

Louisiana State Rail Plan

Prepared for:
Louisiana Department of Transportation and Development

Prepared by:
University of New Orleans Transportation Institute

August 25, 2020

Table of Contents

| | |
|--|-----------|
| INTRODUCTION | 1 |
| LOUISIANA'S RAIL SYSTEM | 1 |
| <i>Freight Rail System</i> | 1 |
| <i>Passenger Rail Service</i> | 1 |
| <i>Rail Impacts</i> | 2 |
| RAIL PLAN DEVELOPMENT PROCESS | 2 |
| LOUISIANA'S RAIL VISION AND SERVICE OBJECTIVES | 2 |
| <i>Freight Rail Objectives</i> | 3 |
| <i>Passenger Rail Objectives</i> | 3 |
| PROPOSED CAPITAL INVESTMENT PROGRAMS AND FUTURE STUDIES | 3 |
| STATE RAIL PLAN RECOMMENDATIONS AND NEXT STEPS..... | 4 |
| CHAPTER 1..... | 6 |
| Introduction..... | 6 |
| 1.1 The State's Goals for the Statewide Multimodal Transportation System | 6 |
| 1.2 Rail Transportation's Role with the State's Transportation System..... | 6 |
| 1.3 Institutional Structure of Louisiana's State Rail Program | 7 |
| 1.3.1 Office of Multimodal Commerce | 7 |
| 1.3.2 Railroad Safety Unit..... | 8 |
| 1.3.3 District Offices | 8 |
| 1.3.4 Additional Public Sector Rail Planning in Louisiana..... | 8 |
| 1.3.5 Local Government Agencies with Rail Interests | 10 |
| 1.4 State Authority for Grant, Loan and Other Financing | 11 |
| 1.4.1 Louisiana Public Rail Funding Programs | 12 |
| 1.4.1.1 LaDOTD Port Construction and Development Priority Program | 12 |
| 1.4.1.2 DED Rapid Response Program | 13 |
| 1.4.1.3 State Budget Appropriations | 13 |
| 1.4.2 Louisiana Rail Program..... | 13 |
| 1.5 Summary of Freight and Passenger Rail Services | 13 |
| 1.5.1 Freight Services | 13 |
| 1.5.2 Passenger Services | 14 |
| CHAPTER 2. LOUISIANA'S EXISTING RAIL SYSTEM..... | 15 |
| 2.1 Louisiana's Existing Rail System | 15 |
| 2.1.1 Class I Railroads..... | 16 |
| 2.1.1.1 Local, Switching and Terminal Railroads | 22 |
| New Orleans Public Belt Railroad..... | 26 |
| 2.1.1.2 Intercity Passenger Rail Network..... | 28 |
| 2.1.1.3 Proposed Services..... | 37 |
| 2.1.1.4 Abandonments and Rail-Banked Lines..... | 37 |
| 2.1.2 Major Freight and Passenger Terminals..... | 38 |
| 2.1.2.1 Freight Terminals..... | 38 |
| 2.1.2.2 Connectivity with Seaports and Airports..... | 40 |
| 2.1.2.3 Major Passenger Facilities..... | 40 |
| 2.1.3 Objectives for Passenger Service in Louisiana..... | 43 |
| 2.1.3.1 Enhance Existing Services..... | 44 |
| 2.1.3.2 Freight Railroad Participation..... | 45 |
| 2.1.3.3 Continuing Outreach | 45 |
| 2.1.3.4 Funding Strategies | 46 |
| 2.1.3.5 Multimodal Integration and Transit Oriented Development | 46 |
| 2.1.3.6 Projected Ridership..... | 47 |
| 2.1.4 Performance Evaluation of Louisiana Amtrak Services..... | 48 |
| 2.1.4.1 Ridership | 48 |
| 2.1.4.2 Financial Performance | 48 |
| 2.1.4.3 On-time Performance..... | 48 |
| 2.1.5 Public Financing for Rail Projects | 49 |

| | | |
|---------|---|-----|
| 2.1.5.1 | Louisiana Public Rail Funding Programs | 49 |
| 2.1.5.2 | State and Locally Sponsored Rail Funding | 50 |
| 2.1.5.3 | Federal Rail-Related Programs and Funding | 50 |
| 2.1.5.4 | Federal Surface Transportation Programs with Selected Rail Applications | 54 |
| 2.1.5.5 | Other Federal Programs Available for Rail-Related Funding..... | 55 |
| 2.1.5.6 | Louisiana Rail Funding Proposals | 55 |
| 2.1.5.7 | Funding Challenges..... | 56 |
| 2.1.6 | Safety and Security Programs in Louisiana..... | 56 |
| 2.1.6.1 | Rail Accident History | 56 |
| 2.1.6.2 | Rail Safety..... | 58 |
| 2.1.6.3 | Rail Security | 61 |
| 2.1.7 | Rail Transportation Impacts in Louisiana | 63 |
| 2.1.7.1 | Economic Impacts | 63 |
| 2.1.7.2 | Socio-environmental/Livability Impacts..... | 65 |
| 2.1.7.3 | Freight Rail and Livable and Sustainable Communities..... | 69 |
| 2.1.7.4 | Passenger Rail and Livable and Sustainable Communities..... | 71 |
| 2.2 | The State's Existing Rail System: Trends and Forecasts..... | 72 |
| 2.2.1 | Louisiana Demographic and Economic Growth..... | 72 |
| 2.2.1.1 | Population..... | 72 |
| 2.2.1.2 | Employment..... | 73 |
| 2.2.1.3 | Personal Income..... | 73 |
| 2.2.1.4 | Industrial Outlook by Sector | 73 |
| 2.2.2 | Freight Demand and Growth..... | 74 |
| 2.2.2.1 | Rail Freight Commodity Flows by Direction | 74 |
| 2.2.2.2 | Rail Traffic Growth..... | 85 |
| 2.2.3 | Passenger Travel Demand and Growth..... | 87 |
| 2.2.4 | Fuel Cost Trends..... | 88 |
| 2.2.5 | Rail Congestion Trends..... | 89 |
| 2.2.6 | Highway and Airport Congestion Trends..... | 90 |
| 2.2.6.1 | Highway Congestion Trends | 90 |
| 2.2.6.2 | Airport Congestion Trends | 92 |
| 2.2.7 | Land Use Trends..... | 94 |
| 2.3 | Rail Service Needs and Opportunities | 95 |
| 2.3.1 | Freight Rail Services..... | 95 |
| 2.3.1.1 | Corridor Initiatives | 95 |
| 2.3.1.2 | Class I Market Strategies..... | 100 |
| 2.3.1.3 | Main Line Capacity Constraint: New Orleans..... | 109 |
| 2.3.1.4 | Other Class I Needs | 109 |
| 2.3.1.5 | Short Line Needs..... | 109 |
| 2.3.1.6 | Safety Enhancement..... | 109 |
| 2.3.1.7 | Positive Train Control Implementation..... | 110 |
| 2.3.2 | Passenger Rail Services..... | 110 |
| 2.3.2.1 | Intercity Improvements | 110 |
| 2.3.2.2 | Hurricane Evacuation..... | 113 |
| 2.3.2.3 | Other Intercity Rail Opportunities | 113 |
| 2.3.2.4 | Multimodal Integration..... | 114 |
| 2.3.3 | Rail Financial Needs | 115 |

CHAPTER 3. PROPOSED PASSENGER RAIL IMPROVEMENTS AND INVESTMENTS 116

| | | |
|-------|--|-----|
| 3.1 | Introduction | 116 |
| 3.2 | Baton Rouge – New Orleans Intercity Service | 117 |
| 3.2.1 | Corridor Description..... | 117 |
| 3.2.2 | Corridor Development Plan..... | 119 |
| 3.2.3 | Corridor Stations and Equipment..... | 120 |
| 3.2.4 | Ridership Potential | 121 |
| 3.2.5 | Capital Costs | 122 |
| 3.2.6 | Benefits Analysis | 122 |
| 3.2.7 | Plan Update..... | 122 |
| 3.3 | New Orleans – Baton Rouge – Lake Charles – Houston | 123 |
| 3.3.1 | Corridor Description..... | 123 |

| | | |
|--|---|------------|
| 3.3.2 | Corridor Development Plan | 124 |
| 3.3.3 | Corridor Stations and Equipment | 125 |
| 3.3.4 | Ridership Potential | 125 |
| 3.4 | New Orleans – Gulfport – Mobile | 126 |
| 3.4.1 | Corridor Description | 126 |
| 3.4.2 | Corridor Development Plan | 127 |
| 3.4.3 | Corridor Stations and Equipment | 128 |
| 3.4.4 | Ridership Potential | 128 |
| 3.4.5 | Cost Estimates | 128 |
| 3.5 | New Orleans – Meridian – Birmingham – Atlanta | 129 |
| 3.5.1 | Corridor Description | 129 |
| 3.5.2 | Corridor Development Plan | 130 |
| 3.5.3 | Corridor Stations and Equipment | 130 |
| 3.5.4 | Ridership Potential | 130 |
| 3.5.5 | Capital Costs | 131 |
| 3.6 | New Orleans – Jackson – Memphis | 131 |
| 3.6.1 | Corridor Description | 131 |
| 3.6.2 | Corridor Stations and Equipment | 132 |
| 3.6.3 | Ridership Potential | 132 |
| 3.7 | Meridian – Jackson – Shreveport – Dallas/Fort Worth | 133 |
| 3.7.1 | Corridor Description | 134 |
| 3.7.2 | Corridor Stations and Equipment | 134 |
| 3.7.3 | Ridership Potential | 134 |
| 3.7.4 | New Study in Corridor | 134 |
| 3.8 | Shreveport/Bossier City – Dallas/Fort Worth | 135 |
| 3.8.1 | Corridor Description | 135 |
| 3.8.2 | Corridor Stations and Corridor Frequency | 135 |
| 3.8.3 | Ridership, Ticket Revenue and Capacity Studies | 135 |
| 3.9 | Baton Rouge – Shreveport | 136 |
| 3.10 | Amtrak Needs | 136 |
| 3.11 | New Orleans Rail Gateway and New Orleans Union Passenger Terminal | 139 |
| CHAPTER 4. PROPOSED LOUISIANA FREIGHT RAIL IMPROVEMENTS AND INVESTMENTS | | 142 |
| 4.1 | Introduction | 142 |
| 4.2 | New Orleans Rail Gateway Project | 142 |
| 4.2.1 | Gateway Project | 143 |
| 4.2.2 | Facilitating Passenger Improvements | 144 |
| 4.3 | St. James Crude Oil Terminal Rail Expansion | 145 |
| 4.4 | Ongoing Class I Projects | 145 |
| 4.5 | Short Line Needs | 146 |
| 4.6 | Safety Enhancement Needs | 147 |
| 4.7 | Positive Train Control Implementation | 147 |
| CHAPTER 5. LOUISIANA'S RAIL SERVICE AND INVESTMENT PROGRAM | | 149 |
| 5.1 | Vision | 149 |
| 5.2 | Program Coordination | 150 |
| 5.3 | Rail Agencies | 157 |
| 5.4 | Potential Effects of Rail Program Implementation | 152 |
| 5.4.1 | Passenger Rail Investments | 152 |
| 5.4.1.1 | Amtrak Station Upgrades | 152 |
| 5.4.1.2 | Baton Rouge – New Orleans Intercity Rail | 153 |
| 5.4.1.3 | Shreveport/Bossier City – Dallas/Fort Worth and Future Extensions | 154 |
| 5.4.1.4 | New Orleans – Gulfport – Mobile Intercity Rail | 154 |
| 5.4.2 | Freight Rail Investments | 154 |
| 5.4.2.1 | New Orleans Rail Gateway | 154 |
| 5.4.2.2 | Short Line Railroad Track Upgrades | 155 |
| 5.4.2.3 | New Orleans & Gulf Coast Railway Company (NOGC) Rail Relocation | 156 |
| 5.4.2.4 | Other Short Line Railroad Needs | 156 |
| 5.4.2.5 | Crossing Safety Improvements | 156 |
| 5.4.2.6 | Grade Separation Projects | 157 |

| | | |
|--|---|------------|
| 5.5 | Rail Passenger Project Impact and Financing Analysis..... | 157 |
| 5.6 | Rail Freight Project Impact and Financing Analysis | 159 |
| 5.6.1 | Financing Plan | 159 |
| 5.6.2 | Public and Private Economic Effects | 159 |
| 5.7 | Rail Studies and Reports | 160 |
| 5.8 | Passenger Rail and Freight Rail Capital Program | 162 |
| CHAPTER 6. COORDINATION AND REVIEW..... | | 165 |
| 6.1 | Stakeholder Outreach Approach | 165 |
| 6.1.1 | Public Outreach Meetings..... | 165 |
| 6.1.2 | Railroad Outreach..... | 166 |
| 6.1.3 | Rail Shipper Interviews | 166 |
| 6.1.4 | Freight Rail Advisory Council Meetings..... | 166 |
| 6.1.5 | Passenger Rail Outreach..... | 167 |
| 6.2 | Coordination with Neighboring States..... | 167 |
| 6.3 | Stakeholder Involvement in the State Rail Plan..... | 168 |
| 6.4 | Issues Raised by Stakeholders..... | 168 |
| 6.4.1 | Summary of Public Meeting Input | 168 |
| 6.4.2 | Summary of Railroad Outreach..... | 168 |
| 6.4.3 | Summary of Railroad Shipper Comments..... | 168 |
| 6.4.4 | Summary of Freight Rail Advisory Council Comments..... | 169 |
| 6.4.5 | Summary of Passenger Rail Outreach..... | 169 |
| 6.5 | Stakeholder Input Incorporated in State Rail Plan..... | 169 |
| 6.6 | Coordination with Other State Planning Efforts..... | 169 |
| Appendix A. | Other States' Passenger & Freight Rail Experiences..... | 2 |
| Appendix B. | Current Economic Impacts | 8 |
| Appendix C. | Key Capacity and Operational Improvements on the New Orleans-Baton Rouge Corridor | 11 |
| Appendix D. | Key Capacity and Operational Improvements on the Baton Rouge-Lake Charles Segment of the New Orleans-Lake Charles Corridor..... | 13 |
| Appendix E. | Key Capacity and Operational Improvements on the New Orleans-Gulfport-Mobile Corridor | 15 |
| Appendix F. | Key Capacity Improvements on the New Orleans-Meridian Corridor..... | 17 |
| Appendix G. | Short-range Investment Program..... | 19 |
| Appendix H. | Long-range Investment Program..... | 26 |
| Appendix I. | Louisiana Economic Development Example Sites | 29 |
| Appendix J. | Documents and Sources for the Louisiana State Rail Plan..... | 32 |

TABLES AND FIGURES

| | |
|--|----|
| TABLE ES-1: LOUISIANA RAIL PROGRAM OF PROJECTS..... | 4 |
| TABLE 2-1: LOUISIANA RAIL SYSTEM MILEAGE..... | 15 |
| FIGURE 2-1: RAILROAD SYSTEMS IN LOUISIANA | 16 |
| TABLE 2-2: BNSF SHORT LINE CONNECTIONS IN LOUISIANA | 17 |
| TABLE 2-3: CN OWNERSHIP IN LOUISIANA | 17 |
| TABLE 2-4: CN INTERCHANGE POINTS IN LOUISIANA | 18 |
| TABLE 2-5: KCS ROUTES IN LOUISIANA..... | 19 |
| TABLE 2-6: KCS CONNECTIONS WITH CLASS I RAILROADS IN LOUISIANA..... | 19 |
| TABLE 2-7: KCS CONNECTIONS WITH SHORT LINES IN LOUISIANA..... | 20 |
| TABLE 2-8: UP RAIL LINES IN LOUISIANA | 21 |
| TABLE 2-9: UP CONNECTIONS WITH CLASS I RAILROADS IN LOUISIANA..... | 21 |
| TABLE 2-10: UP INTERCHANGES WITH SHORT LINES IN LOUISIANA | 22 |
| FIGURE 2-2: LINES INCAPABLE OF HANDLING CAR WEIGHTS OF 286,000 POUNDS..... | 23 |
| TABLE 2-11: LDRR BRANCH LINES | 25 |
| TABLE 2-12: LAS LINE SEGMENTS IN LOUISIANA..... | 26 |
| TABLE 2-13: NOPB SWITCHING LOCATIONS..... | 27 |
| FIGURE 2-3: LINES WITH RAIL PASSENGER SERVICE IN 1956..... | 30 |
| FIGURE 2-4: CURRENT AMTRAK ROUTES IN LOUISIANA | 32 |
| TABLE 2-14: ROUTE SEGMENTS OF THE CRESCENT | 32 |
| FIGURE 2-5: CRESCENT ROUTE | 33 |

| | |
|--|-----|
| TABLE 2-15: ROUTE SEGMENTS OF THE CITY OF NEW ORLEANS..... | 34 |
| FIGURE 2-6: CITY OF NEW ORLEANS ROUTE | 34 |
| TABLE 2-16: ROUTE SEGMENTS OF THE SUNSET LIMITED | 35 |
| FIGURE 2-7: SUNSET LIMITED ROUTE | 36 |
| TABLE 2-17: RAIL YARDS WITH COMMODITIES HANDLED | 38 |
| TABLE 2-18: CSXT FACILITIES IN LOUISIANA | 39 |
| TABLE 2-19: KCS CARLOAD YARDS IN LOUISIANA | 39 |
| TABLE 2-20: NS YARDS AND FACILITIES IN NEW ORLEANS..... | 39 |
| TABLE 2-21: UP YARDS AND FACILITIES IN LOUISIANA..... | 39 |
| TABLE 2-22: ADA UPGRADE COST ESTIMATES..... | 42 |
| TABLE 2-23: CHARACTERISTICS OF LOUISIANA AMTRAK STATIONS..... | 43 |
| TABLE 2-24: AMTRAK RIDERSHIP FORECAST | 47 |
| TABLE 2-25: FRA REPORTABLE RAILROAD INCIDENTS 2011-2018 IN LOUISIANA..... | 57 |
| TABLE 2-26: FRA REPORTABLE RAILROAD INCIDENTS 2011-2018 IN ALL STATES..... | 58 |
| FIGURE 2-8: LOUISIANA AREA STRACNET MAP | 62 |
| TABLE 2-27: TOTAL RAIL ACTIVITY IMPACTS..... | 63 |
| TABLE 2-28: TOTAL RAIL ACTIVITY JOB IMPACTS BY INDUSTRY..... | 64 |
| FIGURE 2-9: CLIMATE CHANGE ADAPTATION CONCERNS: US GULF COAST | 66 |
| TABLE 2-29: TON TRANSPORT DISTANCE AND ENERGY COST PER GALLON OF FUEL..... | 68 |
| TABLE 2-30: ACCIDENTS AND COSTS PER MILLION TON-MILES, BY MODE 2017..... | 69 |
| TABLE 2-31: LOUISIANA RAIL FREIGHT BY DIRECTION (2017)..... | 75 |
| FIGURE 2-10: TOTAL STATE RAIL FREIGHT DENSITY (2012)..... | 76 |
| TABLE 2-32: INBOUND RAIL FREIGHT TRAFFIC BY MAJOR COMMODITIES (2017)..... | 77 |
| FIGURE 2-11: INBOUND LOUISIANA RAIL FREIGHT BY STATE OF ORIGIN (2017) | 78 |
| FIGURE 2-12: INBOUND LOUISIANA RAIL FREIGHT BY PARISH DESTINATION..... | 79 |
| TABLE 2-33: OUTBOUND RAIL FREIGHT TRAFFIC BY MAJOR COMMODITIES (2017) | 80 |
| FIGURE 2-13: OUTBOUND LOUISIANA RAIL FREIGHT BY PARISH ORIGIN..... | 81 |
| FIGURE 2-14: OUTBOUND LOUISIANA RAIL FREIGHT BY STATE OF DESTINATION | 82 |
| TABLE 2-34: THROUGH-STATE RAIL FREIGHT TRAFFIC BY MAJOR COMMODITIES (2017)..... | 83 |
| FIGURE 2-15: THROUGH-STATE RAIL FREIGHT DENSITY..... | 84 |
| TABLE 2-35: INTRASTATE RAIL FREIGHT TRAFFIC BY MAJOR COMMODITIES (2017) | 85 |
| FIGURE 2-16: HISTORICAL RAIL TONNAGE IN LOUISIANA (2001-2012) | 86 |
| TABLE 2-36: FORECAST RAIL FREIGHT TONNAGE BY DIRECTION (2017) | 86 |
| TABLE 2-37: FORECAST RAIL FREIGHT TONNAGE BY COMMODITY (2038)..... | 87 |
| TABLE 2-38: ESTIMATED VMT AND VHT ON LOUISIANA ROADS, 2010 AND 2040..... | 88 |
| FIGURE 2-17: FUEL COST TRENDS 2009 TO 2019 | 89 |
| FIGURE 2-18: ESTIMATED 2044 VOLUME TO CAPACITY RATIOS ON LOUISIANA ROADS | 92 |
| TABLE 2-39: LOUISIANA AIRPORTS EXCEEDING 60% DEMAND/CAPACITY RATIOS BY 2043 | 94 |
| FIGURE 2-19: CURRENT LAND USES IN LOUISIANA..... | 95 |
| FIGURE 2-20: NS CRESCENT CORRIDOR | 97 |
| FIGURE 2-21: NS CRESCENT CORRIDOR INTERMODAL LANES, 2013..... | 98 |
| FIGURE 2-22: KCS MERIDIAN SPEEDWAY AND NAFTA HIGHWAY..... | 99 |
| FIGURE 2-23 LOUISIANA INDUSTRY GDP 2000-2018 BY LOCATION QUOTIENT..... | 101 |
| FIGURE 2-24: EMPLOYMENT CONCENTRATIONS IN LOUISIANA (MINING AND OIL & GAS EXTRACTION, MANUFACTURING, CONSTRUCTION) | 102 |
| TABLE 2-40. OPERATIONAL LOUISIANA REFINERIES AS OF JANUARY 2018 | 103 |
| FIGURE 2-25 THE BATON ROUGE-NEW ORLEANS-PLAQUEMINES PETROCHEMICAL CORRIDOR..... | 104 |
| FIGURE 2-26: PORTS AND PORT CONNECTIVITY..... | 107 |
| FIGURE 2-27: MEGAREGIONS OF THE UNITED STATES IN 2050 | 111 |
| FIGURE 3-1: AMTRAK RIDERSHIP IN LOUISIANA IN THE LAST 10 YEARS..... | 116 |
| FIGURE 3-2: POTENTIAL PASSENGER RAIL ROUTES IN LOUISIANA | 118 |
| FIGURE 3-3: ARTIST RENDERINGS OF RAIL STATIONS..... | 121 |
| TABLE 3-1: NEW ORLEANS – BATON ROUGE RIDERSHIP AND TICKET REVENUES | 122 |
| TABLE 3-2: NEW ORLEANS-BATON ROUGE-LAKE CHARLES-HOUSTON RIDERSHIP AND TICKET REVENUES (2012) | 126 |

| | |
|--|-----|
| TABLE 3-3: NEW ORLEANS – GULFPORT – MOBILE RIDERSHIP AND TICKET REVENUES (2019)..... | 128 |
| TABLE 3-4: NEW ORLEANS-MERIDIAN-BIRMINGHAM-ATLANTA RIDERSHIP AND TICKET REVENUES (2019) | 131 |
| FIGURE 3-4 AMTRAK ROUTES IN LOUISIANA..... | 137 |
| TABLE 3-5 LOUISIANA LOCATIONS SERVED DURING FY18..... | 138 |
| FIGURE 3-5 THE RIDERSHIP IN 2017 AND 2018..... | 138 |
| TABLE 3-6 ON-TIME PERFORMANCE..... | 139 |
| FIGURE 3-6 ON TIME PERFORMANCE | 139 |
| FIGURE 4-1: NEW ORLEANS GATEWAY PROJECT AREA..... | 142 |
| FIGURE 4-2: NEW ORLEANS RAIL GATEWAY “BELTS” | 143 |
| FIGURE 5-1: PROPOSED LONG-TERM VISION FOR PASSENGER AND FREIGHT RAIL IN LOUISIANA..... | 150 |
| TABLE 5-1: THE ECONOMIC IMPACTS OF THE SHORT- AND LONG-RANGE INVESTMENTS ON PASSENGER RAIL | 158 |
| TABLE 5-2: THE ECONOMIC IMPACTS OF THE SHORT- AND LONG-RANGE INVESTMENTS ON FREIGHT RAIL | 159 |
| TABLE 5-3: LOUISIANA RAIL PROGRAM OF PROJECTS | 163 |

Executive Summary

Introduction

The Louisiana Department of Transportation and Development (LaDOTD) has developed this State Rail Plan for the purpose of guiding the state's rail freight and passenger transportation planning activities and project development plans over the next 20 years.

This plan describes the state's existing rail network and rail-related economic and socio-economic impacts. It also describes the State Rail Plan process, Louisiana's rail vision and supporting service objectives, proposed publicly sponsored short- and long-range capital improvements, studies, and recommended next steps to address the issues identified.

This Plan is intended to meet the requirements established by the federal Passenger Rail Investment and Improvement Act of 2008 to qualify for future federal funding for rail projects.

Louisiana's Rail System

Louisiana's rail system plays an essential role in linking Louisiana shippers with markets throughout North America. Chief among high volume rail shippers in the state is the petrochemical industry. Historically, New Orleans has been a major gateway for the interchange of rail traffic between eastern and western railroads. In recent times, railroads have brought increasing volumes of oil tapped in the upper Midwest to Mississippi River ports for export. Amtrak's intercity passenger services in the state are limited, but Amtrak provides essential transportation services for Louisianans. A brief description of Louisiana's rail network is provided below.

Freight Rail System

The rail system in Louisiana comprises 2,746 route miles which are owned by 19 freight railroads. Six of these railroads are categorized as Class I railroads (large railroads) and own a total 2,350 route miles or 86% of the total rail mileage in the state. Short line and terminal railroads own and operate the remaining route miles in the state. Details on each railroad in terms of lines, route mileage, yards and connecting carriers appears in Chapter 2. In 2017, these freight railroads carried over 144 million tons of freight which originated or terminated in Louisiana or passed through the state. Chemicals and Allied Products comprised 20% of the total carloads, followed closely by Hazardous Materials, Coal, and Food or Kindred Products.

Passenger Rail Service

The state is served by three long-distance Amtrak trains, with New Orleans serving as a hub. There currently is no commuter or intercity corridor service provided in the state, either by Amtrak or by other operators. There is one small tourist railroad operated by the Southern Forest Heritage Museum. Amtrak operates entirely over the trackage of Class I freight railroads, except for a small portion over the New Orleans Public Belt Railroad and trackage at the New Orleans Union Passenger Terminal. While service was expanded to Mobile and Orlando in the 1980s and 1990s, Amtrak's frequency of train service through Louisiana is now what it was in 1971. While the limited availability of passenger cars has constrained traffic growth, revenue management, targeted marketing and high gas prices have driven ridership and ticket revenue to record levels.

The three long-distance trains are: The City of New Orleans, operating between Chicago and New Orleans; the Sunset Limited, operating between Los Angeles and New Orleans; and the Crescent, operating between New York and New Orleans. A total of 212,767 passengers boarded and alighted at the seven Louisiana Amtrak stations in 2018. Of these, 181,544 boardings and alightings were at the New Orleans Union Passenger Terminal.

Boarding and alightings at Amtrak stations in Louisiana are projected to reach 323,090 by 2038, a 52.5% increase over the 20-year period. The growth equates to a 2.1% annual increase for the period.

Rail Impacts

Rail service is essential to Louisiana's economy. The basic provision of rail service generates 3,528 direct jobs (8,862 total jobs including multiplier effects). The total rail activities yield a total of \$729 million paid in income.

In addition to the direct employment benefits, the availability of rail transport provides cost and logistical advantages to Louisiana companies that enable the state to compete effectively in the global marketplace. The presence of rail freight is especially important in rural areas where manufacturing, agriculture, and local industries rely on freight shipping.

Railroads are also up to four times more fuel efficient than trucks on the basis of ton-miles transported, and, as greenhouse gas emissions are directly related to fuel consumption, every ton-mile of freight moved by rail instead of truck reduces greenhouse gases by up to 75%. The diversion of freight traffic to rail also increases the safety of the state's highway system.

Amtrak intercity passenger rail service connects major urban areas, which is important given the limited air service in the state. Passenger train travelers generate income not only for rail operations, but also for restaurants, hotels, and other visitor service establishments. Furthermore, passenger stations have the potential to increase economic development around the station areas.

Rail Plan Development Process

This 2020 State Rail Plan is an update by the University of New Orleans Transportation Institute of the 2015 Plan which was developed under the authority and guidance of the Rail Section of the LaDOTD's Office of Multimodal Commerce. Overall, and through both the 2015 public involvement and this update, stakeholders and the general public expressed understanding and appreciation of the value and potential of the state's passenger and freight rail operations.

LaDOTD is the designated rail authority in Louisiana and they are responsible for rail planning in the state and assists freight railroads in applying for federal funds for improvement projects. The Office of Multimodal Commerce coordinates closely with other LaDOTD divisions responsible for various rail-related functions, including highway-rail at-grade crossing improvements and grade separations, in the development of the Plan.

Louisiana's Rail Vision and Service Objectives

LaDOTD has developed the following vision statement for rail transportation in the state.

The future Louisiana rail system will provide safe, reliable, and reasonably priced mobility for people and goods. In addition, it will contribute to a more balanced transportation system, economic growth, a better environment and energy conservation. The state's rail infrastructure and levels of service will expand to provide increased transportation efficiency, cost effectiveness, accessibility, capacity, and intermodal connectivity to meet market demands through a freight and passenger rail investment plan which includes

public-private partnerships. To further this vision, the state will take a leadership role in planning rail service improvements.

Rail service objectives aligned with the rail vision were developed based on the rail-related benefits, issues and obstacles that had been identified. See **Table ES-1**. These objectives are as follows:

Freight Rail Objectives

- Improve the interchange of Class I rail traffic in New Orleans. Implement New Orleans Gateway (a program of projects).
- Increase the number of miles of track capable of 286,000-pound car weights on the state's short line railroads.
- Minimize accidents, injuries, and fatalities at highway-rail grade crossings in Louisiana through crossing closures, safety improvements and grade separations.
- Encourage economic development through investments in the rail system, e.g., improved access to marine and river ports, new intermodal facilities, and new industrial leads and spurs.
- Louisiana ACT No. 22 established a designated Rail Program within LLADOTD that is empowered to assist in funding rail improvements. However, there is no dedicated funding source associated with this authorization.
- Leverage public-private partnerships for funding rail improvements.

Passenger Rail Objectives

- Enhance existing services – maintain and improve existing stations.
- Engage the freight railroads in new passenger rail planning initiatives.
- Continue outreach to stakeholders.
- Develop funding strategies for passenger rail initiatives.
- Encourage multimodal integration.
- Continue with Amtrak station upgrades.

Proposed Capital Investment Programs and Future Studies

Based on identified needs and available funding sources, short and long range proposed rail investment programs were developed. The short-range projects are limited to those for which funding is available or expected to be available during the four-year short-range period. Long-range projects (5-20 years) were proposed during the outreach process or from other sources and will be further evaluated as to their feasibility, their merit on the basis of public benefits versus costs, and available public funding. These study areas include:

- Intercity service between Shreveport and Meridian, which could extend Dallas/Fort Worth – Shreveport/Bossier City intercity service to Atlanta and East Coast cities.
- Intercity service on the KCS/UP line between Shreveport and Baton Rouge linked with a new Baton Rouge – New Orleans intercity rail service.
- A new Gulf Coast service linking New Orleans with Mobile, AL. with additional stops serving the Mississippi Gulf Coast (Bay St. Louis, Gulfport, Biloxi, Pascagoula).

Also, transit connectivity with new intercity rail services should be explored as a means to enhance access to the services and reduce dependence on auto travel to and from stations. This could include new Thruway bus service linking Shreveport with the Texas Eagle in Texarkana, TX.

Table ES-1: Louisiana Rail Program of Projects

| Short-range Needs in Years 1-4 | Cost in Millions** |
|---|---|
| New Orleans Rail Gateway | \$53.4 (Environmental Assessment not completed/lack of agreement on projects); UP & NS upgraded back belt recently (approximately \$20M); no federal or state funding |
| 286K upgrade for short lines | \$44.1 |
| NOGC rail relocation | \$43.5/\$287M |
| Station improvements | \$10.6 |
| Crossing improvements | \$21.1 |
| Grade separations | \$30.35 |
| Shreveport - Dallas intercity rail* | \$32.3 |
| Baton Rouge - New Orleans intercity rail* | \$80.6 (8 RT per day) = \$480.5M |
| Total | \$315.95 |
| Long-range Needs in Years 5-20 | Cost |
| New Orleans Rail Gateway | \$480.6 |
| 286K upgrade for short lines | \$176.3 |
| NOGC rail relocation | \$246.7 |
| Grade separations | \$86.5 |
| Other short line needs | \$55.4 |
| Shreveport - Dallas intercity rail* | \$290.3 |
| Baton Rouge - New Orleans intercity rail* | \$480.5 |
| New Orleans – Mobile intercity rail* | \$5.4 (see Southern Rail Commission) |
| Total | \$1,821.66 |
| Rail Program Total | \$2,137.61 |

Note: *Excludes annual operating subsidy.

**In 2019 dollars.

State Rail Plan Recommendations and Next Steps

Based on the input received from stakeholders and the public during the preparation of the Louisiana State Rail Plan, LaDOTD will work toward the following initiatives:

- Louisiana ACT No. 22 established a designated Rail Program within LaDOTD that is empowered to assist in funding rail improvements. However, there is no dedicated funding source associated with this authorization. LaDOTD will work to establish a funding source.
- Support the establishment of a state-funded Rail Infrastructure Improvement Program for helping to realize these improvements and maintaining lines in a state of good repair. This program could have a potential budget in a range of \$10 million to \$25 million per year.
- Continue to support the New Orleans Rail Gateway project and port-access improvements such as the Gulf Coast Rail Relocation project.
- Continue to promote and enhance rail safety at crossings.
- Continue to work with neighboring states on rail initiatives which benefit the region; continued participation in the Southern Rail Commission on both passenger and freight initiatives.
- Support the improvement of existing Amtrak services and Amtrak stations.

- Support the development of new intercity rail initiatives that enhance mobility options for Louisianans.
- Increase the frequency of passenger rail service between New Orleans and Houston.

Summary

Louisiana has undertaken a comprehensive study of its passenger and freight rail network and has identified key issues and opportunities through a wide-ranging rail stakeholder and public outreach process. This State Rail Plan serves to document this information and set a direction for rail planning and project development into the future while meeting the federal requirements to qualify the state for any future federal rail funding.

The development of this Plan would not have been possible without the participation of many rail stakeholders and others, and the Louisiana Department of Transportation and Development expresses its appreciation to those individuals and parties who participated in this effort.

Chapter 1.

The Role of Rail in Louisiana's Statewide Transportation System

Introduction

In 2008, the U.S. Congress passed the Passenger Rail Investment and Improvement Act (PRIIA) with the expressed intent of improving passenger rail service in the United States. One of the features of the legislation is the requirement that any state seeking federal assistance for either passenger or freight improvements have an updated State Rail Plan. The legislation further stipulated the minimum content of the rail plans, which was codified in Public Law 110-432.

This document was developed by the Louisiana Department of Transportation and Development (LaDOTD). It meets the requirements set forth in the legislation and public law and is intended to serve as Louisiana's State Rail Plan. In addition to meeting federal requirements, this Plan is intended to formulate a state vision for rail in the future as well as goals and objectives to achieve that vision. The format and content of this Plan follow those set forth in the State Rail Plan Guidance provided by the Federal Railroad Administration in September 2013.

This chapter serves to illustrate the current and proposed future role of rail in Louisiana's multimodal transportation system and describe how the state is organized to provide political, legal, and financial support to rail development.

1.1 The State's Goals for the Statewide Multimodal Transportation System

The Louisiana State Rail Plan is part of LaDOTD's ongoing effort to update its Statewide Transportation Plan. Appearing below are the goals of the Statewide Transportation Plan.

- **Infrastructure Preservation and Maintenance** – Preserve Louisiana's multimodal infrastructure in a state of good repair through timely maintenance of existing infrastructure.
- **Safety** – Provide safe and secure travel conditions across all transportation modes through physical infrastructure improvements, operational controls, programs, and public education and awareness.
- **Economic Competitiveness** – Provide a transportation system that fosters diverse economic and job growth, international and domestic commerce, and tourism.
- **Community Development and Enhancement** – Provide support for community transportation planning, infrastructure and services.
- **Environmental Stewardship** – Ensure transportation policies and investments are sensitive to Louisiana's environment, history, and culture.

1.2 Rail Transportation's Role with the State's Transportation System

Passenger and freight rail play an important role in Louisiana, including the provision of transportation choices, enhanced economic competitiveness, community support, and improved access for

communities and neighborhoods throughout the state. 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 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.

1.3 Institutional Structure of Louisiana's State Rail Program

LaDOTD is Louisiana's State Rail Transportation Authority (SRTA) and State Rail Plan Approval Authority (SRPAA). LaDOTD is responsible for rail planning in the state, including development of the State Rail Plan. Rail-related responsibilities are located primarily within the LaDOTD central office, but some rail-related activities are also located within the Department's District Offices. A description of these organizations and the rail functions carried out within them follows.

