approximately 43% of public crossings have some form of active warning device (approximately 20% have flashers only and approximately 23% have flashers and gates)

## Port Rail Needs

As noted earlier, 12 Mississippi ports are served by rail, and one is planning for rail service. All 13 ports have rail infrastructure needs, which were summarized in the 2011 MSRP. These are listed in **Table 2.16** and include projects such as track rehabilitation and expansion projects. The table has been updated based on input from the RAC and the MDOT Ports Division. Two projects identified in the 2011 plan have been completed. The first was improvements to the KCS rail line between Gulfport and Hattiesburg using \$43 million in HUD grants and TIGER funding. The improvements upgraded the track and allowed for double-stack trains from the port at Gulfport. The second was the extension of the lead track south of the US 278 bridge at Amory, which was completed using funds from the Multimodal Transportation Improvement Fund.

**Table 2.16: Mississippi Port Rail Needs Summary**

Port	Serving	Identified Need	Statement of Problem
Aberdeen	KCS	Construction of a 3.2 mile-long connection track.	Currently without rail service.
Amory	BNSF	Upgrade 9 railroad bridges located between Amory and Columbus on line operated by BNSF. Proposed upgrades would increase the load-carrying capability to the industry standard 286,000 pounds.	Port is not transloading the maximum carload capacity to rail.
Bienville	PBVR	Connection to NS.	Rail access limited to CSX Transportation.
		Replacement of CSXT bridge over Pearl River.	Narrow passage and bridge location restricts barge traffic and loss of most direct route.
Greenville	CAGY	The Port plans to improve and extend trackage to hold additional rail cars.	Insufficient car capacity.
		Acquire a track-mobile.	
		Rehabilitate 3.2 miles of on-site flood-damaged track.	
Gulfport	CSXT, KCS	Develop rail access directly into port facility for CSXT.	Current rail access limited to KCS.
Itawamba	MSRW	Rehabilitate 23 miles of rail line from Fulton to Amory to handle 286,000-lb. carload weights. <sup>1</sup>	Port is not able to interchange industry standard carloads.
Lowndes	KCS	Engineering/environmental planning and land acquisition for west bank rail connection track.	West bank terminal without rail service.
		Rehabilitation of east bank trackage and scale.	
Natchez	NTRZ	Rehabilitate Natchez Railway Bridges	Bridge infrastructure limitations.
		Extend rail on the bulk cargo handling dock.	
		Build a rail extension to the south of the Port.	
Pascagoula	MSE, CSXT	Upgrade the rail connection to make transportation of goods more efficient. Relocate short lines to a more direct route, allowing closure of 16 rail crossings. <sup>2</sup>	Needed for full infrastructure development.
Rosedale	GTR	Rehabilitate 32.45 miles of Port Commission owned railroad as needed.	Railroad has been out of service since 2002.
Vicksburg	VSOR	Establish a new port terminal with rail access.	Vicksburg is currently out of space.
		Vicksburg is in the process of upgrading existing rail trackage.	Upgrade not yet complete.
Yazoo	CN	Resurface grade crossings.	
		Rehabilitation of trackage.	

**Table 2.16: Mississippi Port Rail Needs Summary**

Port	Serving	Identified Need	Statement of Problem
Yellow Creek	KCS	Rehabilitation of the 10-mile Yellow Creek Railroad that connects Yellow Creek State Inland Port to the KCS system.	Needs timbering and surfacing with grade crossing renewal.
		Construct a 3-mile rail connection from the NS main line to the container-on-barge distribution port terminal in the Northeast Mississippi Waterway Industrial Park (NEMWIP). <sup>3</sup>	Expand economic development capacity at Port.

Source: 2011 MSRP, updated based on information from RAC and MDOT Ports Division

- 1 This project is underway.
- 2 TIGER funds (\$14 million) will be used for this project
- 3 This project is underway.

### 2.4.1.2 Freight Rail Opportunities

MDOT’s response to the freight rail challenges described above has advanced since completion of the last State Rail Plan in 2011, primarily through development of the state’s first Statewide Freight Plan.

#### Identification of Mississippi Freight and Rail Network

A key element in the development of the MSFP (2015) was identification of key freight corridors in the state, in terms of their movement of freight within and through the state, and the access that they provide to both internal and external markets and to major freight shippers. Identification of a network of important freight corridors allows MDOT to set investment priorities that support the state’s economic development goals. The MFN is intended to define these critical corridors and is comprised of primary multimodal freight corridors, major intermodal facilities (marine ports, river ports, and commercial airports) served by those corridors, and connecting roadway and rail links serving those intermodal facilities, associated intermodal distribution and warehousing facilities, and the state’s major freight generators.

The MFN consists of 15 corridors of varying length, responding to freight movement issues and opportunities. Corridors are stratified into statewide (Tier I) and regional (Tier II) tiers based on criteria related to providing interstate connectivity; providing access to key intermodal freight facilities and freight generators; and efficiently moving high volumes of freight to support the state’s economic health. Specific criteria for each tier are shown in **Table 2.17**, with rail-related criteria shown in bold print. Based on these criteria, **Figure 2.15** shows the freight network from the *MSFP*.

The MSFP goes on to present a set of recommended freight improvement strategies for Mississippi and proposed a plan for implementation. In order to prioritize the recommended improvements, the plan considered public safety improvements, infrastructure investment preservation, operational efficiency enhancement, and reliability enhancement. Based on these considerations, a set of high priority projects was recommended. Rail improvements included in these high priority projects are as follows:

- Upgrade all Tier I rail grade crossings (Collector road or higher) to full active crossing warning devices

- Develop rail access directly into Port of Gulfport (I-10/CSXT Corridor)
- CN track improvements in Greenwood and north of Jackson to raise line speed (I-55/CN Corridor)
- NS track improvements in Laurel and Picayune to raise line speed (I-59/NS Corridor)

MDOT has received indication that CN and NS are not interested in advancing the last two of these improvements.

**Table 2.17: Mississippi Freight Network Identification Criteria**

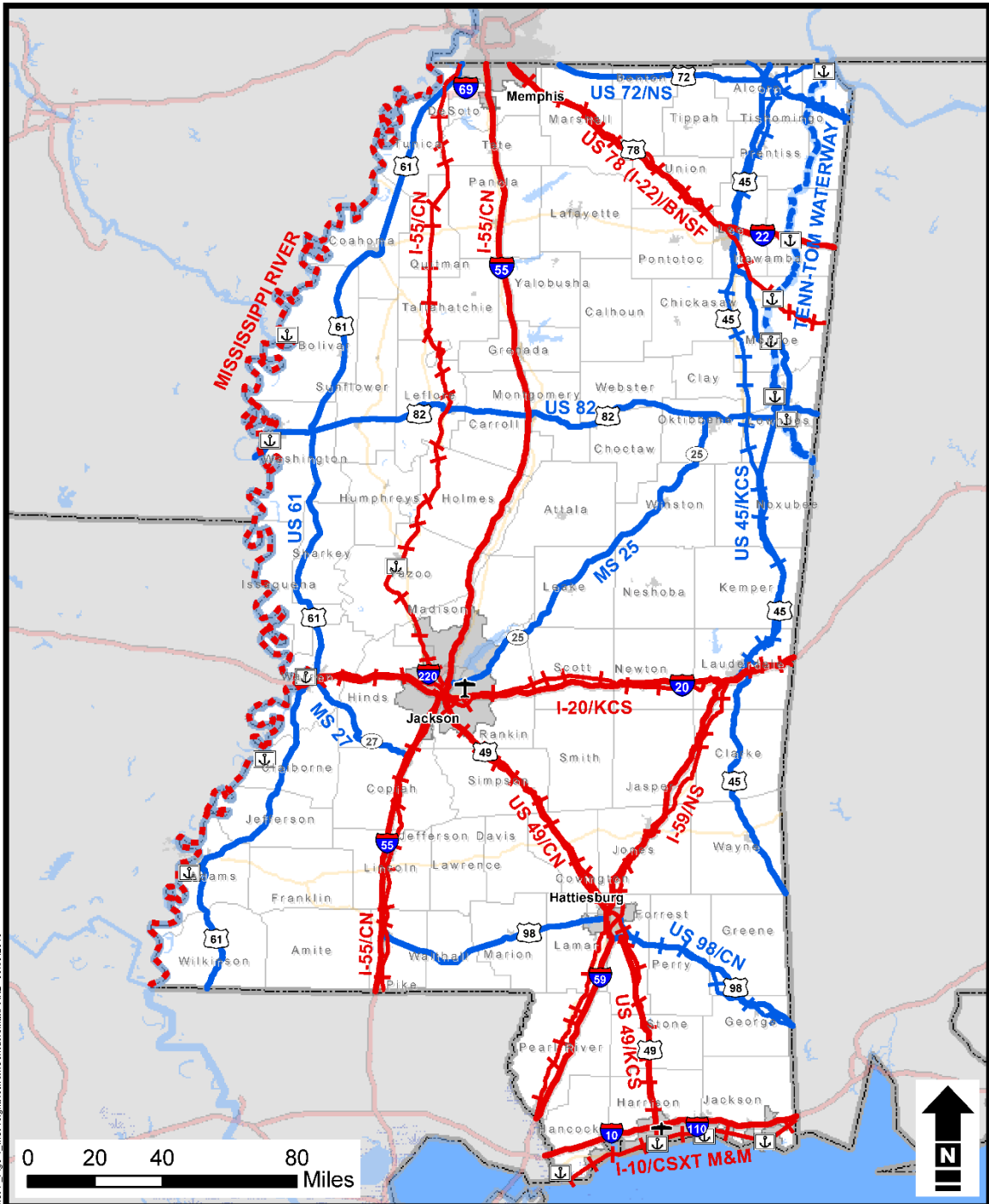
Criteria Type	Tier I Primary/Interstate Freight Corridors	Tier II Regional/Rural Freight Corridors
<b>1. Network connectivity to national systems</b>	a. Highway that is part of the national Primary Freight Network <sup>1</sup> b. Highway that is part of Interstate Highway System <b>c. Class I RR mainlines</b> d. Mississippi River	Not applicable: network connectivity considered to apply only to Tier I Corridors.
<b>2. Access to intermodal facilities and major freight generators</b>	a. Primary highway or <b>rail line serving major intermodal facilities</b> (ports > 1M tons per year or identified major cargo airport); associated facility and its first/last mile intermodal connector become part of the MFN Tier I.	a. Primary highway or <b>rail line serving secondary intermodal facilities</b> (ports with 0.5M-1M tons per year); the associated facility and its first/last mile intermodal connector become part of the MFN Tier II.
	b. Primary highway (including first/last mile connector) or <b>rail line(s) serving statewide freight generators</b> (>2M tons and/or >\$1B in value of generated freight annually). <sup>2</sup>	b. Primary highway (including first/last mile connector) or <b>rail line(s) serving regional freight generators</b> (1M-2M tons and/or \$0.5B-\$1B in value of generated freight annually).
	c. Highway or <b>rail line providing access to top statewide freight counties</b> (generating >5M tons of freight annually).	c. Highway or <b>rail line providing access to regional freight counties</b> (generating 2M-5M tons of freight annually).
<b>3. Mobility of freight flows: volume and density</b>	a. Highways carrying >10M tons of freight annually on 50% of component length.	a. Highways carrying 1.5M-10M tons of freight annually on 25% of component length.
	<b>b. Freight rail lines carrying &gt;12M tons of freight annually on 50% of component length.</b>	<b>b. Freight rail lines carrying 3M-12M tons of freight annually on 25% of component length.</b>
	c. Highways with average of >4.5k daily trucks on 50% of component length.	c. Highways with average of 2.5k-4.5k daily trucks on 25% of component length.
	d. Mississippi River and its major ports.	d. Tennessee/Tombigbee Waterway and its ports.

1 The national Primary Freight Network (PFN) is currently in development by USDOT. There are two draft PFNs published by USDOT. The "Highway PFN" is a route mileage constrained network totaling 27K miles nationally, the statutory ceiling. The "Comprehensive Highway PFN" is not route mileage constrained and totals 41K route miles nationally.

2 Major freight generators include: manufacturing; energy (oil, gas, and mining); processed agriculture; distribution centers and Warehousing.

The MSFP also includes long-term (5-15 years out) implementation actions. The only rail-related action is to improve rail-highway grade crossings on freight network rail corridor crossings of state highways with higher traffic volumes.

Figure 2.15: Mississippi Freight Network



MSFP\_Eigs-1\_MSFrightNetworkCorridors.mxd\_AKB\_05\_30\_2015

**MISSISSIPPI STATEWIDE FREIGHT PLAN**

LEGEND	
	Tier I Highway
	Tier I Railway
	Tier I Water
	Tier II Highway
	Tier II Railway
	Tier II Water
	Other Interstates
	US Highway
	Airport
	Port

**MISSISSIPPI FREIGHT NETWORK CORRIDORS**

Source: ESRI, MDOT.

Source: MSFP, 2015

## 2.4.2 Passenger Rail Services

Current intercity passenger service in Mississippi is relatively meager, with two Amtrak routes serving the state as parts of Chicago to New Orleans and Washington, DC to New Orleans service. This reflects that Mississippi does not have major long-distance travel destinations. However, the state is fortunate in that both routes serve Mississippi stations during daylight hours, offering opportunity to coordinate with local public transportation and to use station activity as a supporting element of urban development efforts.

### 2.4.2.1 Challenges for Passenger Rail

#### Freight Rail Growth

When states began implementing passenger rail routes, the freight railroads had capacity available and PTC or even signals were not required. Currently the growth of rail freight traffic has resulted in the freight rail industry requiring some capacity improvements for even one daily round-trip. Increased freight service may impact reliability for passenger service. As noted in **Section 2.2.2.3**, freight rail traffic accounted for much of the delay affecting the on-time performance of passenger trains. In some cases, schedule optimization may help to improve reliability. In other cases, passing track may be needed to accommodate increasing passenger and freight train service. Mississippi and its partner railroads must negotiate agreements acceptable to the FRA that define performance standards (schedules, on-time performance) and capacity utilization - balancing freight benefits and passenger rail benefits and preserving some capacity constructed with public funds for future passenger rail service.

#### Funding

As discussed in **Section 2.2.3.4**, funding is another challenge for passenger rail at a time when state budgets are in substantial distress. States will be challenged to raise the required 20 percent match for capital investments and especially challenged to identify long-term funding flows needed to cover yearly operating costs.

One of the tasks mandated by PRIIA was for Amtrak's Board of Directors, U.S. DOT, and the states to develop and implement a single, nationwide standardized methodology for establishing and allocating the capital and operating costs required in providing state-sponsored intercity passenger rail service.

Requirements for the federal funds are rigorous. Not only must prospective applicants have strong state and regional plans, but the states' or regions' priorities must be clearly delineated. They also must demonstrate the ability to generate a flow of funding over time to maintain the service. Strong program management must be shown and most importantly agreements with partner states, freight railroads and other stakeholders must show a strong consensus regarding the importance of the proposed project.