1.3.1 Office of Multimodal Commerce

The Office of Multimodal Commerce was formed by Act No. 719 of the 2014 Regular Legislative Session and is housed within the Louisiana Department of Transportation and Development to enhance the state's focus on multimodal transportation. The office coordinates the state's programs for ports, railroads, aviation and commercial trucking and helps make the case for broad and diverse funding solutions that will address the state's pressing infrastructure needs.

The FAST Act [49 U.S.C. 70201] requires the USDOT to encourage each State to establish a State freight advisory committee, to consist of a representative cross-section of public and private freight stakeholders. The role of a State freight advisory committee is to advise the State on freight-related priorities, issues, projects, and funding needs; serve as a forum for discussion for State transportation decisions affecting freight mobility; communicate and coordinate regional priorities with other organizations; promote the sharing of information between the private and public sectors on freight issues; and participate in the development of the freight plan of the State. In compliance with this guidance, the Office is advised by the Multimodal Commerce Advisory Commission.

The Office houses four divisions:

- **Aviation** whose mission is to continue to improve Louisiana's aviation infrastructure to insure a safe, modern and well managed system of airports which provides convenient and efficient access to the state for tourism, commerce, industrial interest, recreation and economic development and continually modernize the state's public airports to meet the changing needs of the aviation community.
- **Ports and Waterways** whose mission is to continuously improve the maritime transportation infrastructure for freight movement and river cruise industry, by nurturing economic development and enhancing quality of life through the implementation of efficient, safe, and seamless multimodal transportation systems in accordance with the Louisiana Statewide Transportation Plan.
- **Freight and Passenger Rail** whose mission is to continuously improve our rail infrastructure for passenger and freight movement to nurture economic development and enhance our quality of life through the development of an efficient, safe, and seamless multimodal transportation system.

- **Commercial Trucking** whose Mission is to support commercial trucking as an expedient method of transporting merchandise. We promote stakeholders input into every aspect of transportation planning and interoperability between all modes of transportation under the auspices of the Office of Multimodal Commerce.

1.3.2 Railroad Safety Unit

Rail safety-related activities, which include all grade crossing and other highway-related activities involving railroads, are conducted within the Rail Safety Unit. This unit is organized under the Project Development Division which is part of the Office of Engineering.

The Rail Safety Unit oversees rail and highway projects which are implemented through the federal Highway Safety Improvement Program. Rail Safety Unit staff conduct diagnostic reviews of proposed crossing improvement projects and crossing consolidations or closures.

The unit is also responsible for maintaining an inventory of all grade crossings in the state. This inventory includes all operating characteristics of the roadway and rail line, and the type of warning equipment. It supports Louisiana's Operation Life Saver program and has implemented a grade separation program.

1.3.3 District Offices

LaDOTD District Offices are located in Alexandria, Baton Rouge, Chase, Hammond, Lafayette, Lake Charles, Monroe, New Orleans, and Shreveport. District Railroad Coordinators primarily monitor grade crossing conditions and project construction. They also participate on the crossing diagnostic teams that evaluate grade crossing projects.

1.3.4 Additional Public Sector Rail Planning in Louisiana

While the LaDOTD has primary responsibility for rail planning, policy and project development, a number of additional state and local agencies in Louisiana also have a vested interest in the viability, efficiency, and safety of the state rail system. A number of state agencies are dependent on the transportation system, including the rail system, to carry out their responsibilities and objectives. Those state agencies with vested interests in the effectiveness of the rail network include:

Louisiana Department of Economic Development

The Louisiana Department of Economic Development (LED) is the state's lead economic development agency. The Department oversees a variety of programs and services that create jobs, attract new investment, encourage community development and promote Louisiana.

The Department's Office of Business Development implements strategies that will contribute to improving the economy by improving capacity through education and training, infrastructure, financial and social capital and collaboration. The Department has participated with railroad partners to establish new facilities, such as an export grain terminal, and provided grants through the state's Rapid Response fund to make infrastructure improvements, such as expanding rail spurs, to secure the location of industries within the state. The Department provides funding to public agencies for rail infrastructure improvements based on the public benefits expected to be derived.

For example, LED provided a capital outlay to the Port of Lake Charles in 2010-11 for a new connection to the Union Pacific Railroad. The connection gave some port tenants, heretofore unserved by rail, direct access to the national rail system. The investment was justified on the basis of the new jobs and economic development that this new connection would make possible. In January 2014, LED officials worked with IntegriCo to build a manufacturing facility and headquarters relocation in Louisiana. To secure the project, LED offered the company a competitive incentive package, including \$2.5 million in

Capital Outlay funding to support publicly owned infrastructure improvements: rail spur modifications and electrical, roof, flooring, lighting and plumbing upgrades. Most recently in 2019, Gov. John Bel Edwards, joined by Port of Greater Baton Rouge and Louis Dreyfus Company (LDC) officials, committed State of Louisiana capital outlay funds to complete a \$20 million rail project that will enhance the transfer of corn, grain, soybeans and other commodities from Louisiana farmers to export vessels at the Port of Greater Baton Rouge in West Baton Rouge Parish.

Two other programs offered by LED that may be beneficial for intermodal connectivity include:

- **Ports of Louisiana: Investor Tax Credit** - The purpose of the investor tax credit policy is to encourage private investment in the use of state port facilities in Louisiana as a means to assist the State in financing improvements to state ports and port infrastructure facilities. The investor incentive provides up to a 72% tax credit against Louisiana tax liabilities for private investments made at public port facilities, provided the Commissioner of Administration can certify the project will result in a “significant positive economic benefit” to the State. On behalf of the Division, LED measures the state government’s return on investment (i.e., economic impact) as the best estimate to determine sufficient revenue. Because of the sufficient revenue requirement, a project’s economic impact becomes the actual value of the credit, which may not necessarily equal 100% of the size of the investment. For claims filed on or after 7/1/17, the Port Investor Tax Credit for qualifying projects is up to 72% of capital costs, to be taken at 5% per tax year. The per-project cap is \$1.8 million per tax year, and the program cap is \$4.5 million per fiscal year.
- **Ports of Louisiana: Import Export Cargo Credit** - The purpose of the cargo credit policy is to encourage the utilization of public port facilities for the import and export of cargo by offering up to a \$3.60 per-ton credit for any containerized or break bulk cargo that passes through a Louisiana public port, and which originates from, or is destined to a Louisiana distribution, manufacturing, fabrication, assembly, processing, or warehousing sites, provided the Commissioner of Administration can certify the project will result in a “significant positive economic benefit” to the State. To date, there have been no applications submitted for this program.

Louisiana Office of Homeland Security/State Police

With its numerous ports, petro-chemical and agricultural industry and with the sheer volume of materials imported and exported through its ports, river infrastructure, railroads and interstate highways, Louisiana faces a significant challenge in controlling and monitoring activities with regard to terrorism and emergency management.

The Louisiana Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) serves as the state’s single point-of-contact for Homeland Security. The agency maintains a Critical Infrastructure Protection Plan to augment current security and assist facilities deemed critical to the nation and state in reducing their vulnerabilities. Fundamental to the plan is a critical infrastructure list for the state.

The Louisiana State Police’s Emergency Services Division of the Transportation and Environmental Safety Section (TESS) provides Level A response capabilities. The State Police’s HAZMAT Section directs trained State Police personnel who conduct inspections of all transport modes.

Louisiana Department of Environmental Quality

This agency manages all of the state’s environmental concerns, including response to citizens’ complaints and environmental emergencies. The agency also works with the U.S. Environmental Protection Agency to allocate federal funds for emission reduction and other environmental purposes.

With respect to rail, the agency has administered federal stimulus grants to railroads for the installation of idler reduction equipment on locomotives, thus reducing rail emissions in urbanized areas.

Louisiana Public Service Commission

RS 45§561 authorizes the Public Service Commission to participate in the Federal Railroad State Safety Participation Program (49 CFR Part 212). The PSC retains jurisdiction over the closure of private railroad crossings. The PSC does not have the authority, however, to require a railroad facility owner or operator to alter or cease rail operations.

1.3.5 Local Government Agencies with Rail Interests

Louisiana is in compliance with the requirements of Section 22102 (which stipulates eligibility requirements for a long-established FRA rail freight grant assistance program pertaining to State planning and administration).

Rail operations are also a significant and increasingly important issue at the local level of government. In many communities the public's interface with the rail mode is at grade crossings, where safety and highway congestion are often the key concern. In addition, as local agencies have recognized the linkage between transportation and economic development, the importance of rail access to preserve existing industries and to attract new industries to potential economic development sites has led to increased emphasis on the rail mode.

At the local level, the agencies most involved in the rail mode are Metropolitan Planning Organizations (MPOs) and local economic industrial agencies. These are addressed below.

Metropolitan Planning Organizations

MPOs are federally mandated and federally funded transportation policy-making organizations comprised of local government and transportation officials. The formation of an MPO is required for any urbanized area with a population greater than 50,000.

An MPO is required to maintain a Long-range Transportation Plan (LRTP) as well as a Transportation Improvement Plan (TIP), which is a multi-year program of transportation projects to be funded with federal and other transportation funding sources. Federally funded projects within each MPO's geographic area, such as grade crossing improvement projects, must be cited in the TIPs.

Planning activities conducted by some MPOs have also evolved to address the movement of freight and passengers. These include consideration of multimodal solutions, improved intermodal connections, and more specific rail and rail-related project solutions. CFR §450.210(a) encourages MPOs to include "individuals, affected public agencies, representatives of public transportation employees, public ports, freight shippers, private providers of transportation (including intercity bus operators, employer-based cash-out program, shuttle program, or telework program), representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, providers of freight transportation services, and other interested parties with a reasonable opportunity to comment on the proposed long-range statewide transportation plan." As such, MPOs may also have Freight Advisory Boards.

There are eight MPOs that have jurisdiction over the heavily populated areas of the Louisiana transportation system. These MPOs, and their respective jurisdictional areas, are described below.

- **Capital Region Planning Commission** – Encompasses the Ascension, East Baton Rouge, East Feliciana, Iberville, Livingston, Pointe Coupee, St. Helena, Tangipahoa, Washington, West Baton Rouge, and West Feliciana parishes.

- **Imperial Calcasieu Regional Planning and Development Commission** – Serves the parishes of Calcasieu, Beauregard, Cameron, Jefferson Davis, and Allen.
- **Lafayette Consolidated Government** – Serves the Lafayette urbanized area.
- **North Delta Regional Planning and Development District** – Serves the Monroe urbanized area.
- **Northwest Louisiana Council of Governments** – Serves as the MPO for Caddo and Bossier Parishes.
- **Rapides Area Planning Commission** – Houses the MPO for the urbanized area of Rapides Parish.
- **New Orleans Regional Planning Commission (NOPRC)** – Has an active Freight Committee which serves as the MPO for three urbanized areas.
 - The Greater New Orleans Transportation Management area on the south shore of Lake Pontchartrain encompassing Jefferson, Orleans, Plaquemines, St Bernard, St. Charles, and St. John Parishes.
 - The urbanized areas of Covington/Mandeville.
 - Slidell on the north shore of Lake Pontchartrain.
- **South Central Planning and Development Commission** – Encompasses Assumption, Lafourche, St. Charles, St. James, St. John the Baptist, and Terrebonne Parishes.

Public Economic Development Agencies

There are a number of local economic development agencies within the state which recruit industries and businesses on the basis of their location, labor force, room for growth, and transportation assets. Rail access to existing industrial parks and other business sites are emphasized as an asset to prospective recruits.

The Louisiana Economic Development Directory lists eight regions with multiple agencies in each region and 14 state-wide partners, including economic development agencies, chambers of commerce, development councils, corporations, and associations at the regional, county or city level of government. Many of these agencies offer incentives such as tax exemptions and credits and other means of assistance to attract business interests.

Although these agencies do not generally work directly with freight railroad operators, they do have a vested interest in the level of rail services and rail assistance programs available to supplement their incentives.

1.4 State Authority for Grant, Loan and Other Financing

Louisiana state law provides the Louisiana Secretary of Transportation with the authority to qualify and disburse federal rail funding, and to establish a state program from which it can make rail loans and grants to qualified entities within the state.

Title 48, §388 provides LaDOTD the powers necessary for the state to qualify for federal rail service assistance pursuant to the provisions of the Railroad Revitalization and Regulatory Reform Act of 1976 or any other applicable federal act as follows:

- Administer and coordinate or modify the state rail plan as required by Federal Public Law 94-210, as amended.
- Provide satisfactory assurances on behalf of the state that such fiscal control and fund accounting procedures will be adopted by the state as may be necessary to assure proper disbursement of an account for federal funds paid to the state.
- Provide financial assistance, within the limits of the funds appropriated for this purpose, for the preservation of operations and maintenance of any railroad within the state as provided for in relevant federal legislation. LaDOTD may act as the agent in cooperation with any railroad of any

local or regional transportation authority, local government units, or any person, and the federal government in any rail freight service assistance program.

- Cooperate with other states in connection with the preservation of any rail freight services within the state. In carrying out the authority conferred by this section, the LaDOTD may enter into general contractual arrangements with other states.
- Contract with any person, firm, corporation, agency or government to provide, maintain or improve rail freight service within this state.
- To promulgate rules and regulations consistent with and for the purpose of adequately implementing this act.

A ban on the use of state funds for rail projects was lifted in 2016. LaDOTD is setting up an institutional structure for the management and use of any funds that may come from federal grants, public-private partnerships, or other sources. State funds may be used for financial assistance to any private or public person or corporation, provided the department submits a report to the House and Senate committees on transportation, highways, and public works prior to application for federal funds.

Other state laws relevant to rail oversight include: Rail grade crossings (49§382-394); and financing through the Louisiana Economic and Port Development Infrastructure Fund (39§100.36); and for the Public Service Commission to participate in rail safety inspection (45§561).

1.4.1 Louisiana Public Rail Funding Programs

Following the cessation of the federal Local Rail Freight Assistance Program in the 1990s, Louisiana did not establish a state-funded rail assistance program, though legislation was proposed in the 2019 session. The state has utilized, however, both federal and state funding programs where rail infrastructure improvements were eligible and appropriate. The following is a short summary of state rail funding resources utilized over the recent past.

Louisiana is in compliance with Title 49 United States Code § 22102, which pertains to its eligibility to receive federal financial assistance for rail projects. LaDOTD is the designated rail authority to distribute federal funding for rail projects in the state.

1.4.1.1 LaDOTD Port Construction and Development Priority Program

The program, created by Act 452 in 1989, is administered by LaDOTD's Office of Multimodal Commerce. The purpose of the Port Construction and Development Priority Program is to ensure that adequate landside facilities are available to meet a definite market need by providing guidance and public funds to build landside infrastructure; thereby, providing jobs and competitive transportation cost to move cargo, minimizing highway congestion, improving safety and reducing maintenance cost on our highways.

Any Louisiana public port authority may apply for funding of a proposed port project. The types of projects that shall be funded by the program are limited to the construction, improvement, capital facility rehabilitation and expansion of publicly owned port facilities including intermodal facilities and maritime-related industrial park infrastructure developments. Projects such as wharves, cargo handling capital equipment, utilities, railroads, access roads and buildings which can be shown to be an integral component of any proposed port project are eligible.

Applications are due to the Louisiana Department of Transportation & Development by the 1st of March, June, September and December of each calendar year for funding consideration in the following fiscal year. The applications shall include a description of the project, demonstration of immediate need, benefits to be derived, preliminary design, cost estimate and a description of the project area. The program may provide up to 90% of the cost of construction. The Department currently limits the

amount of program funds that may be provided for any one project to \$15 million received at a maximum rate of \$5 million per year.

1.4.1.2 DED Rapid Response Program

This fund, administered by the Louisiana Department of Economic Development (LED), has been utilized to secure the infrastructure improvements necessary to locate industries to the state. Past projects included the expansion of a rail spur to increase rail shipment capacity and services to a new paper manufacturer. Currently, obligations from the program have been eliminated from the projected 2020 state budget.

1.4.1.3 State Budget Appropriations

Specific rail projects are funded from the state's annual capital construction program which provides funding for transportation projects around the state.

1.4.2 Louisiana Rail Program

A Rail Infrastructure Improvement Program ACT 222 (HB 394) was authorized in the 2019 legislative session for rail infrastructure improvements, primarily to upgrade short line railroads to the standard 286,000-pound carload capacity or to extend tracks to serve additional industries. However, no dedicated funding source was provided.

In February 2019, Louisiana was awarded funds through the Consolidated Rail Infrastructure and Safety Improvements program. The grant combines 20 projects in Alabama, Louisiana, and Mississippi to assist efforts to establish a twice daily intercity passenger rail service between Mobile, Alabama, and New Orleans. Additionally, funds would improve grade crossings and the construction of a station in Mobile. This program would be administered by the Office of Multimodal Commerce.

Over the last five years, Louisiana has provided the following funding for rail:

| | <u>State</u> | <u>Total (Fed, State, Local)</u> |
|--------------------------|------------------|----------------------------------|
| NO Gateway Project | \$ 76,705 | \$787,287 |
| Station Assessment | \$ 50,000 | |
| SCORT/AASHTO Dues | \$ 25,000 | |
| Southern Rail Comm. Dues | <u>\$350,000</u> | |
| Total | \$501,705 | \$787,287 |

1.5 Summary of Freight and Passenger Rail Services

1.5.1 Freight Services

The rail system in Louisiana comprises 2,746 route miles which are owned by 19 freight railroads. Six of these railroads are categorized as Class I railroads (large railroads) and own a total 2,350 route miles or 86% of the total rail mileage in the state. Short line and terminal railroads own and operate the remaining route miles in the state. Details on each railroad in terms of lines, route mileage, yards and connecting carriers appear in Chapter 2. In 2017, these freight railroads carried over 144 million tons of freight which originated or terminated in Louisiana or passed through the state. Chemicals and Allied Products comprised 20% of the total carloads, followed closely by Hazardous Materials, Coal, and Food or Kindred Products. Details on the origins and destinations of freight rail traffic, along with the tonnage and carloads of commodities handled by rail, appear in Chapter 2.

One major ongoing freight rail initiative is the implementation of the New Orleans Rail Gateway –a combination of rail and roadway improvements to both improve the interchanges of Class I railroads in New Orleans and eliminate highway-rail at-grade crossings.

Another major initiative is the relocation of the New Orleans and Gulf Coast Railway’s line that presently runs through Gretna to ports on the Mississippi River south of New Orleans. The line would be routed around the west side of Gretna, allowing many grade crossings located there to be closed. Furthermore, this will allow the freight tracks to be removed from Fourth Street in Gretna.

1.5.2 Passenger Services

Three Amtrak long distance intercity rail passenger routes in the state operate over rail lines owned by freight railroads. The City of New Orleans operates between Chicago and New Orleans; the Crescent between New York City and New Orleans; and the Sunset Limited between Los Angeles and New Orleans. In all, the services had a combined ridership of 212,767 passengers in 2018. Of Louisiana’s seven rail stations, New Orleans Union Passenger Terminal was the most utilized rail station in the state, handling 181,544 boardings and alightings in 2018. Greater detail on these services and Amtrak stations in Louisiana appears in Chapter 2.

One major passenger initiative is an ongoing effort by the Regional Planning Commission, the MPO for New Orleans, and other local jurisdictions, to investigate the feasibility of establishing a new intercity rail service between Baton Rouge and New Orleans. Another passenger rail initiative is actually two separate feasibility assessments of a new intercity passenger rail service between Shreveport/Bossier City and Dallas/Fort Worth. Current planning includes two efforts: one conducted by Amtrak and the other for the North East Texas Regional Mobility Authority. In concept, the Crescent would split in Meridian, Mississippi, with one train going to New Orleans Union Passenger Terminal and the other going from Meridian to Shreveport and then to Dallas-Ft. Worth. Amtrak has conducted an internal feasibility study for this “split Crescent” and a second study conducted by the Texas Transportation Institute and UNOTI was conducted in 2017. Both studies showed that the “split Crescent” is feasible.

A third passenger rail initiative is the post-Katrina restart of Amtrak service along the Gulf Coast, with a new service linking New Orleans, LA with Mobile, AL and, ultimately, Jacksonville, FL. The Southern Rail Commission (SRC) has developed a strong working relationship among its members: Mississippi, Louisiana and Alabama. The initial Gulf Coast High-Speed Rail Corridor daytime passenger service (as envisioned) will stop four times per day in New Orleans, Bay St. Louis, Gulfport, Biloxi, and Pascagoula. It is anticipated that this new passenger service will be operational within 24 months.

Chapter 2. Louisiana's Existing Rail System

Introduction

This chapter provides an overview and inventory of Louisiana's existing rail system as a baseline for planning and decision making. Discussed below are three major aspects of the state's existing freight rail and passenger rail systems: a description of the services as they are today; rail service trends and forecasts; needs and opportunities.

2.1 Louisiana's Existing Rail System

The Louisiana freight rail system is operated by six large Class I railroads and 13 smaller local, switching, and terminal railroads. The system consists of 2,746 route miles, excluding leases and trackage rights. Mileages of Louisiana's freight railroads appear in **Table 2-1**. All train operations on lines owned by Class I railroads are controlled by Central Traffic Control (CTC) systems, whereby a dispatcher in a remote location directs train operations by the use of wayside signal control systems.

Table 2-1: Louisiana Rail System Mileage

| Railroad | | Reporting Marks | Route Miles Operated | | | | Owned not Operated |
|--|--|-----------------|----------------------|------------|-----------------|---------------|--------------------|
| | | | Owned | Leased | Trackage Rights | Total | |
| Class I Railroads | | | 2,350* | 2 | 255 | 2,607* | 203 |
| | BNSF Railway Company | BNSF | 240 | | 122 | 362 | |
| | Canadian National Railway Company | CN | 239 | | | 239 | |
| | CSX Transportation | CSXT | 35 | | 8 | 43 | |
| | Kansas City Southern Railway | KCS | 677 | 2 | 65 | 744 | 173 |
| | Norfolk Southern Railway | NS | 72 | | 4 | 76 | |
| | Union Pacific Railroad | UP | 1,087 | | 56 | 1,143 | 30 |
| Local, Switching Terminal Railroads | | | 396 | 238 | 22 | 656 | |
| | Acadiana Railway | AKDN | 57 | 5 | 20 | 82 | |
| | Arkansas Louisiana & Mississippi Railroad | ALM | 55 | | | 55 | |
| | Baton Rouge Southern Railroad | BRS | | 2 | | 2 | |
| | Bogalusa Bayou Railroad | BBAY | 1 | | | 1 | |
| | Delta Southern Railroad | DSRR | 51 | 15 | | 66 | |
| | Lake Charles Harbor & Terminal District (Port of Lake Charles, Port Rail Link) | LCH | 11 | | | 11 | |
| | Louisiana & Delta Railroad | LDRR | 96 | 28 | | 124 | |
| | Louisiana and North West Railroad | LNW | 44 | | | 44 | |
| | Louisiana Southern Railroad | LAS | | 167 | | 167 | |
| | New Orleans and Gulf Coast Railway | NOGC | 32 | 5 | | 37 | |
| | New Orleans Public Belt Railroad | NOPB | 28 | | | 28 | |
| | North Louisiana & Arkansas Railroad | NLA | | 16 | 2 | 18 | |
| | Timber Rock Railroad | TIBR | 21 | | | 21 | |
| Total Miles | | | 2,746* | 240 | 277 | 3,213* | 203 |

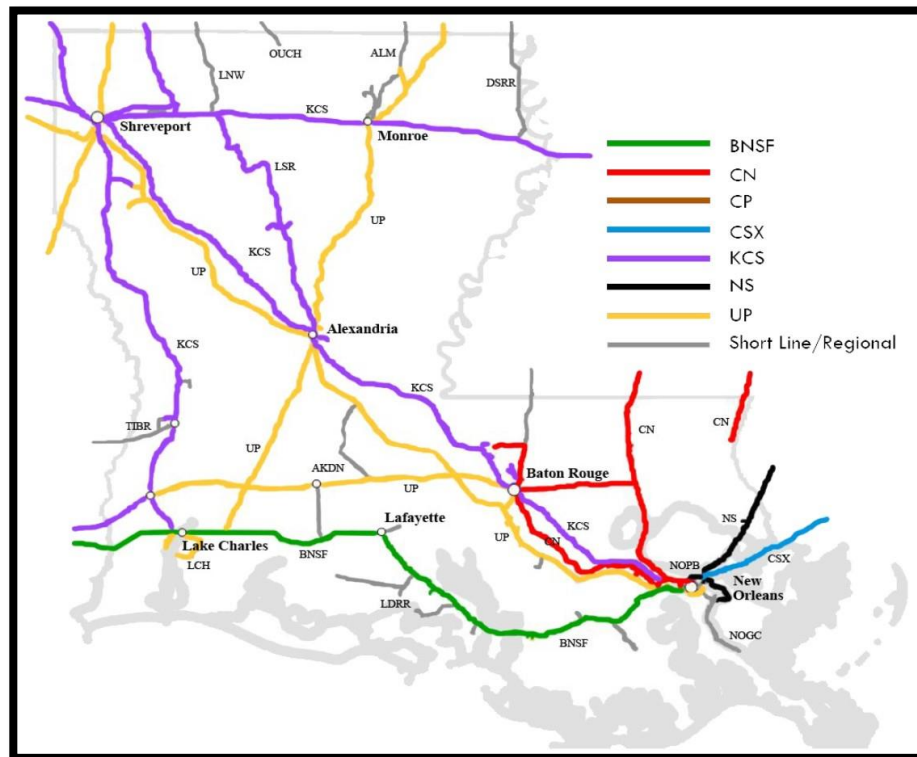
Source: Association of American Railroads, Freight Railroads in Louisiana

*Note: Owned miles for both BNSF and UP include 240 miles of joint trackage.

2.1.1 Class I Railroads

Each Class I railroad has principal routes through the state that are fed by its own branch lines and connecting carriers. **Figure 2-1** shows all of the routes of the Class I carriers across the state.

Figure 2-1: Railroad Systems in Louisiana



Source: Louisiana Railroad Fact Book 2019, by Louisiana Department of Transportation & Development

BNSF Railway Company

BNSF Railway Company (BNSF), a wholly-owned subsidiary of Berkshire Hathaway, Inc., operates over 33,000 route miles in the U.S. and Canada. It operates over 362 route miles in Louisiana. Two hundred and forty of these, extending from the Texas / Louisiana state line at the Sabine River near Orange, TX, through Lake Charles and Lafayette to Avondale Yard on the west bank of the Mississippi River at New Orleans, are “joint trackage”, owned on an equal “50/50” basis with Union Pacific Railroad (UP).

BNSF also has trackage rights on 122 route miles, primarily in northwestern Louisiana and in and around the Avondale Yard in New Orleans.

Traffic moving on the east-west joint trackage mainline connects to all of the Class I carriers in New Orleans via the Huey P. Long Bridge and New Orleans Public Belt Railroad (NOPB). Traffic moving into Texas on the western side of the state can connect to all of the 28 states and two provinces in Canada on the BNSF network from Beaumont, TX. BNSF short line connections are listed in **Table 2-2**.

Table 2-2: BNSF Short Line Connections in Louisiana

| Short Line | Connections |
|------------|------------------------|
| NOPB | New Orleans |
| LDRR | Lafayette and Raceland |
| AKDN | Crowley |
| TIBR | De Ridder LA |

BNSF transports over 150,000 carloads per year through Louisiana. Traffic hauled includes intermodal (trailer and container on flatcar or in a double-stack car), automotive, grain and industrial products. In 2018, BNSF originated 60,796 carloadings and terminated 68,145 in Louisiana. All of its lines in Louisiana are capable of handling 286,000-pound carloads.

Canadian National Railway

Canadian National Railway (CN), a publicly traded company headquartered in Montreal, Quebec, Canada, owns 20,600 route miles in Canada and the U.S. Its Southern Region, extending from Rainer, MN to New Orleans and consisting of 7,400 route miles, serves the Gulf ports of Mobile and New Orleans and the river ports of Memphis and Baton Rouge. It operates 239 miles in Louisiana comprising both main routes and branch lines, as listed in **Table 2-3**.

Table 2-3: CN ownership in Louisiana

| Routes | Description |
|--|---------------------------------------|
| Mississippi / Louisiana state border near Osyka to Kentwood via Hammond to New Orleans | North / South main track |
| New Orleans to Baton Rouge | East / West line |
| Hammond to Baton Rouge | East / West line |
| Baton Rouge north to Slaughter | North/ South line |
| Slaughter west to Riddle Zee | Branch line currently not in service |
| Brookhaven (MS) to the border of Twin (MS) south to Bogalusa and Lee Creek | Branch line in northeastern Louisiana |

CN's primary points of traffic interchange are noted in **Table 2-4**.

Table 2-4: CN Interchange Points in Louisiana

| Railroads | Interchange Points |
|-------------|-----------------------------|
| BNSF | New Orleans |
| KCS | New Orleans and Baton Rouge |
| NOPB | New Orleans |
| NS | New Orleans |
| UP | New Orleans and Baton Rouge |

CN handles 286,000-pound car weights across all of its lines in Louisiana. Annual capital expenditures average \$23 million per year in the state. In 2019, CN announced it would invest over \$95 million in its rail infrastructure across the state as part of its national \$2.9 billion capital investment to facilitate rail shipping of commodities such as including consumer goods, grain, agricultural, forest, and energy products. CN has made a \$5.7 billion national capital investment since 2017.

CSX Transportation

CSX Transportation (CSXT), a publicly traded railroad company, operates over 23,000 route miles in the eastern, southern and Midwestern U.S. It operates 43 route miles in Louisiana (35 miles owned and 8 miles of trackage rights in New Orleans) from the Mississippi / Louisiana state line in the east to the City of New Orleans in the west. CSXT operates over and maintains nearly 140 miles of single main track, other main tracks, yard tracks and sidings in Louisiana as of December 31, 2011. The east-west route connects all of the Class I railroads and the NOPB to the entire CSXT network branching eastward from the Mississippi state line, with primary lines across the panhandle of Florida and to the northeast into Montgomery, AL. CSXT handles over 249,000 carloads per year in Louisiana. Carloads include automotive, intermodal, sulfur, chemicals, plastics and other merchandise traffic. All CSXT lines in the state are capable of handling 286,000-pound loaded car weights.

Kansas City Southern Railway

Kansas City Southern Railway (KCS), a wholly owned subsidiary of Kansas City Southern Industries, Inc. (KCSI), operates approximately 3,130 route miles in a 10-state region serving the central and south central U.S. KCS operates 744 route miles in Louisiana: 673 miles owned, approximately 62 miles operated with trackage rights, and 2 miles leased. KCS has 40 miles of trackage rights on UP between Baton Rouge and Lettsworth, and 22 miles of trackage rights on CN in the New Orleans area. KCS routes in Louisiana routes are shown in **Table 2-5**.

Table 2-5: KCS Routes in Louisiana

| Route | Description |
|--|---|
| Lake Charles via De Quincy and De Ridder to Shreveport | North - South line |
| New Orleans via Baton Rouge, Shreveport and northward to Kansas City | Northwest line <i>Note: KCS operates over UP via trackage rights from Lobdell Junction in Baton Rouge to Torras Junction in Lettsworth.</i> |
| Meridian, MS to Dallas, TX via Vicksburg, Mississippi, Monroe and Shreveport | East - West line <i>Note: The east - west line between Shreveport and Meridian, MS is the Meridian Speedway, LLC (MSLLC). NS, through its subsidiary, the Alabama Great Southern Railway Company, owns a minority interest in the MSLLC while KCS is the majority owner of MSLLC. A KCS mainline connects the MSLLC in Shreveport to Dallas.</i> |
| Baton Rouge to Port Hudson | Branch line |

KCS serves the Ports of New Orleans, Lake Charles, Baton Rouge, and Natchitoches. KCS's Class I railroad connections are cited in **Table 2-6**.

Table 2-6: KCS Connections with Class I Railroads in Louisiana

| Railroad | Connection |
|-------------|--|
| BNSF | Lake Charles and New Orleans via NOPB |
| CN | New Orleans and Baton Rouge |
| CSXT | New Orleans |
| NS | New Orleans |
| UP | New Orleans, Baton Rouge, Lake Charles, Shreveport, Monroe, and Alexandria |

KCS's connections to short lines operating in Louisiana are shown in **Table 2-7**.

Table 2-7: KCS Connections with Short Lines in Louisiana

| Short Line | Connection |
|-------------|----------------------------------|
| ALM | Monroe |
| BRS | Baton Rouge |
| DSRR | Tallulah |
| LAS | Gibbsland, Pineville, and Sibley |
| LNW | Gibbsland |
| NLA | Lake Providence |
| NOPB | New Orleans |
| TIBR | De Ridder |

KCS handles 286,000-pound car weights across all lines in Louisiana.

Norfolk Southern Railway

Norfolk Southern Railway (NS), owned by Norfolk Southern Corporation, a publicly traded corporation, operates approximately 21,500 route miles in 22 states east of the Mississippi River. NS operates 76 route miles of railroad in the state of Louisiana, owning 72 miles and operating over trackage rights on four miles in New Orleans. The primary NS route in Louisiana is operated by NS subsidiary, the Alabama Great Southern Railway, and runs northeast from the City of New Orleans to Benton, where it crosses the Louisiana / Mississippi state line. NS also operates the former New Orleans Terminal Railroad in St. Bernard Parish and across the “Back Belt” to interchange traffic within New Orleans. The Back Belt is a rail bypass of downtown New Orleans through Metairie.

NS serves the Port of New Orleans and connects with all of the Class I carriers in New Orleans (BNSF, CN, CSX, KCS, and UP). NS also interchanges traffic with NOPB.

NS also operates through trains on the Meridian Speedway, LLC (MSLLC), between Shreveport and Meridian, MS by virtue of its minority interest in the MSLLC, and on to Dallas via the KCS. NS handles maximum car weights of 286,000 pounds on its lines in Louisiana.

Union Pacific Railroad

Union Pacific Railroad (UP), a wholly owned subsidiary of Union Pacific Corporation, operates over 32,000 route miles in 23 states across the western two-thirds of the United States. UP operates over 1,377 route miles of track in Louisiana west of the Mississippi River. It owns 1,143 miles, including partial ownership of the 240 miles of joint trackage shared with BNSF. UP also have trackage rights over 56 miles on KCS between Lettsworth and Alexandria. Primary routes include those shown in **Table 2-8**.

Table 2-8: UP Rail Lines in Louisiana

| Route | Description |
|--|--|
| Baton Rouge to Livonia to Dequincy then via trackage rights on KCS from Dequincy to Sabine River (state line with Texas) | East - West line <i>Note: This line continues in Texas serving Beaumont and Houston</i> |
| New Orleans to Livonia, Alexandria, Shreveport to Lorraine (state line with Texas) | East - West line <i>Note: This line continues to Dallas, Texas</i> |
| New Orleans via joint trackage shared with BNSF from Iowa Junction to the Sabine River (state line with Texas) | East - West line <i>Note: This line continues to Beaumont and Houston, TX</i> |
| Iowa Junction to Alexandria, Monroe to Muller (state line with Arkansas) | North - South line <i>Note: This line continues to Pine Bluff, Arkansas and St. Louis, Missouri</i> |
| Northwest Louisiana running through Shreveport (crosses Texas / Louisiana border at Logansport and Louisiana / Arkansas border north of Plain Dealing) | North-/ South line |

Other UP routes include:

- Baton Rouge to Addis, a connection to its New Orleans-Livonia-Alexandria-Shreveport route.
- Baton Rouge to Lettsworth, thence via trackage rights over 56 KCS route miles to Alexandria.

UP's primary Class I connections are shown in **Table 2-9**.

Table 2-9: UP Connections with Class I Railroads in Louisiana

| Class I | Connection |
|---------|---|
| BNSF | New Orleans and Iowa Junction |
| CN | New Orleans and Baton Rouge |
| CSXT | New Orleans |
| KCS | New Orleans, Baton Rouge, Lake Charles, Shreveport, Monroe and Alexandria |
| NS | New Orleans |

UP's short line interchanges in Louisiana are cited in **Table 2-10**. UP originated 204,468 cars and terminated 99,639 cars in Louisiana in 2018. Recent annual capital expenditures in the state have averaged \$115.5 million with an additional \$634 million in expansion capital for 2014 through 2018 to provide new double track and greater network capacity to handle unit trains. In 2018 UP also invested \$12 million in capital upgrades to the Port of Greater Baton Rouge to expand train lengths from 45 to up to 110 railcars for the shipment of grain and other agricultural commodities. UP operates intermodal,

automotive, unit and mixed carload (intermodal) trains throughout Louisiana. UP handles maximum car weights of 286,000 pounds on its lines in Louisiana.

Table 2-10: UP Interchanges with Short Lines in Louisiana

| Short Line | Connection |
|---|--|
| AKDN | Bunkie, Eunice, and Opelousas |
| ALM | Monroe |
| DSRR | Monroe |
| LDRR | Lake Charles |
| NLA | McGehee, Arkansas <i>Note: Expected interchange end of 2012</i> |
| NOGC | Westwego |
| NOPB | New Orleans / Avondale |
| Port of Lake Charles Port Rail Link (PRL)* | Lake Charles |

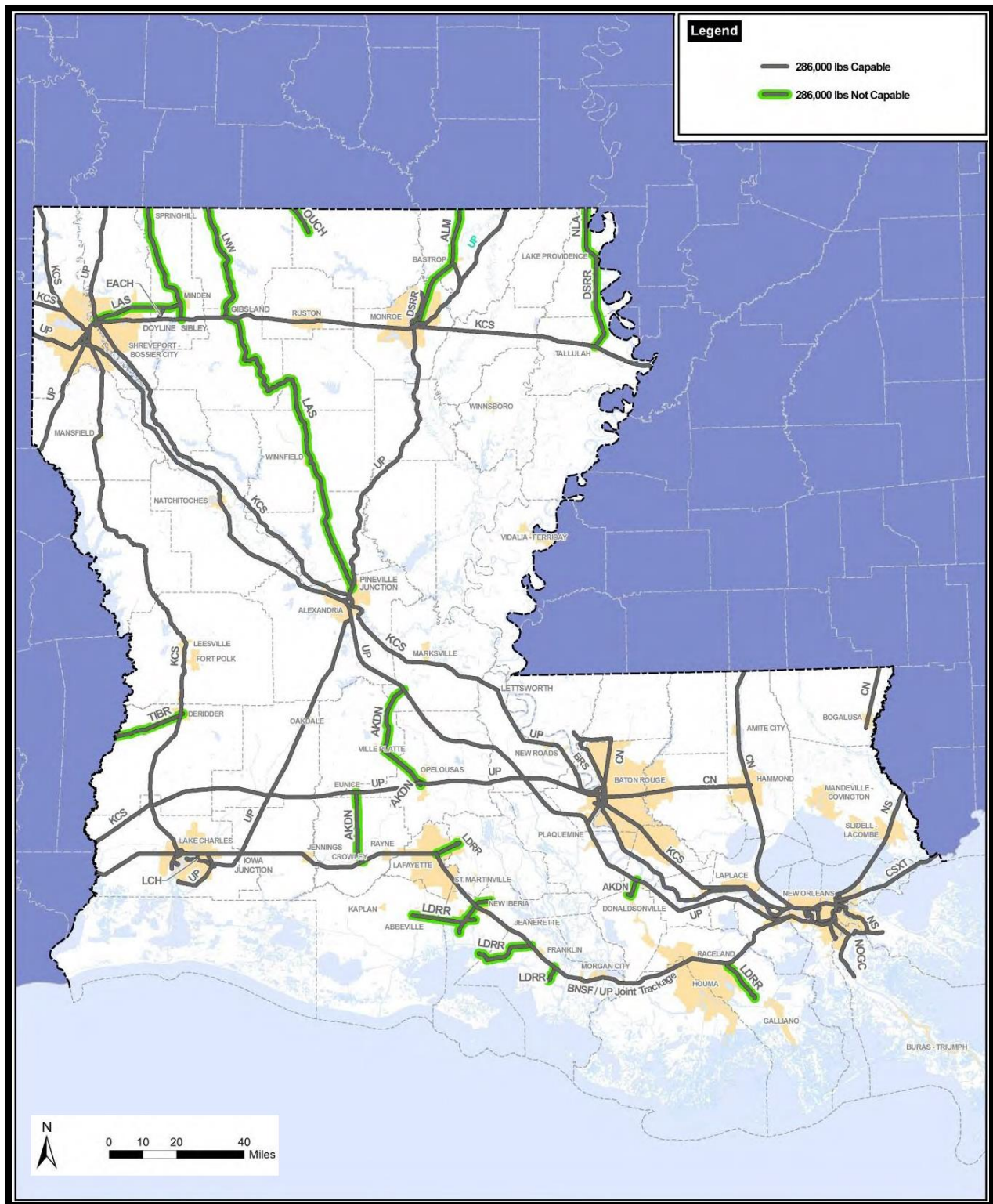
**Lake Charles Harbor and Terminal District has formed the Port Rail Link, Inc. ((PRL), a non-rail carrier which now operates the LCH trackage and will receive certain trackage rights from UP (Notice of Exemption filed with the Surface Transportation Board on December 2, 2011).*

2.1.1.1 Local, Switching and Terminal Railroads

The local, switching, and terminal rail lines are also shown on **Figure 2-1**, and miles owned and operated are contained in **Table 2-1**. Many of the small railroads, also known as short lines, own and/or operate lines abandoned or spun off by Class I carriers. A brief description of each follows.

Figure 2-2 shows all lines in Louisiana that cannot accommodate loaded car weights of 286,000 pounds. The capability of handling this car weight is becoming a *de facto* industry standard. All such lines in the state belong to small railroads. As noted previously, all Class I railroads in the state can handle this car weight on all of their lines.

Figure 2-2: Lines Incapable of Handling Car Weights of 286,000 pounds



Source: 2015 Louisiana State Rail Plan

Acadiana Railway

Acadiana Railway (AKDN) owns and operates 82 miles of lines in Louisiana comprised of four segments: Opelousas to Bunkie (36.1 miles); a three-mile-long of former Southern Pacific Railroad switching spur at Opelousas; the five-mile Thibodaux industrial lead at McCall; and Crowley to Eunice (21.6 miles). The first and last segments are connected via 20.9 miles of trackage rights over the UP from Eunice to Opelousas. The railroad also has trackage rights on BNSF in Crowley. The Thibodaux industrial lead is currently leased for one mile to allow UP to stage unit crude oil trains.

The railroad connects with the UP at Bunkie, Opelousas and Eunice, and with the BNSF at Crowley. Gross carload weights are limited to 263,000 pounds on all AKDN lines except for 2.5 miles of 286,000 pounds permissible in Opelousas. There are two industrial parks under development in Opelousas: Saint Landry Parish and in Bunkie. Traffic includes agricultural products (primarily rice), edible oils, gravel and general freight. The carrier is affiliated with Trac-Work, Inc.

Arkansas, Louisiana & Mississippi Railroad

Arkansas, Louisiana & Mississippi Railroad (ALM), a Genesee and Wyoming (G&W) affiliate, extends 55 miles from Crossett, AR to Monroe. ALM connects with KCS and UP in Monroe and can connect with the UP at Fordyce, AR via haulage provided by the Fordyce & Princeton Railroad (F&P). However, ALM does not carry traffic north of Crossett or utilize the interchange with UP at this time. The railroad's 55 miles in Louisiana extend from the Arkansas / Louisiana state line near Geddie through Bastrop, and southward to Monroe. Gross carload weights of 286,000 pounds are permissible from MP (milepost) 0.0 to MP 4.0 in Monroe but limited to 263,000 pounds from MP 4.0 to MP 52.5. Typical commodities transported include chemicals, lumber, paper, and forest products. The ALM was acquired by G&W in 2003.

Baton Rouge Southern Railroad

Baton Rouge Southern Railroad (BRS), a Watco carrier that began operation in 2008, operates 2 miles of track interchanging with KCS at the BSR Brooklawn Yard about 8 miles north of Baton Rouge. BRS provides transloading services and car repair through Union Tank Car. It switches KCS customers and offers car storage services. Primary commodities are plastic pellets, and raw and calcinated coke. BRS handles 286,000-pound carload weights.

Bogalusa Bayou Railroad

Bogalusa Bayou Railroad (BBAY) operates as a Watco short line consisting of one-mile servicing Bogalusa's international paper plant. Its principal commodities are paper products and calcinated coke.

Delta Southern Railroad

Delta Southern Railroad (DSRR) is a private company operating on two line segments for a total of 51 miles:

- **Tallulah to Lake Providence (28 miles)**- DSRR owns the former Missouri Pacific Railroad line from Tallulah to Lake Providence (the line north of Lake Providence to McGhee, AR was abandoned by DSRR and is discussed later in this section). DSRR is currently operating only from Tallulah to Talla Bena and the Madison Parish Port, a distance of approximately 7 miles.
- **Monroe to Sterlington (15 miles)**-DSRR leases the former Missouri Pacific line from UP.

Interchange points for the DSRR are Monroe with UP; Tallulah with KCS; and Lake Providence with NLA.

DSRR has two sites available for transloading at Tallulah and also accommodates rail car storage. Primary commodities include agricultural and chemical products, forest products and clay. DSRR limits gross carload weights to 263,000 pounds on the two-line segments.

In July of 2019, the U.S. Department of Transportation announced a \$10.5 million grant from the Infrastructure for Rebuilding America (INFRA) program to the Southeast Arkansas Economic Development District (SEAEDD) along with its affiliates to upgrade the Louisiana-Arkansas short line rail corridor which includes the DSSR. This project will upgrade the capacity of the rail corridor to handle 286,000-pound rail cars and enable a top speed of 25mph. It will also open DSRR access to the ports of Lake Providence and Madison Parish in Louisiana.

Louisiana and Delta Railroad

Louisiana and Delta Railroad (LDRR), a Genesee and Wyoming (G&W) affiliate, operates seven disconnected line segments that branch off of the BNSF - UP joint trackage between Lafayette and Raceland. The LDRR interchanges traffic with BNSF at Lafayette and Schriever and with UP at New Iberia and Raceland. LDRR has 178 miles of trackage rights between Lake Charles and Raceland, and owns another 120 route miles of former branch lines along this stretch. The seven branches are shown in **Table 2-11**.

Table 2-11: LDRR Branch Lines

| Branch | Description |
|-------------------|--|
| Breaux Branch | Breaux Bridge Package with Breaux Bridge Branch, Lafayette Commercial Branch, Elks and Power House Spurs that fan out from Lafayette |
| Midland Branch | New Iberia to Abbeville with Pesson and Avery Island Spurs |
| MOP Line | Serving customers in New Iberia |
| ARA Spur | Serving Acadiana Regional Airport facilities in New Iberia |
| Cypremont Branch | Baldwin to Cypremont and Port of West St. Mary |
| Bayou Sale Branch | Bayou Sale to North Bend |
| Lockport Branch | Raceland to MP 1.7 |

LDRR gross carload weights are limited to 263,000 pounds across the seven branches. Typical commodities transported include aggregates, brick and cement, carbon black, chemicals, food and feed products, forest products, oil products, pipe, steel and scrap. The LDRR was acquired by Genesee & Wyoming in 1987.

Louisiana and North West Railroad

Louisiana and North West Railroad (LNW), a wholly owned subsidiary of Patriot Rail, operates 68 miles between Gibsland and McNeil, AR including 44 miles in the State of Louisiana. Interchange points for LNW are with KCS at Gibsland; and with UP at McNeil (via 6.5 miles of UP-leased lines between Magnolia to McNeil).

LNW provides transloading services at Gibsland, Athens, Mulnix, Homer, Haynesville and Iron Bridge Road in Louisiana. LNW owns 845 acres for real estate development and provides car storage and locomotive repair services in Gibsland. Primary commodities include chemical products, wood, steel and plastics. Gross carload weights are limited to 263,000 pounds but are being upgraded to 286,000 pounds.

Louisiana Southern Railroad

Louisiana Southern Railroad (LAS), a Watco carrier that began operations in 2005, leases and operates three separate line segments which total 167 miles, per **Table 2-12**.

Table 2-12: LAS Line Segments in Louisiana

| Line Segment | Miles |
|--|-------|
| Shreveport to Bossier City East to Minden | 31 |
| Sibley to Springhill | 34 |
| Gibbsland to Tioga and to Pineville Junction | 102 |

LAS interchanges all of its traffic with the KCS at three stations: Gibbsland, Pineville, and Sibley. LAS provides transloading services at Minden, rail car repair at Zwolle and mobile repair services at Hodge.

Primary commodities are sand, chemicals, petroleum, metals, ores, and paper and forest products. Carload weight limits are limited to 263,000 pounds.

New Orleans and Gulf Coast Railway

New Orleans and Gulf Coast Railway (NOGC) is 100% owned by Rio Grande Pacific Corporation. A former UP branch line located outside of New Orleans, NOGC is a 32-mile-long railroad located on the west bank of the Mississippi that interchanges with the UP in Westwego. The railroad serves over 20 switching and industrial customers and is the only short line railroad operating east of Avondale. The main track of NOGC operates eastward from Westwego to Harvey through Gretna to Gouldsboro Yard and southward from Gouldsboro to Ironton. An abandoned rail right-of-way will be used for a six-mile extension to the Kinder Morgan International Marine Terminal (IMT) located in Myrtle Grove. Predominant shipments include a variety of food products, oils, grains, petroleum products, chemicals, coal and steel products. NOGC has access to the Kinder Morgan Delta Terminal at Harvey and the Plaquemines Parish Ports, Harbor and Terminal District south of Gouldsboro. NOGC is a 10-mph, unsignalized railroad capable of handling 286,000-pound carload weights.

Assistance from the Louisiana Department of Transportation and Development was requested by the NOGC in relocating the main track from the town of Gretna which would facilitate the closing of many at-grade highway-rail crossings. Partners in this project include the Regional Planning Commission in New Orleans as well as Jefferson and Plaquemine Parishes. In 2018, the New Orleans RPC and the FRA completed the Environmental Impact Statement (EIS) and recommended the NOGC main rail segments be relocated away from Gretna to a suitable industrial site. Funding for this project (approximately \$300 million) has not yet been secured. In 2019, the NOGC began investigating a less expensive (about \$6-\$8 million) shortcut, which has been opposed by the residents and the city council because of the increase in crude oil the trains would be carrying. However, these are oil sands, which are not highly combustible.

New Orleans Public Belt Railroad

New Orleans Public Belt Railroad (NOPB) was formerly owned by the citizens of the City of New Orleans and managed by the Public Belt Railroad Commission. The Port of New Orleans acquired the New Orleans Public Belt Railroad from the City in 2018. The Port exchanged the Governor Nicholls Street and Esplanade Avenue wharves for the railroad, enabling the city to complete a long-awaited riverfront

park. The NOPB is owned by the Port and governed by the New Orleans Public Belt Board of Directors. NOPB operates 28 route miles and other trackage and facilities including:

- 37.5 miles of main track and passing sidings.
- A 4.4-mile-long, double-track bridge, known as the Huey P. Long Bridge.
- 85.5 miles of yard and industry tracks.

NOPB connects to the Port of New Orleans and to the Napoleon Avenue Container Terminal to provide intermodal switching services for CN. NOPB transfers containers at the Napoleon Intermodal Rail Yard. NOPB operates four carload (switching) yards as noted in **Table 2-13**.

Table 2-13: NOPB Switching Locations

| Switching Location | # of Tracks | Description |
|--------------------|-------------|-------------------------------|
| Cotton Warehouse | 22 | Manifest switching |
| Claiborne | 13 | Storage in transit (SIT) yard |
| Pauline | 5 | Storage in transit (SIT) yard |
| France | 8 | Industry switching |

NOPB connects to all six Class I railroads (BNSF, CN, CSX, KCS, NS, and UP) in New Orleans. NOPB can handle 286,000-pound carloads on its lines.

North Louisiana & Arkansas Railroad

North Louisiana & Arkansas Railroad (NLA), an affiliated company with Arkansas Short Line Railroad, Inc. was formed in 2011 after the DSRR abandoned the former Missouri Pacific Railroad line from Lake Providence to McGehee, AR. The NLA owns 16 miles of track and has trackage rights for an additional mile. The Lake Providence Port Authority owns all of NLA's trackage within Louisiana (16.2 miles). NLA has two miles of trackage rights on DSRR in Lake Providence. NLA interchanges traffic with UP at McGehee via a switch provided by Arkansas Midland Railroad Company (AKMD).

NLA has secured funding to rehabilitate the line and it was expected to be operational at the end of 2014. Primary customers are both on the line and within the Port of Lake Providence. Primary commodities will include agricultural and industrial products. NLA will be able to handle 286,000-pound car weights.

Port of Lake Charles – Port Rail Link

The Lake Charles Harbor and Terminal District (LCH) owns 11 miles of track at the Port. Currently, the Port switches traffic among five port districts using port employees and leased locomotives. In 2011, the Port opened the new IFG Port Holdings export grain facility that can process one million tons per year in the first phase of operations with an expected expansion to two million tons in the second phase. Primary commodities of the port are agricultural products, coal, coke and chemical products.

Port of Lake Charles – Port Rail Link, Inc. (PRL), a non-rail carrier, has filed a notice of exemption with the Surface Transportation Board (STB) to lease 2.3 miles of track from UP near Harbor Yard in Lake Charles and 2.8 miles of track from the Lake Charles Harbor and Terminal District, operator of the Port of Lake Charles, near the City Docks. PRL will interchange carload traffic with UP at Harbor Yard and unit trains with UP at New Yard.

Timber Rock Railroad

Timber Rock Railroad (TIBR), a Watco carrier that began operation in 1998, operates 43 total miles of track, with 21 miles in Louisiana from the Texas / Louisiana state line near Bon Wier, TX to De Ridder. TIBR interchanges with KCS at De Ridder and with BNSF at Silsbee and Tenaha, TX.

Primary commodities are forest products and rock. TIBR handles 263,000-pound car weights.

2.1.1.2 Intercity Passenger Rail Network

This section summarizes the history of passenger rail service in the state, and also summarizes the current intercity rail services provided by National Railroad Passenger Corporation, also known as Amtrak.

Amtrak's funding is authorized through fiscal year 2020 (FY2020) in the Passenger Rail Reform and Investment Act of 2015 (Title XI of the Fixing America's Surface Transportation (FAST) Act, Public Law 114-94). This authorization is the first time that Amtrak's funding was included in the larger surface transportation act that also authorizes highway and transit programs. Congress also changed the structure of federal grants in the FAST Act. Prior to 2015, Congress separated Amtrak funding for capital expenditures and operating costs. Starting in FY 2017, grants are divided between funding for Amtrak's Northeast Corridor service (which uses infrastructure owned by Amtrak and has billions of dollars in capital needs) and the rest of Amtrak's National Network (which uses infrastructure owned primarily by private freight railroads but runs on an operating deficit of several hundred million dollars a year) (CRS 2017). Under the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), states are required to provide the funding to support the operation of short-distance intercity passenger rail routes of less than 750 miles. By contrast, Amtrak has the financial responsibility for the operation of trains on long-distance routes of 750 miles or more in length.

Historical Rail Passenger Perspective

New Orleans is a key connecting point between eastern and western railroads and transfer location to Caribbean, South and Central American water carriers. Radiating from New Orleans, the southernmost crossing of the Mississippi River, rail lines provided significant levels of passenger service during the first half of the 20th Century. Bolstered by trade and later tourism, passenger trains were the dominant mode of intercity travel until after World War I. The rail share of intercity travel began to decline during the 1920s and 1930s when highways were improved, and auto travel became more affordable to more families.

However, the rail share remained important through the 1940s and into the early 1950s, and passenger trains served all major urban areas and most of the country's small towns. In addition to transporting passengers, the trains carried mail and express. Railroad depots, usually located close to the center of each community, were activity hubs with the city development radiating out from their central location. With the construction of the Interstate highway system during the 1950s and 1960s, and the introduction of high capacity jet aircraft that significantly reduced travel times and costs, passenger rail usage declined. Private railroads increasingly were unable to compete with publicly funded highway and airport transportation modes, and a cycle of passenger train discontinuance ensued as the rail industry sought to drop service that had become uneconomical. With each discontinuance of rail passenger routes, connections were broken, and travel options were reduced, further hastening a cycle of service reductions.

In Louisiana, the level of rail passenger service provided in the mid-1950s reflects the period before the greatest cutbacks occurred. The 1956 service level is illustrated in **Figure 2-3**.

With multiple rail routes originating at the rail hub of New Orleans, passenger trains served major cities and small towns throughout the state. Most of these were long-distance services, operating several hundred miles into adjoining states. Primary routes within Louisiana in 1956 included:

- Five daily trains across southern Louisiana, with four of these operating to Houston or beyond to Los Angeles (Southern Pacific Railroad, Missouri Pacific Railroad).

- Four daily trains through the heart of the state from New Orleans to Baton Rouge to Shreveport, continuing west to Dallas/Fort Worth or north to Little Rock, Kansas City, or St. Louis (Texas & Pacific Railway, Kansas City Southern Railway).
- Four daily trains north to Memphis and Chicago (Illinois Central Railroad).
- Two daily trains northeast to Birmingham, Atlanta and the Northeast (Southern Railway).
- Seven daily trains east to Mobile, diverging to Cincinnati, Atlanta, Washington, and Florida (Louisville & Nashville Railroad).

Additional trains operated between Shreveport and Beaumont, Shreveport and Meridian, and Monroe and Lake Charles. Passenger service was gradually reduced to only a handful of long-distance trains by 1971, when the National Railroad Passenger Corporation (Amtrak) was created by the Congress due to financial losses sustained by the freight railroads (especially the Penn Central Railroad) on their passenger operations. Amtrak is a congressionally chartered corporation owned by the US Department of Transportation and operates as a quasi-nonprofit corporation. It began with a basic national system of passenger trains. Through Louisiana, Amtrak retained service over only three routes radiating from New Orleans.

Legend

- 1956 Passenger Rail Lines
- Rail Lines

Map of Louisiana showing 1956 Passenger Rail Lines and Rail Lines. Major cities and rail lines are labeled.

Scale: 0 10 20 40 Miles

North Arrow

30

Gulf Coast Rail Service

Established by an act of Congress in 1982, the Southern Rail Commission (SRC) engages and informs public and private rail interests to support and influence rail initiatives across its member states of Alabama, Louisiana and Mississippi.

SRC began as the Louisiana-Mississippi-Alabama Rapid Rail Transit Commission looking at providing rail service between Mobile, AL and New Orleans for the 1984 World's Fair. The Gulf Coast Limited provided service for the eight months the World's Fair was hosted in New Orleans and discontinued shortly after.

In the 1990's, the SRC negotiated the extension of the Sunset Limited to Jacksonville and then Miami and also worked with Congress to designate the Gulf Coast Corridor as part of the Federal Railroad Administrations High-Speed Network.

Today, the SRC has identified four rail lines which they have deem important to development in the South:

- I-20 Corridor: Dallas to Shreveport to Meridian
- Houston to Lake Charles to Baton Rouge to New Orleans (Of which the Baton Rouge to New Orleans Line is a part).
- Birmingham to Montgomery to Mobile
- Gulf Coast Passenger Rail from New Orleans to Orlando

In 2019, SRC was awarded a \$33 million grant for restoration of service between Mobile and New Orleans from the Consolidated Rail Infrastructure and Safety Improvements program as well as a grant for \$4.36 million from the Restoration and Enhancements Grant Program to kick start the Gulf Coast Passenger Rail.

Current Amtrak Service

The state is served by three long-distance Amtrak trains, with New Orleans serving as a hub. There currently is no commuter or intercity corridor service provided in the state, either by Amtrak or by other operators. There is one small tourist railroad operated by the Southern Forest Heritage Museum. Amtrak operates entirely over the trackage of Class I freight railroads, except for the New Orleans Public Belt Railroad and the trackage at New Orleans Union Passenger Terminal. While service was expanded to Mobile and Orlando in the 1980s and 1990s, Amtrak frequency of service on its trains through Louisiana is now what it was in 1971. While the limited number of cars available has constrained traffic growth, revenue management, targeted marketing and high gas prices have driven ridership and ticket revenue to record levels. Current routes appear in **Figure 2-4**. The current services are discussed below.

Figure 2-4: Current Amtrak Routes in Louisiana



Crescent

The Crescent operates between New York and New Orleans. (**Table 2-14**) The service consists of one daily round-trip, stopping at Slidell in Louisiana before terminating in New Orleans. Intermediate stops outside Louisiana include Birmingham; Atlanta; Charlotte, NC; Washington, DC; Baltimore; Philadelphia; and New York City. Southbound the train leaves New York at 2:15 PM and arrives in New Orleans at 7:32 PM the following day. Northbound route 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 between Atlanta, Birmingham and New Orleans.

Table 2-14: Route Segments of the Crescent

| Segment | Miles per Segment |
|---------------------------|---|
| New York - Washington DC | 225 miles |
| Washington DC – Charlotte | 376 miles |
| Charlotte – Atlanta | 258 miles |
| Atlanta - New Orleans | 518 miles |
| Total: | 1,377 miles (48 miles in Louisiana) |

The Crescent operates with single-level equipment, due to limited clearances through tunnels between Washington and New York. The train carries coaches, sleeping cars, a diner, and a lounge car.

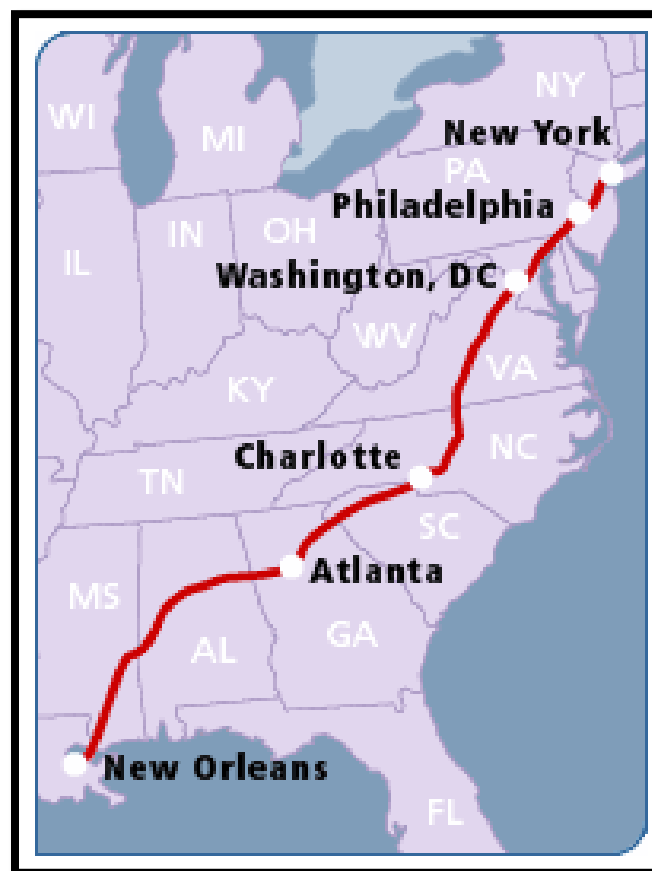
In Fiscal Year 2018 the Crescent carried 274,807 riders, up 6.2% from the previous year. In Fiscal Year 2018, 59,059 riders, almost 22% of total riders on the Crescent, traveled to/from New Orleans.

Based on the 2010 Amtrak Ridership Profile for the Crescent, passengers are mostly taking leisure trips (79%). The majority of these trips (54%) are for visiting family or friends while vacation or other recreational trips account for the remainder in this category. Of the remaining riders, 9% are traveling for personal business while 11% are making business trips. The majority of riders are female (71%) with an average age of 58 years and with household income averaging \$76,000 per year (2010). Almost half of all travelers are employed, and a large segment (41%) is retired.

New sleeping cars, dining cars and baggage-dormitory cars are under construction that will replace Heritage diners and baggage-dorms and supplement sleeping car capacity.

A map of the Crescent route appears in **Figure 2-5**. Throughout Louisiana, the Crescent operates on track owned by the Norfolk Southern Railway and New Orleans Union Passenger Terminal.

Figure 2-5: Crescent Route



Source: Amtrak

City of New Orleans

The City of New Orleans operates between Chicago and New Orleans. See **Table 2-15**. The service consists of one daily round-trip, stopping at Hammond, Louisiana before terminating in New Orleans.

Louisiana State Rail Plan

Intermediate stops outside Louisiana include Champaign-Urbana, IL; Carbondale, IL (with connecting Thruway bus service to St. Louis); Fulton, KY; Memphis, TN; and Jackson, MS. Southbound the train leaves Chicago at 8:00 PM and arrives in New Orleans at 3:32 PM the following day. Northbound route 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. The distances between some of the major cities along this route are as follows:

Table 2-15: Route Segments of the City of New Orleans

| Segment | Miles per Segment |
|----------------------------|--|
| Chicago - Champaign-Urbana | 129 miles |
| Champaign-Urbana - Memphis | 391 miles |
| Memphis – Jackson | 223 miles |
| Jackson - New Orleans | 183 miles |
| Total: | 926 miles (120 miles within Louisiana) |

Figure 2-6: City of New Orleans Route



Source: Amtrak

A map of the City of New Orleans route appears in **Figure 2-6**. Through Louisiana, the City of New Orleans runs on track owned by the Canadian National Railway and New Orleans Union Passenger Terminal.

The City of New Orleans operates with Amtrak Superliner equipment. The bi-level cars provide coach seats, sleeping car rooms, Cross-Country Café, and a Sightseer Lounge Car.

In Fiscal Year 2018, the *City of New Orleans* carried 237,781 riders, a 6.9% decrease from the previous year. In Fiscal Year 2018, 91,923 riders, about 39% of total riders on the City of New Orleans, traveled to/from New Orleans.

Based on the 2010 Amtrak Ridership Profile for the City of New Orleans, passengers are mostly taking leisure trips (74%). A large portion of these trips (44%) are for visiting family or friends, while vacation and other recreational trips account for the remainder in this category. Of the remaining riders, 11% are traveling for personal business while 12% are making business trips. The majority of riders are female (67%) with an average age of 56 years. The household income of riders averages \$70,000 per year (2010). In all, 45% of all travelers are employed, but a large segment (40%) is retired.

Sunset Limited

The Sunset Limited operates on a tri-weekly schedule between Los Angeles and New Orleans (1,995 miles), serving major intermediate stations at Maricopa, AZ (Phoenix); Tucson, AZ; El Paso, TX; San Antonio, TX; and Houston, TX. See **Table 2-16**. Through cars from Chicago (via St. Louis and Dallas) are switched to and from the train in San Antonio. The train terminates in New Orleans on Tuesday, Friday and Sunday, and the train originates in New Orleans on Monday, Wednesday, and Saturday. Westbound the train leaves New Orleans at 9:00 AM, arriving in Los Angeles at 5:35 AM two days later. Eastbound the train leaves Los Angeles at 10:00 PM, arriving in New Orleans at 9:40 PM two days later. The Sunset Limited offers daytime/evening service locally within Louisiana, although the tri-weekly service limits the appeal of the train for short-distance travel.

Table 2-16: Route Segments of the Sunset Limited

| Segment | Miles per Segment |
|-----------------------|--|
| Los Angeles –Tucson | 502 miles |
| Tucson – El Paso | 315 miles |
| El Paso – Houston | 815 miles |
| Houston - New Orleans | 363 miles |
| Total: | 1,995 miles (251 miles in Louisiana) |

A map of the Sunset Limited route appears in **Figure 2-7**. Throughout Louisiana the Sunset Limited operates on track owned by the Union Pacific Railroad, BNSF Railway, New Orleans Public Belt Railroad, Canadian National Railway and New Orleans Union Passenger Terminal.

Figure 2-7: Sunset Limited Route



Source: Amtrak

The Sunset Limited operates with Amtrak Superliner equipment. These cars are bi-level cars with passenger accommodations on two levels. The train carries coaches, sleeping cars, a diner, a Sightseer Lounge, crew dormitory car and a baggage car. In Fiscal Year 2018, the Sunset Limited carried 97,078 riders, a -1.6% decrease over the previous year. In 2018, 23,452 riders, about 24% of the total riders on the Sunset Limited, traveled to/from New Orleans.

Based on the 2010 Amtrak Ridership Profile for the Sunset Limited, passengers are mostly taking leisure trips (89%). A large portion of these trips (52%) are for visiting family or friends, while vacation and other recreational trips account for the remainder in this category. Of the remaining riders, 11% are traveling for personal business, while 5% are making business trips. Additionally, the Profile notes that the majority of riders are female (57%) with an average age of 59 years. The household income of riders averages \$57,000 per year (2010). In all, 33% of all travelers are employed, but a large segment (55%) is retired.

Thruway Bus Service

Amtrak provides connecting bus service between rail stations and nearby communities without passenger rail service. In Louisiana, Thruway service is provided between Longview (served by the Chicago-San Antonio Texas Eagle) and Shreveport/Bossier City, and also between New Orleans and Baton Rouge. The Thruway service is marketed as an extension of the rail service with through tickets and fares.

2.1.1.3 Proposed Services

Passenger Rail

Various passenger rail improvements have been studied which would expand Louisiana's limited passenger rail network. Like the existing Amtrak services, most of these proposed services would serve New Orleans. The proposed intercity rail services include:

- New Orleans-Meridian-Birmingham-Atlanta Corridor
- New Orleans-Baton Rouge-Lake Charles-Houston Corridor
- New Orleans-Gulfport-Mobile Corridor
- New Orleans-Jackson-Memphis Corridor
- Dallas-Shreveport-Jackson-Meridian Corridor
- Shreveport to Baton Rouge and New Orleans Corridor

A commuter rail concept linking Baton Rouge with New Orleans has also been proposed.

All of these proposed services are discussed in detail in Chapter 3.

Freight Rail

While there are no new freight services anticipated beyond incremental improvements anticipated by the Class I railroads, various freight projects are either ongoing or are planned. These include:

- New Orleans Rail Gateway
- New Orleans and Gulf Coast rail line relocation
- St. James Terminal improvements
- Short line track upgrades to carry heavier loaded car weights (286,000 lbs.)

All of these major projects, in addition to grade crossing improvements, closures, and grade separations on freight lines, are discussed in detail in Chapter 4.

2.1.1.4 Abandonments and Rail-Banked Lines

Abandonments

Two-line segments were granted a Discontinuance of Service by the STB, however. They are:

- NS (AGS) – Poydras Junction to Toca, 4.5 miles, in St. Bernard Parish.
- Gloster Southern Railroad (GLSR) – Slaughter, LA to Gloster, Mississippi, 33 miles in total, 21 miles of which lie in Louisiana, viz., East Feliciana Parish. The tracks in Louisiana have been removed.

In addition, after acquisition of its line north of Lake Providence by other parties as discussed elsewhere, DSRR ceased to operate trains north of Talla Bena. This action effectively took another 16 miles out of service in Madison and East Carroll Parishes.

Also, the UP shows the Bastrop Industrial Lead (8.72 miles Bastrop to Collinston in Morehouse Parish) on its System Diagram Map. It is designated as Category 1 (anticipated to be an abandonment candidate within three years).

According to the Surface Transportation Board in 2019 Louisiana has 237 miles of abandoned railroad.

Rail-banked Lines

The process whereby inactive rail corridors are preserved for possible future rail use, with interim use as a trail, is called rail banking. A typical means of rail banking lines is converting them for use as trails.

Louisiana is home to several trails developed on abandoned rail list. According to rail-to-trail conservancy website, LA has seven total rail- trail for a total 134 miles. At present, there are two ongoing projects for an additional 23 miles of rails-trails.

One of the most recognized rail trails is Tammany Trace. In July 2017, through a national voting competition, Louisiana's Tammany Trace became the first rail-trail in the state inducted into Rails-to-Trails Conservancy's national Rail-Trail Hall of Fame. The trail is located on former Illinois Central right-of-way between Covington and Slidell purchased in 1992. The asphalt trail is now 61 miles long and is in the process of being extend into downtown Slidell. Attractions are located in communities and stops along the trail.

Located in the northwest corner of the state, Louisiana Trails is being developed on the former Louisiana and Arkansas Railway right-of-way between Sibley and Winnfield, some 61 miles. The line was abandoned in 1989 and made available for interim trail use 1997. The first 9 miles of the trail were opened in 2004. The surface is unimproved.

The Lafitte Corridor was developed on the right-of-way of a former shipping canal and then a railway (NS) that connected the French Quarter to Bayou St. John. The project consists of 3.1 miles between Basin Street (Louis Armstrong Park) and Canal Boulevard next to St. Louis Avenue. The corridor was developed as a greenway with a continuous trail and other recreational facilities.

2.1.2 Major Freight and Passenger Terminals

2.1.2.1 Freight Terminals

BNSF Railway

Some of BNSF's rail yards are cited in **Table 2-17**. General carload or merchandise traffic is handled at traditional carload (switching) yards, while containers and trailers are handled at intermodal (lift-on, lift-off) yards.

Table 2-17: Rail Yards with Commodities Handled

| Rail Yards | Commodity |
|------------|-------------|
| Lafayette | Merchandise |
| Avondale | Merchandise |
| Lacassine | Merchandise |

Canadian National Railway

CN operates an intermodal facility in New Orleans. Its primary yards for other rail traffic are Mays Yard in New Orleans, and yards in Baton Rouge and Hammond. Major commodities transported include intermodal, automotive, iron, steel, petroleum and chemical products, forest and paper products, coal, fertilizers and grain products. Along the Mississippi River west of New Orleans, CN connects to grain export terminals at Reserve, Destrehan and Helvetia.

CSX Transportation

CSXT's primary facilities are listed in **Table 2-18**.

Table 2-18: CSXT Facilities in Louisiana

| Location / Designation | Yard Type |
|------------------------|--|
| Gentilly | Major merchandise switching yard |
| Gentilly-CSXT TRANSFLO | Bulk material railcar to truck transloading yard |

Gentilly-CSXT TRANSFLO is a bulk material railcar to truck transloading yard that is handling more than 300 products, including chemicals, plastics, food-grade products, ethanol, crude oil, dry bulk, and waste materials. Gentilly, the major merchandise switching yard, is CSX Warehouse Services that connects CSX services at the site with independent warehouse sites where commodities and consumer goods are stored. Commodities include food, building materials, paper, and metal.

Kansas City Southern Railway

KCS has no intermodal facilities in Louisiana. Primary carload (switching) yards for KCS in Louisiana are cited in **Table 2-19**.

Table 2-19: KCS Carload Yards in Louisiana

| Location | Facilities |
|--------------|--------------------------------|
| New Orleans | Shrewsbury |
| Shreveport | Deramus, Harriet Street Yards |
| Baton Rouge | Baton Rouge Yard |
| Lake Charles | Mossville and Rose Bluff Yards |
| Monroe | Monroe Yard |

Norfolk Southern Railway

NS has two primary yards in New Orleans, as shown in **Table 2-20**.