### 2.4.2.2 Opportunities for Passenger Rail

Previous studies of passenger rail improvements along the Gulf Coast were discussed in the 2011 MSRP and are briefly summarized below:

- ***Gulf Coast Service Plan Report*** – Section 226 of PRIIA required Amtrak to develop a plan for restoring passenger rail service between New Orleans and Sanford, Florida. The *Gulf Coast Service Plan Report* was developed in July 2009 and recommended three preferred options for service restoration. Option 1 would restore tri-weekly *Sunset Limited* service between Los Angeles and



Orlando; Option 2 would extend the daily *City of New Orleans* service east from New Orleans to Orlando; Option 3 would implement daily stand-alone service between New Orleans and Orlando. Projected capital and mobilization costs range from \$32.7 million for Option 1 and \$57.6 million to \$96.6 million for Option 2 and Option 3. The next steps to be taken are for federal and state policymakers to determine if passenger rail service should be restored, and if so, identify the preferred option for service restoration and provide required funding to implement that option.

Potential public benefits of service restoration could include the positive impacts of investments to restore the service and facilities, creation of 32 to 122 Amtrak permanent jobs, mobility enhancement for residents along the Gulf Coast, and energy savings to the degree that trips are diverted from cars and airplanes, generally regarded as less energy-efficient modes.

- ***Gulf Coast High-Speed Rail Corridor*** – Two planning studies were sponsored by FRA and the Southern High-Speed Rail Commission (now the SRC) with the goal of advancing implementation of the Gulf Coast High-Speed Rail Corridor.
  - ***Lake Charles to Meridian Corridor Transportation Plan (June 2007)*** – The goal of this analysis was to determine the impact of introducing high-speed passenger rail service on freight rail operations in the corridor between Meridian, MS and Lake Charles, LA. Based on this impact, the study determined the level of infrastructure improvements that would be necessary to allow passenger service to be implemented without negatively affecting future projected freight operations.
  - ***New Orleans to Mobile Corridor Development Plan (October 2006)*** - This corridor transportation plan investigated whether, and how, the states of Alabama, Mississippi, and Louisiana could upgrade the railroad corridor between New Orleans and Mobile to achieve those states' passenger train travel time goals, with reliable on-time performance for all freight and passenger operations.

### **Southern Rail Commission**

The SRC, which includes the member states of Mississippi, Louisiana, and Alabama, is in the process of systematically developing plans for the Gulf Coast High-Speed Rail Corridor stretching from Birmingham to New Orleans to Baton Rouge and Houston with a leg from New Orleans to Mobile. In addition, the SRC has continued to focus on reinstating service between New Orleans and Orlando. The Gulf Coast High-Speed Rail network, as it is envisioned, will provide a strong trunk system around which ancillary commuter rail, feeder rail routes and connecting Thruway bus network can be developed. This larger network will help foster development, enhance transportation capacity and provide additional transportation choices.

Mississippi intends to build upon the current plans and priorities of the SRC. The majority of destinations for Mississippi rail passengers are outside the state. Thus it is critical for Mississippi that the SRC remains a highly coordinated, supportive, consistent partnership in order for Mississippi to achieve expanded passenger rail service. The SRC priorities and phasing plan need to be supported even if that means that a particular state's projects are not the first to be undertaken. The strength of this partnership is a very important part of the federal application process.

The following passenger rail improvement initiatives were noted during interviews with Amtrak, SRC, and MDOT in May and September 2015:

- Following years of discussion and negotiation, the City of Marks, Quitman County, Amtrak, and CN reached an agreement in May 2015 to establish a flag stop in Marks, MS along the City of New Orleans route. The city and county are now working to finance and construct the station.
- Amtrak will continue the on-going process of upgrading stations to be compliant with ADA requirements in terms of station facilities and platforms.
- The SRC is pursuing funds to study the third leg of the Dallas/Fort Worth to Meridian corridor, consisting of the section between Vicksburg to Meridian. The Louisiana Department of Transportation and Development is completing a study for the section located in Louisiana with the eastern terminus in Vicksburg.
- The SRC has applied for an FRA grant to study the former *Sunset Limited* Amtrak route along the Gulf Coast east of New Orleans. It should be noted that in December 2015, a study of the restored rail service along the Gulf Coast from New Orleans to Orlando was required as part of the Fixing America's Surface Transportation (FAST) Act of 2015.

In mid-2015, the SRC commissioned Amtrak to evaluate potential service restoration options along the Gulf Coast. The purpose of this report, called ***Potential Gulf Coast Service Restoration Options***, was to determine the operating characteristics of potential service options and forecast performance so that the SRC could identify the service plan which would best serve the region. In this report, which was submitted to the SRC in December 2015, Amtrak identified a range of feasible service options and produced an analysis of ridership levels, projected revenues, and associated costs. The report states that while infrastructure capital costs were not included in this evaluation, these service options will provide a starting point for a detailed analysis of the capital needs associated with each option. Of the five evaluated alternatives and sub-alternatives, the report states that Amtrak identified Alternatives A/A1 as providing the best balance of operating costs and ridership benefits. Alternatives A/A1 would extend the *City of New Orleans* service, which connects New Orleans and Chicago, from New Orleans to Orlando, to provide a daily "one-seat ride" between the Gulf Coast stations and the current City of New Orleans route, with (Alternative A) or without (Alternative A1) a single daily state-supported train between New Orleans and Mobile.

- Alternative A would generate annual ridership of 153,900 passengers and would require an annual operating funding commitment of \$9.49 million. The report states that this alternative provided the highest total ridership of any analyzed alternative.
- Alternative A1 would generate annual ridership of 138,300 passengers and require an annual operating funding commitment of \$5.48 million. The report states that this alternative provided the second highest ridership of all the analyzed alternatives, but the lowest level of identified operating need.

To proceed with any of the proposed alternatives evaluated in the study, the December 2015 report recommends that Amtrak and the SRC will need to accomplish the following tasks:

- Approach the host railroads (chiefly CSXT) to identify any infrastructure needs for the proposed service
- Identify and develop operating and capital funding mechanisms to support any proposed service
- Identify and build support from institutions which are likely to benefit from, and attract riders to, the proposed Gulf Coast service
- Work with communities on plans to revitalize station facilities
- Refine service proposals as a clearer picture emerges of the infrastructure environment and as marketing opportunities are developed along the route

### **Freight Railroad Partnerships**

Another key opportunity in addressing passenger rail improvements is a close working relationship with the partner freight railroads. The freight railroad must not only be a partner but an advocate of the proposed improvements. The freight railroad's traffic needs must be a key consideration in developing plans for enhanced passenger service. Corridor improvement strategies must not only improve and add capacity for passenger rail service but identify how freight service is improved as part of the investment. By identifying improvements that also improve rail freight service, the opportunity for additional freight railroad capital investment arises.

### **Stakeholder Outreach**

Opportunities for passenger rail enhancements can be improved with support from a wide range of stakeholders. Strong outreach to a wide range of stakeholders is also important in achieving the funding requirements required to support the service and the phasing plan developed by the SRC, and is also a key requirement of PRIIA. Public transportation advocates, on-line cities, the tourism industry, downtown business interests, connecting transit networks, taxi companies and rail line freight users all will benefit from an improved service and rail network. Leveraging both private and public funds, capital investment planning and construction would focus on projects designed to lay the foundation for future passenger rail service while providing near-term benefits to key stakeholders, especially the freight railroad partners and freight shippers (by also improving rail freight service), cities (through grade crossing improvement projects) and current rail travelers.

### **Enhance Existing Services**

Independently, there is also value in improving, enhancing and expanding the current passenger rail service in Mississippi. Efforts that improve ridership, the feeder network, facilities, services (especially on-time performance) and fare box recovery ratio of the current service will reflect positively on any new proposed expansion of passenger rail service.

Promotion of existing rail service provides an opportunity to build awareness and usage of rail transportation. Noting the availability of Amtrak service and offering a link to the Amtrak website on state and local travel websites is an easy way to promote rail service. Another option is to develop joint promotions that link Amtrak, local transit carriers, hotels, and attractions. All of the participants in this type of program could work together to provide detailed information on how to visit and enjoy cities and destinations in Mississippi.

Volunteers on the trains and in stations can offer personalized service and information to rail travelers. They can also provide information about passenger services, the train route, ground transportation, and area attractions. Volunteers can also provide valuable feedback to the state on issues such as on-time performance, mechanical and maintenance issues, and potential security issues to help maintain the quality of rail service.

Several Mississippi stations have been redeveloped into multimodal terminals. By coordinating with Greyhound Lines and other motor coach operators, several potential routes could be developed, especially out of Jackson. As noted in **Section 2.2.2.1**, Thruway bus service is currently offered between Jackson and Mobile and between Jackson and Dallas in connection with the *City of New Orleans* route, and between Meridian and Dallas in connection with the *Crescent* route. Other routes, such as Jackson-Vicksburg and perhaps Monroe, LA and Shreveport, LA (serving the *City of New Orleans*) are possible. Memphis-Baton Rouge, LA operating via Vicksburg and Natchez is a route that could be offered with the existing motor coach schedule. This route would connect with the *City of New Orleans* at Memphis.

Facilitating information about local transit routes and taxis serving Mississippi's noteworthy multimodal terminals can also aid in ridership growth. Unless riders are already familiar with the names of websites of transit operators, it is not easy to find this information. For example, no information about Mississippi transit connections is listed in Amtrak's timetable, and there is no link between the Visit Jackson website and JATRA's website (Jackson's local transit operator).

Satisfied current Mississippi customers will become advocates for service expansion. Maintaining support for expanded rail service is critical given the financial challenges noted above and the fact that some of the expanded rail service proposed by the SRC will be outside Mississippi.

Efforts could continue on improving Mississippi rail stations and maintaining and expanding services offered at the current redeveloped stations. Mississippi could coordinate efforts among stakeholders to promote enhanced usage of current rail services. Both the *City of New Orleans* and the *Crescent* have daytime schedules through Mississippi and offer a travel option for residents as well as visitors. Serving as a facilitator and perhaps with an allocation of funding for promotion, the state could bring the travel industry and Amtrak together to identify opportunities for travel on the two existing passenger routes.

### **2.4.2.3 Objectives for the Passenger Rail Services**

No changes in frequency and capacity of Amtrak services are planned in Mississippi, and Amtrak does not currently have stated performance objectives for its Mississippi routes. However, MDOT has developed some performance objectives based on input from the RAC for passenger rail service in the state that aim to increase ridership, improve on-time performance, and improve access.

#### **Increase Ridership**

As noted in the previous section, Amtrak ridership in Mississippi is projected to increase by nearly 10 percent over the next 20 years, based on population growth alone. Even without increases in the frequency or capacity of service, there are opportunities to enhance existing passenger rail services, including potential new service along the Gulf Coast and along the I-20 corridor as discussed in greater detail in **Section 2.4.2**. Based on these opportunities, the MSRP's objective to increase passenger rail

ridership by 15 percent over the next 20 years (by 2034) was endorsed by the RAC. This would equate to total statewide ridership in 2034 of 125,910 passengers.

### **Improve Access**

Passenger rail station and service access could be improved by enhancing coordination with local and regional transit providers. Facilitating intermodal connections and improving access to rail service will help Mississippi increase their ridership. Providing enhanced connections to local and regional bus services and taxis will provide options for passengers to reach additional destinations. As noted in **Table 2.4**, a few Amtrak stations in the state currently offer connections to local transit operators or Greyhound bus lines. In addition, Amtrak offers Thruway bus service from Jackson and Meridian. However, there are opportunities to expand intermodal connections across the state. The RAC also endorsed the MSRP's objective to improve coordination between Amtrak and the local and regional transit providers in cities served by passenger rail to offer timely connections with Amtrak routes.

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## 3 Proposed Passenger Rail Improvements and Investments

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### 3.1 Introduction

As described in **Chapter 2**, passenger rail needs and opportunities have been identified and endorsed by the RAC and performance objectives for passenger rail service in Mississippi have been developed, aimed at increasing ridership and access to passenger rail service, as follows:

- Increase Ridership – Increase passenger rail ridership by 15 percent over the next 20 years
- Improve Access – Coordinate with local and regional transit providers to increase awareness of and access to Amtrak routes

This chapter describes potential improvements to existing passenger rail service to help Mississippi achieve these performance objectives, including station improvements, improved intermodal connections, and enhanced marketing. The chapter also examines potential new or expanded passenger rail service that might be pursued by Mississippi, either in conjunction with initiatives in neighboring states, or on a stand-alone basis.

### 3.2 Potential Improvements to Existing Passenger Rail Service

As noted in **Chapter 2**, Amtrak currently operates two long-distance trains through Mississippi, and no changes to the frequency or capacity of existing Amtrak services are currently planned by Amtrak for Mississippi. This section describes potential improvements to existing passenger rail service in Mississippi to meet the performance objectives described above. These potential improvements include improving reliability to increase ridership, upgrading passenger stations to improve station attractiveness and utility, improving local transit coordination to facilitate accessibility, and enhanced marketing to expand public awareness, as discussed in detail in the following sections. These efforts to improve ridership, intermodal connections, facilities, and performance of existing services should reflect positively on future proposals for new or expanded passenger rail service (**Section 3.3**).

#### 3.2.1 Improve Service Reliability

Nationwide, two factors in relatively low passenger rail ridership are train schedules and the perception of unreliability of service, particularly in terms of overall travel speed and poor on-time train performance. Ways to potentially increase ridership on passenger rail routes are to make schedules more attractive, primarily by providing daytime arrivals, and to improve reliability. Fortunately, both the *Crescent* and *City of New Orleans* trains serve Mississippi stations during daylight hours, so no changes seem needed in this regard.

With regard to service reliability, as noted in **Chapter 2**, on-time performance for Amtrak long-distance trains serving Mississippi is comparable to other routes outside of the Northeast Corridor, with 51% of trains on the *Crescent* and *City of New Orleans* routes arriving on time for FY 2015 to date, compared to

43.2% for all long-distance trains.<sup>27</sup> However, both routes are below the PRIIA Section 207 standard of 80% and year over year comparisons show a decline in on-time performance for both routes. Host railroad delays are most often attributable to interference from freight train operations and slow orders. Without additional line capacity, these delays are likely to increase as freight rail operations increase over the next 20 years. Therefore, improving coordination and developing partnerships with the freight railroads will be a critical component of improving reliability for passenger rail routes.

Scheduled travel time on the existing services is primarily a function of track condition and geometry. Excessive curves and poor track condition result in low posted speeds. Fortunately, both the *Crescent* and *City of New Orleans* operate on mainline tracks, both with top speeds of 79 miles per hour (mph) for passenger trains. However, particularly on the *City of New Orleans* route between Memphis and Jackson, there are sections with sharp curves that do decrease speeds, resulting in average travel speed of 49.5 mph. Discussion with Amtrak indicates that the cost of straightening these curves to allow higher speed would not be cost effective.