Table 2-20: NS Yards and Facilities in New Orleans

| Location | Yard Type |
|---------------|------------------------|
| Oliver Street | Intermodal and carload |
| Chalmette | Carload |

Union Pacific Railroad

UP primary yards in Louisiana are shown in **Table 2-21**.

Table 2-21: UP Yards and Facilities in Louisiana

| Location | Yard Type |
|-------------------------|------------------------|
| Avondale, New Orleans | Intermodal and carload |
| Gouldsboro, New Orleans | Carload |
| Livonia | Carload |
| Baton Rouge | Carload |
| Alexandria | Carload |
| Monroe | Carload |
| Hollywood, Shreveport | Carload |
| Riverside, Shreveport | Carload |

According to Union Pacific’s website, Union Pacific operates intermodal and carload yards that include services of trucking, lifting, storing, and repairing. The yards provide transload/warehousing commodities such as paper, cotton, frozen foods, pallets, and plywood. Union Pacific also operates classification yards; Livonia yard is a major classification yard. Also, UP serves three Gulf ports in Louisiana: Lake Charles, Baton Rouge, and New Orleans.

2.1.2.2 Connectivity with Seaports and Airports

- CN serves the Ports of New Orleans and Baton Rouge, interchanges with BNSF, NS, and NOPB in New Orleans, and interchanges with KCS and UP in both New Orleans and Baton Rouge.
- CSX serves the Port of New Orleans and interchanges with the NOPB.
- KCS serves the Ports of New Orleans, Lake Charles, Baton Rouge, and Natchitoches, and interchanges with the Class Is -BNSF, CN, CSXT, NS and UP and the short lines – ALM, BRS, DSSR, EACH, LAS, LNW, NLA, NOPB, and TIBR.
- Norfolk Southern serves the Port of New Orleans and connects with all of the Class I carriers in New Orleans (BNSF, CN, CSX, KCS, and UP). NS also interchanges traffic with NOPB.
- Union Pacific serves the Ports of New Orleans and Baton Rouge and interchanges with BNSF, KCS, CN, CSXT, NS and with NOPB.

There is no rail service connection to Louis Armstrong New Orleans International Airport (MSY). For more information, see Section 2.1.1.1-2.1.1.3.

2.1.2.3 Major Passenger Facilities

Stations

In addition to serving as gateways to trains, rail stations are also gateways to and from all cities served by these trains. Rail stations are a focus for activity that foster economic development, commercial endeavors, tourism, cultural activities, civic pride and historic preservation in their cities.

There are seven active Amtrak stations in Louisiana, all located in the southern part of the state. The most significant of these is the New Orleans Union Passenger Terminal (NOUPT), which is the point of origin or destination for all three Amtrak routes that serve Louisiana. These routes are the City of New Orleans from Chicago, the Crescent from New York, and the Sunset Limited to Los Angeles.

In addition to New Orleans, four stations (Schriever, New Iberia, Lafayette, and Lake Charles) are served by the Sunset Limited. These stations have tri-weekly service, seeing one train per day except for Thursday when no service is operated. Schriever and New Iberia are flag stops, at which the train will stop only if there is a passenger with a reservation to board or detrain at that station. The other stations are regular stops. The City of New Orleans makes a stop at Hammond, and the final station for the Crescent in Louisiana is at Slidell, which is a flag stop. The City of New Orleans and Crescent operate daily in each direction. Amtrak also advertises connecting bus service to Baton Rouge and Shreveport; however, these connections are operated independently from Amtrak by other operators, and Amtrak has no involvement with the bus stations.

Two of the stations, New Orleans and Hammond, are staffed by a ticket agent and offer baggage services. Only New Orleans has Amtrak’s QuikTrak automatic ticket vending machines. The other five are unstaffed. Unstaffed stations are facilities with either platforms with shelters or structures with enclosed waiting rooms, but no station employees besides part-time or volunteer caretakers that open and close station structures at train time.

Five of the stations are fully wheelchair accessible. New Iberia and Schriever have some barriers to wheelchair use and not all station facilities are accessible. Only one station (Slidell) is not wheelchair accessible.

The station in Lafayette was reconstructed and is now an intermodal transportation center. The Lake Charles rail station is a new station modeled after the old Texas & New Orleans Lake Charles station. Stations in Slidell and Hammond have been renovated, and a new, ADA-compliant, 550 –foot platform was constructed at the Hammond station in 2011.

Owned by the city of New Orleans, NOUPT is undergoing major renovations. NOUPT is seen as a key portal for hurricane evacuation, and the terminal and surrounding area are a focus for increased development by the city. These renovations are outlined in sections 3.2.2 and 3.5.2.

Of the seven Louisiana stations, New Orleans is the most prominent. All three trains service this station, and its ridership represents 86% of the Amtrak travel activity in the state.

New Orleans offers good transit connections via the Rampart-St. Claude streetcar line, which terminates at the New Orleans Union Passenger Terminal (NOUPT). This new streetcar line was completed in 2016. NOUPT also serves as the New Orleans Greyhound Terminal offering connections to intercity motor coach service. One Amtrak Thruway route, to Baton Rouge, LA, originates at the station.

Two stations, Lafayette and Lake Charles, are local transit centers offering connections with the local bus network. Hammond offers “on call” transit service to the Amtrak station while there are few transit connections except taxis at the remaining stations. There is long-term parking at New Orleans with three other stations offering on-site long-term parking. Three others offer long-term parking nearby, and only New Iberia lacks long term parking opportunities around the station area.

In addition to the passenger terminal, the NOUPT facility (leased and dispatched by Amtrak) includes platform tracks, yard tracks for servicing and staging trains and mainline tracks extending from Magnolia Street (connection to the yard tracks) to North Wye and from North Wye to Carrollton Junction (0.6 mi.). At Carrollton Junction NOUPT tracks split with one leg to East Bridge Junction (3.5 mi.) and the west leg to Southpoint Junction (2.0 mi.). In addition to yard tracks, the station complex contains employee parking, baggage facilities, crew base (on-board services and train crew), commissary, management offices, engine terminal and car maintenance facilities. These mechanical facilities perform turnaround servicing, maintenance and light overhauls.

ADA Compliance

Federal Transit Administration (FTA) Circular 4710.1 (November 4, 2015) provides guidance to recipients and subrecipients of FTA financial assistance necessary to carry out provisions of the ADA of 1990, Section 504 of the Rehabilitation Act of 1973, as amended, and the U.S. Department of Transportation's implementing regulations at 49 CFR Parts 27, 37, 38, and 39.

Amtrak's services are under Federal Railroad Administration (FRA) and DOJ jurisdiction. Consistent with FRA policy, construction of new facilities or modifications to existing facilities owned by or shared with Amtrak require review and approval by FTA and FRA.

The individual implementing regulations described under 49 CFR Parts 27, 37, 38, and 39 consist of the following:

- 49 CFR Part 27: Nondiscrimination on the Basis of Disability in Programs Financial Assistance.
- 49 CFR Part 37: Transportation Services for Individuals with Disabilities (ADA); (Subpart C – Transportation Facilities).

- 49 CFR Part 38: Americans with Disabilities Act (ADA) Accessibility Specifications for Transportation Vehicles; (Subpart F - Intercity Rail Cars and Systems).
- 49 CFR Part 39: Transportation for Individuals with Disabilities: Passenger Vessels; (Subpart C – Information for Passengers. Subpart D – Accessibility of Landside Facilities, Subpart F – Assistance and Services to Passengers with Disabilities).

Amtrak's *A Report on Accessibility and Compliance with the Americans with Disabilities Act of 1990*, produced in 2009, notes that four in-service Louisiana stations are required to be ADA compliant. These are Hammond, Lafayette, Lake Charles, and New Orleans. The other stations (New Iberia, Schriever, and Slidell) are flag stops, which are not required to be ADA compliant. All Amtrak upgrades are planned for 2024 and 2025.

The four in-service stations were assessed as to the levels of ADA compliance of their station structures, platforms and pathways. The assessments ratings are: Generally Compliant, for stations scoring above 80% on their compliance score; Partially Compliant, for stations scoring between 20% and 79%; and Minimally Compliant, for stations scoring lower than 20%. All four of the Louisiana stations which are required to be ADA compliant were rated as Partially Compliant in 2009. The platform at Hammond was the only Minimally Compliant structure. However, recent construction has addressed that shortfall. The same report cited preliminary cost estimates for improvements ensuring ADA compliance and a state of good repair for station structures, platforms, and pathways.

To address this issue, LaDOTD published the Louisiana Passenger Rail Station Assessment (2018) which developed standards for intercity passenger rail stations within the state. The purpose of the standards is to identify upgrades that would make Louisiana passenger rail stations compliant with the Americans with Disabilities Act of 1990 (ADA), and to provide a basic level of rail passenger comfort, safety, and security. The standards also identified potential enhancements beyond the basic requirements that provide a higher level of passenger comfort associated with an added cost. Combined, these incremental features and design elements would contribute to the quality of a passenger travel experience and provide better transportation options. Cost estimates to upgrade the facilities can be found in **Table 2-22**.

Table 2-22: ADA Upgrade Cost Estimates

| Station | Short-term Cost | Long-term Cost |
|--------------|-----------------------------|----------------|
| Lake Charles | \$77,000 + \$4,000 yearly | \$1,100,000 |
| Lafayette | \$50,000 + \$40,000 yearly | \$350,000 |
| New Iberia | \$130,000 | \$870,000 |
| Schriever | \$130,000 | \$570,000 |
| Hammond | \$22,000 + \$2,000 yearly | N/A |
| Slidell | \$22,000 | \$850,000 |
| Total | \$431,000 + \$46,000 yearly | \$3,740,000 |

Amtrak and the freight railroads are currently working to develop strategies and plans to meet FRA's new requirements requiring level boarding to accommodate passengers with disabilities. This is a very complex task integrating railroad clearance requirements, freight traffic, the mix of different boarding levels by type of equipment (Superliner, single-level, and commuter) that often operate on the same line, while fulfilling the requirements and spirit of the ADA statute.

Station Characteristics

The matrix in **Table 2-23** summarizes the existing Louisiana stations and their specific information.

Table 2-23: Characteristics of Louisiana Amtrak Stations

| Terminal | Routes Served | Facility Ownership | Track Ownership | Accessibility | Annual Ridership (2018) | Annual Station Revenue (\$ 2018) |
|---------------------|---|-----------------------------|--|-------------------|-------------------------|----------------------------------|
| Hammond | City of New Orleans | Hammond Chamber of Commerce | Canadian National Illinois Central Railway | ADA Compliant | 9,350 | 819,068 |
| Lafayette | Sunset Limited | City of Lafayette | BNSF | Non-ADA Compliant | 6,151 | 412,301 |
| Lake Charles | Sunset Limited | City of Lake Charles | UP | Non-ADA Compliant | 3,782 | 243,291 |
| New Iberia | Sunset Limited | Louisiana & Delta Railroad | BNSF | Non-ADA Compliant | 1,602 | 64,590 |
| New Orleans | City of New Orleans, Crescent, Sunset Limited | City of New Orleans | City of New Orleans | ADA Compliant | 181,544 | 17,668,780 |
| Schriever | Sunset Limited | N/A | BNSF | Non-ADA Compliant | 1,238 | 84,005 |
| Slidell | Crescent | City of Slidell | NS | ADA Compliant | 9,100 | 874,986 |

2.1.3 Objectives for Passenger Service in Louisiana

LaDOTD continues to search for possible ways to expand passenger rail service in Louisiana where appropriate including increasing the frequency of service between New Orleans and Houston and in 2018 LaDOTD developed a Passenger Rail Station Assessment. This was the first step in developing a guidance document for the state's passenger rail transportation planning activities. This guidance document is intended to guide LaDOTD and its partners in conducting corridor studies, defining service objectives and, then, ultimately implementing those services.

Amtrak is also working in Louisiana to improve service. In 2016, Amtrak Engineering completed a major track restoration project on the NOUPT that included the removal and replacement of terminal tracks 2-8 with welded rail and concrete ties. Additionally, the diesel shop tracks were rebuilt and the coach yard shop lead was removed, relocated and replaced in its original location. In 2017, Amtrak Engineering began a coach yard restoration. Yard tracks 1 and 3 were rebuilt and extended back to full length, allowing for improved switching operations.

Regardless of long-term changes in the number of passenger services, frequency and/or capacity of Amtrak, short-term improvements on other fronts could be implemented that would enhance the existing services. These are described below. They are based on the experiences of other states, which are described in greater detail in Appendix A.

2.1.3.1 Enhance Existing Services

Promotional Programs

Promotion of existing rail service is the first step in building awareness and usage of the rail mode. Noting the availability of Amtrak service and offering a link to the Amtrak website on state and local travel websites is a key first step in promoting rail service. Joint promotions can be developed that link with Amtrak, local transit carriers, hotels and attractions. All of the participants in this program could work together to provide detailed information on how to visit and enjoy Louisiana cities. This effort could also benefit small cities with historic downtowns.

Volunteers Program

Volunteers on the trains and in stations can offer personalized service and information as travelers make their journeys. They can also assist passengers and provide information about passenger services, the train route, ground transportation, and area attractions. These volunteers can also provide feedback to the state on issues important to maintain the quality of rail service. Onboard trains they can highlight on-time performance and recurring mechanical issues, while in stations they can cite potential security issues and maintenance issues.

Amtrak has had an active on-board volunteer docent program on-board its long-distance trains for more than 20 years. It began in the late 1980s in conjunction with the roll-out of the new Superliner equipment. Originally utilizing local historical and rail historical societies for management, training and docents, the program has now been adopted as a major public outreach program by the National Park Service (NPS). The program started in New Orleans in 2000. That year, National Park Service rangers created on board programs for Amtrak's City of New Orleans. Utilizing NPS ranger staff for oversight, training and management, NPS volunteer docents on the trains provide programs on 14 Amtrak long-distance train routes. In addition, two other volunteer programs are offered, one on the California Zephyr sponsored by the California State Railroad Museum, and the other on the Cardinal sponsored by the Collis P. Huntington Historical Society. These programs provide Amtrak passengers with information and discussions about the scenery and historical sites that the long-distance trains pass, which help transform a long-distance train trip into a "Land Cruise." For the National Park Service these programs provide a way to reach non-park travelers with information about national parks along the route (for future visits) and the natural, historic and cultural information of areas the train is passing through. In 2017, there were 600 Trails & Rails volunteer guides who gave 43,000 hours of time to the program, and they contacted 560,000 passengers.

All three long-distance trains serving New Orleans feature Trails & Rails programs. The Sunset Limited and City of New Orleans feature programs sponsored by the New Orleans Jazz National Historic Park, while the program on the Crescent between Atlanta and New Orleans is overseen by the Martin Luther King National Historical Park. More information can be found on the NPS website under Trails and Rails. Details on the trip segments and days the programs are offered is available on the Amtrak website under Trails & Rails. In most cases the programs are seasonal and are only offered on selected days of the week so any assistance the State of Louisiana or local Convention and Visitors Bureaus could offer in terms of funding or volunteer personal would be welcomed by Amtrak and the NPS.

Amtrak and Freight Rail Engagement

The state can also work with Amtrak and the freight railroads in addressing on-time performance and capacity issues. The state can serve as a catalyst in developing funding to resolve these issues. Amtrak has a regional manager who would be the first line of contact on service issues in Louisiana. The freight railroads carrying Amtrak trains are CN, NS and UP. Representatives from these railroads are known to LaDOTD staff and would be appropriate contacts to engage these Class I railroads on Amtrak service issues.

Multi-state Partnerships for New Service

Most proposed passenger rail routes will extend outside the boundaries of a single state. It is imperative that a strong partnership and working relationship be developed between the state partners or public entities responsible for jointly overseeing the service. The partnership will vary depending on the route of the service. Where the route endpoint is close to the state line one state may dominate. In other cases all states must be equal partners. As the Southern Rail Commission works toward restarting the Gulf Coast High-Speed Rail Corridor, several examples of best practice partnerships can be reviewed. These include: British Columbia, Washington and Oregon for the *Cascades*; Maine and the Massachusetts Bay Transportation Authority for the *Downeaster*; and the Midwest Regional Rail initiative – a coordinated effort by Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. These states are cooperating in designing a multi-state, multi-route network and key connections at the Chicago Hub. The focus is on constructing the core segments first even if investment in a member state is delayed many years.

2.1.3.2 Freight Railroad Participation

The FAST Act [49 U.S.C. 70201] requires USDOT to encourage each State to establish a State freight advisory committee, to consist of a representative cross-section of public and private freight stakeholders. The role of a State freight advisory committee is to advise the State on freight-related priorities, issues, projects, and funding needs; serve as a forum for discussion for State transportation decisions affecting freight mobility; communicate and coordinate regional priorities with other organizations; promote the sharing of information between the private and public sectors on freight issues; and participate in the development of the freight plan of the State. In compliance with this guidance, the Office is advised by the Multimodal Commerce Advisory Commission.

Another key priority 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 railroads' traffic needs must be a key element in developing corridor plans. Operations analysis and capacity simulation should be the first step in planning any service improvement. The corridor improvement strategy must not only improve and add capacity for the proposed rail passenger service, but also identify how freight service is maintained and improved as part of the investment. By identifying improvements that also improve rail freight service through joint investment, the opportunity for additional freight railroad capital investment is created. An additional issue concerning freight railroads is that even though the public investment may build sufficient capacity to operate passenger trains without delay to freight trains, the passenger investment may consume valuable right-of-way that results in future freight capacity investment being dramatically more expensive.

2.1.3.3 Continuing Outreach

A strong outreach effort to a wide range of stakeholders is also important in achieving the funding requirements required to support the corridor service and phasing plans developed by the Southern Rail Commission (formerly the Southern High-Speed Rail Commission). It is also a key requirement of

PRIIA and the Fast Act. Public transportation advocates, on-line cities, right-of-way neighbors, the tourism industry, downtown business interests, connecting transit networks, taxi/rideshare companies, the freight railroads, rail labor and rail line freight users all will benefit from an improved service and rail network. All will need a complete understanding of the need for a consistent funding source and the requirement that the service be expanded in distinct phases.

2.1.3.4 Funding Strategies

Funding availability will drive Louisiana's implementation strategy. Currently the lack of a clear strategy for the development of specific capital and operating funding flows prevents Louisiana from moving aggressively in developing additional rail passenger service. The lack of such funding impacts the award of federal funds and any private partnerships that might arise. However, the Rail Infrastructure Improvement Program ACT 222 (HB 394) was authorized in the 2019 legislative session for rail infrastructure improvements, primarily to upgrade short line railroads to the standard 286,000-pound carload capacity or to extend tracks to serve additional industries. However, no dedicated funding source was provided. However, when one is established, it may be a possible source.

If the state cannot be the lead agency there are several examples of counties (parishes) or regional agencies taking the lead in developing a rail improvement program. In the absence of a state-led program, it should be supportive of efforts by local parishes or agencies in developing such a program.

If funding remains a challenge, then the strategy would be a more conservative one. Implementation of actual rail service would be deferred, while Louisiana's efforts would be directed toward improving the Louisiana rail network and especially the New Orleans Rail Gateway and New Orleans Union Passenger Terminal and trackage. Improvements to the Gateway network are the linchpin for further development of all but one of the potential rail services noted in Section 2.1.1.3 and outlined in Chapter 3. In addition, one of the major benefits is expanded rail network capacity and improved velocity for freight trains in the New Orleans region. Focusing on the New Orleans Rail Gateway and leveraging both private and public funds, capital investment planning and construction would develop projects designed to lay the foundation for future rail passenger service while providing near-term benefits to key stakeholders, especially the freight railroad partners and freight shippers (by also improving rail freight service). Cities would also benefit through grade crossing improvement projects and improved livability. One critical facet is to contractually specify future rail passenger capacity that is added when each project is implemented. Finally, improving the freight rail network and improving its capacity improves Louisiana's competitiveness in the global marketplace.

Potential funding sources for station improvements include the local jurisdictions. As noted in Chapter 2, the cities of Slidell and New Orleans own their respective stations, and the cities of Lake Charles and Lafayette own their respective station platforms. The Hammond Chamber of Commerce also owns its station's platforms. As some of these stations were constructed at the beginning of the 20th century, they can qualify for nomination to the National Register of Historic Places. Louisiana has current and former rail stations listed. These listings qualify for consideration for annual federally matched grants of over \$50 million for maintenance and upkeep.

Additional funding information can be found in Appendices C-F.

2.1.3.5 Multimodal Integration and Transit Oriented Development

The improved rail passenger route is but one part of the transportation product. Two other key factors are transit, taxi/rideshare connections and transit-oriented development (TOD).

Developing the station as a transit hub enables passengers to reach their final destination in a convenient, timely manner whether the passenger's destination is within the city, in the region or another intercity journey. Several Louisiana stations including New Orleans Union Passenger Terminal, Lafayette and Lake Charles are multimodal terminals. Located downtown, they are within easy walking distance of nearby destinations and provide convenient transit connections. Using the rail station as a development tool, recreating the traditional downtown of the rail era where offices, retail and multi-family housing surround the rail station and are within easy walking distance of it, is the goal of TOD. TOD builds rail ridership and builds communities.

The plans for the Gulf Coast High Speed Rail Corridor include initiatives to assure that the proposed stations are multimodal gateways. The stations will be transit hubs, and in some cases regional transportation hubs, thus allowing convenient transfers that will take the passengers to their final destinations. A connection between the Kenner Station and the Louis Armstrong New Orleans International Airport is planned. In addition, planning efforts will be undertaken as the corridor is being developed to create walkable TOD around stations.

2.1.3.6 Projected Ridership

With federal grants and local match funds, the historical Gulf Coast High-Speed Rail service is expected to be partially restored by Amtrak. For the initial phase, it will provide roundtrip daily service from New Orleans, Louisiana to Mobile, Alabama. A ridership increase at New Orleans is anticipated. More information is provided in Section 3.4. There are no other major enhancements of Amtrak's current services planned. Future current corridor ridership should track, more or less, the growth in populations. **Table 2-24** shows ridership (boardings and alightings) for the last three full years at Louisiana stations and the projects ridership to Year 2038.

Table 2-24: Amtrak Ridership Forecast

| Station | 2016 | 2017 | 2018 | 2038 |
|---------------|----------------|----------------|----------------|----------------|
| Hammond | 12,111 | 10,799 | 9,350 | 31,742 |
| Lafayette | 6,696 | 6,154 | 6,151 | 6,735 |
| Lake Charles | 3,538 | 3,719 | 3,782 | 3,910 |
| New Iberia | 1,850 | 1,602 | 1,602 | 1,941 |
| New Orleans | 179,537 | 180,362 | 181,544 | 256,338 |
| Schriever | 1,455 | 1,294 | 1,238 | 1,572 |
| Slidell | 5,961 | 5,649 | 9,100 | 21,689 |
| Total: | 211,148 | 209,579 | 212,767 | 323,909 |

The forecasting method was to calculate the population increases in each of the parishes within 30 miles of a station year over year from 2018 to 2038, and then apply those factors to 2018 ridership to create a 2038 ridership estimate.

It is important to note that this forecast is unbounded and assumes no constraints on growth due to capacity limitations, e.g., train frequency or cars per train.

2.1.4 Performance Evaluation of Louisiana Amtrak Services

2.1.4.1 Ridership

The totals shown in **Table 2-24** indicate that in 2018 Amtrak ridership in Louisiana increased 2% from the previous year to over 212,000 riders. The major increase was in Slidell, where over 3,000 more boardings and alightings were reported.

2.1.4.2 Financial Performance

In FY 2018, the City of New Orleans' revenue covered 48% of its operating costs. This ratio is commonly known as the fare box recovery ratio. The figure for the Crescent was somewhat lower at 46%, while the Sunset Limited's was 26%. This poor result reflects the less competitive nature of tri-weekly service.

For the same time period Amtrak's overall long-distance services generated a 49% fare box recovery. Thus, it appears that two of the three long-distance trains serving Louisiana generate similar financial results as the Amtrak long-distance network as a whole.

2.1.4.3 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.

Reliability as measured by on-time arrivals is a key factor in the success of any passenger railroad service. It is also a key factor in changing the culture of the traveling public. Amtrak has historically been plagued by poor on-time performance. Amtrak has made reliability a priority system-wide by negotiating and incentivizing passenger train scheduling priority with the freight railroad companies. This has resulted in several years of improved on-time performance for all trains. Unfortunately, 2014 experienced a decline in on-time performance throughout the system. The total percent of on-time performance in 2012 was 83.0 % and it declined to 72.4% in 2014 and to 71.2 % in 2015. In 2016 percent of on-time performance increased to 79.1%, but it declined again to 74.6% in 2017 and 73.0% in 2018.

In 2018, Louisiana's Crescent and Sunset Limited were the worst-performing routes in the Amtrak system. According to Amtrak Fact Sheet Fiscal Year 2018, the on-time performance for the Crescent was 31.3% and 30.3% for the Sunset Limited. The Sunset Limited and Crescent have been poor performers due to the length of these routes. Competing with freight trains for space on the track significantly impacts on-time performance. As freight rail traffic increases, competition for limited rail capacity increases and it becomes more difficult for passenger trains and freight trains to operate together and Amtrak's on-time performance suffers. The poor on-time performance continues to have a significant impact on ridership.

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. In September 2018, Amtrak reported delays for the three routes which serve Louisiana in which Freight Train Interference was the greatest

cause of delay for the routes accounting for 47% of delays. Signal Delays were the second greatest cause of delay accounting for 29% of the total delays.

- **Train interference delays** are related to other train movements in the area. These can be freight trains as well as other Amtrak trains.
- **Track and signal delays** are related to the railroad infrastructure and/or maintenance work being done on the tracks or signaling systems. This includes delays from reduced speeds to allow safe operation due to the track problems.

2.1.5 Public Financing for Rail Projects

Louisiana has utilized both federal and state transportation funding programs where rail infrastructure improvements were eligible and appropriate. The following is a short summary of state and federal rail funding resources utilized over the recent past.

2.1.5.1 Louisiana Public Rail Funding Programs

Louisiana ACT No. 22 established a designated Rail Program within LaDOTD that is empowered to assist in funding rail improvements. However, there is no dedicated funding source associated with this authorization.

The following programs are available through state and other public agencies for rail-related financial assistance.

Louisiana Transportation Trust Fund

The Transportation Trust Fund was established in 1990. It is a permanent fund into which all of the receipts received in each year from all taxes levied on motor fuels are deposited. By other legislative acts, the receipts from automobile license registrations and renewals and sales taxes on aviation fuels are also deposited into the fund.

Although the enabling legislation for the fund does not include eligibility for rail projects, highway-related uses such as grade crossing eliminations and providing the matching share for federal grade crossing improvement funding are eligible uses.

LaDOTD Port Construction and Development Priority Program

As discussed in Section 1.5.1.1, the Port Construction and Development Priority Program, is administered by LaDOTD's Office of Multimodal Commerce and is can utilized Public-Private-Partnership (PPP) funds. The purpose of the Port Construction and Development Priority Program is to ensure that adequate landside facilities are available to meet a definite market need by providing guidance and public funds to build landside infrastructure; thereby, providing jobs and competitive transportation cost to move cargo, minimizing highway congestion, improving safety and reducing maintenance cost on our highways.

Any Louisiana public port authority may apply for funding of a proposed port project. The types of projects that shall be funded by the program are limited to the construction, improvement, capital facility rehabilitation and expansion of publicly owned port facilities including intermodal facilities and maritime-related industrial park infrastructure developments. Projects such as wharves, cargo handling capital equipment, utilities, railroads, access roads and buildings which can be shown to be an integral component of any proposed port project are eligible.

2.1.5.2 State and Locally Sponsored Rail Funding

Specific rail projects are funded from the state's annual capital construction program which provides funding for transportation projects around the state. In recent years Capital Outlay funding has been utilized to develop strategic rail projects. Louisiana is also a proponent of public-private partnerships with regard to the financing of rail capital projects. The projects listed below provide examples of rail projects that typically benefit rail operating efficiency and contribute to economic development within the state.

- Globalplex in St. John the Baptist Parish received \$1.35 million in State Capital Outlay funding for a rail siding;
- The Agri-Industrial Park at Lacassine in Jefferson Parish received \$500,000 through the Capital Outlay fund and an additional \$800,000 which was raised by farmers, landowners and other investors for a rail loading facility;
- The Port of South Louisiana in St. Charles Parish received an \$8.3-million budget appropriation by the State Legislature for a rail spur capable of holding 240 rail cars for area industries and a rail connection between the Kansas City Southern Railway and Canadian National Railway;
- The Port of Lake Charles is constructing a new export grain terminal, which includes an upgraded rail connection to a new bulk grain elevator, through a combination of public and private sources. The state is providing \$12 million in Capital Outlay funds to upgrade rail facilities as well as an additional \$6 million through the Port Priority Program; and the Port of Lake Charles will invest \$4.1 million to support the project. Union Pacific Railroad will provide up to \$6 million in rail infrastructure improvements;
- The rail system within the Port of Shreveport-Bossier was expanded to approximately 13 miles of track as part of a project funded through Port Authority's bonds; and,
- The New Orleans Rail Gateway Program is studying potential improvements to the flow of rail traffic to increase public safety in the New Orleans Metropolitan area through a public-private partnership using federal, railroad, local and state study funds.

2.1.5.3 Federal Rail-Related Programs and Funding

In 2008, the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and related appropriation bills provided funds directly to states for rail intercity passenger investments. PRIIA was followed by the Federal surface transportation legislation, Fixing America's Surface Transportation Act of 2015 (FAST Act) which allocated funding to states for highway, transit and railway programs over a 5-year period. The FAST Act calls for performance-based Benefit-Cost Analysis (BCA) to support prioritization and funding of State plans and programs.

The FAST Act established a new National Highway Freight Program with dedicated funding. Although the program is focused on highways, up to 10 percent is set aside for rail, ports and intermodal projects. The program includes funds apportioned to states on a formula basis, and FASTLANE (revised in 2018 to INFRA) competitive grants. This new Federal program provides new opportunities for Louisiana's freight rail system.

Eligible projects for INFRA/FASTLANE grants include railway-highway grade crossing or grade separation projects, or a freight project that is:

- An intermodal or rail project
- Within the boundaries of a public or private freight rail, water (including ports), or intermodal facility.

These funds can only support project elements that provide public benefit.

The following sections describe other programs and federal budget appropriations specifically available for rail assistance as well as programs that may be eligible for selected rail-related applications.

Federal Surface Transportation Rail-Related Programs

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 following is a brief description of rail-eligible programs available through these Federal Surface Transportation acts and Louisiana's participation where applicable.

- **The National Highway Freight Program** - This program makes a lump sum available to each State via the FAST Act for supporting improvements in safety, security and reliability of the freight network in rural and urban areas. Activities must be identified in a freight investment plan in the State's freight plan and the State may not use more than 10% of its apportionment for freight intermodal or freight rail projects. The freight plan must include performance targets by which the success of the program will be measured. Some of the approved activities include development and planning, construction, environmental impact reduction and technological improvements.
- **Restoration and Enhancement Grant Program (R&E)** - The purpose of the R&E Program is to provide operating assistance to initiate, restore, or enhance intercity passenger rail transportation. Eligible projects will include operating expenses associated with intercity passenger rail service, such as: staffing costs; diesel fuel or electricity costs; station costs; lease payments on rolling stock; routine planned maintenance costs; host railroad costs; train yard operation costs; and administrative costs. The total funding available for awards in 2019 under this program is \$25,000,000. There are no predetermined minimum or maximum thresholds for awards. However, R&E grants may not provide funding for more than three years for any individual intercity rail passenger transportation routes and may not be renewed. FRA strongly encourages applicants to identify and include other state, local, public, and private funding to support the proposed project in order to maximize competitiveness.
- **Consolidate Rail Infrastructure and Safety Improvements (CRISI) Program** - This program funds programs that improve the safety, efficiency, and reliability of intercity passenger and freight rail. The program began in 2017 and is making over \$244 million available for grants in FY 2019. In 2018, \$73 million was awarded via the CRISI Grant Program: \$17 million for Highway rail grade crossing improvements; \$10 million for line relocation or grade separation for initiation or restoration of intercity rail service. Technology, congestion, crossing and relocation are some of the areas that the grants will be focusing on. States, public agencies, Amtrak and Class II and III railroads are some of the groups that are eligible to apply for grants.
- **Special Transportation Circumstances Projects:** The purpose of STC Grants is to provide directed grant funding under the Consolidated Rail Infrastructure and Safety Improvements Program and the Restoration and Enhancement Grant Program to certain states that lack intercity passenger rail service or are not connected to the national rail system.
- **Better Utilizing Investments to Leverage Development (BUILD Discretionary Grant)** - Previously known as the Transportation Investment Generating Economic Recovery (TIGER Discretionary Grants), the BUILD Discretionary Grant program opens opportunities for states and local governments to obtain federal funding on multi-modal, multi-jurisdictional surface transportation projects that are more difficult to finance through traditional USDOT programs. The program provides unmatched flexibility in federal funding by directly financing public projects that have high impacts locally and nationally. The Consolidate Appropriations Act of 2018 made \$1.5 billion available for BUILD grants through September 2020, with \$25 million

being the maximum single grant award, and a maximum of \$150 million for a single State. At least 30 percent of BUILD funding would be directed towards rural areas according. USDOT notes that projects would be assessed on the basis of the following: safety, economic competitiveness, quality of life, environmental protection, innovation, partnership and additional nonfederal revenue for future transportation infrastructure investments.

- **Infrastructure for Rebuilding America (INFRA) Grants** - This competitive grant program advances and continues the Fostering Advancements in Shipping and Transportation for Long-term Achievement of National Efficiencies (FASTLANE) grant program established in 2015. INFRA provides dedicated, discretionary Federal financial assistance for highway and freight projects of national or regional significance. The FAST Act authorizes the INFRA program at \$4.5 billion for fiscal years 2016 through 2020. These grants are available to states, MPOs, localities, political subdivisions of state or local governments, special purpose districts or public authorities with a transportation function, Federal land management agencies, tribal governments, and multi-state or multi-jurisdictional groups of public entities. Awards under the INFRA program are made to both large and small projects. For a large project, the INFRA grant must be at least \$25 million. For a small project, the grant must be at least \$5 million. For each fiscal year of INFRA funds, 10% of available funds are reserved for small projects.
- **Surface Transportation Program (STP)** - Under the FAST Act, the STP is a block grant program that provides much greater autonomy to states and regional agencies to select and fund projects. There is continued eligibility for truck parking and surface transportation infrastructure improvements in port terminals for direct intermodal interchange, transfer, and port access.
- **Highway Safety Improvement Program** - This program is a core federal-aid funding program with the goal of achieving a significant reduction in traffic fatalities and serious injuries on all public roads. Funding from this program is set aside for Louisiana's Highway-Railway Safety Program with the purpose of reducing the number of fatalities and serious injuries at public highway-railway crossings through the elimination of hazards and/or the installation/upgrade of protective devices at crossings. The federal funding share for this program is 90%. Louisiana received \$4.3 million in 2019 from the Rail Highway Crossing Program.
- **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% of a capital project with repayment terms of up to 35 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 non-Class 1 railroads.
- **Rail Line Relocation and Improvement Capital Grant Program** - Under this program, a state (or political subdivision such as a parish) is eligible for a grant from FRA for any construction project that improves the route or structure of a rail line and involves a lateral or vertical relocation of a portion of rail line, or mitigates the adverse effects of rail traffic on safety, motor vehicle traffic flow, community quality of life, or economic development.
- **Railroad Trespassing Enforcement Grant Program (FY 2019)** - The program provides \$150,000 for enforcement of discrete railroad laws of state, county and municipal areas that reduces trespassing incidents and casualties in areas prone to trespasses. Due to high fatality rates in trespassing incidences nationally, the U.S. House of Representatives Committee on Appropriations directed FRA to develop national strategies of reducing such incidents. FRA identified four strategic areas: (1) Data gathering and analysis; (2) community site visits; (3) funding; and (4) partnerships with stakeholders. As a result, FRA provides grants to law enforcement for communities at risk of trespassing.

- **Capital Assistance to States – Intercity Passenger Rail Service Program** - Under this program, the FRA provides not more than 50% funding as part of the Transportation, Housing and Urban Development, and Related Agencies Appropriations Act, 2008. Grants are for the cost of capital investments and limited planning activities necessary to support improved intercity passenger rail services. The program makes available up to \$30,000,000 directly to the states. Examples of such improvements include the purchase of passenger rolling stock, the improvement of existing track to allow for higher maximum speeds, the addition or lengthening of passing tracks to increase capacity, the improvement of interlockings to increase capacity and reliability, and the improvement of signaling systems to increase capacity and maximum speeds, and improve safety.
- **Federal-State Partnership for State of Good Repair Grant Program (FY 2019)** - The Federal-State Partnership for State of Good Repair Grant Program provides \$396,000,000 for eligible capital projects to repair, replace, or rehabilitate qualified railroad assets to reduce the state of good repair backlog and improve intercity passenger rail performance. The program is to benefit public or Amtrak-owned infrastructure and facilities around the country.
- **Magnetic Levitation Deployment Grants Program (FY 2019)** - The program provides up to \$24,027,500 funding for pre-construction activities and capital cost for viable or existing magnetic levitation highspeed transportation corridor projects.

Eligible borrowers include railroads, state and local governments, government sponsored authorities, corporations, and joint ventures that include at least one railroad. Louisiana railroads and other public agencies are eligible to apply for loans under this program.