Many of the rail improvement projects proposed by the freight railroads (discussed in **Chapter 4**) would also benefit passenger rail by improving reliability. The addition of rail sidings or double tracking may be needed in congested areas to allow for efficient operation of both passenger and freight rail. The SRC has earmarks for safety improvements and could potentially spend that funding on improvements to existing passenger routes. The improvement or elimination of existing at-grade rail crossings is another way to improve reliability and safety by removing conflict points between trains and automobiles. MDOT has numerous Section 130 projects underway or planned to improve grade crossings.

### **3.2.2 Passenger Station Upgrades and Additions**

Passenger station upgrades are largely needed to meet ADA requirements, but these upgrades may also increase ridership. According to the Department of Justice's letter of findings regarding Amtrak's ADA compliance (June 9, 2015),<sup>28</sup> Amtrak is responsible for ADA compliance for station facilities of which it owns more than 50 percent, which applies to the following station facilities in Mississippi: Greenwood, Hattiesburg, Jackson, and Meridian. Based on a 2009 Amtrak report, the estimated cost for ADA upgrades at these four stations totals \$7.6 million.<sup>29</sup> According to Amtrak's 2011 report, as part of its Mobility First Program, Amtrak deployed wheelchair lifts at numerous stations as an interim step in its efforts to achieve ADA compliance. Between 2009 and 2011, 176 stations nationwide received new wheelchair lift capability, including Greenwood, MS. According to Amtrak, no stations in Mississippi are planned for additional ADA assessments or upgrades at this time.

In addition to upgrading existing passenger stations, adding new stops to existing routes increases the market base for the service by giving more people access to the trains. A new passenger station is currently in development along the *City of New Orleans* route in Marks, Mississippi. The proposed flag stop would provide service to a rural region of nine counties in northwest Mississippi. The region has been without a

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<sup>27</sup> Amtrak Monthly Performance Report for July 2015 (published September 2015)

<sup>28</sup> [http://www.ada.gov/amtrak/amtrak\\_letter\\_of\\_findings.pdf](http://www.ada.gov/amtrak/amtrak_letter_of_findings.pdf)

<sup>29</sup> *A Report on Accessibility and Compliance with the Americans with Disabilities Act of 1990*, Amtrak, 2009.



passenger rail stop since 1995, when a stop in Batesville was closed due to rerouting of the train to the CN line to the west in Quitman County, generally parallel to MS 3 in that part of the state. The flag stop will be located along CN's main line in the center of Marks' downtown. Following years of discussion and negotiation, the City of Marks, Quitman County, Amtrak, and CN reached an agreement on the stop in May 2015.<sup>30</sup> The City and County will provide the land for the platform structure and designated parking, as well as annual expenses for security and maintenance. The overall project construction cost is estimated at \$1.1 million and identified means of funding include the City of Marks, Quitman County, state regional economic development funds, MDOT funds, and contributions from regional municipalities and counties. Annual operating expenses are estimated at \$15,800.<sup>31</sup> Quitman County hopes to have the station constructed and operational in the spring of 2016.



Artist rendering of Amtrak flag stop in Marks, MS (<http://drafts.elc2.co/>)

### 3.2.3 Local Transit Coordination

Another strategy for improving Amtrak ridership is to enhance station and service access by improving coordination with local or regional transit providers. This could include timing local or regional fixed route services to meet daily trains. The MDOT Public Transit Division (PTD) is responsible for the development and administration of general public and specialized transportation program grants and contracts.<sup>32</sup> Certain grant programs administered by PTD provide funding to improve intermodal connections. For example, New Freedom Program funds can be used to operate feeder services to intercity rail stations.<sup>33</sup>

MDOT PTD has established six regional groups in Mississippi to facilitate local coordinated planning. The purpose of these groups is to assess regional transportation needs and develop recommendations to address these needs. The existing *Crescent* route operating on the NS mainline runs through the SMT

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<sup>30</sup> <http://msbusiness.com/2015/05/wicker-says-amtrak-stop-coming-to-marks/>

<sup>31</sup> <http://drafts.elc2.co/>

<sup>32</sup> [http://mdot.ms.gov/portal/public\\_transit.aspx](http://mdot.ms.gov/portal/public_transit.aspx)

<sup>33</sup> MDOT Public Transit Division, *State Management Plan 2014*, page 71

Regional Coordination Transportation Group region, while the existing *City of New Orleans* route operating on the CN mainline runs through the SMART, Trans-Con, and Delta Rides coordination group regions. MDOT provides funding to these groups for coordination and marketing. This funding could be used to facilitate coordination between local transit services and Amtrak to time local transit services to meet daily passenger trains, and also to market local transit connections with Amtrak routes.

In addition, there are currently transit agency offices, which also serve as transit hubs, housed within two Amtrak stations in the state: Meridian (Union Station) and Jackson (Union Station). The colocation of local transit hubs and Amtrak stations offers increased opportunities for intermodal connections. In Meridian, Meridian Public Transit System provides on-demand transportation services by reservation only on Monday, Wednesday and Friday. Their offices are housed in Union Station, which also serves Amtrak. Reservations can be made for transportation to meet the Amtrak route. In Jackson, Union Station is the hub for all JATLAN fixed routes and also services Greyhound, Amtrak, and various cab services. These are good examples of successful intermodal connections that could serve as models for other cities in Mississippi.

The MDOT PTD is currently working on an Intercity Bus Study to determine the level of intercity bus needs in Mississippi. An initial memo on existing conditions in the state identified a disconnection between the location of current intercity bus stations and other modes of transportation (including passenger rail).<sup>34</sup> As an example, an Amtrak station is located in Hattiesburg's Intermodal Center, but Greyhound chose not to have a station at the Intermodal Center and is instead located on the outskirts of town. This makes it very difficult for passengers to transfer between Greyhound and Amtrak in Hattiesburg. In addition, the *Delta Rides Plan for Regional Coordinated Transportation* noted a need for local public transit providers to provide connections to intercity bus carriers as well as Amtrak.

### **3.2.4 Enhanced Marketing**

Promotion of existing passenger rail service provides an opportunity to build awareness and ridership of rail transportation. There are several relatively inexpensive ways to enhance marketing of existing passenger rail services. Noting the availability of Amtrak service on local and state tourism websites, along with a link to the Amtrak website, is an easy way to promote the service and has been done in other states. The local transit coordination recommended in the previous section is another way to promote passenger rail services. Local transit providers can make their riders aware of available Amtrak services and ways to connect to those services.

A third way to improve marketing, as recommended by the RAC, would be to place wayfinding signs at interstate exits near Amtrak stations to make travelers aware of the presence of Amtrak stations so they might consider passenger rail for future travels. Amtrak has four packages of signage options that are offered free of charge to cities and states upon request. MDOT or the local jurisdiction would be responsible for installation of the signs.

The following are options where the wayfinding signs for Amtrak stations could be installed:

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<sup>34</sup> MDOT *Intercity Bus Study, Existing Conditions – Draft Memo*, May 2015

- In McComb, signs could be placed at the Delaware Avenue exit from I-55. Additional signage would be needed to direct drivers to Main Street and Railroad Boulevard.
- In Brookhaven, signs could be placed at the Brookway Boulevard exit from I-55. Additional signage would be needed to direct drivers to Monticello Street and Railroad Avenue.
- In Hazlehurst, signs could be placed at the I-55 interchange with MS 28. Additional signage would be needed at the intersection of MS 28 with Caldwell Drive to direct drivers south to the Amtrak station.
- In Jackson, there are several options for signage at exits from I-55 and I-20. Additional signage would be needed to direct drivers to the station once they enter downtown.
- In Yazoo City, signs could be placed at the Broadway Street exits from MS 3 and US 49.
- In Greenwood, signs could be placed at the Min Street exit from US 82. An additional sign would be needed at the intersection of Main Street and Johnson Street to direct drivers to the Amtrak station.
- For the new station in Marks, signs could be placed at the intersection of US 278 and MS 3, just north of downtown. An additional sign would be needed to at the intersection of MS 3 and Main Street to direct drivers to the Amtrak Station.
- In Picayune, signs could be placed at the Memorial Boulevard exit from I-59. An additional sign would be needed to direct drivers north on US 11 to the Amtrak station.
- In Hattiesburg, signs could be placed at the Hardy Street exit from I-59 and at the interchange of Memorial Drive (US 49) with Broadway Drive (US 11). Additional signage would be needed to direct drivers to the station once they enter downtown.
- In Laurel, signs could be placed at the 4<sup>th</sup> Avenue exit from I-59. An additional sign would be needed to direct drivers from 4<sup>th</sup> Avenue to Maple Street.
- In Meridian, signs could be placed at the 22<sup>nd</sup> Avenue exit from I-20. An additional sign would be needed to direct drivers from 22<sup>nd</sup> Avenue to Front Street.

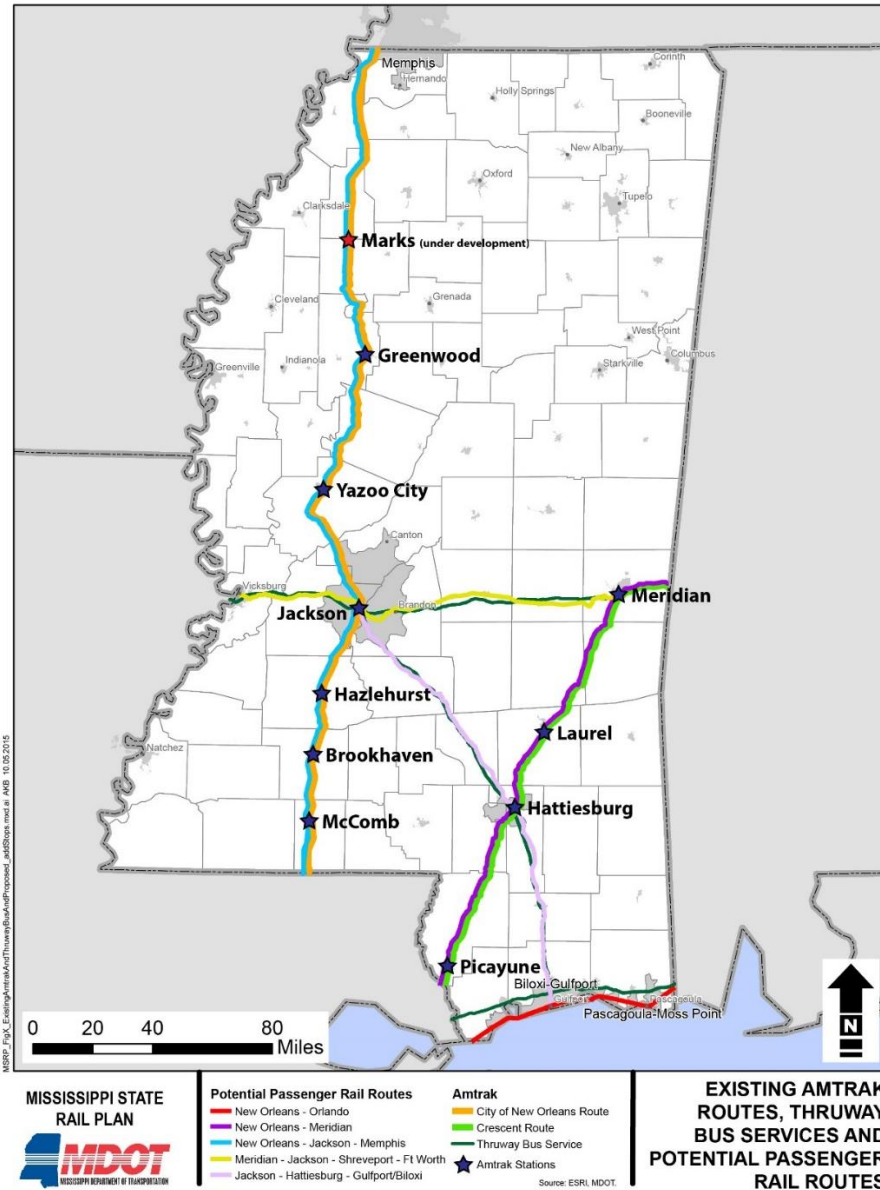
MDOT should coordinate efforts among stakeholders to promote enhanced usage of current rail services. Both the *City of New Orleans* and the *Crescent* have daytime schedules through Mississippi and offer a travel option for residents as well as visitors. Serving as a facilitator and perhaps with an allocation of funding for promotion, the state can enhance the promotion of existing passenger rail services.

### **3.3 Potential New or Expanded Passenger Rail Service**

Although Amtrak does not have any current plans to increase the frequency or capacity of passenger rail service in Mississippi, under the interstate leadership of the SRC, several options for new or reinstated passenger rail service have been considered for the state in recent years. These include consideration of increasing frequency on existing Amtrak lines, re-establishing interrupted service, or adding new service. Potential new or reinstated passenger routes for Mississippi are discussed below and shown on **Figure 3.1**. Where available, specific studies related to potential improvements are referenced, including

feasibility studies, economic analyses, and grant applications. The first two routes are high priorities for the SRC and the last three routes are carried over from the 2011 Rail Plan, but were given a lower priority by the RAC for this 2015 update.

**Figure 3.1: Potential Passenger Rail Routes in Mississippi**



### 3.3.1 Reinstate Gulf Coast Corridor (New Orleans-Orlando)

Reinstating passenger rail service along the Gulf Coast east of New Orleans is a high priority for the SRC. The SRC’s vision is to create a strong, multi-modal transportation network connecting the entire Gulf South with passenger rail service. The FAST Act of 2015 includes a provision to establish a Gulf Coast Rail Service Working Group with a budget of up to \$1 million that would evaluate the restoration of intercity passenger rail service between New Orleans and Orlando. SRC is included as a member of the working

group, along with representatives from Amtrak; states along the proposed route; regional transportation planning organizations, MPOs, and municipalities along the route; freight railroad carriers whose tracks may be used for the service; and other entities determined appropriate by the Administrator of the FRA. The FAST Act further requires the Working Group to transmit a report to Congress within nine months of enactment of the Act that includes the preferred option for restoring intercity passenger rail service in the Gulf Coast region, along with an inventory of capital projects, cost estimates, and funding sources.

The SRC applied for an FRA planning grant to assess the feasibility, economic impact, and intermodal needs to support restored and improved passenger rail service from New Orleans to Orlando and destinations in between. While SRC was not awarded the FRA grant, they are pursuing other funding sources. In mid-2015, the SRC commissioned Amtrak to evaluate potential service restoration options along the Gulf Coast. The purpose of this report, called ***Potential Gulf Coast Service Restoration Options***, was to determine the operating characteristics of potential service options and forecast performance so that the SRC could identify the service plan which would best serve the region. In this report, which was submitted to the SRC in December 2015, Amtrak identified an alternative that would extend a portion of the current *City of New Orleans* service beyond New Orleans to Orlando to provide a daily “one-seat ride” between the Gulf Coast stations and the current City of New Orleans route, with an option to also run a single daily state-supported train between New Orleans and Mobile. Please see **Section 2.4.2.2** for more information on the conclusions of this report. The Resources and Ecosystems Sustainability, Tourist Opportunities and Revived Economies of the Gulf Coast States Act (RESTORE Act)<sup>35</sup> may be a potential source to help fund capital costs for the service.

Although the ultimate plan is to operate daily service between New Orleans and Orlando, which would be an improvement over the three-times weekly service of the predecessor Amtrak *Sunset Limited*, the SRC is also investigating initial service between New Orleans and Mobile. As mentioned above, the ***Potential Gulf Coast Service Restoration Options*** report by Amtrak has recommended an alternative that includes a single daily state-supported train between New Orleans and Mobile. The business community along the Gulf Coast is supportive of restoring passenger rail service and, according to the SRC, subsidies required for this route would be minimal due to the expected high level of farebox recovery.

The segment of the Gulf Coast corridor between New Orleans and Mobile was included as a potential passenger rail route in the 2011 Rail Plan, and was intensively reviewed in the *Gulf Coast High-Speed Rail Corridor, New Orleans to Mobile Corridor Development Plan, Volume I, Summary Report*, October 2006. Much of the line was substantially rebuilt in 2006 due to damage suffered as a result of Hurricane Katrina. Amtrak’s 2009 *Gulf Coast Service Plan Report* indicated that this track segment of the CSXT was in a state of good repair and had sufficient capacity for tri-weekly rail service to resume. The rail line is heavily used; in addition to local freight trains serving on-line industries, the *Corridor Development Plan* noted that an average of about 18 to 19 freight trains use the corridor on a daily basis. For daily round trip passenger

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<sup>35</sup> The RESTORE Act dedicates 80 percent of all Clean Water Act penalties paid by those responsible for the 2010 Gulf oil disaster to Gulf Coast restoration. <http://www.mississippiriverdelta.org/our-work/overview/public-policy/clean-water-act-penalties/restore-act/>

service at speeds of up to 90 mph, the *Corridor Development Plan* estimated a need for \$287.5 million in line capacity and signal improvements in Mississippi (costs for PTC are not included in this estimate).

The *Corridor Development Plan* further noted that speed restrictions over drawbridges (due to their structural design) combined with clusters of grade crossings severely constrain the route's capacity and average speed. The drawbridges over the navigable waterways also negatively impact reliability. Water traffic has absolute priority over rail traffic. Its passage is random in nature and generally occurs during daylight hours, which is the same time period that the corridor passenger trains would be operating. The impact on reliability is very unpredictable and cannot be factored into the timetable. On some trips a train may suffer no delays while on other trips a train may be delayed by water traffic at several bridges. On other trips a train may suffer no direct drawbridge delays but may be negatively impacted by other trains that have had to stop for water traffic.

Mississippi stations along this route are Bay St. Louis, Gulfport, Biloxi, and Pascagoula. All of the stations suffered damage during Hurricane Katrina. They need to be rebuilt and brought into compliance with ADA requirements. All of the stations had shelters with platforms, and the rebuilding cost was estimated in Amtrak's 2009 *Gulf Coast Service Plan Report* to be \$2.4 million.

### **3.3.2 Meridian-Jackson-Fort Worth (new service)**

Development of a new passenger rail route from Meridian to Fort Worth, operating through Jackson and Vicksburg, is another high priority for the SRC. It is proposed to split from the existing *Crescent* route at Meridian and operate a leg through Jackson, continuing on through Shreveport, Louisiana and terminating in Fort Worth, Texas. SRC is currently pursuing funds for a feasibility study of the third leg of this corridor, which includes the section between Vicksburg and Meridian (the other two legs are Shreveport, LA to Vicksburg, MS and Ft. Worth, TX to Shreveport, LA). The SRC estimates that a preliminary feasibility study would cost between \$200,000 and \$250,000.

This option was explored by Amtrak in the late 1990s when it studied splitting the *Crescent* at Meridian and operating a leg of the train from Meridian to Fort Worth. A ridership and ticket revenue study, undertaken by Amtrak as part of its Network Growth Strategy, found the proposed service worth pursuing. The Meridian-Fort Worth route is 538 miles long, of which 141 miles are located in Mississippi. The route in Mississippi would utilize the KCS main line, also known as the Meridian Speedway, passing through Jackson and Vicksburg.

Meridian-Fort Worth service would add significant new markets to the *Crescent* and allow same day connections to Amtrak western routes (the current connection requires an overnight stay in New Orleans). This route would also provide new east-west service between Jackson, Vicksburg, and Shreveport.

In 2014, the Northwest Louisiana Council of Governments (NLCOG) commissioned a feasibility study to assess the potential for initiating passenger rail service between Shreveport, LA and Vicksburg, MS. This service would run along the existing KCS Vicksburg Subdivision, which is part of the Meridian Speedway. The track would allow maximum operating speeds for passenger trains of up to 79 miles per hour. The operating plan consists of two daily round trips between Shreveport and Vicksburg, providing one morning and one evening trip on each end, with an estimated travel time of just under two and one-half hours.

Amtrak is the recommended service operator. The ridership model estimated the potential ridership at 81,500 passengers annually (approximately 220 per day), generating \$1.35 million in annual revenues from ticket sales.<sup>36</sup> If the service were extended to Ft. Worth, ridership is projected to increase to 181,000 annual riders (approximately 500 per day). Prior to any formal discussions taking place with KCS regarding passenger rail service being established between Meridian and Vicksburg, it is recommended that a presentation of the associated infrastructure costs, infrastructure design plans as it relates to KCS rights of way, funding sources and implementation costs, and the studied effects of the proposed service be provided to KCS.

### **3.3.3 Meridian-New Orleans (additional frequency)**

This potential service addition would offer additional flexibility for travel on the existing *Crescent* route between New Orleans and Meridian, and could extend on to Birmingham and Atlanta, as part of an expanded Southeast high-speed rail initiative. This includes the eastern Mississippi leg of the Gulf Coast High-Speed Corridor<sup>37</sup> and follows the NS's Crescent Corridor linking the Mississippi cities of Meridian, Laurel, Hattiesburg and Picayune with New Orleans, Birmingham, and Atlanta. This segment of the corridor was discussed in the 2011 Rail Plan and was intensively reviewed in the *Gulf Coast High-Speed Rail Corridor Development Plan, Phase I: Improvement Implementation Plan – Meridian to New Orleans, Volume I Summary Report*, September 2002.

The line has a significant number of freight trains. In addition to local freight trains serving on-line industries and Amtrak's *Crescent*, the *Improvement Implementation Plan – Meridian to New Orleans* noted that the line is used by an average of 16 through freight trains per day. This is a heavy volume for a single track rail line without Centralized Traffic Control (CTC). Amtrak's *Crescent* currently uses this route, taking just over four hours eastbound (including intermediate stops) between New Orleans and Meridian. This equates to an average speed of just over 50 mph.

New passenger trains, operating with up to six round trips daily at speeds up to 90 mph, would require capacity improvements to ensure fluid passenger and freight operations. The 2002 *Improvement Implementation Plan – Meridian to New Orleans* estimated a need for \$251.6 million in line capacity and signal improvements in Mississippi. Amtrak's *A Report on Accessibility and Compliance with the Americans with Disabilities Act of 1990* (2009) estimated \$5.2 million for improvements to ensure ADA compliance and state of good repair at the Hattiesburg and Meridian stations on the *Crescent* route. Since this route already hosts the Amtrak *Crescent*, this route will presumably have PTC by the time this service expansion is established.

This potential passenger service expansion is not currently a high priority for MDOT, the SRC or the RAC. However, it should remain a consideration for long-term passenger rail improvements.

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<sup>36</sup> Northwest Louisiana Council of Governments, *North Louisiana Passenger Rail Feasibility Study*, Final Rail Meeting Handout, July 2015.

<sup>37</sup> The Gulf Coast High-Speed Rail Corridor is one of ten federally designated High-Speed Rail Corridors.

### **3.3.4 New Orleans-Jackson-Memphis (additional frequency)**

Similar to increased frequency between Meridian and New Orleans, this potential service expansion would supplement the existing *City of New Orleans* service with two additional daily round trips and could serve as a future feeder route to the Gulf Coast High-Speed Rail Corridor. The route from New Orleans and Memphis primarily utilizes two CN subdivisions, the 97-mile McComb Subdivision running south from Jackson and 206-mile Yazoo Subdivision running north from Jackson.

In addition to local freight trains serving local on-line industries and Amtrak's *City of New Orleans*, a 2005 analysis of the route noted the operation of an average of 12 through freight trains on the McComb Subdivision and an average of 16 through freight trains on the Yazoo Subdivision. Amtrak's *City of New Orleans* currently operates on this route between New Orleans, Jackson, Memphis, and Chicago. Northbound between New Orleans and Jackson the train takes about four hours with an average speed of 46 mph. Northbound between Jackson and Memphis the train takes about four hours and 30 minutes for an average speed of 50 mph. Both have top speeds of 79 mph.

The 2011 Rail Plan suggested that two additional frequencies could be operated along this route. The first would mirror the current *City of New Orleans* schedule but in the opposite direction, leaving New Orleans in the early morning and arriving in Memphis in the early afternoon. Southbound the schedule would leave Memphis in the late morning arriving New Orleans in the early evening. The second additional frequency option would operate between Jackson and New Orleans. It would depart Jackson in the early morning arriving in New Orleans before noon. The return schedule would leave New Orleans in the late afternoon arriving in Jackson in the early evening. This frequency would allow same-day trips to New Orleans from mid-state Mississippi and would maximize connections to Gulfport, Mobile and Houston as the Gulf Coast High-Speed Rail Corridor is developed. No passenger ridership or rail line capacity studies have been conducted for this route.

This potential passenger route is not currently a high priority for MDOT, the SRC or the RAC. However, it should remain a consideration for long-term passenger rail improvements.

### **3.3.5 Jackson-Hattiesburg-Gulfport (new service)**

This route was suggested by stakeholders during the development of the 2011 Rail Plan. A Jackson-Hattiesburg-Gulfport/Biloxi service would use the CN (90 miles Jackson to Hattiesburg) and the KCS (70 miles Hattiesburg to Gulfport). This route would provide additional travel options in southeast Mississippi and travel opportunities to Mississippi's Gulf Coast recreation areas. Based on conceptual analysis, the 2011 Rail Plan estimated low ridership, low demand, and high operating subsidies for this route. In addition, this route is currently served by a Thruway bus route operated by Greyhound. Therefore, this potential passenger rail route is not recommended for further study at this time.



## 4 Proposed Freight Rail Improvements and Investments

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This chapter describes the improvements and investments that could address the freight rail needs of Mississippi. Class I and short line railroad projects are discussed, as well as grade crossing safety projects, PTC implementation, and port rail access projects.

### 4.1 Freight Rail Objectives

The following objectives for freight rail in Mississippi were taken from the MSFP (2015). These objectives were endorsed by the RAC as a basis for this update to the statewide rail plan.

- Increase public investment to facilitate freight system improvements that generate jobs and enhance Mississippi's competitive position.
- Provide reliable and predictable travel times along major freight corridors by reducing time delays.
- Reduce the number and rate of freight-movement related fatalities and injuries.
- Continuously improve infrastructure conditions that affect freight bottlenecks and reliability issues.
- Implement freight-specific environmental stewardship programs to reduce the impact of freight movement on the state's communities.

### 4.2 Potential Improvements to Existing Freight Rail Service

The potential improvements discussed in this section are developed to address challenges or deficiencies in Mississippi's existing freight rail system documented in **Chapter 2**, responsive to the freight rail objectives presented in the previous section. These potential improvements to existing freight rail service include Class I rail projects, short line rail projects, safety projects, port rail access projects, and PTC implementation.

#### 4.2.1 Class I Rail Projects

Potential Class I rail projects were developed based on recommendations from the MSFP (2015) and input from the Class I railroads (from surveys, phone interviews, and RAC meetings).

As mentioned in **Section 2.4.1.2**, the high priority rail improvements recommended in the MSFP include:

- Upgrade all MFN Tier I rail grade crossings of roadways with a functional classification of Collector road or higher to full active crossing warning devices; see **Section 2.4.1.2** for additional information on the MFN
- Develop rail access directly into Port of Gulfport (I-10/CSXT Corridor)
- CN track improvements in Greenwood and north of Jackson to raise line speed (I-55/CN Corridor)
- NS track improvements in Laurel and Picayune to raise line speed (I-59/NS Corridor)

During interviews with CN representatives, it was noted that there are some 25 mph and 40 mph curves along their line north of Jackson, but straightening the curvatures would require the addition of bridges and the acquisition of right of way, at a cost of \$20-\$40 million per segment. It is the opinion of CN that there is not enough benefit to freight operations to justify the high cost of improvements in this location. NS also has not committed to implementing the improvements along their track noted above.

Three of the five Class I railroads in Mississippi responded to a survey distributed as part of this plan update. The following needs and projects were identified:

- NS noted that approximately 15 percent of the bridges on their lines in Mississippi need to be rehabilitated to maintain their current track classification, but they do not have any planned improvements at this time.
- BNSF is in the process of updating nine bridges in the Amory subdivision to handle 286,000-pound rail cars. In 2015, BNSF plans to invest approximately \$6 billion in capital maintenance and expansion across its system. In 2014, BNSF invested approximately \$10 million in Mississippi for capacity expansion and maintenance.
- CN noted that 92 percent of its line is capable of handling 286,000-pound rail cars. There are no plans to upgrade the remaining 8 percent (Bogalusa subdivision) because the market in that area is not demanding it.

All of the Class I railroads that responded to the survey identified issues related to at-grade rail crossings. They support the closure or grade separation of at-grade crossings, as well as rail safety education programs.