Federal Transit Administration (FTA)

The FTA provides financial and technical assistance to state and local public transit service providers including commuter railroads. The FTA oversees capital and operating grants to the transit providers, and ensure that grant recipients are managing their programs in accordance with Federal, statutory and administrative requirements. Under traditional grant agreements, carried forward in the FAST act as part of the New Starts, Core Capacity and other similar programs, local stakeholders are typically required to provide a 50% local match to receive Federal funds. In this way, the FTA and local project sponsors play a joint role in project development.

PRIIA Rail Capital Assistance Programs

This legislation authorized over \$13 billion between 2009 and 2013 for Amtrak and promoted the development of new and improved intercity rail passenger services. The act also established an intercity passenger rail capital grant program for states. States are required to identify passenger rail corridor improvement projects in their State Rail Plans. Though appropriations to these programs have stalled, that may change.

PRIIA established three new competitive grant programs for funding passenger rail improvements. Each of the three programs provided 80% federal funding with a required 20% 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 11 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/FAST Act must be appropriated annually.

2.1.5.4 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) and intermodal facilities, such as truck-rail transfer facilities. The federal share of NHS funding is 80%.
- **Congestion Mitigation and Air Quality Improvement Program** - This program funds transportation projects and programs that improve air quality by reducing transportation-related emissions in nonattainment and maintenance areas for ozone, carbon monoxide, and particulate matter. Examples of Congestion Mitigation and Air Quality (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. CMAQ funding decisions in nonattainment areas are made by metropolitan planning organizations, and funds are distributed by LaDOTD. The federal matching share for these funds is 80%.
- **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. Project funding decisions are made by LaDOTD with approval from the FHWA. The federal share for these funds is 80%.
- **Transportation Alternatives Program** - This program, which replaced the SAFETEA-LU Transportation Enhancement Program, offers funding opportunities to expand transportation choices and enhance the transportation experience through twelve eligible activities related to surface transportation. Rail related eligible activities include the rehabilitation of historic transportation buildings or facilities, the preservation of abandoned rail corridors, and the establishment of transportation museums. The federal share of project costs is 80%.
- **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 (SIBs)** - This program allows all states to set aside 10% 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% of the capitalization amount, and debt must be repaid within 30 years.

2.1.5.5 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. Department 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. EDA also provides disaster recovery grants.

Grant assistance is available for up to 50% of the project, although EDA could provide up to 80% for projects in severely depressed areas.

Past rail-related EDA grants to Louisiana have included the following:

- \$1.0 million to the Greater Baton Rouge Port Commission to help rebuild a vital 2.5-mile rail line serving the Inland Rivers Marine Terminal that was severely damaged by flooding in 2011; and
- \$2.0 million to the Lake Providence Port Commission and the Southeast Arkansas Economic Development District to rehabilitate an inoperable rail line of the North Louisiana Arkansas Railroad's line between Lake Village, AR and Lake Providence damaged by storms in 2011.

See Appendix I for possible eligible locations.

U.S. Department of Agriculture Programs

The U.S. Department of Agriculture (USDA) 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% of the project cost.

Eligible rail-related community facilities include transportation infrastructure for industrial parks and municipal docks. See Appendix I for possible eligible locations.

2.1.5.6 Louisiana Rail Funding Proposals

The 2015 Louisiana Statewide Transportation Plan provides a number of recommendations regarding public financial assistance for the State's rail system. These recommendations include:

- Modernization needs to bring the existing system to current standards of safety and reliability
- Capacity needs for expansion of the existing system
- Operational needs to improve system efficiency

Seven projects are identified for short/long term funding in the plan with an overall estimated cost of \$1.686 billion. Potential legislative proposals regarding rail-related funding in Louisiana are under consideration such as the following.

2.1.5.7 Funding Challenges

There is a large gap between the available funding for rail projects and the need. Even with the more modest estimate of \$1.15 billion in rail capital needs, LaDOTD will not be able to fund these projects. Louisiana motorists pay a 16-cent-per-gallon tax on motor fuel (gasoline and diesel fuel). Since 2010, the revenue from this tax has yielded approximately \$460 to \$470 million per year. Louisiana's motor fuel (gasoline and diesel) tax, inclusive of the 4-cent-per-gallon TIMED tax, ranked 41st, one of the lowest among the 50 states and the District of Columbia. Additionally, Louisiana's private automobile and truck registration fees are among the lowest in the country. Automobile registration fees for typical vehicles range from \$10 to \$82 based on the selling price of the vehicle. Single-unit truck registration fees for typical vehicles range from \$28 to \$563 depending on gross vehicle weight. The private automobile license fees generate approximately \$48.3 million annually. This revenue is deposited in the State's Transportation Trust Fund (TTF). Truck registration fees are estimated to generate approximately \$49.5 million annually, with revenue being deposited in the State Highway Improvement Fund (SHIF). Based on the most recent projections from the state's Revenue Estimating Conference, revenue from both sources is estimated to remain flat through state fiscal year 2018-19. Debt service on SHIF bonds is \$23 million per year until 2034. This underscores the importance of project selection processes and programs that address the most important rail needs, provide the greatest return on investment, and that, whenever possible, promote cost-sharing among partners and beneficiaries.

2.1.6 Safety and Security Programs in Louisiana

Rail safety has historically been and continues to be a priority for the railroads and LaDOTD. Safety has potential impacts on the general public and the efficiency of rail operations. Although the major railroads have long had their own police and security forces, the focus of rail security is more recent, with an emphasis on the potential threat of terrorists using the rail mode to disrupt transportation in general or to harm large numbers of citizens.

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

2.1.6.1 Rail Accident History

Railroad incidents/accidents for the last full 10-year period (2011-2018) in Louisiana are summarized in **Table 2-25**. These accidents include train 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; and highway-rail grade crossing accidents or incidents. Non-fatal conditions are reportable injuries occurring to employees or trespassers. Because property damage-only accidents are included, there is no direct correlation between the number of fatalities/non-fatalities and the total number of accidents.

Table 2-25: FRA Reportable Railroad Incidents 2011-2018 in Louisiana

| Category | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| Number of railroads included | 803 | 816 | 816 | 814 | 820 | 829 | 839 | 834 |
| Total Incidents | 11,535 | 11,079 | 11,655 | 12,260 | 11,851 | 11,480 | 11,973 | 11,752 |
| Deaths | 681 | 669 | 702 | 767 | 749 | 760 | 818 | 816 |
| Injuries | 8,455 | 8,462 | 8,752 | 8,805 | 9,130 | 8,701 | 8,876 | 8,258 |
| Train Accidents (not at crossings) | 2,032 | 1,766 | 1,853 | 1,886 | 1,930 | 1,724 | 1,784 | 1,943 |
| Deaths | 6 | 9 | 11 | 5 | 11 | 7 | 7 | 7 |
| Injuries | 217 | 465 | 328 | 140 | 563 | 433 | 317 | 205 |
| Human factor caused | 752 | 666 | 713 | 742 | 762 | 658 | 678 | 726 |
| Track caused | 695 | 591 | 570 | 546 | 532 | 516 | 477 | 547 |
| Equipment caused | 236 | 208 | 230 | 240 | 263 | 253 | 258 | 279 |
| Signal caused | 33 | 48 | 54 | 47 | 54 | 42 | 48 | 52 |
| Collisions | 157 | 156 | 154 | 146 | 137 | 78 | 82 | 94 |
| Derailment | 1,470 | 1,294 | 1,311 | 1,322 | 1,352 | 1,213 | 1,268 | 1,376 |
| HAZMAT releases | 21 | 26 | 19 | 15 | 12 | 14 | 12 | 20 |
| Highway- Rail incidents | 2,064 | 1,988 | 2,104 | 2,296 | 2,080 | 2,050 | 2,124 | 2,229 |
| Deaths | 246 | 231 | 232 | 262 | 237 | 255 | 271 | 260 |
| Injuries | 1,048 | 971 | 977 | 870 | 1,048 | 853 | 846 | 845 |
| Incidents at public crossings | 1,789 | 1,700 | 1,781 | 1,970 | 1,784 | 1,739 | 1,842 | 1,886 |
| Other Incidents | 7,439 | 7,325 | 7,698 | 8,074 | 7,841 | 7,706 | 8,065 | 7,580 |
| Deaths | 429 | 429 | 459 | 500 | 501 | 498 | 540 | 549 |
| Injuries | 7,190 | 7,026 | 7,447 | 7,795 | 7,519 | 7,415 | 7,713 | 7,208 |

Source: Federal Railroad Administration Office of Safety Analysis

A general fluctuating trend can be observed in all three types of reportable incidents: train accidents, highway-rail accidents, and other incidents, which are other than train accidents or crossing incidents that cause physical harm to persons. Louisiana's fluctuation in FRA reportable incidents mirrors that of the U.S. as a whole, as seen in **Table 2-26**.

Table 2-26: FRA Reportable Railroad Incidents 2011-2018 in All States

| Category | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| Number of railroads included | 803 | 816 | 816 | 814 | 820 | 829 | 839 | 834 |
| Total Incidents | 11,535 | 11,079 | 11,655 | 12,260 | 11,851 | 11,480 | 11,973 | 11,752 |
| Deaths | 681 | 669 | 702 | 767 | 749 | 760 | 818 | 816 |
| Injuries | 8,455 | 8,462 | 8,752 | 8,805 | 9,130 | 8,701 | 8,876 | 8,258 |
| Train Accidents (not at crossings) | 2,032 | 1,766 | 1,853 | 1,886 | 1,930 | 1,724 | 1,784 | 1,943 |
| Deaths | 6 | 9 | 11 | 5 | 11 | 7 | 7 | 7 |
| Injuries | 217 | 465 | 328 | 140 | 563 | 433 | 317 | 205 |
| Human factor caused | 752 | 666 | 713 | 742 | 762 | 658 | 678 | 726 |
| Track caused | 695 | 591 | 570 | 546 | 532 | 516 | 477 | 547 |
| Equipment caused | 236 | 208 | 230 | 240 | 263 | 253 | 258 | 279 |
| Signal caused | 33 | 48 | 54 | 47 | 54 | 42 | 48 | 52 |
| Collisions | 157 | 156 | 154 | 146 | 137 | 78 | 82 | 94 |
| Derailment | 1,470 | 1,294 | 1,311 | 1,322 | 1,352 | 1,213 | 1,268 | 1,376 |
| HAZMAT releases | 21 | 26 | 19 | 15 | 12 | 14 | 12 | 20 |
| Highway- Rail incidents | 2,064 | 1,988 | 2,104 | 2,296 | 2,080 | 2,050 | 2,124 | 2,229 |
| Deaths | 246 | 231 | 232 | 262 | 237 | 255 | 271 | 260 |
| Injuries | 1,048 | 971 | 977 | 870 | 1,048 | 853 | 846 | 845 |
| Incidents at public crossings | 1,789 | 1,700 | 1,781 | 1,970 | 1,784 | 1,739 | 1,842 | 1,886 |
| Other Incidents | 7,439 | 7,325 | 7,698 | 8,074 | 7,841 | 7,706 | 8,065 | 7,580 |
| Deaths | 429 | 429 | 459 | 500 | 501 | 498 | 540 | 549 |
| Injuries | 7,190 | 7,026 | 7,447 | 7,795 | 7,519 | 7,415 | 7,713 | 7,208 |

Source: Federal Railroad Administration Office of Safety Analysis

Total Incidents are the sum of Train Accidents, Crossing Incidents, and Other Incidents. Highway-railway crossing incidents are any impact between rail and a highway user (both motor vehicles and other users of the crossing) at a designated crossing site. Other Incidents are events other than Train Accidents or Crossing Incidents that cause physical harm to persons.

2.1.6.2 Rail Safety

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 Federal Railroad Administration (FRA), as outlined in the Rail Safety Act of 1970 and other legislation, such as the most recent Rail Safety Improvement Act of 2008. Many of FRA's safety regulations may be found in Title 49 Code of Federal Regulations Parts 200-299.

Rail passenger 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. As passenger equipment technology improves, FRA's Railroad Safety Advisory Committee makes recommendations to FRA for proposed improvements to continually upgrade existing safety standards. FRA then issues the final rule at the conclusion of its rule-making process.

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.

In Louisiana, LaDOTD and other state agencies focus on grade crossing safety and safety inspection.

Highway/Rail Safety Program

The Highway/Rail Safety Unit of the LaDOTD is responsible for collecting data on all public highway-rail grade crossings in conjunction with the railroads and the Federal Railroad Administration. The unit is also responsible for administration of the Federal Highway Railroad Safety Program and other highway-related safety activities involving railroads. The key elements of the efforts are described in the following paragraphs.

- **Federal Highway Railroad Safety Program** - As administrator of the Federal Highway Railroad Safety Program, the Highway/Rail Safety Unit maintains an inventory of grade crossings in the state and evaluates its 2,900 public at-grade crossings on an on-going basis. Some \$9 million of federal funds are used annually for improvements at multiple public grade crossings in the state. Projects are prioritized on the basis of:
 - Estimated vehicular and train movements and speeds at each crossing,
 - History of incidents of rail and motor vehicle collisions at each crossing,
 - Status of existing warning devices at the crossings,
 - Public and railroad input pertaining to the crossings, and
 - Engineering judgment.
- **Highway/Rail Safety Review of State Highway Projects** - Apart from the administration of the improvement program funds, the unit, on an on-going basis, evaluates state highway improvement projects that involve crossing rail lines to ensure reasonable and appropriate warning devices and other safety improvements are incorporated into the projects.
- **Support of Operation Lifesaver** - Operation Lifesaver is a national, non-profit education and awareness program aimed at reducing collisions, fatalities, and injuries at highway-rail at-grade crossings. The organization has coordinators and programs in 49 states nationwide (Hawaii excluded). The Louisiana Highway Safety Commission and contributions from the railroads fund Louisiana Operation Life Saver (LOL), the state program. LOL promotes education, law enforcement, and engineering solutions aimed at enhancing safety at highway-rail at-grade crossings. While not formally involved in LOL activities, LaDOTD's Rail Safety Unit supports the program by attending quarterly meetings, addressing engineering issues when requested, and informing the LOL coordinator of LaDOTD planning with regard to grade crossing improvements.
- **Funding Needs** - As noted earlier, the Highway/Rail Safety Program spends \$9 million per year on improving crossing safety. Of this amount, approximately \$4 million comes from the Federal Highway Safety Program (formerly Section 130 funds). Some of the remainder is obtained from other federal safety improvement funds not specifically earmarked for highways and another \$1 million is available for engineering. Over the last four and a half years the Rail Safety Unit has issued work orders for the railroads to make improvements at various public crossings throughout the state with an estimated total cost of about \$36 million. To minimize the interface between the rail and highway systems and to reduce grade crossing improvement costs, the

Highway/Rail Safety Unit has aggressively pursued crossing closures and they continue to be pursued along Class I railroads where reasonable alternate access is available.

- **Grade Separations** - As both railroad and highway volumes have increased LaDOTD began the Railroad Grade Separation Program in 2010. This program is dedicated to constructing grade separations at existing crossings where warranted. The Program is intended to eliminate at-grade highway-rail crossings that are resulting in collision incidents or roadway and rail delays and replace them with grade-separated crossings. Crossings can be identified as project candidates through various sources. Once a proposed grade separation meets the selection criteria, the crossing then becomes a project and is scheduled for construction letting as funding becomes available.

Louisiana Public Service Commission

RS 45§561 authorizes the Public Service Commission (PSC) to participate in the Federal Railroad State Safety Participation Program (49 CFR Part 212). The PSC retains jurisdiction over the closure of private railroad crossings. The PSC does not have the authority, however, to require a railroad facility owner or operator to alter or cease rail operations.

Hazardous Materials

The Louisiana State Police's Emergency Services Division of the Transportation and Environmental Safety Section (TESS) provides Level A response capabilities. The State Police's HAZMAT Section directs trained State Police personnel who conduct inspections of all transport modes.

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 and derailments caused by excessive speed, trains operating beyond their limits of authority, 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 5 million gross ton miles per mile with commuter or intercity passenger operations or any amount of toxic/poison-by-inhalation hazardous materials. Positive train control requirements currently exclude Class II or Class III railroads which have no passenger service. However, trains of Class II and III railroads that operate on lines that must have PTC are also required to be PTC-equipped. Minor changes to the requirements have been made by FRA based on comments received from the railroad industry.

In general, the rail industry held the 2015 deadline to be not achievable considering that approximately 60,000 miles of rail line would be affected at a proposed cost of \$12 billion over a 20-year period. Congress extended the implementation deadline to the end of 2018, with testing to be completed by the end of 2020. By the end of 2018, PTC was operating on 83.2% of the required Class I route, according to the AAR.

As envisioned for near-term implementation, PTC will be an overlay to the traffic management systems in place on today's railroads and will be aimed primarily at achieving safety benefits. For example, PTC safeguards will be integrated with existing Centralized Traffic Control (CTC) systems, whereby a dispatcher in a remote location directs trains by use of wayside signals over fixed train blocks between control points (only one train at a time can be in a train block). Because PTC will be an overlay system, the operational benefits to a railroad of PTC in the near term will be limited.

However, in the longer term, the work involved with implementing PTC will lay the foundations for dynamic train blocks, which will move with trains and ensure sufficient stopping distances based on train speed and weight characteristics. When achieved, the technology allowing for dynamic train blocks will provide operational benefits to rail carriers above and beyond the safety benefits. These include the promise of greater line capacity and reduced operating costs.

The regulatory criteria for PTC installation applies to most of the Class I railroad miles in Louisiana. As of 2019, PTC technology was installed on 100% of Class I engines, all wayside units and radio towers were in place, and all needed rail employees had been trained in the system. 91% of required route-miles were operating under PTC. With these safety investments nearly complete, additional capital will be available to the Class 1 railroads to begin new capital improvements.

2.1.6.3 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 Louisiana's involvement in rail security procedures.

Federal and State Roles in Rail Security

The primary agencies responsible for security related to transportation modes in Louisiana are the U.S. Department of Homeland Security (DHS) and the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP). These agencies have addressed transportation security largely through identifying critical infrastructure assets, developing protection strategies for these assets, and developing emergency management plans.

DHS 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

DHS also administers the Preparedness Grant Program which provides funding to state, local, tribal, and territorial governments, as well as transportation authorities, nonprofit organizations, and the private sector, to improve the nation's readiness in preventing, protecting against, responding to, recovering from and mitigating terrorist attacks, major disasters, and other emergencies. The grants reflect the Department's focus on funding for programs that address our nation's immediate security needs and ensure public safety in our communities. Transportation specific grants include:

- **Intercity Passenger Rail - Amtrak (IPR) Program**—provides \$10 million to protect critical surface transportation infrastructure and the traveling public from acts of terrorism and increase the resilience of the Amtrak rail system.
- **Port Security Grant Program (PSGP)**—provides \$100 million to help protect critical port infrastructure from terrorism, enhance maritime domain awareness, improve port-wide maritime security risk management, and maintain or reestablish maritime security mitigation protocols that support port recovery and resiliency capabilities.
- **Transit Security Grant Program (TSGP)**—provides \$88 million to owners and operators of transit systems to protect critical surface transportation and the traveling public from acts of terrorism and to increase the resilience of transit infrastructure.

- **Intercity Bus Security Grant Program (IBSGP)**—provides \$2 million to owners and operators of intercity bus systems to protect critical surface transportation infrastructure and the traveling public from acts of terrorism and to increase the resilience of transit infrastructure.

The lead state agency for rail security in Louisiana is the GOHSEP. The agency maintains a Critical Infrastructure Protection Plan to augment current security and assist facilities deemed critical to the nation and state in reducing their vulnerabilities. Fundamental to the plan is a critical infrastructure list for the state.

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). The STRACNET is comprised of a 32,000 mile interconnected network of rail corridors and associated connector lines most important to national defense. Louisiana's STRACNET system is shown in **Figure 2-8**. In Louisiana, several key railroad lines throughout the state are included in STRACNET. In addition to providing mainline corridor throughput capability, these lines also provide access to major defense contractors and logistics sites critical to our national defense.

Figure 2-8: Louisiana Area STRACNET Map



2.1.7 Rail Transportation Impacts in Louisiana

2.1.7.1 Economic Impacts

Rail Activity Impacts

Rail service is essential to Louisiana's economy. The total economic output in 2017 was \$1.925 billion, with \$729 million paid in total labor income. The total indirect business tax impact was \$62 million. The basic provision of rail service generates 3,528 direct jobs (8,863 total jobs including multiplier effects). The impact summaries of rail for 2017 in Louisiana are summarized in **Table 2-27**.

Table 2-27: Total Rail Activity Impacts

| | Direct | Indirect | Induced | Total |
|------------------------------------|---------|----------|---------|---------|
| Output ¹ | \$1,091 | \$357 | \$476 | 1,925 |
| Value Added ¹ | \$686 | \$173 | \$272 | \$1,131 |
| Labor Income ¹ | \$528 | \$78 | \$123 | \$729 |
| Indirect Business Tax ¹ | \$18 | \$15 | \$29 | \$62 |
| Employment ² | 3,528 | 1,723 | 3,612 | 8,863 |

Source: IMPLAN

¹ \$ in Millions of 2017 Dollars

² Number of Jobs

Total Job Impacts by Industry

While the above table shows the contribution of 100% of the rail industry, the following table shows which industries support the rail industry. These two pieces of information should not be combined (even if they were both in terms of jobs) since breaking down which industries support the rail industry really just shows where the direct effects of the rail contribution is coming from (other than households and government). Notice in the following table, total jobs sum to 3,186, which is smaller than the jobs in the above table. This is because the following table shows the number of rail jobs supported by each sector that uses rail, and therefore excludes the direct jobs from rail itself.

A review of the total rail-related job impacts by industry indicates the greatest number of associated jobs exists in Manufacturing, followed by Mining, and Construction. These industry job impacts are summarized by impact type in **Table 2-28**.

Table 2-28: Total Rail Activity Job Impacts by Industry

| Industry | "Direct" Rail Employees | "Indirect" | Induced | Total |
|--|-------------------------|------------|------------|--------------|
| Agriculture, Forestry, Fish, & Hunting | 31 | 4 | 2 | 38 |
| Mining | 128 | 15 | 13 | 156 |
| Utilities | 86 | 40 | 5 | 131 |
| Construction | 96 | 31 | 26 | 152 |
| Manufacturing | 1,739 | 264 | 49 | 2,052 |
| Wholesale Trade | 4 | 11 | 13 | 28 |
| Retail Trade | 4 | 19 | 18 | 41 |
| Transportation & Warehousing No Rail | 156 | 32 | 15 | 204 |
| Rail Transportation | 4 | 1 | 1 | 5 |
| Information | 6 | 8 | 5 | 19 |
| Finance & Insurance | 1 | 8 | 14 | 23 |
| Real Estate & Rental | 27 | 25 | 12 | 64 |
| Professional- Scientific & Technology Services | 13 | 11 | 23 | 47 |
| Management of Companies | 1 | 4 | 5 | 10 |
| Administrative & Waste Services | 10 | 6 | 10 | 27 |
| Educational Service | 1 | 2 | 4 | 7 |
| Health & Social Services | 16 | 17 | 34 | 67 |
| Arts-Entertainment & Recreation | 1 | 3 | 3 | 8 |
| Accommodation & Food Services | 19 | 12 | 11 | 42 |
| Other Services | 4 | 5 | 10 | 19 |
| Government & Non-NAICS | 3 | 6 | 39 | 47 |
| Total: | 2,349 | 524 | 313 | 3,186 |

Source: IMPLAN

Note: Totals do not add due to rounding.

Manufacturing –The 2,052 total manufacturing related jobs associated with rail transport account for 64% of the total 3,186 related job impacts. Of these 2,052 jobs, the vast majority (85%, 1,739) are directly related to rail transport. This clearly underscores the sector's extensive use of and reliance on rail transport.

Mining–Direct mining employment (128) comprises 82% of total mining industry employment related to Louisiana rail activity (156). The other 28 jobs reflect indirect (i.e., supplier-related) and induced (income re-spending related) employment impacts.

Construction – Direct Construction jobs (96) account for 63% of the total 152 jobs related to Louisiana rail activity.

Summary of Economic Impacts

The foregoing summary economic analysis clearly demonstrates that rail activities and services provide a vital role in Louisiana's economy. The associated employment, income, value added, output, and indirect business tax impacts span all industries and reach every region of the state. Key findings include:

- The impact of rail transport goes far beyond the 3,528 directly employed in the provision of rail transport. When the indirect/induced effects are included, rail-related employment in Louisiana totals 8,863 jobs. These total jobs represent 0.5% of the 1.9 million total jobs statewide, as

reported by the U.S. Bureau of Economic Analysis, inclusive of all types of employment (BLS 2017).

- Manufacturing is perhaps the most rail-integrated industry, especially the chemical/petrochemical subsectors. Tracing commodity flows to industry output indicates that 1,739 direct jobs arise in industries that use rail to either ship finished goods/products or receive inputs via rail. These direct manufacturing jobs (excluding multiplier effects) account for 2% of manufacturing sector employment in Louisiana.
- If railroads did not accommodate demand, consignees and shippers could use other modes (i.e., truck, water, air, etc.) to transport freight. However, the use of other modes would likely entail higher transport costs (due to long transport distances, price, logistics, etc.), and could increase overall demand (and resulting handling costs) for all users of other modes (both the diverted rail users as well as current users). The long-term result would be a partial migration of industry away from Louisiana to other locations with relatively better rail accessibility, and better modal options/mix.

While it would be erroneous to conclude that all these impacts are entirely and solely dependent on rail, and would disappear if rail completely disappeared, the findings do show that rail service facilitates business throughout the state. Specifically, these impacts highlight the magnitude of rail use by manufacturers across the state, as well as others who transport materials, component parts, and products. In particular, the rail-related economic impacts are primarily associated with chemical and petro-chemical movements.

More detailed analysis of the economic impacts of rail services in Louisiana can be found in Appendix B.

2.1.7.2 Socio-environmental/Livability Impacts

Impacts associated with rail transport go far beyond the quantifiable jobs, income, output, etc. Other social-environmental impacts arise concerning how rail affects “livability” in Louisiana.

Risk Mitigating, Sustainable Land Use

As a result of the devastation from Hurricanes Katrina and Rita, some of it the result of construction in high-risk areas, Louisiana undertook a major planning effort. The Louisiana Speaks Regional Plan was a comprehensive effort to guide the state to a safer, stronger future. The planning effort was driven by the human and financial cost of the hurricanes’ destruction, the desire to avoid future catastrophes and risk of a loss of insurability in Southern Louisiana.

The consensus vision builds on a sustainable recovery that restores coastal wetlands, constructs new strategic levees and directs rebuilding and new construction away from high risk areas (i.e., flood plains and unprotected areas subject to storm surge) to areas in and around existing communities. The goal is to reduce risk and build sustainable communities able to withstand major weather events. The focus in and around these existing cities, which generally offer greater existing protection and are less expensive to insure, will result in additional infill construction and an increase in density around the historic central core. Supporting this effort will be additional investments in flood/storm surge protection, economic zones and a coordinated high-capacity regional transportation system to better support the increased development. Floodplains and wetlands will be expanded and enhanced to better protect these core development areas.

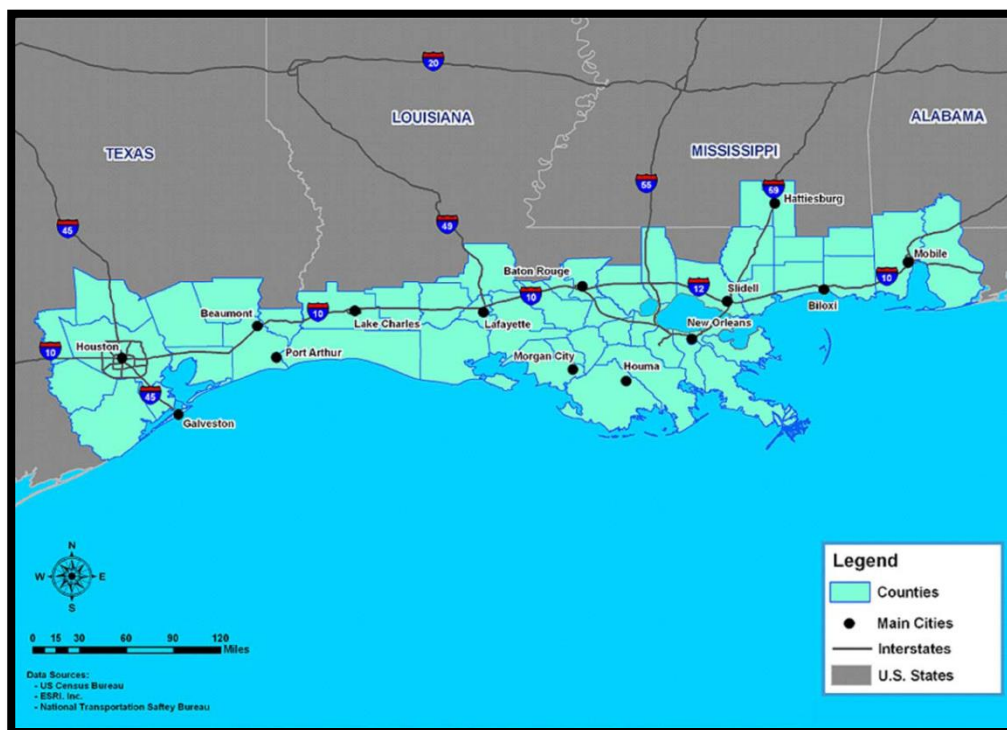
This strategy also helps to protect Southern Louisiana from the impact of rising sea levels. **Figure 2-9**, shown below, identifies the area on the Gulf Coast vulnerable to rising sea levels, changing precipitation patterns, and increasing storm frequency and severity. Expanded rail transportation, with its capacity

and ability to support more focused development, is a key tool in this effort. The plan has a strong focus on a New Orleans-Baton Rouge high-speed rail corridor for economic development and evacuation.

Land Use and Economic Development Impacts

The rail mode is less land intensive than other modes. Each line of track offers far more capacity than a highway lane. New control systems often allow rail capacity to be expanded without the need to add additional track. Because of peaking and the use of a highway lane in only one direction, highway expansion generally means adding at least two lanes, while rail expansion often requires just one additional track or sidings. Also, many rail rights-of-ways are wide enough to allow tracks to be added without requiring adjacent land. Finally, as rail traffic grows, lightly-used rail lines, once the main lines of predecessor railroads, could be upgraded to carry overhead freight. An example is the Meridian Speedway, linking Dallas/Fort Worth with Meridian, MS, and ultimately Atlanta and East Coast markets. The improved service on these upgraded rail lines could become the focal point for local industrial investment and improved agricultural transport making online communities and their businesses more competitive.

Figure 2-9: Climate Change Adaptation Concerns: US Gulf Coast



Source: Study area from, "Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: Gulf Coast Study, Phase I," a Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research (CCSP Report).

Rail improvements, both freight and passenger, can further economic development. More and faster passenger trains can increase mobility options for intercity travelers, commuters and the transit dependent. More efficient access to the freight rail system, such new intermodal facilities and improved short lines (capable of handling 286,000-pound maximum loaded railcar weights) can lower transportation costs for shippers. Benefits resulting from passenger and freight rail investments can

thus enhance the competitiveness of the state and the region. These benefits will serve to retain existing work forces and business, and attract new ones, bolstering economic development.

Energy Use and Costs

Numerous sources from a wide range of perspectives conclusively indicate that rail transport saves energy and, hence, is vastly more cost efficient than truck highway transport. These include:

- **U.S. Department of Energy** – The most recent data released by the Department of Energy’s Transportation Energy Data Book, released September 30, 2015, and based on 2013 data, indicates that Amtrak on average is 36% more energy efficient per passenger-mile than automobiles, 46% more efficient than personal trucks, and 11% more efficient than commercial aviation (measured in BTUs per passenger-mile). Amtrak onboard surveys indicate that the majority of rail passengers are traveling alone. This is because rail passenger service tends to be more economically attractive for the solo traveler than the automobile. As a key priority, focusing on shifting solo travelers from the auto to rail yields the greatest energy and greenhouse gas savings.
- **Association of American Railroads** – The AAR has noted that in 2018 one gallon of diesel fuel moved a ton of freight by rail 473 miles – four times the efficiency of trucks. The U.S. Environmental Protection Agency estimates that for every ton-mile, a typical truck emits three times more nitrogen oxides and particulates than a train. Related studies suggest that trucks emit 6 to 12 times more pollutants per ton-mile than railroads, depending on the pollutant measured. The American Society of Mechanical Engineers found that 2.5 million fewer tons of carbon dioxide would be emitted into the air annually if 10% of intercity freight now moving by highway were shifted to rail.
- **American Association of State Highway Officials** – AASHTO noted that for each 1% of long-haul freight currently moving by truck, if moved by rail instead, fuel savings would be approximately 111 million gallons per year; and annual greenhouse gas emissions would fall by 12 million tons. If 10% of truck traffic went by rail – via intermodal movements involving both railroads and trucks – the cumulative estimated GHG reductions from 2007 to 2020 would be 210 million tons. Finally, rail lines can be electrified, yielding additional efficiencies from regenerative braking, and creating opportunities for alternative power sources. Thus shifting of traffic to the rail mode will reduce the energy intensity of transportation while somewhat insulating users from dramatic changes in fuel prices.
- **National Waterway Foundation** – This organization found that fuel usage and associated transport costs vary considerably given the various cargo carrying capacities and the different vehicles required to transport goods. For example, one gallon of fuel can transport one cargo ton approximately 145 miles by truck. Rail can transport the same ton of cargo 3.2 times as far, 478 miles (roughly similar to the AAR figure) on a gallon of fuel. As seen in **Table 2-29**, the energy transport costs of rail transport are approximately 30% those of truck, based on a \$3.00 price per gallon in 2019. The rail transport cost comparisons are even greater when one considers: (1) labor costs; (2) operation and management costs associated with both vehicles and the infrastructure; and (3) safety and environmental costs.

Table 2-29: Ton Transport Distance and Energy Cost per Gallon of Fuel

| Mode | Ton-Miles | \$/Ton-mile |
|-----------------|-----------|-------------|
| Tug Barge | 647 | \$0.0049 |
| Rail Locomotive | 478 | \$0.0063 |
| Truck | 145 | \$0.02 |

*National Waterway Foundation;
<http://www.nationalwaterwaysfoundation.org/documents/NWF-revised-ppt-2017.ppt>*

Note: Assumes \$3.00 cost per gallon in 2019

Environmental Damages and Costs

Comprehensive and easily digestible data on environmental impacts and costs by mode are difficult to find. This is especially true at the time of this update (2019), because the Environmental Protection Agency (EPA) is not providing information on annual emissions from freight trucking. Nonetheless, various other data sources indicate that freight transport by rail and water vessels generate significantly less environmental impacts and costs than truck transport. Such information follows the general efficiency trends regarding trip distance and costs per ton-mile; both rail and water transport modes are significantly more efficient than truck.

According to the Association of American Railroads, rail is the most environmentally sound and safest way to move freight by land:

- Railroads can use fuel up to four times more efficiently than trucks.
- Using rail to move freight rather than trucks can lower greenhouse gas emissions by 75%.
- If instead of using the largest trucks to move freight, 10% of it moved by rail, 1.5 billion gallons of fuel would be saved annually, and over 17 million tons of yearly GHG emissions would be avoided.
- Freight rail is a proven remedy for highway congestion, and reduced highway congestion would increase highway safety.

From 1980 to 2018, the fuel efficiency of freight rail has increased by 101%.

Accident Rates and Costs

The rail mode is also one of the safest transportation modes. Each year more than 30,000 deaths and 2 million injuries from highway collisions were reported by the National Highway Traffic Safety Administration. In 2017, 760 highway-related deaths were recorded in Louisiana. In addition to the overwhelming tragedy caused by death, there is also a cost associated with these losses. The economic cost of these collisions to the U.S. economy is more than \$200 billion – about 1% of the U.S. Gross Domestic Product in 2018. Much of this cost is borne by the public at large either through public expenditures (law enforcement, medical, disability payments, etc.) or insurance premiums.

Per passenger-mile traveled rail transportation is exceptionally safe with much lower death rates than automobiles. As reported by the National Safety Council in 2017 the fatality rate for the automobile was 1.25 deaths per 100 million vehicle miles compared to 0.01 for passenger rail in 2016. The expansion of passenger rail service can provide a much safer travel option.

Freight rail transportation safety can fluctuate, as reported by the Federal Railroad Administration. All reportable accidents (derailments, fatalities, injuries, etc. on the national rail system) increased by 4% from 2009 to 2018.

External costs associated with freight transport include accidents. Comparisons of fatalities and injuries to ton-miles indicate an even greater external cost savings benefit associated with rail and water transport versus that of truck. Average data for 2017 suggest the average fatalities of rail transport per million ton-mile of freight transport (0.48) to be 20% that of truck transport (2.40), as shown in **Table 2-30**. The 5.29 injuries per billion ton-miles of freight train transport are only 14% that of truck (37.57). On a cents-per-ton-mile basis the picture is mixed: rail costs can be range from one-tenth to twice that of truck. Still, notable industry and societal cost savings arise with the use of rail transport versus that of truck.