#### **4.2.2 Short Line Rail Projects**

Potential short line rail projects were developed based on needs and projects identified in survey responses from the short line railroads, as well as projects submitted to MDOT. In terms of improvements to existing short line railroads, the majority of projects identified include upgrades to handle 286,000-pound rail cars. Other projects include connections into industrial parks, adding track capacity, upgrading bridges to accommodate double-stack intermodal trains, and reinstating embargoed lines. Examples of specific projects submitted by the short line railroads include:

- Mississippian Railway Cooperative (MSRW) plan to upgrade entire line to 115-lb rail and complete construction of an industrial park at Fulton (long-term)
- Luxapalila Valley Railroad (LXVR) plan to add track capacity over the next 5-10 years
- Mississippi Export Railroad (MSE) plan to move its Pascagoula interchange with CSXT away from downtown Pascagoula
- MSE connection to George County Industrial Park
- Meridian and Bigbee Railroad (MNBR) would like to raise the clearance height of the 22<sup>nd</sup> Avenue bridge over the MNBR line in Meridian to allow for future double stack intermodal traffic.
- Ripley and New Albany long-term need for a public reload center

### 4.2.3 Safety Projects

As noted in **Chapter 2**, 65 percent of public at-grade rail crossings do not have any form of active warning (flashers or gates), including 10 percent that do not have any warning devices. The MSFP (2015) recommends upgrading all MFN Tier I rail grade crossings of collector roads or higher to full active warning devices. Using Federal Section 130 Highway-Rail Grade Crossing Program funds, MDOT is currently implementing 40 grade crossing improvement projects (signals and gates or crossing surface) in 16 counties, at a total cost of \$9.3 million. MDOT has also identified an additional 16 grade crossing improvement projects in 13 counties, totaling \$3.7 million that will likely be funded if current funding levels are maintained. Five of the 56 rail grade crossings that will be upgraded to signals and gates are included in the MFN Tier I corridors. To meet the freight plan target, another 134 grade crossings would require improvement.

The amount of funds available through the Section 130 program varies from year to year. The latest funding levels have been approximately \$3.4 million per year, allowing MDOT to fund 10-15 Section 130 projects each year.

### 4.2.4 Port Rail Access Projects

Potential port rail access projects were identified based on recommended projects from the 2011 State Rail Plan, recommendations from the MSFP (2015), input from the RAC, and discussions with the MDOT Ports Division. Port rail needs are discussed in **Section 2.4.1.1** and include projects such as track and bridge rehabilitation and new rail connections. A total of 22 rail project needs were identified at the state's 13 ports. Specific projects are listed in **Table 2.16** by port and rail line.

### 4.2.5 Positive Train Control Implementation

PTC describes technologies designed to automatically stop a train before certain accidents caused by human error can occur. **Section 2.2.4.5** provides more background information on PTC. As mandated by Congress, PTC must be designed to prevent:

- Train to train collisions
- Derailments caused by excessive speed
- Unauthorized movements by trains onto sections of track where maintenance activities are taking place
- Movement of a train through a track switch left in the wrong position

As envisioned for near-term implementation, PTC systems will be overlay systems, meaning they supplement rather than replace existing train control systems. Near-term implementation will be aimed primarily at achieving safety benefits with limited operational benefits to railroads. However, in the longer term, PTC technology may provide operational benefits to rail carriers above and beyond the safety benefits by reducing train delays and increasing a rail line's capacity.

PTC implementation will be required along the following mainline segments in Mississippi:

- CN – Approximately 300 miles of the mainline from the Louisiana state line, through Jackson, to the Tennessee state line, over which Amtrak’s *City of New Orleans* route operates
- NS – Approximately 162 miles of the mainline from the Louisiana state line, through Hattiesburg and Meridian, to the Alabama state line, over which Amtrak’s *Crescent* route operates
- Also any portions of BNSF, CN, CSXT, KCS, and NS main lines (over which 5 million or more gross tons are transported annually) that carry poisonous inhalation hazard materials

### 4.3 Potential New, Renewed, or Expanded Freight Rail Service

During development of this plan, the RAC noted several needs related to potential new or expanded freight rail service. The first was the need to provide additional rail access to ports. Port rail projects are discussed above under **Section 4.2.4**. The second was the need for a funding source for privately-owned railroads since the state’s Railroad Multimodal Funds are only for publicly-owned railroads. One suggestion from the MSFP was to reinstate MDOT’s Intermodal Connector Improvement Program. The third was the need to quickly provide infrastructure, such as rail spurs and intermodal facilities, for major developments to promote economic development. The MDA noted that this is important when competing with other states to attract development.

In addition to needs stated by the RAC, there are two current projects in development to provide renewed and new short line railroad service in Mississippi, as discussed below.

#### Grenada Railway

A project has been identified that will involve the re-opening of the embargoed Grenada Railway line between Grenada and Canton. This project is expected to provide new access for shippers and enhance economic development in central Mississippi. Seven counties served by the railroad have formed the North Central Mississippi Regional Railroad Authority (NCMRRRA) and in June 2015, NCMRRRA announced that it had reached a final agreement with GRYR to acquire the company and all rail assets of the Grenada branch line. Pursuant to a 15-year agreement, Iowa Pacific Holdings, LLC (IPH) will operate the line through its newly-formed subsidiary, Grenada Railroad. The operator will continue to do business under the Grenada Railway name. A plan has been developed by the railroad to upgrade the rail line and funding is currently being identified for the improvements.

#### East Mississippi Intermodal Railroad

One project currently under consideration is to provide a new short line railroad in Mississippi. The East Mississippi Intermodal Railroad (EMIR) is a proposed 56-mile short line corridor that would connect the Meridian Southern Railroad (MDS) at Waynesboro to the Mississippi Export Railroad (MSE) at Evanston. The proposed connection is shown on **Figure 4.1**. Connecting these existing lines would create a through-rail corridor linking the Port of Pascagoula to Meridian. The project is sponsored by the Rail Authority of East Mississippi (RAEM), a five-county intergovernmental partnership. RAEM is currently in the process of conducting an Environmental Feasibility Study and preliminary engineering funded by the Mississippi Legislature. The anticipated completion date for the study is fall 2016.

The latest financial feasibility analysis (April 2013) conducted by RAEM indicates the creation of more than 2,400 direct jobs and 9,240 indirect jobs within the region as a result of developing the EMIR. Total benefits of the project, including personal income, state and local tax revenues, and economic investments in the region, are estimated at \$576 million over 20 years. With a total project cost of approximately \$178 million, the benefit cost ratio is projected to be greater than 3:1.

**Figure 4.1: Proposed East Mississippi Intermodal Railroad**



Source: RAEM Application for Multimodal Funds, 2014

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## 5 Mississippi's Rail Service and Investment Program

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This chapter describes Mississippi's long-term vision for rail service and its role in the statewide multimodal transportation system. It goes on to prioritize specific projects, programs, policies, and funding necessary to achieve that vision, and describes the financial and physical impacts of proposed actions.

### 5.1 Vision for Mississippi Rail

The following vision statement was developed in coordination with the RAC and includes themes important to all parties that have an interest in the state's rail system:

*The future Mississippi rail system will provide safe, reliable mobility for people and goods while protecting and enhancing the human and natural environment. The state's rail infrastructure and service will be improved, and expanded as necessary, to provide increased transportation efficiency, accessibility, capacity and intermodal connectivity to meet freight and passenger market demands. The state will continue to make strategic investments to accomplish these goals, as well as to improve the economic competitiveness of Mississippi, while improving environmental quality and enhancing the overall safety of the state rail system.*

#### 5.1.1 Passenger Rail Objectives

As presented in **Chapter 3**, the following are passenger rail objectives for Mississippi:

- Increase Ridership – Increase passenger rail ridership by 15 percent over the next 20 years.
- Improve Access – Coordinate with local and regional transit providers to increase awareness of and access to Amtrak routes.

#### 5.1.2 Freight Rail Objectives

As presented in **Chapter 4**, the following are freight rail objectives for Mississippi:

- Increase public investment to facilitate freight system improvements that generate jobs and enhance Mississippi's competitive position.
- Provide reliable and predictable travel times along major freight corridors by reducing time delays.
- Reduce the number and rate of freight-movement related fatalities and injuries.
- Continuously improve infrastructure conditions that affect freight bottlenecks and reliability issues.
- Implement freight-specific environmental stewardship programs to reduce the impact of freight movement on the state's communities.

## 5.2 Program Coordination

This State Rail Plan is integrated with other statewide, regional, and national transportation planning efforts, including Mississippi's long range transportation plan (MULTIPLAN 2035), state rail plans of neighboring states, and the National Rail Plan.

As presented in **Chapter 1**, the goals of Mississippi's Statewide Transportation Plan are:

- **Accessibility and Mobility:** Improve accessibility and mobility for Mississippi's people, commerce and industry.
- **Safety:** Ensure high standards of safety in the transportation system.
- **Maintenance and Preservation:** Maintain and preserve Mississippi's transportation system.
- **Environmental Stewardship:** Ensure that transportation development system development is sensitive to human and natural environment concerns.
- **Economic Development:** Provide a transportation system that encourages and supports Mississippi's economic development.
- **Awareness, Education, and Cooperative:** Create effective transportation partnerships and cooperative processes that enhance awareness of the needs and benefits of an intermodal system.
- **Finance:** Provide a sound financial basis for the transportation system.

The State Rail Plan includes objectives and projects to address each of these goals. For example, the plan includes:

- Investments in short line railroads to handle 286,000-pound carloads
- Continued investments to improve safety at grade crossings
- Improved access to passenger rail
- Investments to maintain existing rail infrastructure (rail and bridge rehabilitation)
- Port rail access projects to support economic development
- Support of rail projects that minimize impacts to surrounding communities and the natural environment

Mississippi has also coordinated with neighboring states that share rail corridors and services. MDOT is reviewing Louisiana's draft state rail plan to identify opportunities for cooperation. Likewise, MDOT will provide their draft plan to surrounding states for review.

Section 307 of PRIIA directed the Administrator of the FRA to "develop a long-range national rail plan consistent with approved State rail plans and the rail needs of the Nation as determined by the Secretary in order to promote an integrated, cohesive, efficient, and optimized national rail system for the movement of goods and people[.]" The Preliminary National Rail Plan was delivered to Congress in



October 2009 and laid the groundwork for development of the National Rail Plan. The following objectives were included for rail as part of the national transportation system:

- Increase passenger and freight rail performance to improve the national transportation system performance.
- Integrate all transportation modes to form a more complementary transportation system.
- Identify projects of national significance.
- Provide for increased public awareness of all modes of transportation.

A final National Rail plan will be developed that reflects the issues and priorities identified in various state rail plans. MDOT will work with FRA and other states in the region to ensure that rail priorities of the Gulf Coast region are adequately addressed in the National Rail Plan.

### **5.3 Proposed Organizational or Policy Changes**

MDOT is Mississippi's lead agency for rail planning and for administering rail safety and rail improvement programs. As was detailed in Chapter 1, the rail-related duties and responsibilities of MDOT are housed in multiple units of the Department. Preparation of the State Rail Plan is administered by Traffic Engineering Division, which is also responsible for the State's highway-rail grade crossing program; rail safety programs are administered in conjunction with the FRA by the Enforcement Division, within MDOT's Office of Enforcement. The railroad improvement portion of the State's Multimodal Transportation Improvement Fund is administered by the Traffic Engineering Division. No organizational or policy changes are proposed.

### **5.4 Potential Effects of Rail Program Implementation**

This section presents the passenger and freight rail projects for the 20-year plan and also includes a discussion of the impacts of these projects. The short-range projects, which represent the first four years of the program, are listed in **Appendix A** and the long-range projects, which represent the latter 16 years of the program, are listed in **Appendix B**. The total estimated cost of the 20-year Rail Program is \$822.3 million. This cost only reflects the cost of projects that could be identified at this time.

#### **5.4.1 Passenger Element**

##### **5.4.1.1 Passenger Rail Existing System Access Improvements**

There are several short-range improvements recommended for passenger rail that would improve access to the existing Amtrak system and are expected to increase ridership and. These improvements, described in greater detail in **Chapter 3**, include station upgrades for ADA compliance, a new station in Marks, Mississippi, improved marketing and local transit coordination, and improving intermodal connections between intercity bus service and passenger rail. The cost for the station upgrades is currently estimated at \$7.6 million but no funding source has been identified. The cost for the new station in Marks, Mississippi is estimated at \$1.1 million and will be paid for by the City of Marks, Quitman County, MDOT, and State

regional economic development funds. The cost for improving marketing and local transit funding as well as improving intermodal connections is still to be decided.

#### **5.4.1.2 New Passenger Rail Service**

There are two long-range improvements recommended for new passenger rail that are expected to increase mobility for Mississippi residents, increase ridership on connecting routes, and improve overall access to the Amtrak system in Mississippi. These improvements, described in greater detail in **Chapter 3**, include reinstating passenger rail service on the Gulf Coast from New Orleans to Orlando and providing new passenger rail service along the I-20 corridor from Meridian to Vicksburg. A study of the restored rail service along the Gulf Coast from New Orleans to Orlando is required as part of the FAST Act of 2015. The FAST Act calls for the development of a Gulf Coast Working Group consisting of representatives from FRA, Amtrak, Louisiana, Mississippi, Alabama, Florida, the SRC, and railroad carriers whose tracks may be used for such service in order to evaluate all options, select a preferred option, develop a prioritized inventory of projects, and identify Federal and non-Federal funding to restore intercity rail passenger service in the Gulf Coast region. This effort will likely use the *Potential Gulf Coast Service Restoration Options* report by Amtrak submitted to the SRC in December 2015 as a starting point. In this report, Amtrak identified a range of feasible service options for Gulf Coast service and produced an analysis of ridership levels, projected revenues, and associated costs. Please see **Section 2.4.2.2** for more information on the conclusions of this report.

### **5.4.2 Freight Element**

#### **5.4.2.1 Freight Rail Grade Crossing Safety Projects**

Two groups of improvements to the freight rail system are included in the MSRP that will improve public safety at grade crossings in Mississippi. In the short-range period, MDOT has 56 projects planned across the state that will improve approaches and grade crossings that will cost approximately \$13 million and be funded by Federal Section 130 Highway-Rail Grade Crossing Program funds. The amount of funds available through the Section 130 program varies from year to year. The latest funding levels have been approximately \$3.4 million per year, allowing MDOT to fund 10-15 Section 130 projects each year. These types of improvements will continue, therefore, into the future as part of the long-range program as long as federal funding continues to be available through the Section 130 program.

Also, in accordance with the MSFP, the MSRP recommends upgrading all MFN Tier I rail grade crossing at collector roads or higher to full active warning devices. This program overlaps with the program of improvements funded by Federal Section 130 funds mentioned above. However, only 5 of the 139 MFN Tier I grade crossings at collector roads or higher are included in the current list of the Section 130 projects. It is recommended, therefore, that approximately \$41.5 million be identified to improve the remaining 134 grade crossings included in the MFN Tier I corridors.

#### **5.4.2.2 Freight Rail System Upgrades**

The short-range program of projects include several projects to upgrade Class I as well as short line railroads identified in coordination with the railroads. These projects, described in greater detail in **Chapter 4**, are expected to increase the 286,000-pound carload capacity of several railroads, improve

access to the freight rail system, provide more efficient operations, help maintain a good state-of-repair, and improve public safety. The cost for the short-range program of projects is estimated to be \$6.8 million with funding coming primarily from MDOT Railroad Multimodal Funds with potential funding coming from TIGER grants.

An effort was made by the MSRP team to quantify the approximate cost to upgrade the Class III railroads in Mississippi to accommodate 286,000-pound carloads in order to meet the needs of their major shippers. A survey was sent out to all the Class III railroads in Mississippi and 43 percent responded. Based on the data provided by the Class III railroads that responded and extrapolations made to estimate costs for all of the Class III railroads, it is estimated that approximately \$314 million is needed to upgrade or replace the track and bridges to accommodate 286,000-pound carloads for all the rail lines operated by Class III railroads. The short-range program of projects for freight rail system upgrades and port rail access projects already has \$5 million identified for these types of improvements. Therefore, approximately \$309 million more will be needed in order to fund the rest of the upgrades to the Class III railroads in the long-range program. Funding for these projects is still to be decided but would likely come from MDOT Railroad Multimodal Funds, MDA funds, TIGER grants, and other sources yet to be determined.

PTC is also included in the freight rail system upgrades category of short-range freight rail projects. **Section 2.2.4.5** provides additional background information on PTC and **Section 4.2.5** provides more information on the implementation of PTC. The cost to implement PTC has not been provided by the Class I railroads.

### **5.4.2.3 Port Rail Access Projects**

MDOT, MDA, and Mississippi ports authorities have identified the need for improved rail access to realize the potential for the ports. Port rail access projects are organized into a short-range program of projects and a long-range program of projects. Port rail needs, discussed in greater detail in **Chapters 2 and 4**, include projects such as track and bridge rehabilitation and new rail connections. The port rail access projects are expected to enhance economic development, increase the 286,000-pound carload capacity of several railroads, improve access to the freight rail system, provide more efficient operations, improve public safety, and help maintain a good state-of-repair. The cost for the short-range program of projects is estimated to be \$66.6 million with funding coming from multiple sources including MDOT Port Multimodal Funds, MDOT Railroad Multimodal Funds, TIGER grants, MDA funds, and private investment. The cost for the long-range program of projects is estimated to be \$120.5 million with the source of funding yet to be decided. One project in the short-range program and several projects in the long-range program do not yet have an estimated cost identified and were not included in the estimated costs provided above. Therefore, the cost of the short-range and long-range programs will increase as costs are identified for these projects.

### **5.4.2.4 New or Renewed Freight Rail Service**

In the short-range program for new or expanded freight rail service, a project has been identified that will involve the re-opening of the embargoed Grenada Railway line between Grenada and Canton. This project, described in more detail in **Section 4.3**, is expected to provide new access for shippers and enhance economic development in central Mississippi. A plan has been developed by the railroad to upgrade the rail line and funding is currently being identified for the improvements. The total cost for this

plan is currently estimated at \$78.2 million. Please see **Appendix C** for a detailed list of the proposed improvements to re-open the rail service between Grenada and Canton.

In the long-range program for new freight rail service, one of the projects that is recommended for further study will provide a new short line railroad in Mississippi. While described in greater detail in **Chapter 4**, the East Mississippi Intermodal Railroad (EMIR) is a proposed 56-mile short line corridor that would connect the Meridian Southern Railroad (MDS) at Waynesboro to the Mississippi Export Railroad (MSE) at Evanston. This project would provide new access to shippers and could enhance economic development. The total cost for this project is currently estimated at \$178 million. Another long-range project that is recommended is to re-open the embargoed section of the Columbus and Greenville Railway line between Greenwood and West Point in northcentral Mississippi. This recommendation is a not a formal project with identified funding but is a recommendation, nevertheless, due to its potential to provide new access to shippers and enhance economic development in northcentral Mississippi.

## **5.5 Passenger Rail Project Impact and Financing Analysis**

While MDOT has no control over passenger rail service or funding in Mississippi, MDOT does endorse and advocate the initiatives recommended in the short-range and long-range programs of improvements for passenger rail. MDOT has identified passenger rail needs and opportunities and has developed performance objectives for passenger rail service in Mississippi aimed at increasing ridership and access to passenger rail service. MDOT recommends improvements to existing passenger rail service to help Mississippi achieve these performance objectives, including station improvements, improvements to achieve ADA compliance, intermodal connections, and enhanced marketing. MDOT will continue to pursue opportunities to invest in projects such as grade crossing safety improvements that will improve the safety and reliability of passenger rail in Mississippi.

MDOT also supports reinstating passenger rail service along the Gulf Coast east of New Orleans to Orlando, as mentioned in the FAST Act, as well as developing a new passenger rail route from Meridian to Fort Worth, operating through Jackson and Vicksburg. Both of these new passenger rail services are high priorities with the SRC and are expected to increase mobility for Mississippi residents, increase ridership on connecting routes, and improve overall access to the Amtrak system in Mississippi.

## **5.6 Freight Rail Project Impact and Financing Analysis**

MDOT has traditionally focused its funding of freight rail improvements on grade crossing safety improvements that use Federal Section 130 Highway-Rail Grade Crossing Program funds, as well as rail system upgrades for public short line railroads using MDOT Railroad Multimodal Funds, and public port rail access projects using MDOT Port Multimodal Funds. Several freight rail projects have also benefited from TIGER grants as well as funding through the MDA.

MDOT will continue to focus on grade crossing safety improvements using the Federal Section 130 funds as well as helping ports and short line railroads upgrade their lines using MDOT Railroad and Port Multimodal Funds.

## 5.7 Rail Studies and Reports

Based on the input from stakeholders during the development of the MSRP, several studies were proposed in order to study passenger and freight rail initiatives in more detail. Also, as required in the FAST Act of 2015, a study to recommend a preferred option and identify funding for new rail service along the Gulf Coast rail is to be completed in 2016. This study will likely use the **Potential Gulf Coast Service Restoration Options** report by Amtrak submitted to the SRC in December 2015 as a starting point. **Table 5.1** provides the name and general description of the recommended planning studies.

**Table 5.1: Recommended Planning Studies**

Study Name	Railroad Served	Study Description	Cost Estimate	Funding Source
Gulf Coast Rail Service Working Group Report	New Passenger Route	Recommendation of the preferred option for passenger rail service from New Orleans to Orlando, including costs and benefits, and identification of funding sources.	\$500K - \$1million	FAST Act (2015)
Meridian to Vicksburg Passenger Service	New Passenger Route	Feasibility study for Meridian to Vicksburg leg of a new passenger rail route from Meridian to Fort Worth.	\$200K-\$250K per SRC	TBD
East Mississippi Intermodal Railroad (EMIR)	EMIR	Environmental analysis and preliminary engineering for rehabilitation of 19 miles of abandoned Gulf Mobile and Ohio (GM&O) Railroad from Waynesboro, MS to State Line, MS, and additional 37 miles of new rail between State Line and Evanston, MS. Would restore rail access long the entire eastern border of MS.	\$2.5 million	Railroad Multimodal Funds (\$200K requested), General Obligation (GO) Bonds (2013)
Port Bienville Railroad Connection to NS	PBVR, NS	Environmental analysis and preliminary engineering for new rail line to connect PBVR and the NS rail line near I-59, north of Stennis Space Center. Provide dual Class I rail service (CSXT and NS).	TBD	TBD

## 5.8 Passenger and Freight Rail Capital Program

The projects identified in **Section 5.4** are listed with greater detail in **Appendix A** (short-range) and **Appendix B** (long-range). A summary of the short-range and long-range programs of projects and their costs are provided in **Table 5.2**.

**Table 5.2: Mississippi Rail Program of Projects**

<b>Short-Range Program of Projects in Years 1-4</b>	<b>Cost in Millions<sup>1</sup></b>
Passenger Rail Existing System Access Improvements	\$8.7
Freight Rail Grade Crossing Safety Projects	\$13.0
Freight Rail System Upgrades	\$6.8
Port Rail Access Projects	\$66.6
Renewed Freight Rail Service	\$78.2
<b>Short-Range Total</b>	<b>\$173.3</b>
<b>Long-Range Program of Projects in Years 5-20</b>	<b>Cost in Millions<sup>1</sup></b>
New Passenger Rail Service (Two Routes)	TBD
Freight Rail Grade Crossing Safety Projects	\$41.5
Freight Rail System Upgrades	\$309.0
Port Rail Access Projects	\$120.5
New or Renewed Freight Rail Service	\$178.0
<b>Long-Range Total</b>	<b>\$649.0</b>
<b>Rail Program Total</b>	<b>\$822.3</b>

1 Costs only reflect projects with identified costs.

## 6 Coordination and Review

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### 6.1 Introduction

The purpose of the stakeholder collaboration effort was to allow for meaningful input to the rail plan update by stakeholders and aid the plan development team in shaping outcomes. The RAC was the primary vehicle used to obtain stakeholder input during the MSRP. The MSRP team also distributed two rounds of stakeholder surveys to solicit information from the Class I and short line railroads as well as state MPOs and neighboring states to aid in the development of the MSRP. Private stakeholders were involved through the RAC, interviews in person or via conference call, and stakeholder surveys while the general public was engaged in the MSRP through MDOT's broader MULTIPLAN 2040 effort at public meetings held at eight different locations throughout the state.

In general, the outreach effort revealed interest in passenger rail services, support for infrastructure improvements for Class I and short line railroads, a concern with grade crossing safety, and a concern that sufficient funding opportunities were not available to the state's privately owned and operated short line railroads. A detailed description of the outreach process and feedback is described below.

### 6.2 Coordination with Neighboring States

Representatives from neighboring states were invited to the RAC meetings and encouraged to participate, in person or via conference call, in the development of the MSRP to discuss issues and make recommendations during the RAC meetings. States that border Mississippi include Alabama, Arkansas, Louisiana and Tennessee. Representatives from these neighboring states were also invited to participate in conference calls that just included neighboring states in addition to the RAC meetings. Communication via conference calls and emails was helpful in the development of the MSRP by gathering information from the neighboring states. The MSRP team asked neighboring states via a survey to provide information on the status of their own state rail plan, their goals and objections for their rail system, rail-related planned or programmed projects crossing or in the vicinity of Mississippi, any identified rail system deficiencies or challenges affecting freight flow between their state and Mississippi, passenger rail initiatives, and public financing programs available for rail improvement projects in their state.

The Alabama DOT stated that their rail plan was completed in 2014 and Louisiana and Arkansas DOTs said that their draft rail plans were completed and currently under review by FRA. The Tennessee DOT stated that they were currently developing their rail plan and would likely complete their plan by the end of 2015. None of the states identified freight rail improvements crossing or in the vicinity of Mississippi. With respect to passenger initiatives, Louisiana has documented in their draft rail plan a potential passenger route from Dallas/Fort Worth to Meridian along the I-20 corridor. The Louisiana State Rail Plan also stated that a feasibility study is currently being conducted for the section of this proposed route between the Texas state line and the Mississippi state line with principal service from Shreveport to Vicksburg. The SRC is also interested in this corridor and is promoting future passenger rail between Dallas/Fort Worth and Meridian, where the route would connect to the New Orleans to New York *Crescent*. In summary, coordination with neighboring states was very helpful in determining the regional passenger rail initiatives

that will impact Mississippi in the future and confirming that there are no freight rail initiatives that cross state lines.

## **6.3 Stakeholder Outreach Approach**

### **6.3.1 Public Involvement**

The general public was engaged in the MSRP through MDOT's broader MULTIPLAN 2040 effort through public meetings held in November 2015. The MSRP goals and objectives as well as short-range and long-range improvements were presented and discussed with citizens at a total of eight open forum public meetings that were held throughout the state. Representatives from the MSRP team were present to discuss the rail plan with citizens with the aid of two large boards that displayed rail plan information and comment cards available for citizens to make comments on the rail plan.

### **6.3.2 Rail Advisory Committee**

MDOT also reached out to representatives from rail carriers, rail shippers, commuter and transit authorities, units of local government, and other interested parties to update data needed to document rail system conditions, usage, needs, and expectations. These same representatives were also encouraged to participate in the development of the MSRP by discussing issues and making recommendations during two RAC meetings. The RAC was composed of representatives from Amtrak, the SRC, Mississippi Railroad Association, the Class I railroads and the short line railroads in Mississippi. Also, representations from ports and waterway agencies as well as shippers in the manufacturing, military, and refinery sectors were invited to join the RAC. From non-profit organizations, representatives from academia, economic development agencies, environmental agencies, emergency response agencies and regional planning agencies participated in the RAC. Finally, from government organizations, representatives from the Federal Rail Administration (FRA), Mississippi DOT divisions, neighboring state DOTs, and tribes were invited to participate in the RAC.

Two RAC meetings were held during the development of the MSRP. The first RAC meeting was held on April 23, 2015 at MDOT's headquarters in Jackson; at this meeting the MSRP team provided an introduction and overview of the MSRP process and gave a summary of the current passenger and freight rail systems in Mississippi. The RAC also discussed preliminary goals and objectives for the MSRP and discussed potential funding sources for future rail improvements. The second RAC meeting was held on July 23, 2015, also at MDOT's headquarters in Jackson. At this meeting the MSRP team provided a detailed summary of existing rail system conditions as well as challenges and opportunities for the passenger and freight rail systems in Mississippi. The RAC also discussed potential improvements and investments for passenger and freight rail and concluded with a discussion of Mississippi's rail service and investment program. The MSRP team also followed up with several RAC members, to ask specific questions and gain clarifications in their area of responsibility or interest, in order to provide the most current information for the MSRP.



### **6.3.3 Stakeholder Surveys**

The MSRP team distributed two rounds of surveys during the course of the study in order to solicit data and information from a number of stakeholders. The first survey was distributed at the beginning of the study in order to collect data and to collect information on potential improvements or strategies for passenger and freight rail. This initial survey was tailored to individual stakeholders and requested specific information related to the stakeholders area of responsibility or interest. The first round of surveys was sent to Class I railroads, short line railroads, Mississippi MPOs, and neighboring states. The surveys to the Class I and short line railroads focused on current infrastructure and planned improvements while the surveys to the MPOs and neighboring states focused on passenger and freight rail initiatives as well as their rail system goals and objectives. The second round of surveys was distributed just to the local Class III railroads towards the end of the study and focused on how much investment is needed to upgrade the Mississippi Class III railroad network in order to help them accommodate 286,000-pound carloads.

## **6.4 Issues Raised During Stakeholder Outreach**

### **6.4.1 Issues Raised by the Public**

The issues raised by the general public that were engaged in the MSRP through MDOT's broader MULTIPLAN 2040 effort focused on passenger rail. One comment concerned passenger trains going to Gulfport from Hattiesburg. This route was suggested by stakeholders during the development of the 2011 Rail Plan. A Jackson-Hattiesburg-Gulfport/Biloxi service would use the CN (90 miles from Jackson to Hattiesburg) and the KCS (70 miles from Hattiesburg to Gulfport). This route would provide additional travel options in southeast Mississippi and travel opportunities to Mississippi's Gulf Coast recreation areas. Based on conceptual analysis, the 2011 Rail Plan estimated low ridership and high operating subsidies for this route. In addition, this route is currently served by a Thruway bus route operated by Greyhound. In light of the poor performance forecast and existence of the bus service, this potential passenger rail route is not recommended for further study at this time.