Table 2-30: Accidents and Costs per Million Ton-Miles, by Mode 2017

| | Trucks | Trains | Waterborne |
|---|---------------------|---------------|--------------|
| Accidents | 154,665 | 11,964 | 2,254 |
| Injuries | 76,014 | 8,871 | 26 |
| Ton-Miles (Million) | 2,023 | 1,674 | 489 |
| Fatalities per Ton-Miles (Million) | 2.40 | 0.48 | 0.02 |
| Injuries per Ton-Miles (Million) | 37.57 | 5.29 | 0.05 |
| Costs per ton-mile (in 2017 cents) | 0.12 to 2.41 | 0.27 | N/A |

Source: Bureau of Transportation Statistics, <https://www.bts.gov/us-ton-miles-freight>; Federal Motor Carrier Safety Administration, <https://ai.fmcsa.dot.gov/CrashStatistics/>; Federal Railroad Administration, <https://safetydata.fra.dot.gov/officeofsafety/default.aspx>,
Note: Figures represent 2017

2.1.7.3 Freight Rail and Livable and Sustainable Communities

Livability can be thought of as a combination of various attributes which define how attractive a given place is to live. Researchers have found that the attributes associated with livability include clean air and water, safe streets, positive race relations, affordable homes, quality public schools, greenery and open space, uncongested roads and low taxes, among other things. The transportation system's ability to efficiently and safely move people and goods, without negatively impacting the environment in which it operates, plays a crucial role in how people view and rate the livability and sustainability of an area.

Neighborhood Revitalization

Freight rail plays a prominent role in the livability and sustainability of a community. The ability to efficiently transport goods and create access to economic centers is critical to the overall success of a region's economy. Time wasted due to transportation inefficiency and congestion has significant impacts on profitability and the ability to attract new business to a region.

The efficiency of rail freight is especially important in rural areas where agriculture, local industries and communities rely on freight shipping. Many communities have seen a loss or reduction in rail freight services in recent years. Improving, expanding and preserving the rail network can improve the competitive stature of local industries, agriculture and communities. A revitalized rail line can lower shipping costs, provide pricing power for local industries and agriculture vis-à-vis trucking, provide redundancy in the transportation network, and shield local industries and agriculture from predicted

increases in the cost of fossil fuel. Further, freight rail promotes a community's livability and sustainability through market access.

Congestion Impacts

Increased freight rail activity can help replace some of the existing truck travel. However, the connection between the rail network and the truck network typically occurs at ports or intermodal facilities. These facilities are usually located away from highways and interstates, which are designed to appropriately handle these larger vehicles. As a result, this separation forces the local roadway system to function as the link between these facilities. Local streets often have more congestion due to traffic signals, poor turning radii, inadequate overhead clearances, and narrow bridges, making access to terminals difficult.

Larger volumes of rail freight traffic can thus lead to increased congestion on local streets. Congestion degrades the efficiency of truck and rail carriers, which in turn reduces the quality of service to shippers. Overcoming these barriers will require local commitment and support for improvements ensuring proper connectivity with minimal negative impact is in place.

An example of a project that, when completed, will mitigate roadway congestion is the New Orleans Rail Gateway. That project includes concepts for both grade separations and road closures. These will allow more fluid road conditions by eliminating delays due to trains.

Pollution

While rail generates pollution and noise that negatively affect communities, such effects are often less than those associated with a trucking alternative. Train air pollution and noise deteriorate the quality of life of communities along the rail lines. Regarding the former, it is important to note that diesel locomotives are getting ever more efficient, and they are burning cleaner diesel fuels. Also, railroads are implementing "genset" locomotives, mostly for yard work like switching and assembling trains. 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 up only when needed. Thus, improvements in both the fuel and locomotives are working to mitigate the worst effects of train related air pollution.

- **Air** - According to the American Association of Railroads, rail is up to 4 times more fuel efficient than truck. In 2018 rail moved 1 ton of freight 473 miles on a gallon of fuel. Freight rail produced only 0.6 % of U.S. greenhouse gasses (GHG) in 2017. If 10% of the largest truck freight went to rail, fuel savings would be 1.5 billion gallons per year, and GHG would drop 17 million tons. Rail is also increasing efficiency by upgrading the freight fleet, putting more freight on the trains, using more computer software, reducing engine idle time, and focusing on employee training.
- **Noise** - One means to combat train horn noise is the implementation of railroad quiet zones. These are zones involving one or more highway-rail crossings where the locomotive engineer is not obligated to blow his horn approaching the crossing(s). The procedures whereby a community can implement a quiet zone are specified by the Federal Railroad Administration. Typically, improvements need to be made at the crossings to enhance safety at the crossings. Improvements can include things like four-quadrant gates, medians on approaches along with gates at the crossings, street closures, etc. Once the improvements designs are reviewed by the FRA and implemented, a quiet zone can be established. After the implementation locomotive engineers will not blow their horns approaching the zone, except when they feel it necessary to rectify an unsafe condition, such as pedestrians traversing the crossing despite the gates and flashing lights. Quiet zones are generally implemented by the communities in which the zones exist.

2.1.7.4 Passenger Rail and Livable and Sustainable Communities

Passenger rail transport generates positive effects, or benefits, that promote livable and sustainable communities. Passenger rail stations provide major opportunities for focused growth, especially in urban areas. These stations can function as local connection points for other feeder modes and create downtown transportation hubs for the community. This pedestrian-friendly development pattern reduces fuel use, air pollution and greenhouse gas emissions. It also reduces urban sprawl by satisfying housing and business needs in a more efficient manner.

Neighborhood Revitalization

Many of the areas around rail stations are existing neighborhoods. Improved rail service can be a catalyst for the revitalization of these older neighborhoods and improving housing stock. This revitalization can improve the quality of life by bringing not only improved transportation but new retail and service providers to the neighborhood.

These station areas increase the value of adjacent property, attract increased investment in existing development, and encourage new projects on vacant or underutilized lands in the area, further contributing to the local economy. Reducing urban sprawl will reduce the pressure to develop farms, forests and wetlands. Also compared to adding additional highway lanes, expanding rail lines in rural areas will require little if any additional land.

Rail has had a role in turning around the blighted neighborhood surrounding Denver Union Station into a cultural destination, complete with major league sporting events, fine restaurants, and new commercial complexes. The blossoming residential area surrounding Los Angeles Union Station is another example. Certainly, Denver and Los Angeles station areas could be reference points for NOUPT and its surrounding area.

Betterment of Public Health

Transportation planning and design has a direct impact on community health, livability and sustainability. The nation's dependence on automobiles in metropolitan areas has resulted in more sedentary lives. In 2016, the Surgeon General reported that over 75% of U.S. adults were overweight or obese. The focused growth around rail stations foster communities where destinations are within easy walking or bicycling distance. The Surgeon General indicates that walking or cycling, key methods of access to rail stations, are great ways to build physical activity into a daily routine.

Public transit use is also associated with healthy behavior including higher rates of walking. Public transit users walk 8.3 more minutes per day on average compared to those who do not, leading to lower rates of obesity. These health implications further show rail's ability to contribute to a more livable environment and encourage healthier land use patterns. While less obvious for intercity riders, these benefits would be real for future Baton Rouge – New Orleans commuter rail riders as they would walk from the station stop to work centers.

Enabling Multimodalism

Rail transportation plays 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 Louisiana's residents, encourage compact, smart growth development, and help reduce 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. With new light rail connections, NOUPT is a good example of how a station can further multimodalism.

Rampart-St. Claude Streetcar Line

In 2010, the RTA announced it had secured \$45 million in federal funding to construct a new streetcar line along Loyola Avenue between Canal Street and the Union Passenger Terminal at Earhart Boulevard. After completion of the 1.5 mile route in 2013, the RTA began a second phase of construction to extend the line down Rampart Street and St. Claude Avenue, ending at Elysian Fields Avenue. The expansion, completed in 2016, had the ultimate goal of connecting communities between the Central Business District and the Marigny and providing additional connections between Amtrak and bus services.

Since the completion of the Loyola Avenue section of the line, the surrounding areas have seen a growth in new construction and revitalization of previously unused/underused sections of downtown New Orleans. The establishment of this new line also led to the creation of the newly developed “South Market District.” Encompassing a 5-block area along the line, the new mixed-use neighborhood boasts an array of high-end shops, restaurants, and several luxury accommodation options. The neighborhood currently includes 1,000 luxury apartments and 200,000 sf of commercial space.

2.2 The State’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 Louisiana. Trends which impact both passenger and freight rail include; demographic and economic growth factors, transportation, and the future outlook by industrial sector. These factors all contribute to the projected demand and growth for both passenger and freight, although many of these factors are difficult to incorporate into demand forecasting. The following discussion provides a historic base for rail service in Louisiana and identifies areas of Louisiana’s future economy that will be transportation dependent.

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, Louisiana companies are more dependent than ever on integrated, agile, and efficient multimodal transportation networks to sustain and enhance their competitive position in the marketplace.

2.2.1 Louisiana Demographic and Economic Growth

2.2.1.1 Population

In 2018 the population of Louisiana was 4,659,978, which ranked 25th among U.S. states. The state’s population increased 1.5% over the last two years, compared with a 1.7% population growth rate for the U.S. as a whole. However, since 2010 the state’s population has increased 2.8%. It is projected that the state’s population will increase to 5,931,000 by 2040.

The median age in the state is 36 years, below the national median age of 38.2 years in 2018. In 2017, 84% of the population over 25 graduated from high school, with 23.4% receiving a bachelor's degree or higher compared with 30.9% nationally.

2.2.1.2 Employment

In 2017, Louisiana's average annual employment totaled 1.9 million. Employment is expected to increase to 2,423,000 in 2040. These figures include wage and salary workers, and do not include farm and nonfarm self-employed individuals.

2.2.1.3 Personal Income

Louisiana workers earned total wages of \$88.7 billion in 2017, with average weekly earnings of \$894.

2.2.1.4 Industrial Outlook by Sector

Appearing below are brief summaries of the outlook for industries that generate over half of tons shipped by rail in Louisiana. The rail borne shipments of the five industrial noted sectors below comprise 82 million tons of shipments inbound, outbound, through and within Louisiana; or 56% of the 144.4 million tons shipped by rail in 2017. Forecasted growth rates of major commodities handled by rail in Louisiana for the 20-year period 2017 to 2038 are discussed below.

Chemicals and Allied Products

In aggregate terms, the largest commodity shipped is Chemicals and Allied Products. While mostly an outbound commodity, significant volumes are shipped inbound or through the state. Intrastate shipments are minor. Overall, chemical shipments in Louisiana are expected to grow at 2.8% over the 20-year period from 2017 to 2038 – a slightly higher rate than an historic domestic growth rate of 2% per year.

BASF, a major chemical producer, reported in 2011 that it expects trends in chemical production, excluding pharmaceuticals, to achieve 2.9% growth in the U.S. in the current 2019-2021 period. The company pointed to the positive impetus resulting from the availability of large volumes of unconventional extracted natural gas (i.e., hydraulic fracturing) as a spur to growth of domestic chemical production. While natural gas from hydraulic fracturing will continue to increase the production of chemicals, the company forecast somewhat reduced industrial growth on the demand side.

The American Chemistry Council (ACC) has a more optimistic scenario. It projected 3.6% growth in 2019, 3.1 % in 2020, and 2.2% in 2021. "Total U.S. chemical exports were \$140 billion in 2018 accounting for 10% of all U.S. goods exports and 9% of all global chemicals exports ... U.S. industrial chemical exports are expected to expand on average 5.2% per year through 2024."

Coal

In Louisiana, Coal is shipped mostly through the state, though significant volumes are shipped inbound from other states. In the aggregate, Coal shipments in Louisiana are expected to decline slightly over the 20-year period from 2017 to 2038, though there may be some positive activity in the near term, driven by exports.

Two coal-producing regions: Western Wyoming and the Interior Region. Domestic production will be down to 654 million tons by 2025 from 735.5 million tons in 2019. Coal production is expected to drop 8% by 2050.

U.S. coal exports are expected to total 116 million tons in 2018 according to the EIA's February 2019 Short-Term Energy Outlook. This is a 19% increase over 2017 exports. The EIA predicts that international market conditions will lead to a decrease in coal exports, down to 96 million tons in 2019 and 88 million tons in 2020.

Farm Products

Farm Products cover the spectrum of agricultural products shipped by rail. In Louisiana, farm products are mostly inbound or they travel through the state. Outbound and intrastate shipments are relatively small. In the aggregate, rail borne Farm Products in Louisiana are expected to grow 3.4% over the 20-year period from 2017 to 2038.

Nonmetallic Minerals

The majority Nonmetallic Minerals movements are inbound or through-state shipments. Outbound shipments and intrastate shipments are relatively small.

Nonmetallic Minerals are those which do not yield new products on melting. Coal, salt, clay, marble are some examples. In this analysis, coal is considered under its own category.

In terms of aggregate rail shipments in Louisiana, Nonmetallic Minerals are anticipated to grow at 4% over the 20-year period from 2017 to 2038.

Food and Kindred Products

This grouping comprises a multitude of commodities including meat products, dairy products, canned and frozen projects, grain mill products, sugar, fats and oils, beverages, etc. In Louisiana, rail borne shipments of Food and Kindred Products are fairly evenly split between inbound, outbound and through-state shipments. Intrastate shipments are minor.

In the aggregate, Louisiana's rail borne Food and Kindred Products shipments are forecast to grow 1.8% over the 20-year period from 2017 to 2038.

2.2.2 Freight Demand and Growth

Louisiana rail freight flows in 2017 are analyzed by directional flow and commodity type. The 2017 IMPLAN economic research database is used in the analysis, incorporating the U.S. Surface Transportation Board's (STB) rail Carload Waybill Sample for 2017. Rail freight movement analysis for Louisiana indicates that 144 million net tons were moved in 2017 comprised of 2 million rail carloads with a total value of \$126.1 billion. Aside from the approximately 5% attributable to intrastate movements, the tons, carloads, and value were split roughly evenly among the three major directions of movement (i.e., inbound, outbound, and through). Projected rail freight growth through year 2038 is then presented by direction and commodity type.

This analysis also discusses rail freight corridors in Louisiana and relevant national rail freight corridors. Maritime port-rail connectivity issues are discussed as they are anticipated to grow in importance for the state to benefit from increased international trade. Changes to the rail-served trade from infrastructure changes such as the Panama Canal expansion, and the development of interstate rail freight corridors, are also analyzed.

2.2.2.1 Rail Freight Commodity Flows by Direction

Louisiana plays an important role in the nation's freight rail transportation. In 2017, Louisiana's railroads carried a total of 144 million net tons and moved 2 million carloads of goods, for a total value of \$175 billion (**Table 2-31**). While through traffic leads directional movements (52.8 million tons, 37%

of total), both interstate inbound (41.3 million tons, 29% of total) and outbound (39.7 million tons, 28% of total) movements are significant. Aside from jobs with railroads, the through freight has little positive effect on Louisiana's economy. Most of the through traffic resulted from flows between the markets located in Southwest, Southeast and Mountain regions.

Table 2-31: Louisiana Rail Freight by Direction (2017)

| Description | Tonnage* | | Carload* | | Value (\$mil)** | | Average Value (\$/Ton)** |
|---------------------|--------------------|-------------|------------------|-------------|-----------------|-------------|--------------------------|
| | Amount | Percent | Amount | Percent | Amount | Percent | |
| Interstate Inbound | 41,309,849 | 29% | 551,503 | 26% | 39,410 | 22% | \$954 |
| Interstate Outbound | 39,728,737 | 28% | 599,233 | 28% | 68,175 | 39% | \$1,716 |
| Intrastate | 10,523,748 | 7% | 122,161 | 6% | 16,480 | 9% | \$1,566 |
| Through | 52,834,696 | 37% | 854,135 | 40% | 51,250 | 29% | \$970 |
| Total: | 144,397,030 | 100% | 2,127,032 | 100% | 175,314 | 100% | \$1,214 |

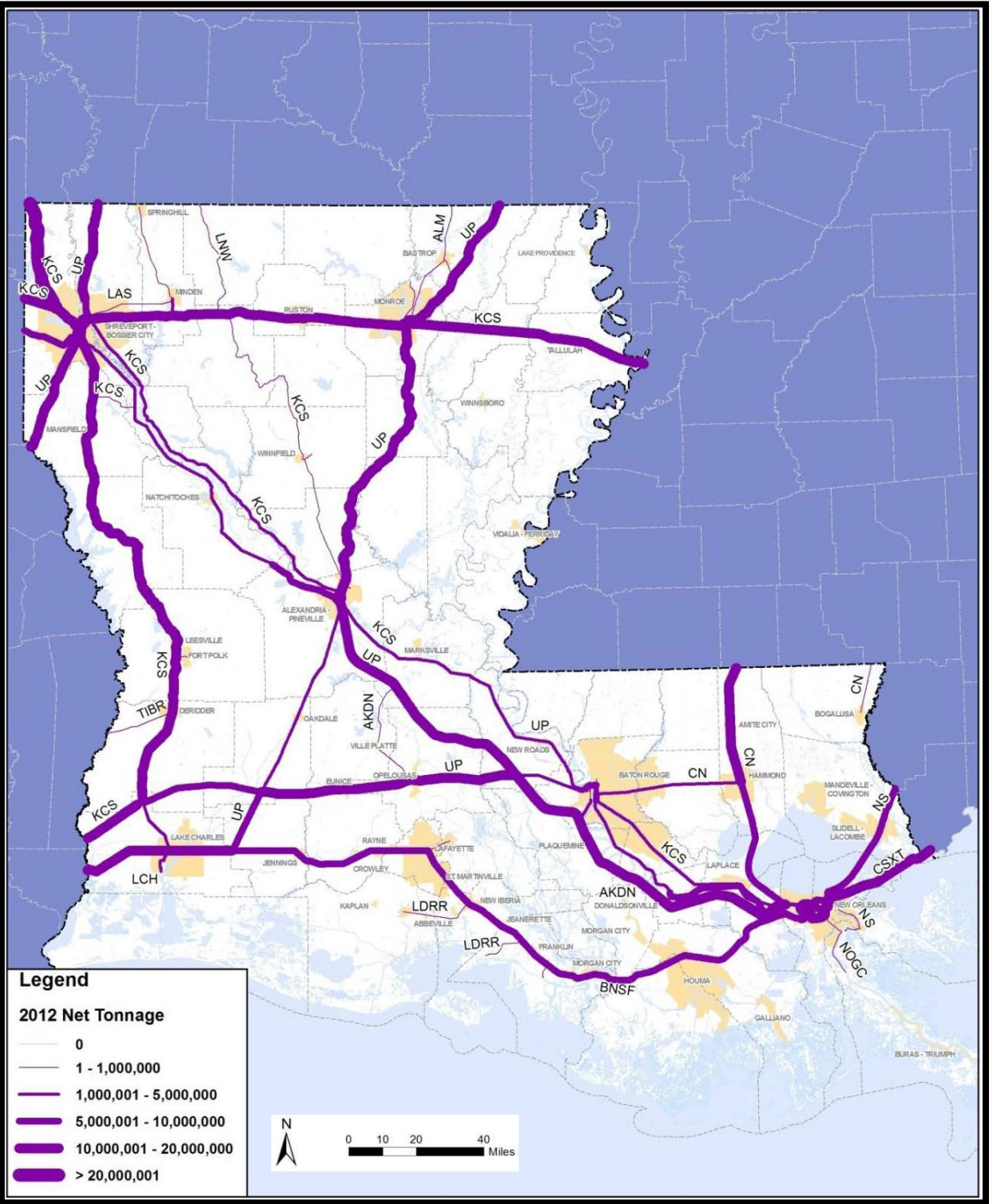
*Source: Prepared by UNOTI based on WAYBILL DATA for 2017.

**2017 dollar, estimated based on values in 2015 Louisiana State Rail Plan and inflation from the U.S. Bureau of Labor Statistics.

Inbound, outbound and intrastate freight flows generate commerce in Louisiana. Outbound freight flows represent products mined or produced in Louisiana or imported through Louisiana that are railed to other states. Inbound freight flows represent commerce that is transported into the state for consumption or value-added processing or onward export. And, intrastate movements represent Louisiana economic activity or trade at both the origin and termination of the rail movement. Hence, inbound, outbound and intrastate freight flows facilitate commerce by creating employment opportunities for Louisiana's citizens.

Although the state received slightly more goods than it shipped out in terms of tonnage (41.3 million, 29%), the carloads of outbound goods were notably higher than the carloads of inbound goods (599,000 carloads, 28%). Internal freight represents commodities that flow between counties within Louisiana. Such internal rail movements account for only 7% of the total rail tonnage. Tonnage densities handled on Louisiana rail lines are shown in **Figure 2-10**.

Figure 2-10: Total State Rail Freight Density (2012)



Source: -Louisiana Freight Mobility Plan, 2017.

Inbound Interstate Freight

Table 2-32 presents tonnage of Louisiana's 2017 inbound commodities, which totaled 41.3 million tons at 551,503 carloads. Principal inbound commodities include Coal, Hazardous Materials, Chemicals and Allied Products, Farm Products, Nonmetallic Minerals, and Food or Kindred Products representing a combined 35.1 million tons or 85% of total inbound movements.

Table 2-32: Inbound Rail Freight Traffic by Major Commodities (2017)

| STCC | Commodity | Tonnage | | Carload | |
|---------------|---|-------------------|-------------|----------------|-------------|
| | | Amount | Percent | Amount | Percent |
| 11 | Coal | 10,301,654 | 25% | 86,763 | 16% |
| 49 | Hazardous Materials | 7,697,135 | 19% | 87,911 | 16% |
| 28 | Chemicals or Allied Products | 6,575,036 | 16% | 70,750 | 13% |
| 1 | Farm Products | 3,781,806 | 9% | 33,298 | 6% |
| 14 | Nonmetallic Minerals; except Fuels | 3,483,543 | 8% | 32,054 | 6% |
| 20 | Food or Kindred Products | 3,289,811 | 8% | 36,403 | 7% |
| 37 | Transportation Equipment | 1,597,336 | 4% | 74,393 | 13% |
| 32 | Clay, Concrete, Glass or Stone Products | 877,164 | 2% | 9,548 | 2% |
| 29 | Petroleum or Coal Products | 864,806 | 2% | 9,840 | 2% |
| 46 | Miscellaneous Mixed Shipments | 824,440 | 2% | 62,400 | 11% |
| | Other | 2,017,118 | 5% | 48,143 | 9% |
| Total: | | 41,309,849 | 100% | 551,503 | 100% |

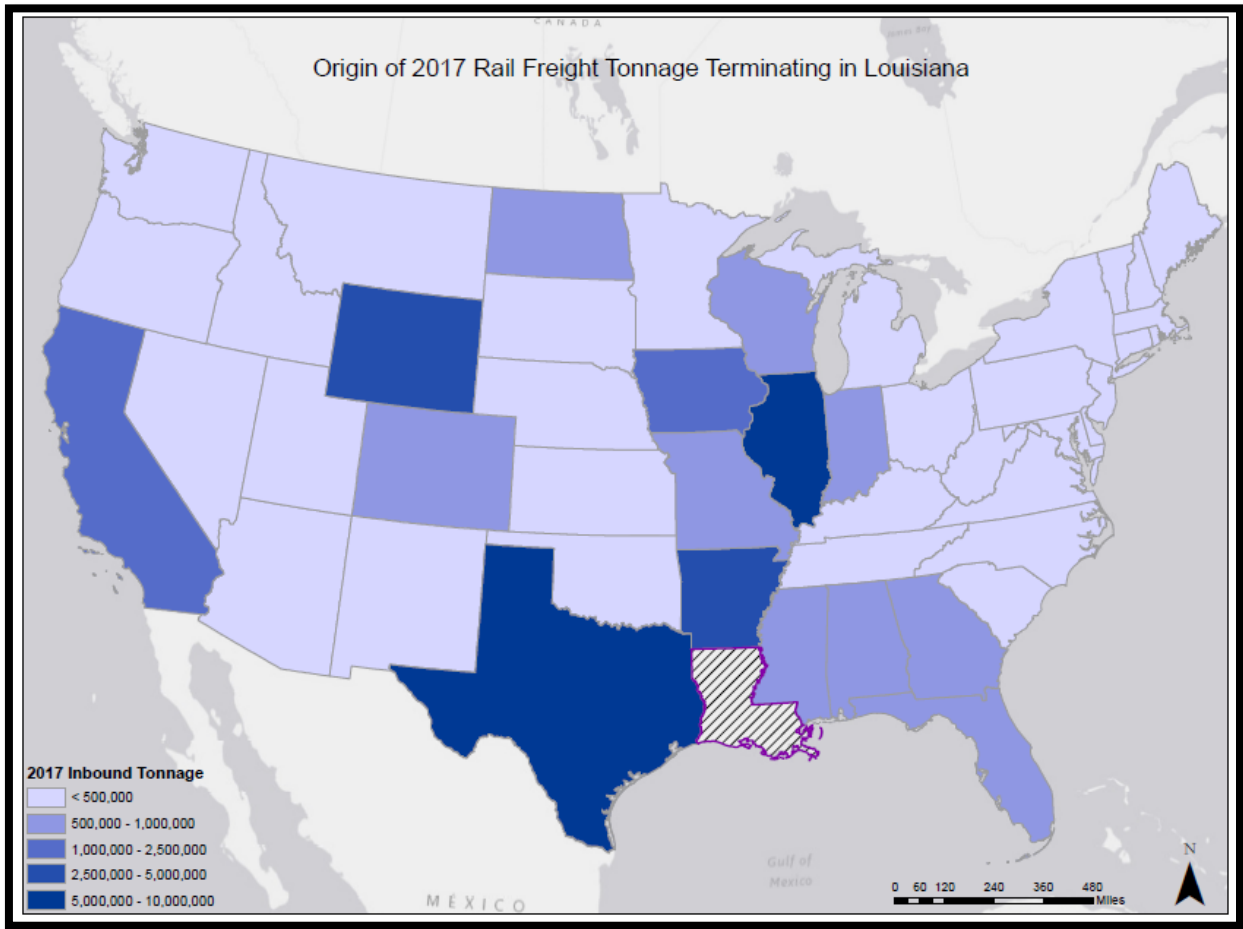
Source: UNOTI, based on Waybill data for 2017

Inbound Tonnage Origin

Major inbound tonnages in 2017 are shown by state of origin in **Figure 2-11**. Illinois-originating tonnage of 9.8 million is dominated by coal (6.7 million tons). Texas shipped 9.3 million tons of rail freight into Louisiana, led by Chemicals/Allied Products which comprised 49% (4.6 million tons) of Texan commodities. Coal accounted for 3.3 million tons from Wyoming's 3.6 tons to Louisiana. Arkansas shipped 2.2 million tons of Nonmetallic Minerals of its 3 tons of commodity to Louisiana.

Louisiana State Rail Plan

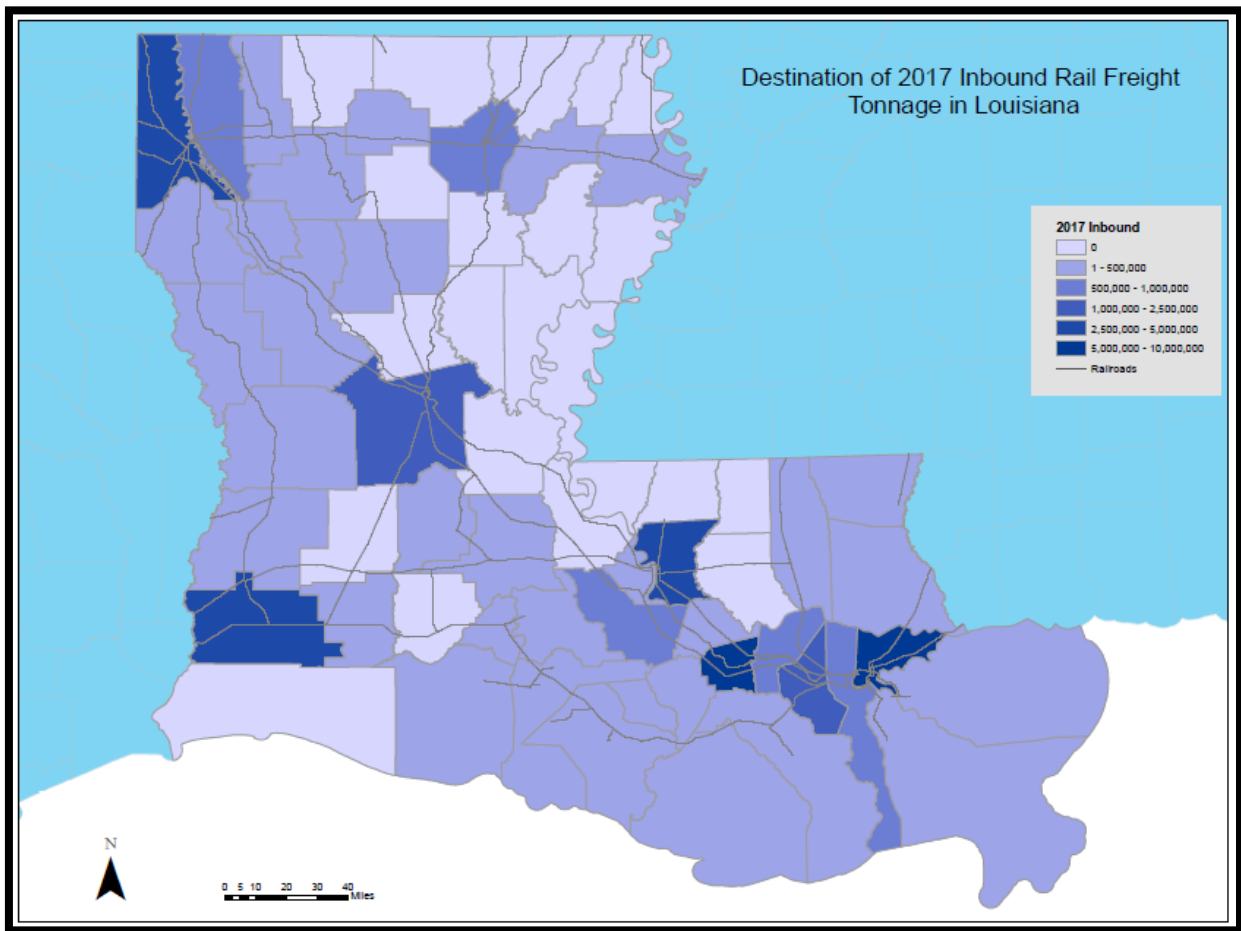
Figure 2-11: Inbound Louisiana Rail Freight by State of Origin (2017)



Source: Prepared by UNOTI based on Waybill Data for 2017.

Inbound Tonnage Destination. Major inbound tonnages in 2017 are shown by parish destination in **Figure 2-12**. With 9.7 million tons, Orleans Parish received 23% of total inbound shipments (41.3 million tons), of which 4.4 million were Chemical/Allied Products. The major destination of coal was St. James Parish and Calcasieu Parish. East Baton Rouge Parish received third largest inbound shipments, of which majority was Hazardous Materials. The vast majority of Nonmetallic Minerals went to Caddo Parish and Ouachita Parish.

Figure 2-12: Inbound Louisiana Rail Freight by Parish Destination



Source: Prepared by UNOTI based on Waybill Data for 2017.

Outbound Interstate Freight

Table 2-33 presents the outbound commodities, which totaled 39.7 million tons in 2017. Chemicals and Allied Products dominated both tonnage movements (14.8 million tons, 37% of total tons). Hazardous Materials combined with Pulp, Paper or Allied Products combined with Petroleum or Coal Products and Food and Kindred Products account for another 19 million tons (85% of total tonnage moved).

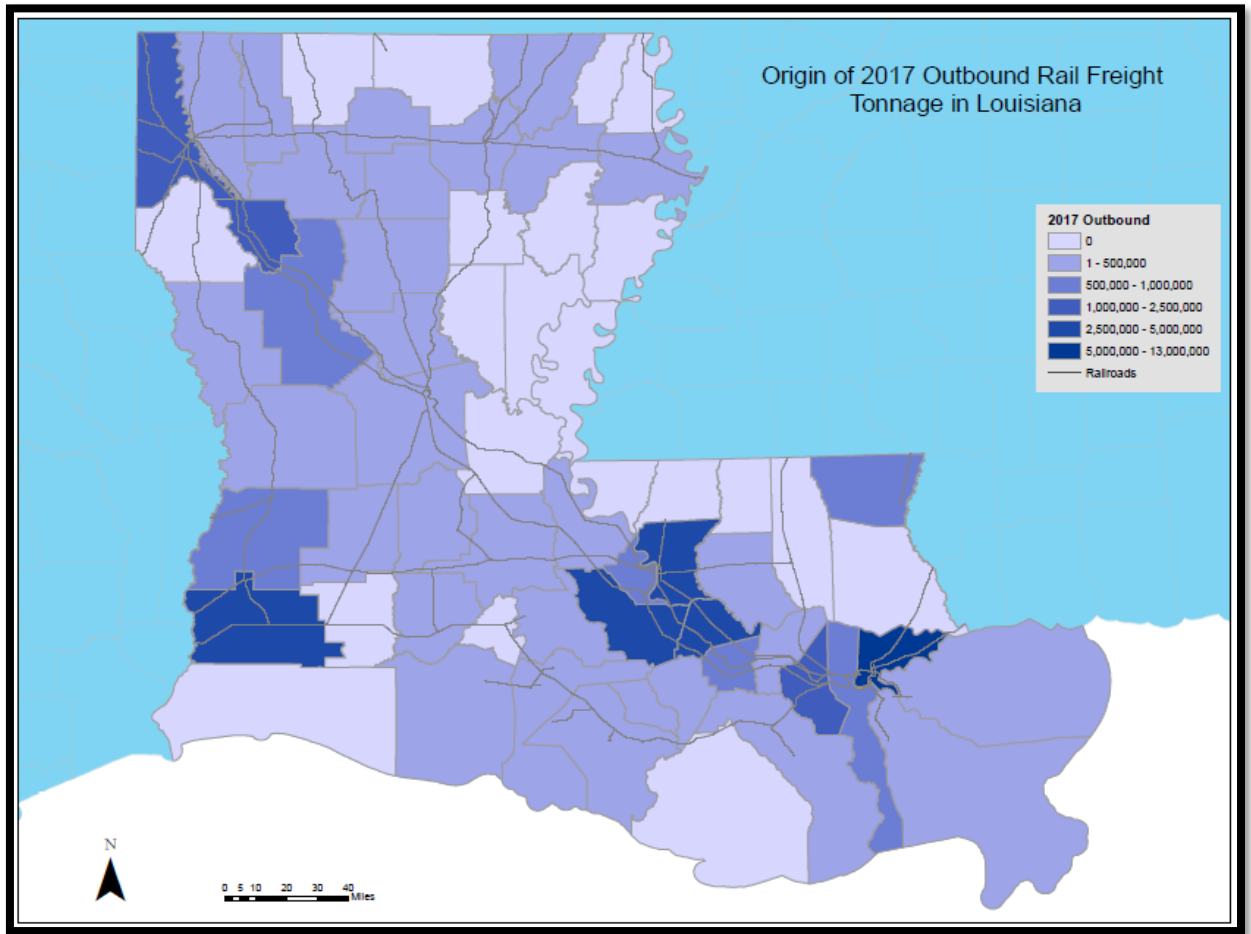
Table 2-33: Outbound Rail Freight Traffic by Major Commodities (2017)

| STCC | Commodity | Tonnage | | Carload | |
|------|---|----------------------|-------------|----------------|-------------|
| | | Amount | Percent | Amount | Percent |
| 28 | Chemicals or Allied Products | 14,860,583.00 | 37% | 162,805 | 27% |
| 49 | Hazardous Materials | 11,555,304.00 | 29% | 134,004 | 22% |
| 26 | Pulp, Paper or Allied Products | 3,643,724.00 | 9% | 55,072 | 9% |
| 20 | Food or Kindred Products | 2,205,132.00 | 6% | 26,596 | 4% |
| 29 | Petroleum or Coal Products | 1,721,168.00 | 4% | 20,796 | 3% |
| 37 | Transportation Equipment | 1,181,038.00 | 3% | 57,030 | 10% |
| 24 | Lumber or Wood Products; except Furniture | 1,113,120.00 | 3% | 13,600 | 2% |
| 46 | Miscellaneous Mixed Shipments | 923,760.00 | 2% | 68,920 | 12% |
| 14 | Nonmetallic Minerals; except Fuels | 585,791.00 | 1% | 5,656 | 1% |
| 1 | Farm Products | 486,707.00 | 1% | 5,148 | 1% |
| | Other | 1,452,410.00 | 4% | 49,606 | 8% |
| | Total: | 39,728,737.00 | 100% | 599,233 | 100% |

Source: Prepared by UNOTI based on Waybill data for 2017.

Outbound Tonnage Origin. As shown in **Figure 2-13**, the 14.8 million tons of outbound Chemical/Allied Products from Louisiana originate primarily in four parishes (Orleans, 5.7 million; Iberville, 2.0 million; Calcasieu 1.9 million; East Baton Rouge, 1.5 million, Ascension, 1.3 million; and St. Charles, 1.2 million). Other notable commodities originating in Orleans Parish include: 3.6 million tons of Hazardous Materials; 1.2 million tons of Food/Kindred Products; 0.89 million tons of Transportation Equipment; 0.36 million tons of Petroleum/Coal Products; and 0.33 million tons of Miscellaneous Mixed Shipments. 11.5 million tons of outbound Hazardous Materials primarily originate in Orleans Parish, Iberville Parish, Ascension Parish, Calcasieu Parish, and St. Charles Parish.