### **6.4.2 Issues Raised by the Rail Advisory Committee**

Issues raised by the RAC members during the first RAC meeting included:

- Freight trains are sometimes queued while waiting for Amtrak trains to pass.
- There is a need to eliminate grade crossings where possible to improve safety.
- There needs to be a dedicated State and Federal funding source created for rail improvements.

Issues raised by RAC members during the second RAC meeting included:

- The new Amtrak station in Marks, Mississippi has been approved by all stakeholders; funding needs to be secured.
- The proposed new passenger rail service along the I-10 Gulf Coast corridor and along the I-20 corridor had general approval by the RAC while there was no interest in pursuing other new passenger rail service elsewhere in the state.

- Class I railroads said progress on PTC implementation is steady but that a lot of work still needs to be done, and meeting the December 2015 deadline was very unlikely.
- Attention needs to be paid to liquid/energy freight cars in order to prevent incidents involving these rail cars.
- Additional rail access to ports in Mississippi is needed.
- Short line railroads have missed out on freight traffic due to sub-286,000-pound carload capacity caused by track conditions.
- Mississippi needs to maintain and improve its short line railroad infrastructure in order to stay competitive with other states with respect to economic development opportunities.
- The Gulf Regional Planning Commission (GRPC) would like to see upgrades to grade crossing warning systems for all grade crossings along the Gulf Coast.
- There needs to be a dedicated funding source created for privately-owned railroads to help them make improvements.
- A gap-analysis was requested in order to determine the level of investment needed to upgrade all the Class III railroads to accommodate 286,000-pound carloads. This request led to issuing a second survey to Class III railroads to seek this information.

Issues and opportunities raised during conference calls with specific RAC members included:

- Amtrak currently has no plans to change Amtrak service in Mississippi.
- The only station improvements planned by Amtrak regard compliance with ADA requirements; however, the schedule for these upgrades is not known at this time.
- There are opportunities in Mississippi to provide better connections between passenger rail stations and local transit stations and intercity bus stations.
- Amtrak advised that local government can obtain free signing packages for directing people to Amtrak stations. However, the local governments would be responsible for the cost of installation.
- Mississippi would benefit from having more inland intermodal facilities that could transfer freight between rail and truck. Currently, freight shippers use intermodal facilities in other states.
- If trucks are allowed to carry heavier loads on Mississippi highways, this would have a negative revenue impact on short line railroads and increase wear on Mississippi's highways and bridges.

### **6.4.3 Issues Raised by the Stakeholder from the Surveys**

Issues raised by stakeholders in their responses to the surveys included:

- The Class I railroads cited grade crossing safety, need for more overpasses to eliminate grade crossings, and potential requirements to route hazardous materials rail traffic, such as crude oil, away from densely populated areas as the issues that are important to them.

- The short line railroads cited need for additional funding sources for improvements and additional 286,000-pound carload capacity as the issues that are important to them. Class III railroads provided quantity and cost information via the second survey that was helpful in estimating the investment needed to upgrade track and bridges to accommodate 286,000-pound carloads in order for Class III railroads to meet the needs of their major shippers.
- The Jackson MPO provided their rail-related system goals and objectives which emphasized enhancing safety at grade crossings by upgrading grade crossing warning systems.

## **6.5 Stakeholder Input Incorporated in State Rail Plan**

Based on stakeholder input received during the public involvement meetings, RAC meetings, RAC member conference calls, and survey responses, the following strategies will be incorporated into the MSRP:

- Coordination with Amtrak to provide improved access to passenger rail through ADA upgrades at stations and coordination between local transit providers and intercity bus providers
- Further examination of new passenger rail service along the Gulf coast east of new Orleans and along the I-20 corridor from Vicksburg to Meridian
- Continued investments to improve safety at grade crossings
- Investments in short line railroads to accommodate 286,000-pound carloads and to maintain existing rail infrastructure (rail and bridge rehabilitation)
- Port rail access projects to support economic development

## **6.6 Coordination with Other Transportation Planning Programs and Activities**

The MSRP was developed concurrently with the Mississippi's MULTIPLAN 2040 that is on-going and scheduled to be completed in 2016. Recommendations from the MSRP will be incorporated into the final draft of the MULTIPLAN 2040.

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## **Appendix A: Short-Range Program of Projects**

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## MSRP Short-Range Program of Projects (1-4 Years)

**Table A.1: Passenger Rail Existing System Access Improvements**

Project Name	Passenger Route Served	Project Description	Project Benefits	Cost Estimate	Funding Source
Station Upgrades for ADA Compliance	<i>Crescent</i> and <i>City of New Orleans</i>	Station Upgrades for ADA Compliance. Amtrak is responsible for ADA compliance for station facilities of which it owns more than 50 percent, which applies to the following station facilities in Mississippi: Greenwood, Hattiesburg, Jackson, and Meridian.	Assures ADA compliance. Improves access to Amtrak stations.	\$7.6 million	Amtrak
New Station in Marks, MS	<i>City of New Orleans</i>	Construct a new station on the <i>City of New Orleans</i> route in Marks, MS.	Increases ridership and improves access to Amtrak.	\$1.1 million	City of Marks, Quitman County, MDOT, State Regional Economic Funds
Improved Marketing and Local Transit Coordination	<i>Crescent</i> and <i>City of New Orleans</i>	Add signage at interstate exits to indicate Amtrak stations; coordinate train arrivals with local transit schedules and routes.	Increases ridership and improves access to Amtrak.	TBD	TBD
<b>Total of Passenger Improvement Projects with Identified Costs</b>				<b>\$8.7 million</b>	

**Table A.2: Freight Rail Grade Crossing Safety Projects**

Project Name	Railroad Served	Project Description	Project Benefits	Cost Estimate	Funding Source
Safety Projects - Grade Crossing Improvements	Various	56 projects across the state to improve approaches and grade crossings.	Improves public safety.	\$13 million	FHWA Section 130
<b>Total of Grade Crossing Safety Projects with Identified Costs</b>				<b>\$13 million</b>	

## MSRP Short-Range Program of Projects (1-4 Years)

**Table A.3: Freight Rail System Upgrades**

Project Name	Railroad Served	Project Description	Project Benefits	Cost Estimate	Funding Source
KCS Mainline Improvements to Increase Line Speed	KCS	Track improvements on KCS mainline from Corinth to Tupelo to raise line speed.	Provides more efficient operations.	TBD	TBD
KCS Mainline Improvements to Increase Weight Limit	KCS	Upgrade KCS mainline from Corinth to West Point to handle 286,000-pound carloads.	Increases 286,000-pound carload capacity.	TBD	TBD
Upgrade Bridges in Amory Subdivision	BNSF	BNSF is upgrading 9 bridges in the Amory subdivision to handle 286,000-pound rail cars.	Increases 286,000-pound carload capacity.	\$4.5 million, per 2011 Plan (TIGER application)	Potentially Funded through a TIGER Grant
Positive Train Control Implementation	All Class I Railroads	Required by Rail Safety Improvement Act of 2008; December 31, 2018 deadline.	Improves public safety and provides more efficient operations.	TBD	TBD
Replace Bridge Deck on Berea Creek Bridge (Mississippi Central Railroad - MSCI)	MSCI	Replace bridge deck and approach ties and bent piles on the Berea Creek Bridge at MP 541.8	Maintains good state-of-repair.	\$108,000	Railroad Multimodal Funds (2015)
Replace Cross Ties on Mississippi Central Railroad (MSCI)	MSCI	Replace 1100 cross ties, switch tie rehab for 3 switches, ballast replacement and track surfacing.	Maintains good state-of-repair.	\$297,000	Railroad Multimodal Funds (2016)
Upgrade Culvert along Mississippi Delta Railroad (MSDR)	MSDR	Replace an existing 60" concrete culvert with 4 new 88" arch concrete culverts at MP 5.9.	Maintains good state-of-repair.	\$389,000	Railroad Multimodal Funds (2015)
Upgrade Weight Capacity of Mississippi Delta Railroad (MSDR)	MSDR	Upgrade rail from 85 to 115 lbs from MP 102.2 to MP 101.	Increases 286,000-pound carload capacity.	\$389,000	Railroad Multimodal Funds (2016)
Install 115-lb Rail along Portions of Mississippian Railway Cooperative, Inc (MSRW)	MSRW	Install 115-lb rail from MP 1.3 to 0.7 along Mississippian Railway; replace cross ties and a switch and add some ballast.	Increases 286,000-pound carload capacity.	\$388,000	Railroad Multimodal Funds (2015)
Upgrade Weight Capacity of Mississippian Railway Cooperative, Inc. (MSRW)	MSRW	Upgrade rail to a weight capacity of 286,000-pounds including rail and bridge upgrades from MP 1.5 to MP 2.6.	Increases 286,000-pound carload capacity.	\$734,000	Railroad Multimodal Funds (2016)
<b>Total of Freight Projects with Identified Costs</b>				<b>\$6.8 million</b>	



## MSRP Short-Range Program of Projects (1-4 Years)

**Table A.4: Port Rail Access Projects**

Project Name	Railroad Served	Project Description	Project Benefits	Cost Estimate	Funding Source
Port of Yazoo Rail Access Improvements	CN	Resurface grade crossings and rehabilitate trackage.	Improves public safety and provides more efficient operations.	\$300,000	Potentially Funded through Port Multimodal Funds
Extend Rail Spur at Amory	BNSF	Port would like to extend rail access further south into industrial park.	Improves access and enhances economic development.	\$500,000	Potentially Funded through Port Multimodal Funds
Rail Connection to Port of Aberdeen	KCS	Construct 3.2-mile connection track to Port of Aberdeen.	Improves access and enhances economic development.	\$5.9 million	Potentially Funded through Port Multimodal Funds, or through a TIGER Grant
Install 115-lb Rail along Portions of Port Bienville Railroad (PBVR)	PBVR	Install 115-lb rail from MP 102.5 to 103 along Port Bienville Railroad, including ballast and other material.	Enhances economic development. Increases 286,000-pound carload capacity.	\$400,000	Railroad Multimodal Funds (2015)
New Track into Port Bienville Industrial Park	PBVR	Construction of approximately 580' of new track in the Port Bienville Industrial Park.	Improves access and enhances economic development.	\$360,000	Railroad Multimodal Funds (2016)
Rehabilitate Mississippiian Railway Cooperative, Inc. (MSRW) into Port of Itawamba	MSRW	Rehabilitate 23 miles of rail line from Fulton to Armory to handle 286,000-pound carload weights.	Enhances economic development. Increases 286,000-pound carload capacity.	\$2.6 million	Mostly MDA funds, with potentially some Port Multimodal Funds
Port of Pascagoula Rail Access Improvements	MSE, CSXT	Upgrade rail connections and relocate Class III lines to a more direct route, allowing closure of 16 grade crossings.	Improves public safety and provides more efficient operations.	\$44 million	TIGER grant (\$14 million); Private Investment; Some State Funds
Rehabilitate the Yellow Creek Railroad (YCRK)	YCRK	Rehabilitate the 10-mile Yellow Creek Railroad connecting Yellow Creek State Inland Port to KCS.	Improves access and enhances economic development.	\$3 million	Potential Railroad Multimodal Funds
Rail Extension into Burnsville Industrial Park (also part of Yellow Creek Port)	Connect to NS	Construct a 3-mile rail connection from the NS main line to the container-on- barge distribution port terminal in the Northeast Mississippi Waterway Industrial Park (NEMWIP).	Improves access and enhances economic development.	\$3 million	Currently using Port Multimodal Funds
Connection Track into Port of Lowndes	Connect to KCS	Engineering/environmental planning and land acquisition for west bank rail connection track. The west bank terminal is without rail service.	Improves access and enhances economic development.	\$6 million	Port Multimodal Funds and Potential Loans
Rehabilitate East Bank Trackage at Port of Lowndes	Connect to KCS	Rehabilitate east bank trackage and scale.	Maintains good state-of-repair.	\$500,000	TBD
Rehabilitate and Improve Rail Connections into Port at Greenville	CAGY	Rehabilitate 3.2 miles of flood-damaged track. Improve and extend trackage to hold additional cars.	Enhances economic development. Provides more efficient operations.	TBD	Potential Port Multimodal funds
<b>Total of Port Access Projects with Identified Costs</b>				<b>\$66.6 million</b>	

# MSRP Short-Range Program of Projects (1-4 Years)

**Table A.5: Renewed Freight Rail Service**

Project Name	Railroad Served	Project Description	Project Benefits	Cost Estimate	Funding Source
Re-Open Embargoed Grenada Railway (GRYR)	GRYR	Grenada Railway (GRYR) / North Central Mississippi Regional Railroad Authority (NCMRRA) - Proposed Railroad Capital Investment Projects	Provides new access and enhances economic development.	\$78.2 million	Potential FRA RRIF Loan, and mix of other Public and Private Sources
<b>Total of Renewed Service Projects with Identified Costs</b>				<b>\$78.2 million</b>	

## **Appendix B: Long-Range Program of Projects**

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## MSRP Long-Range Program of Projects (5-20 Years)

**Table B.1: New Passenger Rail Service**

Project Name	Passenger Route Served	Project Description	Project Benefits	Cost Estimate	Funding Source
Reinstate New Orleans to Orlando Route	New Amtrak Route	Reinstating passenger rail service along the Gulf Coast east of New Orleans to Orlando.	Provides for increased mobility for Mississippi residents. Increases ridership on connecting routes and improves access to Amtrak.	TBD	TBD
New Meridian to Vicksburg Route	New Amtrak Route	Development of the Meridian to Vicksburg leg of a new passenger rail route from Meridian to Fort Worth, Texas.	Provides for increased mobility for Mississippi residents. Increases ridership on connecting routes and improves access to Amtrak.	TBD	TBD
<b>Total of New Passenger Service Projects with Identified Costs</b>				<b>TBD</b>	

**Table B.2: Freight Rail Grade Crossing Safety Projects**

Project Name	Railroad Served	Project Description	Project Benefits	Cost Estimate	Funding Source
Continue Safety Projects - Grade Crossing Improvements	Various	This includes various projects across the state to improve approaches and grade crossings.	Improves public safety.	TDB	FHWA Section 130
Upgrade Mississippi Freight Network Tier 1 Grade Crossings of Major Public Roadways to Full Active Warning Devices (flashers and gates).	Various Class I Railroads	MSFP recommended to upgrade all MSFP Tier I rail grade crossings (Collector or higher) to full active warning devices (flashers and gates). The MSFP identified 139 Class I grade crossings (Collector or higher) that do not have full active warning. 134 crossings remain to be improved after the Short-Range Section 130 improvements are implemented.	Improves public safety.	\$41.5 million	Potentially Funded through FHWA Section 130
<b>Total of Grade Crossing Safety Projects with Identified Costs</b>				<b>\$41.5 million</b>	

**Table B.3: Freight Rail System Upgrades**

Project Name	Railroad Served	Project Description	Project Benefits	Cost Estimate	Funding Source
Ongoing Short-Line (Class III) Improvements to Upgrade Weight Capacity	Various Class III Railroads	Ongoing Short-Line (Class III) improvements to accommodate 286,000 pound cars, including track and bridges.	Increases 286,000-pound carload capacity.	\$309 million	TBD
<b>Total of Freight Projects with Identified Costs</b>				<b>\$309 million</b>	

## MSRP Long-Range Program of Projects (5-20 Years)

**Table B.4: Port Rail Access Projects**

Project Name	Railroad Served	Project Description	Project Benefits	Cost Estimate	Funding Source
Develop Rail Access for CSXT Directly into Port of Gulfport	CSXT	Develop rail access for CSXT directly into port facility.	Improves access and enhances economic development.	TBD	TBD
Replace CSXT bridge over Pearl River	CSXT	Replace bridge to improve passage for barge traffic in Bienville Port. Narrow passage and bridge location restricts barge traffic.	Improves access and enhances economic development.	TBD	TBD
Reinstate Rail Access to Port of Rosedale (Great River Railroad - GTR)	GTR	Reinstate rail access to the Port of Rosedale by rehabilitating 32 miles of Port Commission-owned railroad.	Improves access and enhances economic development.	TBD	TBD
Port Bienville Railroad (PBVR) Connection to NS	PBVR, NS	New rail line to connect PBVR and the NS rail line near I-59, north of Stennis Space Center. Provide dual Class I rail service (CSXT and NS).	Provides new access and enhances economic development.	\$86.6 million to \$104.5 million	TBD
Rehabilitate Natchez Railway Bridges	NTZR	Rehabilitate and structurally upgrade five truss bridges to provide better service to the Natchez-Adams County Port and Industrial Park.	Increases 286,000-pound carload capacity and enhances economic development.	\$14 million	TBD
Rail Extensions at Port of Natchez	NTZR	Extend rail on the bulk cargo handling dock. Build a rail extension to the south of the port.	Improves access and enhances economic development.	\$2 million	Potentially Funded through Port Multimodal Funds
Establish a New Port Terminal with Rail Access to Port of Vicksburg	VSOR	Establish a new port terminal with rail access. Vicksburg is currently out of space.	Improves access and enhances economic development.	TBD	TBD
Upgrade Existing Rail Trackage in Port of Vicksburg	VSOR	Vicksburg is in the process of upgrading the existing trackage in the port.	Maintains good state-of-repair.	TBD	TBD
<b>Total of Port Access Projects with Identified Costs</b>				<b>\$120.5 million</b>	

**Table B.5: New or Renewed Freight Rail Service**

Project Name	Railroad Served	Project Description	Project Benefits	Cost Estimate	Funding Source
East Mississippi Intermodal Railroad	EMIR	Rehabilitation of 19 miles of abandoned Gulf Mobile and Ohio (GM&O) Railroad from Waynesboro, MS to State Line, MS, and additional 37 miles of new rail between State Line and Evanston, MS (56 miles total). Restore rail access along the entire eastern border of Mississippi.	Provides new access and enhances economic development.	\$178 million	TBD
Re-Open Embargoed Section of Columbus and Greenville Railway (CAGY) Line	CAGY	Re-open embargoed section of Columbus and Greenville Railway (CAGY) line between Greenwood and West Point.	Provides new access and enhances economic development.	TBD	TBD
<b>Total of New or Renewed Service Projects with Identified Costs</b>				<b>\$178 million</b>	

## **Appendix C: Grenada Railway Short-Range Program of Projects**

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## Grenada Railway (GRYR) / North Central Mississippi Regional Railroad Authority (NCMRRA)

### List of Railroad Capital Investment Projects Proposed for Inclusion in the State Rail Plan

Project Name	Project Description	Project Benefits	~ Cost (Millions \$)
GRYR Development Program Phase 1: South End Service Restoration - Part A:	The GRYR mainline between MP 625.7 and 703.8 will be rehabilitated. Deficiencies will be repaired in bridges at MP 648.8, 656.4, and 690.3. Active warning measures at 18 road-rail crossings will be restored. 5 at-grade crossings will be resurfaced. Deferred vegetation control will be performed.	This investment supports re-opening of the southern segment of the GRYR mainline (Grenada District) re-establishing rail freight service and creating a viable bypass route for rail traffic on the CN "Low Line" between Memphis and Jackson. This supports freight flow improvements through the MS Tier 1 CN/I-55 (Southaven-Jackson-McComb) Freight Corridor.	\$ 2.00
GRYR Development Program Phase 1: South End Service Restoration - Part B: Tie Replacement and Surfacing	The GRYR mainline between MP 625.7 and 703.8 will be rehabilitated. 39,000 wooden crossties will be replaced, ballast replaced and the line will be surfaced.	This investment supports re-opening of the southern segment of the GRYR mainline (Grenada District) re-establishing rail freight service and creating a viable bypass route for rail traffic on the CN "Low Line" between Memphis and Jackson. It will raise the segment to FRA Class 1 track conditions. This supports freight flow improvements through the MS Tier 1 CN/I-55 (Southaven-Jackson-McComb) Freight Corridor.	\$ 6.30
GRYR Development Program Phase 1: South End Service Restoration - Part C: New Siding and Interchange Rehabilitation	A new 8,500' siding will be constructed on the west side of the GRYR mainline between MP 703.8 - 705.4. The track at the Canton interchange point with CN ("Annalyn Interchange") will be rehabilitated. Equipment tag reader will be installed at this and the northern ("Mississee") interchange.	This investment supports re-opening of the southern segment of the GRYR mainline (Grenada District) re-establishing rail freight service and creating a viable bypass route for rail traffic on the CN "Low Line" between Memphis and Jackson. It will improve efficiency of operations between the interchanging railroads, particularly for longer trains and during periods of heavier traffic volume. This supports freight flow improvements through the MS Tier 1 CN/I-55 (Southaven-Jackson-McComb) Freight Corridor.	\$ 1.90
GRYR Development Program Phase 2: North End Track and Signal Rehabilitation	Multiple investments will occur on the GRYR mainline between MP 403.0 and MP 625.7 including deferred vegetation control, surfacing and ballast regulation, ditching, replacement of curve rail, replacement of 34,000 wooden crossties, rebuilding of 5 at-grade crossings, and a full non-destructive testing evaluation of the rails. The missing leg of the wye track at North Grenada yard will be rebuilt.	The track along this segment will be brought to FRA Class 2 track conditions. The restoration of the wye will enable GRYR to turn equipment on its property, lowering costs and improving operational efficiency.	\$ 8.60
GRYR Development Program Phase 3: North End Bridge Rehabilitation	Nine rail bridges located between MP 412.9 and MP 617.3 on the GRYR mainline (Grenada District) will have various deficiencies repaired. (MP 412.9, 422.7, 425.7, 427.19, 428.0, 448.3, 463.2, 469.2, 617.3). A wooden trestle bridge over an unused road at MP 476.8 will be removed and filled. All bridges on the segment will be re-rated. Repairs to the largest bridge on the line at 422.7 over the Coldwater River accounts for over \$2m of costs.	These investments will support enabling the majority of the GRYR mainline (Grenada District) to transport industry-standard railcars weighing up to 263,000 lbs. each. (Presently the line is restricted to railcars weighing 263,000 lbs.) This will support more efficient railroad operations and provide economic and logistics benefits to shippers, including unit train services.	\$ 3.20
GRYR Development Program Phase 4: New Siding at Horn Lake	A new 7,400' passing siding will be constructed on the west side of the GRYR mainline (Grenada District) between MP 403.2 and MP 404.6 at Horn Lake.	This new siding will enable operational capacity and flexibility, in particular for the management of longer unit trains (over 100 railcars).	\$ 1.70

## Grenada Railway (GRYR) / North Central Mississippi Regional Railroad Authority (NCMRRRA)

### List of Railroad Capital Investment Projects Proposed for Inclusion in the State Rail Plan

Project Name	Project Description	Project Benefits	~ Cost (Millions \$)
GRYR Development Program Phase 5: Raise South End to Class 2	39,000 wooden crossties will be replaced on the GRYR mainline (Grenada District) between MP 625.7 and MP 703.8; the segment will be surfaced and tamped.	This investment will result in this segment of track being raised to accommodate operations at FRA Class 2 track levels. This phase completes the upgrades to allow Class 2 upgrades across the entire mainline.	\$ 6.30
GRYR Development Program Phase 6: Raise Mainline to Class 4	61,500 wooden crossties will be replaced along the full length of the GRYR mainline (Grenada District) between MP 403.0 and MP 703.8 (175.4 miles) and the line will be surfaced. Active warning measures at 65 at-grade crossings will be modernized. Wayside equipment detectors will be installed.	This investment will result in this segment of track being raised to accommodate operations at FRA Class 4 track levels. This will enable alternate or paired main routing of traffic between Memphis and Jackson at speeds and capacity equal to the transcontinental mainline segment.	\$ 14.00
GRYR Development Program Phase 7: Re-Establish Wayside Signaling	The GRYR mainline (Grenada District) between MP 403.0 and MP 703.8 (175.4 miles) will have Automatic Block Signaling (ABS) re-established including power switches at all controlled sidings.	This investment will enable alternate or paired main routing of traffic between Memphis and Jackson at speeds and capacity equal to the transcontinental mainline segment.	\$ 7.00
GRYR Development Program: 5-Year Bridge Rehabilitation	This ongoing rehabilitation project will prioritize and rehabilitate the remaining 266 bridges on the GRYR mainline.	The inventory of bridges on the GRYR mainline will have an improved state of good repair to support efficient and reliable rail operations over the long term. In combination with Phase 3 this investment is expected to enable uninterrupted transport of 286,000 lb. railcars along the entire mainline by the end of 2017.	\$ 10.00
GRYR Development Program: New Siding at Senatobia	A new 8,500' passing siding will be constructed at Senatobia (GRYR Grenada District MP 430)	This investment will improve the capacity of the GRYR to handle increased traffic by providing operational flexibility and improve management of longer trains.	\$ 2.70
GRYR Development Program: Branch Line Re-Opening: Water Valley to Bruce Jct.	The track and structure between Water Valley Junction (Grenada District MP 486.8/614.4) and Bruce Junction (MP 603.0) will be rehabilitated to operational status. Investments will include rehabilitation of 49 bridges (including the largest at MP 1.7) and 38 at-grade crossings, replacement of ties, tamping and surfacing. This project will occur following work on the Water Valley District branch line.	This incremental, phased investment will enable the GRYR to generate medium-term revenue for railcar storage activities while establishing baseline infrastructure conditions setting the stage for future restoration of rail freight service.	\$ 4.00
GRYR Development Program: Branch Line Reopening: Aberdeen to Kosciusko (KSRY)	The track and structure between Aberdeen Junction (Grenada District MP 673.7) and Kosciusko (MP 20) will be rehabilitated to operational status. Investments will include rehabilitation of 15 bridges and 14 at-grade crossings, replacement of ties, tamping and surfacing.	This incremental, phased investment will enable the GRYR to generate medium-term revenue for railcar storage activities while establishing baseline infrastructure conditions setting the stage for future restoration of rail freight service.	\$ 1.50

**Grenada Railway (GRYR) / North Central Mississippi Regional Railroad Authority (NCMRRRA)**  
**List of Railroad Capital Investment Projects Proposed for Inclusion in the State Rail Plan**

<b>Project Name</b>	<b>Project Description</b>	<b>Project Benefits</b>	<b>~ Cost (Millions \$)</b>
<i>GRYR Development Program: Grenada Rolling Stock Maintenance Facility</i>	<i>A two-track, climate-controlled, rolling stock maintenance facility with work pits will be constructed at Grenada.</i>	<i>This investment will improve the GRYR's capacity to efficiently perform maintenance and light repair on railcars and locomotives. Working conditions and safety will be improved for employees.</i>	<i>\$ 1.25</i>
<i>GRYR Development Program: GRYR Locomotive Fleet Emissions Improvement Project</i>	<i>3 diesel road-switcher locomotives serving on the GRYR will be overhauled/repowered.</i>	<i>This investment will improve railroad fuel efficiency and reduce harmful emissions.</i>	<i>\$ 2.25</i>
<i>GRYR Development Program: GRYR Maintenance Equipment Fleet Expansion</i>	<i>10 ballast cars will be added to the local fleet of the GRYR to support regular maintenance activities.</i>	<i>This investment will support the capital investments planned to bring the GRYR infrastructure to a state of good repair and support regular maintenance activities.</i>	<i>\$ 0.50</i>
<i>Grenada Transload Facility Development</i>	<i>A new transloading facility will be established in Grenada to provide services to forest product and other industries. Site investments will include covered cargo storage areas, lighting, access control and fencing, intermodal equipment and rail infrastructure.</i>	<i>This facility will provide regional businesses not directly located on an active rail line with a secure and convenient location for transloading freight to rail that would otherwise travel significant distances by truck at greater cost to the shippers and the public.</i>	<i>\$ 1.25</i>
<i>Grenada Industrial Park Rail Service Investments</i>	<i>The growing industrial park properties in the vicinity of the Grenada Municipal airport will have a new twin lead western spur constructed from the GRYR mainline.. Existing eastern spurs will have capacity increased</i>	<i>Provision of rail service to western tracts will enable further development of this growing industrial park. Eastern side investments will provide improved rail logistics to existing and new shippers at the site.</i>	<i>\$ 2.00</i>
<i>Koppers Facility Remediation and Repurposing</i>	<i>The former Koppers Tie Plant facility is located at MP 621 on the GRYR mainline (Grenada District). This large facility will be remediated, existing rail infrastructure will be improved and ladder tracks added.</i>	<i>This investment will provide capacity for railcar storage and scrapping activities. This will provide economic development for the area and provide a source of revenue for the GRYR.</i>	<i>\$ 1.75</i>
<b>Total</b>			<b>\$ 78.20</b>

\* GRDP refers to the Grenada Railway Development Program. This is a pro-forma five year plan under development between the NCMRRRA, the GRYR operating railroad, and regional stakeholders. The strategic objectives of this plan are to recapitalize the GRYR, address years of deferred capital investments, restore freight service to segments threatened with abandonment, and ultimately restore the line to a state of good repair capable of supporting operations at FRA Class 4 track conditions including 286,000 lb. railcars and unit train traffic. This Program is expected through a mix of debt and equity from a mix of public (federal and local) and private sources. Items that are phase numbered and in blue are being proposed for funding in part with proceeds from a U.S. DOT Federal Railroad Administration long-term RRIF loan. Items that are in red are pending review.