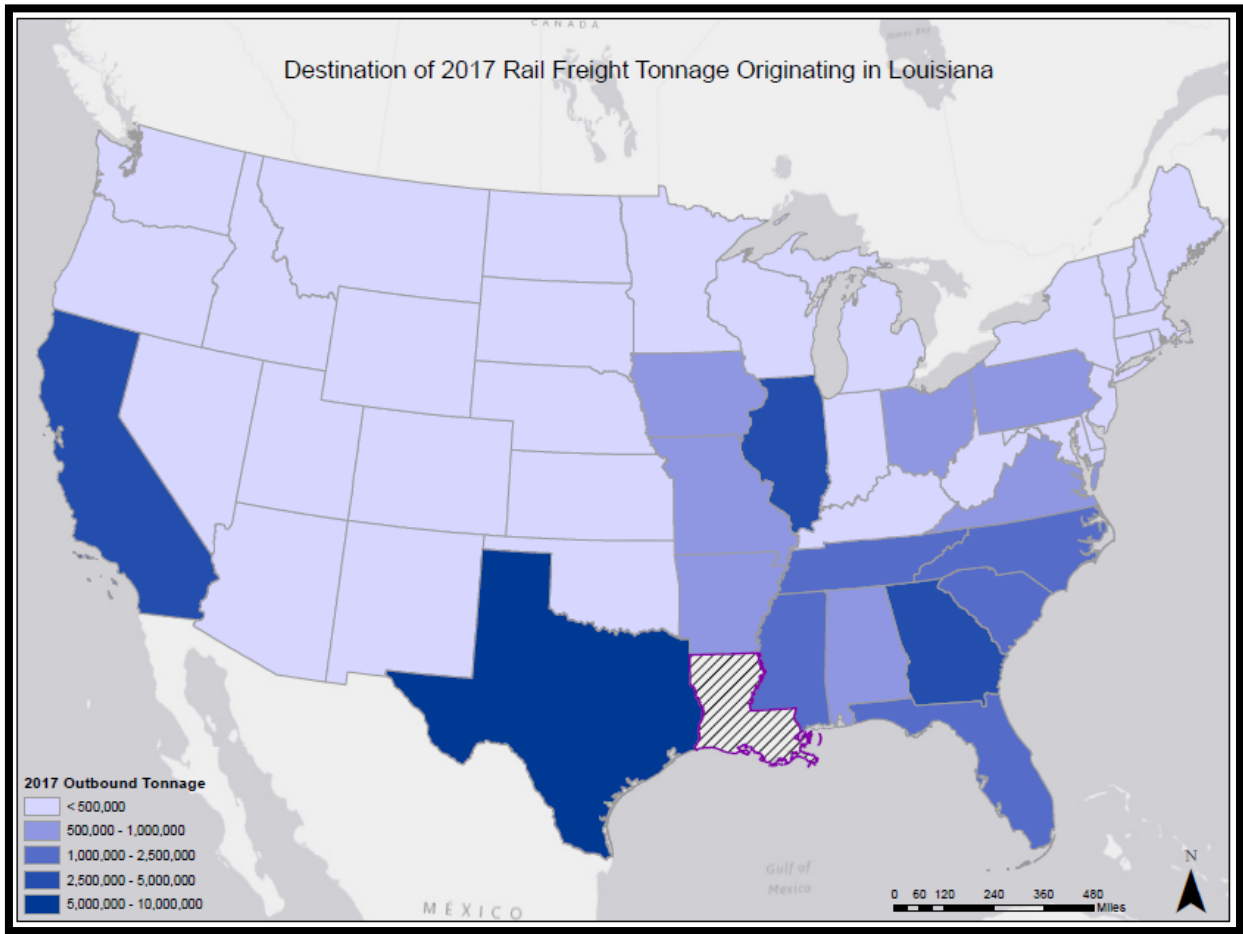
Figure 2-13: Outbound Louisiana Rail Freight by Parish Origin



Source: Prepared by UNOTI based on Waybill Data for 2017.

Outbound Tonnage Destination. As shown in **Figure 2-14**, Texas is also the major recipient of Louisiana rail shipments, led by 4.0 million tons of Chemical/Allied Products. Other notable Texas-bound products include 3.2 million tons of Hazardous Materials, 0.5 million tons of Pulp Paper Products, 0.4 million tons of Petroleum/Coal Products, and 0.4 million tons of Nonmetallic Minerals. Notable Chemical/Allied Products are also shipped to Illinois (1.9 million tons) and Georgia (1.5 million tons).

Figure 2-14: Outbound Louisiana Rail Freight by State of Destination



Source: Prepared by UNOTI based on Waybill Data for 2017.

Through-state Freight

Table 2-34 presents through-state traffic movements, which totaled 52.8 million tons in 2017. Coal at 13.8 million tons (26 %) led the through tonnage movements. Comparatively, Hazardous Materials at 6.1 million tons led in terms of through-state movements. Other notable through tonnage movements include Farm Products (5.7 million), Chemicals and Allied Products (4.4 million), Food and Kindred Products (4.3 million), Nonmetallic Minerals, except Fuels (4.1 million), Primary Metal Products (3.6 million), Pulp, Paper or Allied Products (2.7 million), and Miscellaneous Mixed Shipments (2 million).

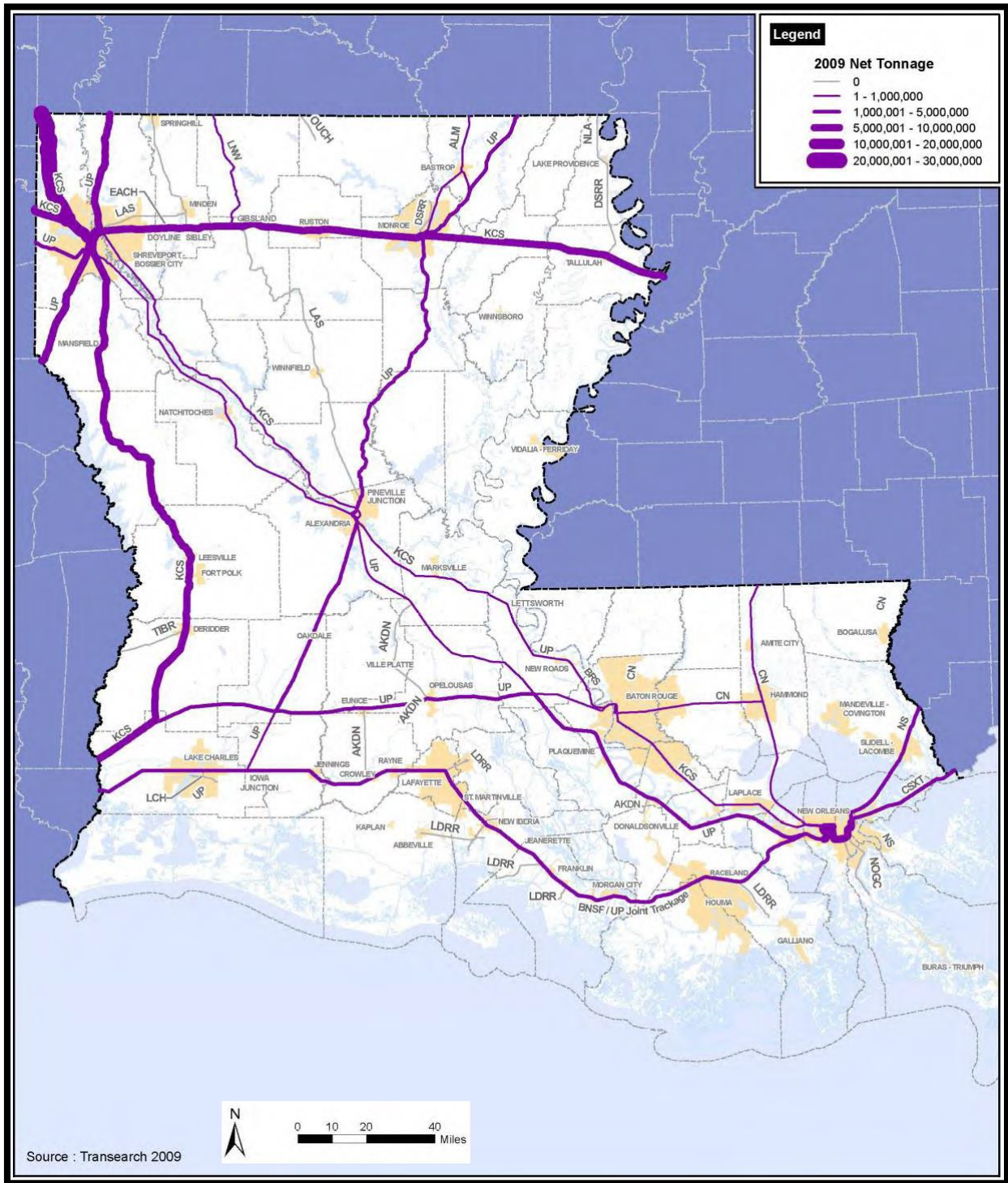
Table 2-34: Through-state Rail Freight Traffic by Major Commodities (2017)

| STCC | Commodity | Tonnage | | Carload | |
|---------------|---|----------------------|-------------|----------------|-------------|
| | | Amount | Percent | Amount | Percent |
| 11 | Coal | 13,815,140.00 | 26% | 116,372 | 14% |
| 49 | Hazardous Materials | 6,159,833.00 | 12% | 92,535 | 11% |
| 1 | Farm Products | 5,740,824.00 | 11% | 54,454 | 6% |
| 28 | Chemicals or Allied Products | 4,397,636.00 | 8% | 54,790 | 6% |
| 20 | Food or Kindred Products | 4,386,636.00 | 8% | 66,611 | 8% |
| 14 | Nonmetallic Minerals; except Fuels | 4,103,247.00 | 8% | 37,246 | 4% |
| 33 | Primary Metal Products, including Galvanized; except Coating or other Allied Processing | 3,653,626.00 | 7% | 43,544 | 5% |
| 26 | Pulp, Paper or Allied Products | 2,769,392.00 | 5% | 47,472 | 6% |
| 46 | Miscellaneous Mixed Shipments | 2,062,640.00 | 4% | 163,312 | 19% |
| 32 | Clay, Concrete, Glass or Stone Products | 1,171,056.00 | 2% | 15,456 | 2% |
| | Other | 4,574,666.00 | 9% | 162,343 | 19% |
| Total: | | 52,834,696.00 | 100% | 854,135 | 100% |

Source: UNOTI based on Waybill data 2017.

Through-state rail freight of 52.8 million tons accounts for 37% of all Louisiana tonnage movements. While such freight does not directly impact the State's non-transportation industries, it does affect line capacity, rail infrastructure development, local rail services, emissions, rail safety and traffic-crossing congestion. Through-state rail freight tonnage density across Class I and other rail lines is shown in **Figure 2-15**. As a hub for both Kansas City Southern (KCS) and the Union Pacific (UP) railroads, Shreveport sees much through-state rail freight passing through. (This map is comparable to the total rail cargo density map shown in **Figure 2-10**).

Figure 2-15: Through-State Rail Freight Density



Source: 2015 Louisiana State Rail Plan

Intrastate Freight

Approximately 10.5 million tons of intrastate rail freight traffic flowed within Louisiana in 2017. Of this, Hazardous Materials, Chemical or Allied Products, and Petroleum or Coal Products comprised the vast majority in terms of both tonnage (9.1 million, 86%) and carloads (100,308, 83%), as presented in **Table 2-35**. Most of the Chemical or Allied Products originate in the tri-parish Baton Rouge area (Ascension, East Baton Rouge, and Iberville), and most terminate in the four-parish New Orleans area (Jefferson, Orleans, St. Charles, and St. John the Baptist).

Table 2-35: Intrastate Rail Freight Traffic by Major Commodities (2017)

| STCC | Commodity | Tonnage | | Carload | |
|---------------|---|-------------------|-------------|----------------|-------------|
| | | Amount | Percent | Amount | Percent |
| 49 | Hazardous Materials | 3,419,632 | 32% | 37,844 | 31% |
| 28 | Chemicals or Allied Products | 3,408,804 | 32% | 36,128 | 30% |
| 29 | Petroleum or Coal Products | 2,354,416 | 22% | 26,336 | 22% |
| 20 | Food or Kindred Products | 422,480 | 4% | 4,324 | 4% |
| 24 | Lumber or Wood Products; except Furniture | 419,576 | 4% | 4,368 | 4% |
| 37 | Transportation Equipment | 187,260 | 2% | 9,356 | 8% |
| 26 | Pulp, Paper or Allied Products | 118,320 | 1% | 1,600 | 1% |
| 1 | Farm Products | 108,912 | 1% | 1,001 | 1% |
| 40 | Waste or Scrap Materials Not Identified by Producing Industry | 43,936 | 0% | 544 | 0% |
| 10 | Metallic Ores | 21,360 | 0% | 480 | 0% |
| 32 | Clay, Concrete, Glass or Stone Products | 15,052 | 0% | 140 | 0% |
| 14 | Nonmetallic Minerals; except Fuels | 4,000 | 0% | 40 | 0% |
| Total: | | 10,523,748 | 100% | 122,161 | 100% |

2.2.2.2 Rail Traffic Growth

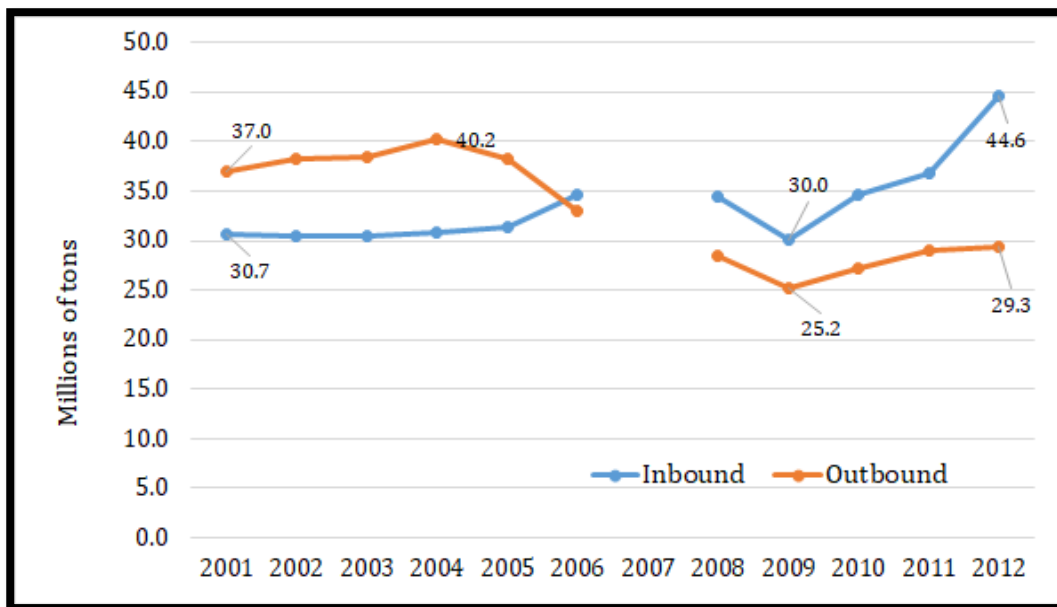
The annual U.S. Bureau of Transportation Statistics (BTS) and Waybill data are used to analyze annual rail tonnage freight flows between 2001 and 2017. The BTS rail traffic data originates from the Association of American Railroads (AAR), which compiles summary tonnage data from Surface Transportation Board R-1 Annual Reports by the Class I railroads. The AAR summary data provides a reputable summary of Louisiana's total inbound and outbound annual rail movements over the past decade.

Inbound and outbound rail freight tonnage reported by BTS fluctuated over the 2001-2012 time period, showing growth on inbound tonnage while outbound tonnage fell by over a third. Conversely, average annual growth rates are forecast to grow modestly (1.6% to 1.8%) through the year 2038. The net result would be an overall 35% increase in total rail traffic over the 20-year forecast time period (2017 to 2038). The following subsections summarize historical growth of inbound and outbound rail traffic (based on STB data) and analyze rail freight growth through 2038 by flow direction and commodity type.

Historical

Historical rail freight trends over the 2001-2012 period vary for inbound and outbound freight as shown in **Figure 2-16**. While inbound freight vacillated between 30.7 and 44.6 million tons annually, “reported” outbound freight fell 37% from a high of 40.2 million tons in 2004 to a low of 25.2 million tons in 2009. The low points of both inbound and outbound rail freight movements in 2009 can be partially attributed to the national economic downturn; both movements rebounded notably in 2010 (inbound rose 15.3% from 30 to 34.6 million tons, and outbound rose 8.0% from 25.2 to 27.2 million tons).

Figure 2-16: Historical Rail Tonnage in Louisiana (2001-2012)



Source: https://www.bts.gov/archive/publications/state_transportation_statistics

Forecast

2017 waybill rail freight tonnage data present a significantly different perspective with the steady and notable tonnage increases indicated in the TRANSEARCH-derived 2015 plan. Inbound freight movements are forecast to grow from 41.3 million tons in 2017 to 57.7 million tons in 2038, an average annual growth rate of 1.7%. Similarly, outbound freight movements are forecast to grow from 39.7 million tons in 2017 to 54.9 million tons in 2038, an average annual growth rate of 1.6%. These inbound and outbound, as well as intrastate and through movements, are summarized for the years 2017 and 2038 in **Table 2-36**.

Table 2-36: Forecast Rail Freight Tonnage by Direction (2017)

| Direction | 2017 | | 2038 | | % Change | |
|---------------|--------------|-------------|--------------|-------------|------------|-------------|
| | Tons (mil) | Share | Tons (mil) | Share | Total | CAGR |
| Inbound | 41.3 | 29% | 57.7 | 30% | 40% | 1.7% |
| Outbound | 39.7 | 28% | 54.9 | 28% | 38% | 1.6% |
| Intrastate | 10.5 | 7% | 7 | 4% | -33% | -2.0% |
| Through | 52.8 | 37% | 75.9 | 39% | 44% | 1.8% |
| Total: | 144.3 | 100% | 195.5 | 100% | 35% | 1.5% |

Source: Prepared by UNOTI based on waybill data for 2017

A summary of all directional commodity movements in **Table 2-37** suggests decline or little change in *Coal* and *Petroleum/Coal Products* movements. Conversely, many product tonnage movements are forecasted to increase by more than half (i.e. Farm Products, Nonmetallic Minerals, Primary Metal Products, Transportation Equipment, Clay, Concrete, Glass or Stone, Waste or Scrap Materials) or even close to triple (i.e., Containers). In total, year 2017 movements of 144.4 million tons are forecasted to rise 35% to 195.5 million tons by 2038.

Table 2-37: Forecast Rail Freight Tonnage by Commodity (2038)

| STCC | Commodity | 2017 | | 2038 | | % Change | |
|------|------------------------------------|--------------|----------------|--------------|----------------|---------------|--------------|
| | | Tons (mil) | Share | Tons (mil) | Share | Total | CAGR |
| 28 | Chemicals or Allied Products | 29.2 | 20.25% | 43.5 | 22.24% | 48.66% | 1.91% |
| 49 | Hazardous Materials | 28.8 | 19.97% | 33.9 | 17.36% | 17.69% | 0.78% |
| 11 | Coal | 24.1 | 16.70% | 18.0 | 9.22% | -25.30% | -1.38% |
| 20 | Food or Kindred Products | 10.3 | 7.14% | 12.4 | 6.34% | 20.31% | 0.88% |
| 1 | Farm Products | 10.1 | 7.01% | 17.0 | 8.71% | 68.25% | 2.51% |
| 14 | Nonmetallic Minerals | 8.2 | 5.66% | 15.4 | 7.86% | 87.99% | 3.05% |
| 26 | Pulp, Paper or Allied Products | 6.8 | 4.74% | 10.2 | 5.24% | 49.79% | 1.94% |
| 29 | Petroleum or Coal Products | 6.0 | 4.16% | 6.0 | 3.04% | -0.85% | -0.04% |
| 33 | Primary Metal Products | 4.5 | 3.09% | 7.7 | 3.93% | 72.15% | 2.62% |
| 46 | Misc. Mixed Shipments (Containers) | 3.8 | 2.64% | 10.8 | 5.54% | 184.09% | 5.10% |
| 37 | Transportation Equipment | 3.7 | 2.53% | 7.0 | 3.59% | 91.97% | 3.15% |
| 24 | Lumber or Wood Products | 2.6 | 1.78% | 3.3 | 1.69% | 28.80% | 1.21% |
| 32 | Clay, Concrete, Glass or Stone | 2.2 | 1.54% | 3.8 | 1.94% | 70.79% | 2.58% |
| 40 | Waste or Scrap Materials | 1.3 | 0.90% | 2.3 | 1.18% | 77.62% | 2.77% |
| | Other | 2.7 | 1.89% | 4.3 | 2.20% | 57.14% | 2.18% |
| | Total | 144.4 | 100.00% | 195.5 | 100.00% | 35.39% | 1.45% |

2.2.3 Passenger Travel Demand and Growth

Overall, vehicular travel is forecast to grow to 179 million weekday Vehicle Miles of Travel (VMT) by 2044, and a significant proportion of those miles (30%) is likely to occur on the state's interstate system. See **Table 2-38**. This implies that long distance over the road travel of the type that freight travel demand produces will continue to grow in significance.

Table 2-38: Estimated VMT and VHT on Louisiana Roads, 2010 and 2040

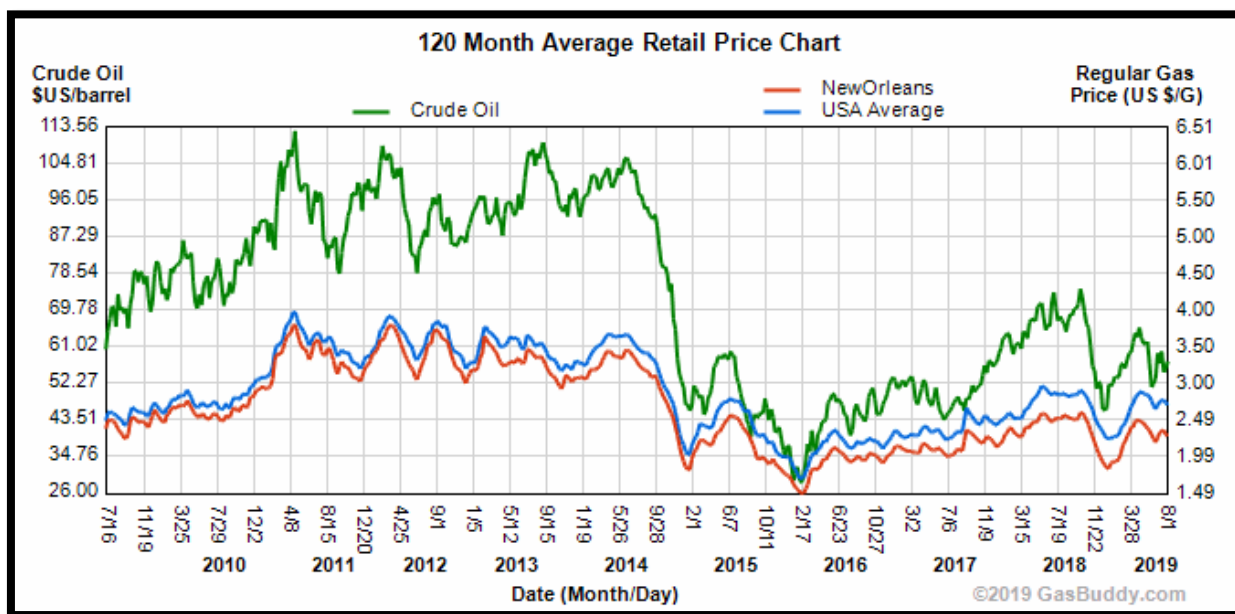
| Functional Class | | 2010 | | | 2040 | | |
|-----------------------|--------------------------|---------|-------|---------------|---------|-------|---------------|
| | | VMT | VHT | Average Speed | VMT | VHT | Average Speed |
| R U R A L | Interstate | 17,170 | 290 | 60.0 | 30,020 | 720 | 41.7 |
| | Freeway | 12,760 | 220 | 58.7 | 20,690 | 430 | 48.1 |
| | Other Principal Arterial | 13,290 | 270 | 50.0 | 18,940 | 590 | 32.3 |
| | Minor Arterial | 10,530 | 250 | 42.9 | 17,580 | 490 | 35.9 |
| | Major/Minor Collector | 3,260 | 80 | 43.0 | 5,650 | 140 | 40.5 |
| | Local | 1,220 | 30 | 41.8 | 2,160 | 60 | 36.7 |
| | Sub Total | 58,230 | 1,140 | 53.0 | 95,040 | 2,430 | 40.0 |
| U R B A N | Interstate | 15,620 | 300 | 51.9 | 21,490 | 480 | 45.2 |
| | Freeway | 2,000 | 50 | 36.5 | 2,420 | 70 | 33.3 |
| | Other Principal Arterial | 17,180 | 510 | 33.6 | 21,210 | 780 | 27.1 |
| | Minor Arterial | 6,560 | 220 | 30.3 | 8,920 | 370 | 24.2 |
| | Major/Minor Collector | 1,390 | 50 | 28.6 | 1,970 | 80 | 23.5 |
| | Local | 160 | 10 | 24.0 | 320 | 20 | 17.7 |
| | Sub Total | 42,910 | 1,140 | 39.7 | 56,330 | 1,800 | 33.6 |
| Total: | | 101,140 | 2,280 | 44.8 | 151,370 | 4,230 | 35.8 |

As previously noted, boarding and alightings at Amtrak stations in Louisiana are projected to grow from 212,767 in 2018 to 323,909 in 2038, a 52.2% increase over the 20-year period. The growth equates to a 2.1% annual increase for the period. The forecast was based on projections of population growth in the parishes served by the Amtrak stations and Amtrak's plan of restoring the rail service between New Orleans, Louisiana and Mobile, Alabama. It does not include ridership resulting from either the Shreveport – Dallas intercity rail service or the Baton Rouge – New Orleans commuter rail service. If these projects were to be realized, ridership would be much higher.

2.2.4 Fuel Cost Trends

Trends in fuel costs (crude oil and regular gasoline) over the last 10 years are shown in **Figure 2-17**. Costs for fuel rose steadily until the 2008 recession, and have been recovering steadily ever since, though they have not attained their pre-recessionary highs, peaking at almost \$4/gallon for the national average in 2010. For the years 2017-2018 the linkage between the price of fuel and the price of crude appears to not have been quite as strong. Gas prices are shown for both the New Orleans and the U.S. averages. The regular gas price in New Orleans and the U.S. averages track each other closely though the New Orleans price is slightly lower consistently over the period. The proximity of refineries to New Orleans, and thus lower transportation cost, is a likely contributing factor.

Figure 2-17: Fuel Cost Trends 2009 to 2019



2.2.5 Rail Congestion Trends

According to the 2007 *National Rail Freight Infrastructure Capacity and Investment Study*, sponsored by the Association of American railroads, there is just one current and anticipated congestion point in Louisiana, i.e., New Orleans. More specifically, it is the interchange of the six Class I railroads. To improve the situation, a project has been initiated, which has the potential to both streamline the interchange, lessening railroad congestion, and improve safety by eliminating highway-rail crossings.

The New Orleans Rail Gateway (NORG) and infrastructure within Jefferson and Orleans Parishes need to be upgraded to efficiently handle today's traffic volumes and support economic growth. The NORG stretches from Avondale, over the Huey P. Long Bridge, and through the City of New Orleans. It is the fourth largest rail gateway in the country and is a key link in the national transportation system. The system provides a vital link in the east-west distribution of freight rail traffic and allows access to Mexico and Canada. The NORG encompasses the Port of South Louisiana and the Port of New Orleans.

An engineering and environmental study is underway to identify various rail and roadway improvements, or "Program of Projects," that will reduce vehicle congestion, emergency evacuation, and vehicle and pedestrian safety, as well as correct physical and operational deficiencies on railroads and roadways. An Environmental Impact Statement (EIS) will be prepared to evaluate the "Program of Projects" beneficial and adverse effects on the social, economic, and physical environment and identify measures to avoid, minimize, and mitigate adverse community and environmental impacts. The "Program of Projects" will improve the quality of life for residents, increase regional competitiveness, and promote economic growth. In addition, the railroads stand to benefit from more efficient operation and added capacity for future growth.

This study is a public-private partnership between LaDOTD, the New Orleans Regional Planning Commission, and six Class I railroads represented by the Association of American Railroads. More detail about the NORG project appears in Chapter 4.

Precision Scheduled Railroading

Precision Scheduled Railroading (PSR) is a railroad operating paradigm which has become the standard for the industry since 2017. PSR is a method of operating railroads that focuses on tightly scheduled delivery of rail cars to their destinations rather than building entire trains to their full capacity before moving them. It is analogous to the way airlines operate in that planes take off at pre-set scheduled times even if all the seats are not filled. PSR seeks to move more railcars faster with fewer locomotives, fewer cars, fewer, more robust rail networks, fewer workers, fewer freight-loading rail yards, and less dwell time (time a rail car spends at a yard waiting for a train to be composed). When implemented correctly, it results in a lower operating ratio (OR) for the railroad, which has made the shareholders of the publicly traded railroads (CSX, UP, CN, KCS, and NS) very enthusiastic about the short-term profitability of the method. BNSF, which has only one owner (Warren Buffet), although acknowledging some potential to aspects of PSR, still holds to the strategy of seeking long-term growth through freight volume and building relationships with shippers.

PSR makes more sense in the growing e-commerce shipping market, along with the downturn in coal usage. There is less need for long trains carrying a single commodity (like coal), and more demand for trains carrying multiple commodities in intermodal shipping containers. Shippers don't have to worry about their rail cars sitting in a yard waiting for a full-length train to be built. When the cars arrive on schedule, they are added to the train immediately. If they miss their appointed time, however, shippers can be charged a fee for the time the car dwells in a yard until the next train comes through. Cars cycling through faster means that railroads can ultimately utilize fewer cars and locomotives, driving down their capital costs.

PSR was implemented at CSX too rapidly in 2017 causing major disruptions for shippers including delivery delays, severe bottlenecks, and slowdowns in production to prevent inventory buildup. Shippers responded by switching to other railroads, shifting some of their deliveries to the more expensive truck mode, and having the Surface Transportation Board (STB) investigate the issues at CSX. While the leadership at CSX acknowledged that some changes were too rapid for shipping stakeholders to effectively absorb, and that some were erroneous (such as closing too many freight yards), they gave assurances that the problems would be ironed out and PSR would bring the company into its most profitable days. Organized labor has criticized PSR as having too much emphasis on short-term stock market effects. Nevertheless, PSR is now the dominant paradigm in the North American railroad industry.

2.2.6 Highway and Airport Congestion Trends

2.2.6.1 Highway Congestion Trends

An important objective of the Louisiana State Rail Plan is to describe how Louisiana's rail system can contribute to the state's response to congestion and reliability challenges that will arise as the state continues to grow and change in the coming decades. Congestion is a signal that the demand for transportation and the supply in a particular place and time are out of balance; it decreases productivity and causes frustration. It reduces air quality and can add to the risk of accidents and incidents. These impacts can have negative economic, social, and quality of life consequences and that is why LaDOTD and the State devote a great deal of time and resources designing and implementing ways to manage congestion. Although national trends show a mild decline in the use of highway travel, due to the increase in online shopping, socialization, and use of ride-sharing apps, the travel demand forecasting model shows increases in future Louisiana road congestion which justify an increased focus on passenger rail and other forms of multi-user transit.

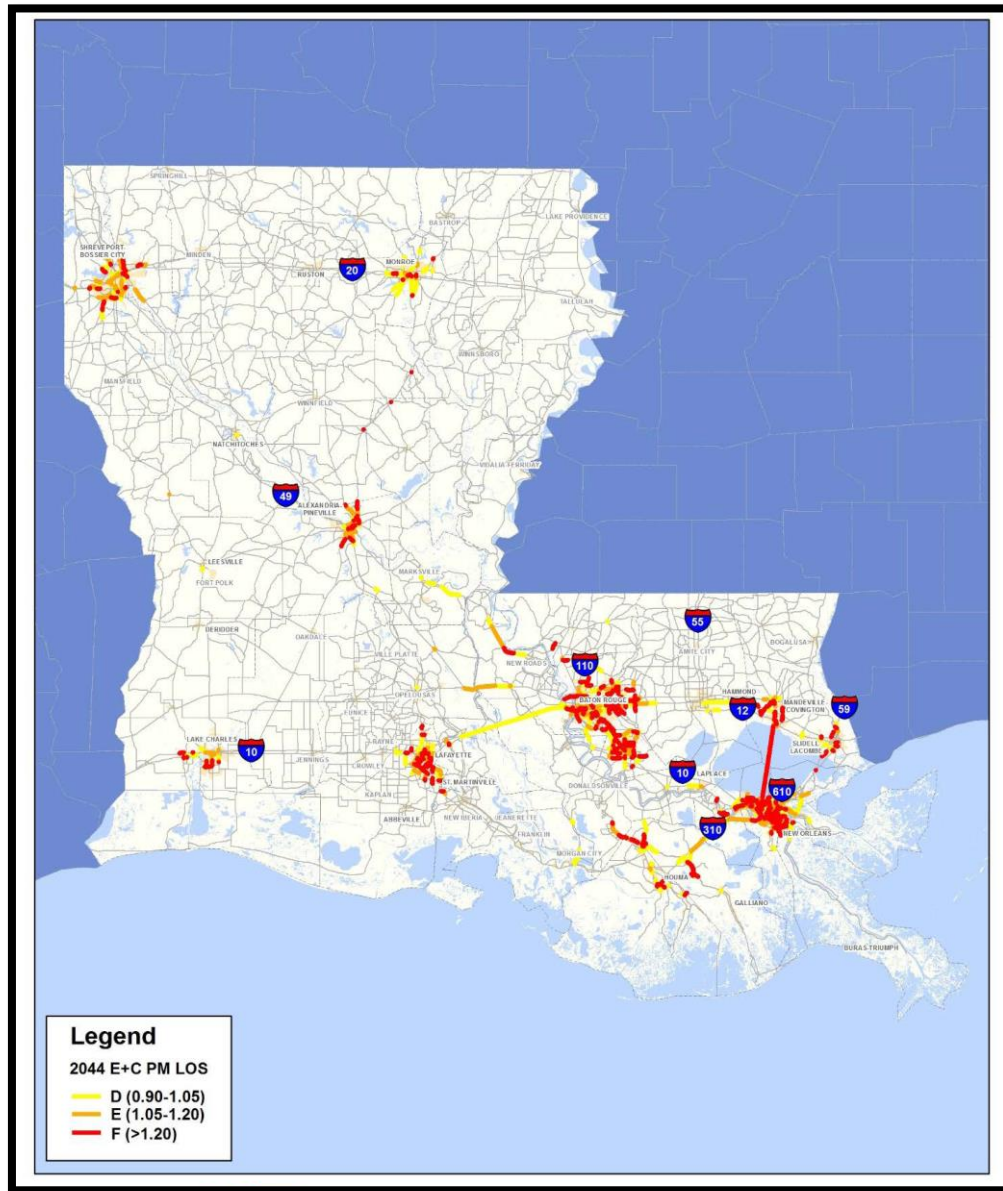
There are a handful of terms to describe roadway travel and congestion conditions. Two of the most commonly used ones are:

- **Vehicle Miles Traveled** - VMT describes the level of travel demand on a highway system; growth in VMT indicates growth in travel demand. VMT is a weighted measure of travel, and it is calculated by multiplying the number of vehicles on a roadway segment by its length. To estimate VMT for an individual roadway element (such as the interstate system) or for individual areas (such as a parish), the vehicle-miles for that element or area are simply added up.
- **Congestion** - Congestion describes the relationship between roadway supply and demand. When demand exceeds supply, traffic slows and sometimes stops altogether. The volume (demand) to capacity (supply) ratio is a common measure of congestion for individual roadway segments.

There are two types of roadway congestion. The routine congestion that occurs on a regular, predictable basis is the type of congestion that the study team describes and measure here. The type of congestion that is caused by accidents and incidents is unpredictable and is very difficult to forecast. For that reason, it is recognized, but not reported in this document.

Levels of congestion are likely to increase between current conditions and 2044 without some combination of policies and investments to manage demand, provide additional transportation options and provide additional capacity. See **Figure 2-18**. The locations of congestion will extend outward, away from urban centers, towards developing locations. This is especially true of the interstate system. It will also spread in terms of time increasing beyond the peak hours to the shoulders of the peak. These possible outcomes provide a justification for planners and decision-makers to identify a reasonable combination of long-range operations, policy and capacity recommendations that are consistent with the objectives of the State Rail Plan and the Statewide Transportation Plan.

Figure 2-18: Estimated 2044 Volume to Capacity Ratios on Louisiana Roads



Source: Louisiana Statewide Transportation Plan December 2015

2.2.6.2 Airport Congestion Trends

The effectiveness of an airport or an airport system is commonly measured in terms of its capacity. While there are many potential metrics that can be utilized with respect to an airport's capacity, the most commonly accepted measure is an airfield's overall ability to meet the demand of aircraft landing and taking off from that airport. Generally defined, airport capacity is a calculation of an airport's airfield facilities' (i.e., runways, taxiways, etc.) ability to safely and efficiently accommodate a given volume of aircraft traffic (demand) within a specified time period.

Currently, the standard measurement for airport capacity is Annual Service Volume (ASV), a metric established by the Federal Aviation Administration (FAA) representing the annual level of aircraft operations (defined as a take-off or a landing) that an airport can accommodate without imposing an unreasonable amount of delay on those operations. The ASV represents a theoretical maximum operations level for an airport, beyond which aircraft delays become unreasonable. The ASV also serves as a benchmark for airport planning. FAA guidelines recommend that when an airport's demand/capacity ratio (the percent of an airport's ASV that is taken up by current demand in operations) reaches 60%, the airport should begin planning for capacity enhancements. When that airport's demand/capacity ratio is at 80%, the airport should start implementing those projects. By following these guidelines, the airport will ideally never reach a 100% demand/capacity ratio since those improvements should be in place by that point. It should be noted that these are general guidelines and conditions at individual airports may warrant different or no action based on achievement on these triggers.

The principal benefit of this metric is to help recognize that as airfield demand levels reach and exceed the ASV, individual aircraft delays will increase and result in overall airport congestion and operational inefficiencies. As air traffic levels grow over time, significant strains on capacity may also be realized by airport systems at all levels. As such, the key to keeping pace with future demand is by planning for capacity challenges. For an airport system, capacity is a critical system performance metric since adequately accommodating aircraft operational demands is vital to establishing the adequacy of the overall airport system. As airports reach key benchmarks in terms of demand/capacity ratios, delay and congestion increase exponentially. Facility and capacity enhancement projects become necessary, or at least desirable, at capacity constrained airports. Capacity enhancement projects typically include runway improvements, taxiway improvements, NAVAID improvements, or other facility improvements.

This assessment of Louisiana's airport system capacity examined the ability of the airside system to accommodate aircraft operations over the planning period. This assessment did not examine any congestion issues related to aircraft storage, or any land-side constraints, such as terminal buildings or ground access.

Assessing Airfield Capacity

The assessment of Louisiana's airfield capacity is a fairly straightforward task. The FAA's Advisory Circular 150/5060-5, *Airport Capacity and Delay*, details the procedure for determining the ASV for an airport. The process is based on the runway configuration of the airport and the mix of aircraft using the airport on an annual basis. For the most basic airport configuration, a single runway, the ASV is 230,000 annual operations for typical aircraft mixes. Airports with multiple runways have equal or higher ASVs. No airport in Louisiana currently exceeds or is projected to exceed 230,000 annual operations during the 30-year planning period, so congestion is not an issue for the system. However, a small number of airports are forecast in the Louisiana Airport System Plan (LASP) to exceed 138,000 annual operations, which is 60% of the ASV and is the point at which FAA guidelines suggest planning should begin to address future congestion issues. **Table 2-39** lists these airports, and their forecasted operations in 2043.

Table 2-39: Louisiana Airports Exceeding 60% Demand/Capacity Ratios by 2043

| Associated City | Airport | 2043 Aircraft Operations |
|-----------------|---------------------------------|--------------------------|
| Abbeville | Abbeville Chris Crusta Memorial | 156,959 |
| Houma | Houma-Terrebonne | 151,327 |
| Patterson | Harry P. Williams Memorial | 173,218 |
| Ruston | Ruston Regional | 147,492 |
| Slidell | Slidell | 185,223 |

With the exception of Houma-Terrebonne Airport, all of these airports are single runway airports. Houma-Terrebonne Airport has a pair of crossing runways, which gives it the same ASV as the other airports.

All five airports are projected in the Louisiana Airport System Plan to exceed the 60% demand/capacity planning threshold in 2043. Assuming that no capacity enhancements have been made to these airports in the previous 30 years, it would be prudent for these airports to begin looking at ways to address their expected capacity issues. It should be noted that an airport master plan for these airports, which uses a 20-year forecast period, will address any ASV capacity issues. Airport master plans develop the preferred forecast used by the FAA to validate purpose and need for airport capacity improvements. With that said, Slidell Airport is projected to cross the 60% threshold in 2033 and is likely to hit the 80% demand/capacity threshold in 2043. The FAA recommends implementing capacity enhancement projects when an airport reaches the 80% threshold. Therefore, if the forecast is accurate, Slidell Airport should expect to plan for, and implement, capacity enhancement plans by the end of the 30-year planning period.

Summary

Louisiana's airport system currently does not have any airfield capacity constraints. Projections of future aviation activity do not show any of Louisiana's system airports experiencing capacity constraints over the next 30 years. However, five of Louisiana's system airports were identified as potentially reaching demand/capacity planning thresholds by the end of the planning period, assuming no capacity enhancement projects are undertaken during the 30-year forecast period. FAA guidelines suggest that these airports should begin making plans to address future capacity constraints, and, if additional demand/capacity thresholds are crossed, implement those plans. A significant move in this direction is the construction of the new terminal at the Louis Armstrong International Airport (MSY) located in Kenner Louisiana, just outside of New Orleans. In 2011, then-New Orleans Mayor Mitchell Landrieu charged the New Orleans Aviation Board with researching different possibilities for upgrading MSY. In 2013, the airport chose from an array of alternatives to have a new terminal built on its north side. Construction started in 2016. The facility was supposed to come online in May of 2018, but its final opening date was November 2019 due to construction delays. Cost overruns raised the price of the completed project from \$650 million to over \$1.2 billion. The new airport offers much more parking space, three concourses, 35 gates, expedited TSA screening, and a wide variety of cultural amenities tailored to New Orleans' unique reputation for food and music. It is expected to be a catalyst for economic development in the Kenner area and to increase New Orleans' status as a global city.

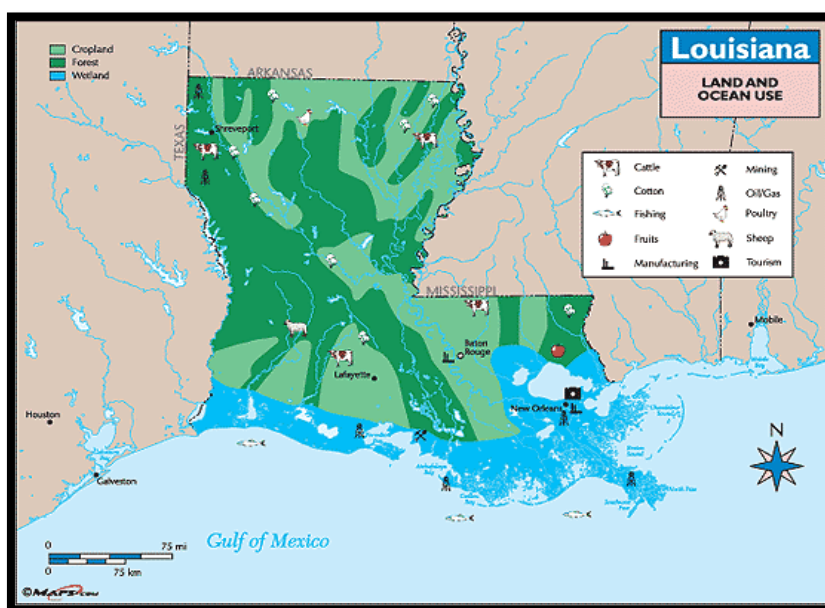
2.2.7 Land Use Trends

Land uses in Louisiana have been relatively stable for decades. The statewide land uses are represented in **Figure 2-19**. Much of the state is rural, with most land being considered cropland, forest and wetlands. Though smaller than before Hurricane Katrina hit the Gulf Coast and rising water levels

breached its levies in 2005, New Orleans still is Louisiana's largest city with a current population estimate of just over 423,656 in 2019, down from 469,000 in 2003. Many New Orleans residents displaced from their homes by the floodwaters found their way to Baton Rouge area, whose population swelled as a result. In 2000, the Baton Rouge Standard Metropolitan Area, comprised of nine parishes, had a population of almost 706,000. By 2018, the population had risen to just over 831,310. While New Orleans is well served by Amtrak, Baton Rouge has no passenger rail service.

Manufacturing is concentrated in the New Orleans-Baton Rouge corridor, generally following the Mississippi River. Union Pacific Railroad and the Kansas City Southern Railway both serve shippers in this corridor. Oil and gas production are heaviest closest to the Gulf Coast. The main marine port complex in Louisiana is in New Orleans and is served by all six Class I railroads in Louisiana.

Figure 2-19: Current Land Uses in Louisiana



2.3 Rail Service Needs and Opportunities

This section identifies the needs and opportunities for freight and passenger rail in Louisiana. Specific projects relative to these needs and opportunities are summarized in Chapter 5. A brief discussion of the challenges in funding the improvements concludes the chapter.

2.3.1 Freight Rail Services

2.3.1.1 Corridor Initiatives

The Panama Canal expansion project reached completion in 2016, resulting in new shipping patterns and additional opportunities for a number of Gulf Coast and East Coast ports. Because of increased international intermodal traffic from the Panama Canal expansion, Gulf Coast ports have been deepening harbors and constructing or expanding on-dock rail facilities to accommodate the larger intermodal ships and to unload and transport the international containers from the ports to inland intermodal facilities across North America for local distribution.

Relevant to Louisiana, the Port of New Orleans is addressing the increased traffic in containers, many of which are moved through the state via the Class I railroad network. In August 2018, the Army Corps of Engineers signed off on dredging the Mississippi River to a 50-foot depth from the mouth of the river to the Port of Baton Rouge to accommodate ship traffic from the Panama Canal expansion. Dredged material will be recycled as approximately 1,462 acres of sustainable wetlands.

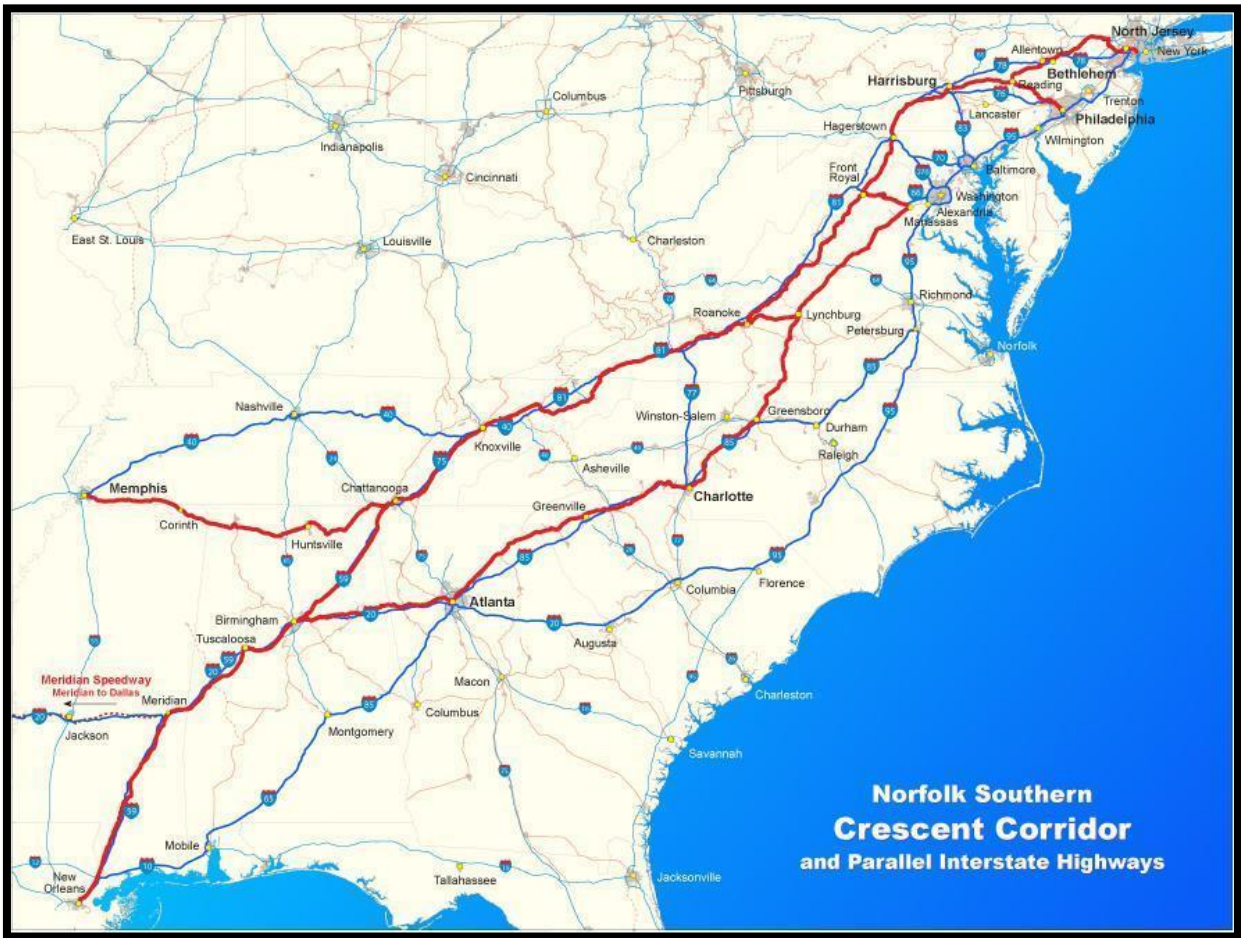
The port of New Orleans has acquired two new 100-foot gauge gantry cranes at the Napoleon Avenue container terminal to service wider ships coming through the canal. The port is also making the necessary rail expansions to accommodate the new cranes. The Napoleon Avenue terminal is the only international trading container terminal in Louisiana. Additionally, the port is seeking to build a second international container facility downriver in St. Bernard Parish to fully accommodate post-Panamax container shipping. Many of these ships cannot reach the Napoleon Avenue container terminal upriver from the Crescent City Connection Mississippi River Bridge, which does not have a high enough air draft for them to clear. All the Class I railroads have foreseen this increase in intermodal traffic between the Gulf Coast ports and Midwest destinations and have sought major efficiency and productivity improvements to ensure that primary intermodal routes can accommodate double-stack container trains.

Several major rail intermodal corridors pass through Louisiana and the improvements completed and planned for each are described below.

NS Crescent Corridor

The NS Crescent Corridor is a \$25 billion, 12-state, and 2,500-mile network designed principally for intermodal traffic between Newark, New Jersey, Memphis, Tennessee, and New Orleans. The corridor became operational in 2013. It enters southeastern Louisiana and passes through Pearl River and Slidell on its way to New Orleans. **Figure 2-20** shows the corridor route.

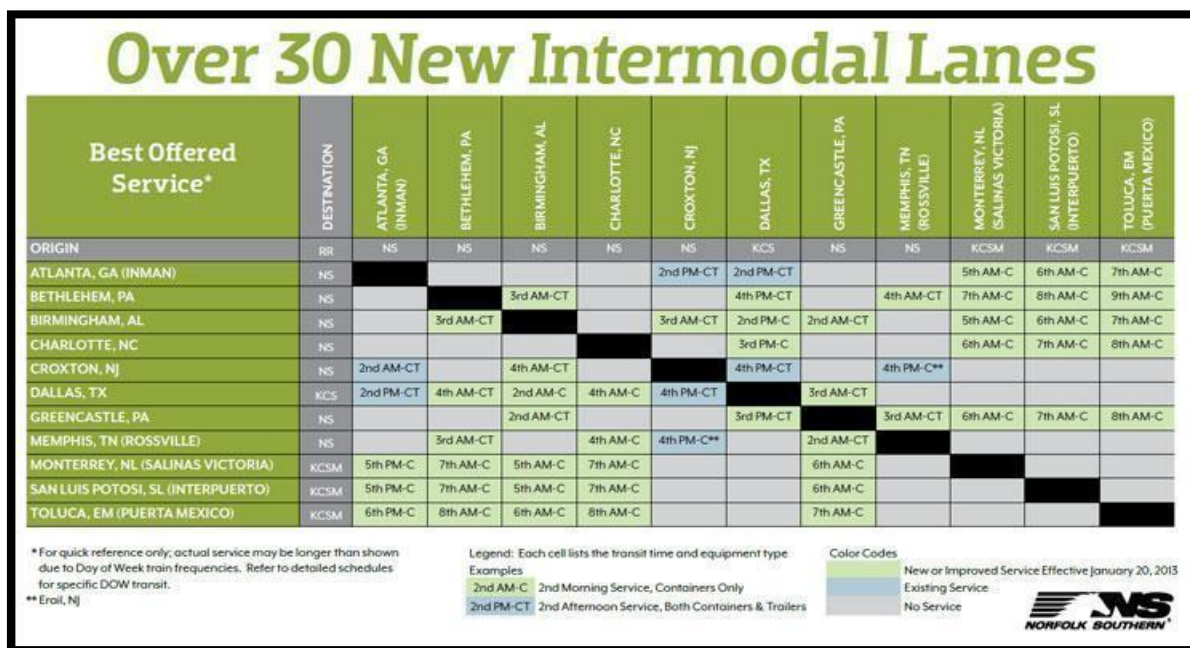
Figure 2-20: NS Crescent Corridor



Source: Norfolk Southern

The primary function of this NS initiative, in conjunction with KCS, is to provide truck-competitive service in more than 30 new intermodal lanes along the Crescent Corridor linking the Northeast and Southeast with Texas and Mexico. Faster transit times and new terminals (Birmingham, Alabama; Greencastle, Pennsylvania; and Rossville, Tennessee) are hallmarks of the fully operational Crescent Corridor. The NS service offerings in the corridor are listed in **Figure 2-21**.

Figure 2-21: NS Crescent Corridor Intermodal Lanes, 2013



Source: Norfolk Southern

KCS Meridian Speedway

The KCS Meridian Speedway is an east-west corridor between Shreveport, Louisiana, and Meridian, Mississippi, and provides a transcontinental link for rail traffic between the Southeast and Southwest. The 320-mile corridor represents a joint venture established between Kansas City Southern (the operator of the line) and NS (the primary source of traffic for the line) in 2005. It has been a perpetual recipient of capital investments to decrease transit times and increase capacity on the mostly single-track line, including a major capacity upgrade of the KCS Deramus Yard at Shreveport. Since the completion of the first round of improvements, approximately 45 trains per day traverse the line. It connects with the Crescent Corridor at Meridian, thus expanding the reach and utility of the Speedway. **Figure 2-21** shows the corridor route, running east-west from Meridian to Shreveport. In 2016, the KCS-NS operation did major upgrades in the Vicksburg and Meridian portions of the route.

KCS's NAFTA Highway

The KCS main line running through western Louisiana just east of the Texas state line provides a connection to the Texas gateways of Houston and Laredo as well as northern Mexico. The line through Louisiana is part of KCS's NAFTA Railway System and it takes its name from the North American Free Trade Agreement, which was signed by the U.S., Mexico, and Canada in 1994. KCS is owner of various rail lines in Mexico running south from Nuevo Laredo to Monterrey, the Port of Lazaro Cardenas on Mexico's Pacific Coast, and also to Mexico City. KCS connects with Canadian Pacific Railway in Kansas City, an international Class I carrier that expands the reach of the NAFTA Railway into the northern U.S. and Canada. Thus, the Louisiana line is a central segment to a rail system joining the three national economies. Furthermore, it provides shippers in Louisiana with access to Midwestern markets. It is shown in **Figure 2-22**, running north-south from Kansas City to Mexico City. Recent trade tensions regarding NAFTA have been a cause for concern for KCS, but the company has expressed confidence in the maintenance of its trade volumes.

Figure 2-22: KCS Meridian Speedway and NAFTA Highway



Source: Kansas City Southern Railway, with modifications by CDM Smith.

Other Corridors

There are several other major corridors serving the state, in addition to the higher profile initiatives noted above. These are:

- **BNSF/UP Joint Trackage** – BNSF and UP jointly own and operate the former Southern Pacific Railroad’s Sunset Line between Beaumont, Lake Charles, Lafayette, and New Orleans. The line provides carriers a joint facility for handling transcontinental traffic that is interchanged in New Orleans to NS and CSXT, as well as traffic going to and from the marine port facilities in New Orleans.
- **UP’s Lake Charles-Livonia-New Orleans Route** – This route provides UP with an alternative to the BNSF/UP Joint Trackage for its traffic going to and from eastern railroad interchanges and marine port facilities in New Orleans.
- **CN’s New Orleans-Chicago Corridor** – The line is the route of the historic former Illinois Central Railroad and provides the most direct north-south link between upper Midwestern markets and New Orleans.
- **UP’s New Orleans-Little Rock-Chicago Corridor** – Likewise, this line provides UP linkage between New Orleans and upper Midwestern markets.
- **CSXT’s Gulf Corridor** – The CSXT Gulf Coast main line runs east from New Orleans to Atlanta, Georgia, to Northeastern and Mid Atlantic markets, and to Florida. New Orleans provides an interchange for CSXT to western carriers UP and BNSF. This route running east from New

Orleans through Mississippi suffered extensive damage during Hurricane Katrina in 2005 but has since been rebuilt.

Corridor Initiative Summary

The three major corridor initiatives profiled above provide further evidence of Louisiana's superior location and crucial role in hosting transportation in the global marketplace, as well as the positive impacts that will benefit the state as a result. Each of these corridors originates within or travels through Louisiana and will offer expanded freight capacity and intermodal double-stack capability for shippers. The importance of these three corridors to Louisiana lies with growth in the movement of containerized goods in particular and broader marketability of the state's transportation rail network generally. These conditions would appear to augur well for present economic activity and future economic development in the state. The Class I railroads anticipate that the other five corridors noted above will continue to see increases in rail traffic and will receive investment commensurate with that growth.

2.3.1.2 Class I Market Strategies

Oil and Gas Production

Traditionally, Louisiana has relied on the refining of its abundant crude oil reserves into gasoline to power its economy. This has made the economy vulnerable at times to fluctuations in the market price of oil. **Figure 2-23** shows the relative prominence of the oil and gas industry in Louisiana relative to other industries by state GDP in terms of location quotient (LQ) since the year 2000. The LQ shows the concentration of a given industry in a region (in this case a state) compared to the rest of the nation.

Figure 2-24 shows the employment concentrations of the three highest Louisiana industry GDPs by LQ for 2017, mining and oil & gas extraction, manufacturing, and construction, in geographic relation to the Louisiana rail network

Figure 2-23 Louisiana Industry GDP 2000-2018 by Location Quotient.

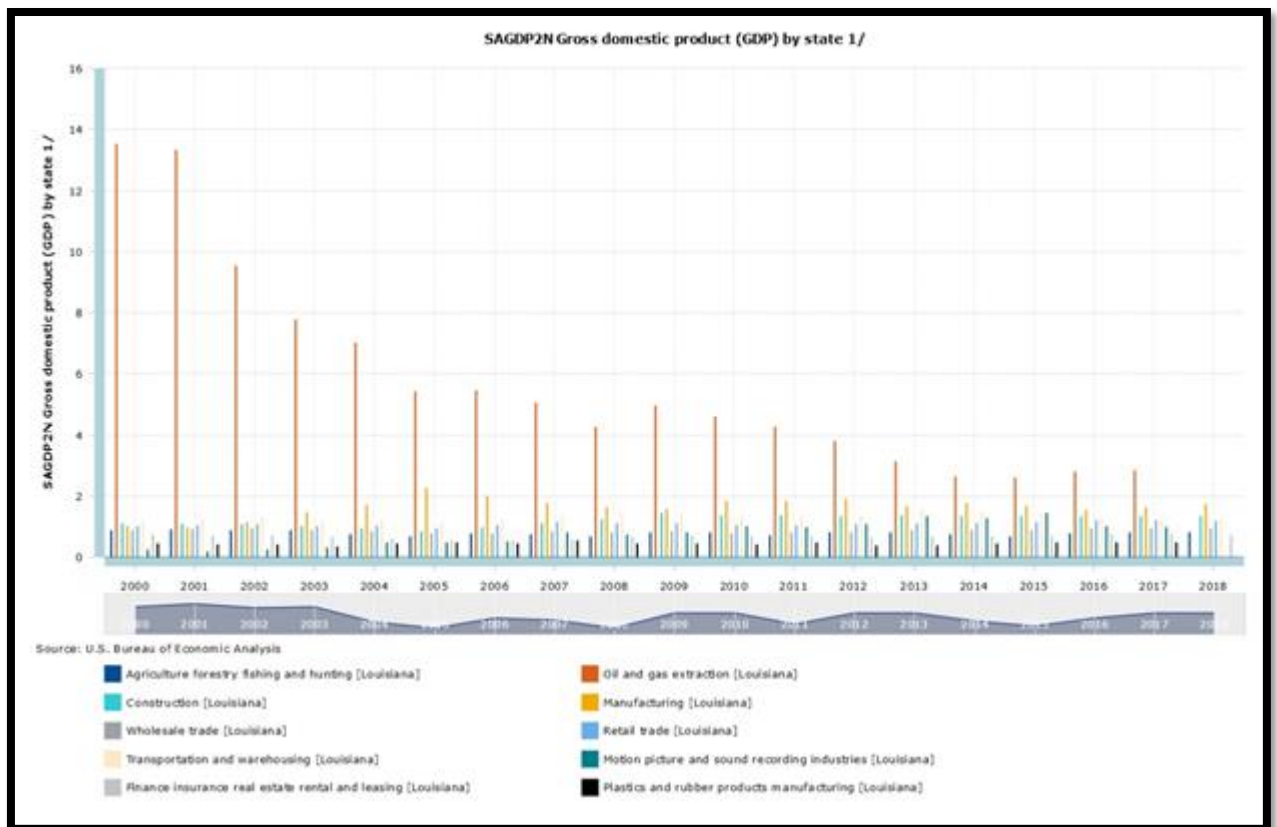
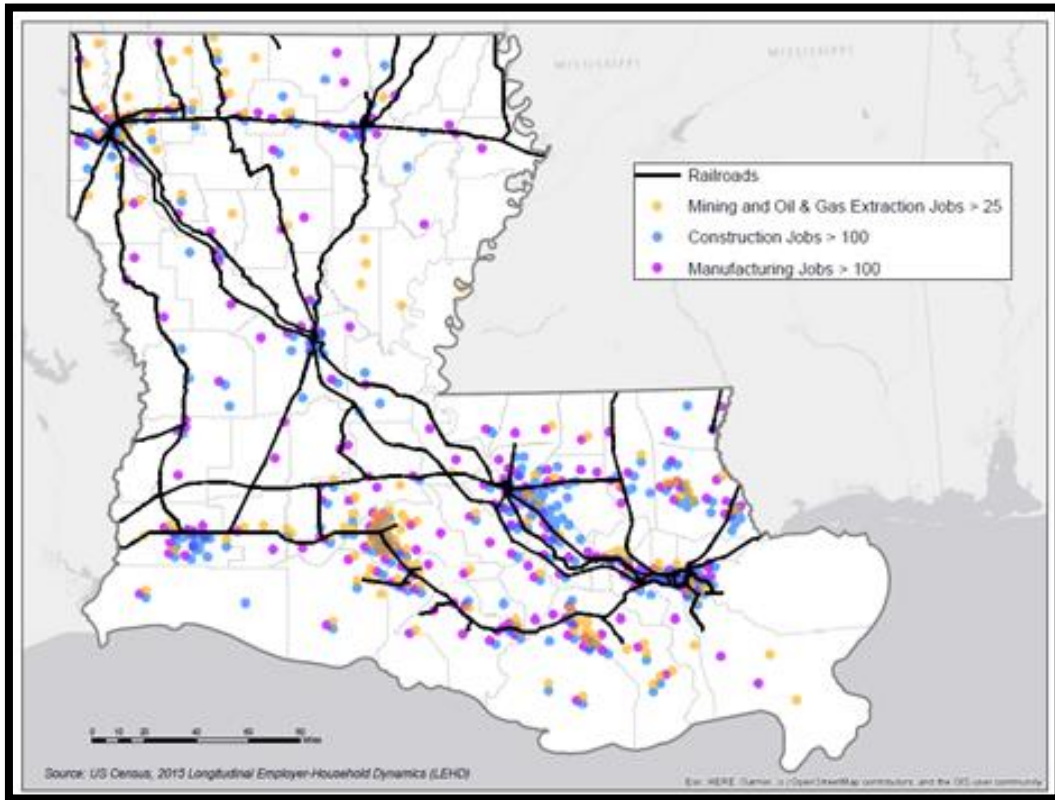


Figure 2-24: Employment Concentrations in Louisiana (Mining and Oil & Gas Extraction, Manufacturing, Construction)



While an industry with a high LQ and high employment numbers is important to the state's economic base, if the LQ is shown to be declining, as is the case with oil and gas extraction in Louisiana in Chart 1, then that industry is jeopardizing the economy. Louisiana has 18 refineries which can develop over 3 million barrels of crude into petroleum products per day. As of January 2018, 16 of these were operational. See **Table 2-40**.

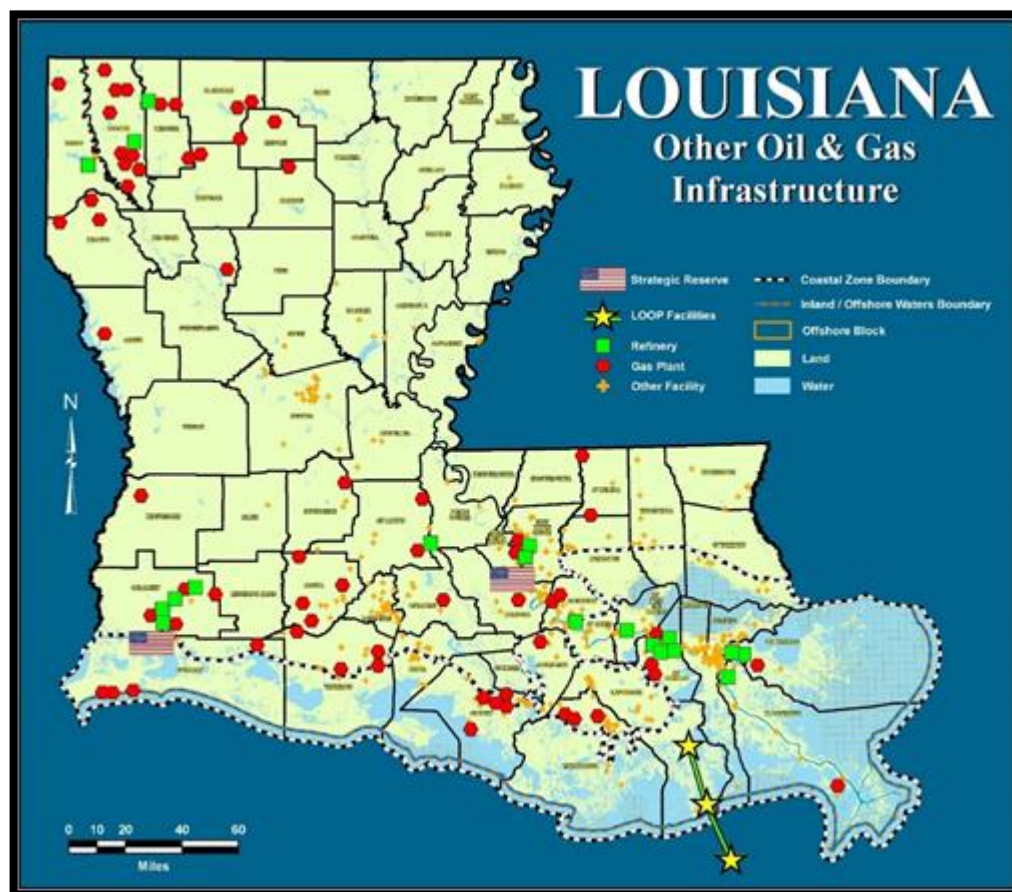
Table 2-40. Operational Louisiana Refineries as of January 2018

| Refinery | Location | Barrels/day |
|-------------------------|--|------------------|
| Alon Refining | Krotz Springs, St. Landry Parish | 80,000 |
| Calcasieu Refining | Lake Charles, Calcasieu Parish | 125,000 |
| Calumet Lubricants | Cotton Valley, Webster Parish | 13,020 |
| Calumet Lubricants | Princeton, Bossier Parish | 8,300 |
| Calumet Shreveport | Shreveport, Caddo Parish | 57,000 |
| Chalmette Refining, LLC | Chalmette, St. Bernard Parish | 190,000 |
| Citgo Petroleum | Lake Charles, Calcasieu Parish | 418,000 |
| ExxonMobil | Baton Rouge, East Baton Rouge Parish | 502,500 |
| Marathon Petroleum | Garyville, St. John the Baptist Parish | 556,000 |
| Phillips 66 | Westlake, Calcasieu Parish | 260,000 |
| Phillips 66 | Belle Chasse, Plaquemines Parish | 249,700 |
| Placid Refining Co | Port Allen, West Baton Rouge Parish | 75,000 |
| Shell Oil Company | Norco, St. Charles Parish | 218,200 |
| Shell Oil Company | Convent, St. James Parish | 210,000 |
| Valero Refining Co | Norco, St. Charles Parish | 215,000 |
| Valero Refining Co | Meraux, St. Bernard Parish | 125,000 |
| Total: | | 3,302,720 |

Source: <http://www.lmoqa.com/industry-sectors/> ("refineries")

Figure 2-25 shows that many of these 16 refineries are clustered within what is known as the Baton Rouge-New Orleans petrochemical corridor, running from East Baton Rouge to Plaquemines Parish.

Figure 2-25 The Baton Rouge-New Orleans-Plaquemines Petrochemical Corridor



Source: http://www.dnr.louisiana.gov/assets/images/oilgas/refineries/LA_Other_Facilities_rev031808.jpg

Of course, oil can also be delivered via rail from various source areas, including Permian Basin in West Texas via BNSF and UP. New rock fracturing technology (frac'ing) and horizontal drilling have caused a boom in Texas production. For example, by the end of 2014 oil production in the Permian Basin totaled 1.4 million barrels, up from 800,000 barrels in 2007, according to the U.S. Energy Information Administration. By 2018 this had increased to almost 4 million barrels per day, up from 1.4 million per day in 2014.

Chemicals

Louisiana ranks second in the nation in the primary production of chemicals. More than 100 major chemical plants are located in the state producing a variety of "building block" chemicals, fertilizers and plastics, plus the feedstocks (chemical precursors to industrial chemicals) for a wide array of other products. Most of these products and raw feedstocks are also transported by the Class I railroads in the state. Recent advances in the technologies of horizontal drilling and hydraulic fracturing have contributed to a renaissance in chemical manufacturing in the state. These technologies have combined with new discoveries of abundant natural gas supplies in the Louisiana portions of the Haynesville Shale, Austin Chalk, and the Tuscaloosa Marine Shale to make the state among the top producers of natural gas in the nation, even during a slump in oil and gas employment in the state. This surplus of natural gas is

being used by a multitude of new (since 2011) petrochemical companies in the state to produce feedstocks.

Although the Gulf Coast's petrochemical build-out is prone to the same boom-bust dynamic and macroeconomic forces that negatively affect LNG, this sector provides a good example of the type of value-added manufacturing-based development that is really what the region, and the US needs. LNG provides the basis for a long-term regional industrial revival, particularly in Louisiana where LNG is a key feedstock to the growing petrochemical industry.

According to the American Chemical Council (ACC), LNG is fueling an industrial renaissance in south Louisiana with over \$47B being committed for industrial plant expansions or new builds, principally in the petrochemical and fertilizer sectors. Collectively, the state is seeing over \$80B being committed for LNG related projects in all categories. In addition to Louisiana's Cheniere Energy and other proposed or under construction LNG export facilities, the ACC lists 274 announced projects related to the shale oil and natural gas boom. It is estimated that once new projects come online by 2023, they could account for "\$93B in incremental output" and generate approximately "62,000 direct chemical industry jobs" and an estimated 665,000 indirect industry related jobs. Of these investments, two-thirds are in bulk petrochemicals and plastic resins, and Louisiana is sharing in this market growth with the addition of 26 chemical industry related projects. This is good news for Louisiana and the US Gulf.

More recent industrial chemical developments and expansions include the following:

- In 2015, Formosa Petrochemical Corporation of Taiwan announced that it would build a \$9.4 billion ethane cracker (a facility which splits the chemical component ethane off of the natural gas molecule) as part of a larger petrochemical development plant in St. James Parish to produce ethylene, propylene, ethylene glycol, and other polymers;
- New Jersey-based Honeywell completed a \$300 million automotive air conditioning coolant plant in Ascension Parish in 2017; In 2018 Westlake Chemical Corporation of Houston announced a \$140 million expansion of its polyvinyl chloride operations in Geismar in Ascension Parish;
- Shintech Louisiana LLC, which is a subsidiary of Japan's Shin-Etsu Chemical Co. Ltd, announced in 2018 that it would invest \$1.49 billion in a chloralkali and vinyl chloride factory in Iberville Parish as well as an expansion of a polyvinyl chloride facility in Plaquemines Parish.

Wood Products

Louisiana has more than 13.9 million acres of forests, including pine, oak, gum, and cypress. Approximately one billion board feet of timber and 3.6 million cords of pulpwood are cut annually to support a variety of forest-related industries including Kraft paper and fine-paper mills, plywood and particle board plants, furniture and flooring manufacturers, pulp mills, liner board and containerboard factories, and paper bag plants.

Agriculture and Food Processing

Louisiana is among the top 10 states in the production of sugar cane (second), sweet potatoes (second), rice (third), and cotton (fifth). It is also a major producer of beef cattle. Louisiana is the sole source of the Tabasco pepper prized as a condiment around the world and is also the sole source of perique tobacco which is widely used as flavoring with other tobaccos. The state's huge agricultural production supports more than a dozen rice mills, seven sugar refineries plus nearly two dozen other sugar-related facilities, and a number of canning plants, cotton gins, and meat packaging plants. Due to the export of many of these agriculture and food products, the Class I railroads carry much of this product to Louisiana ports for forwarding to the global market.

Port Connectivity

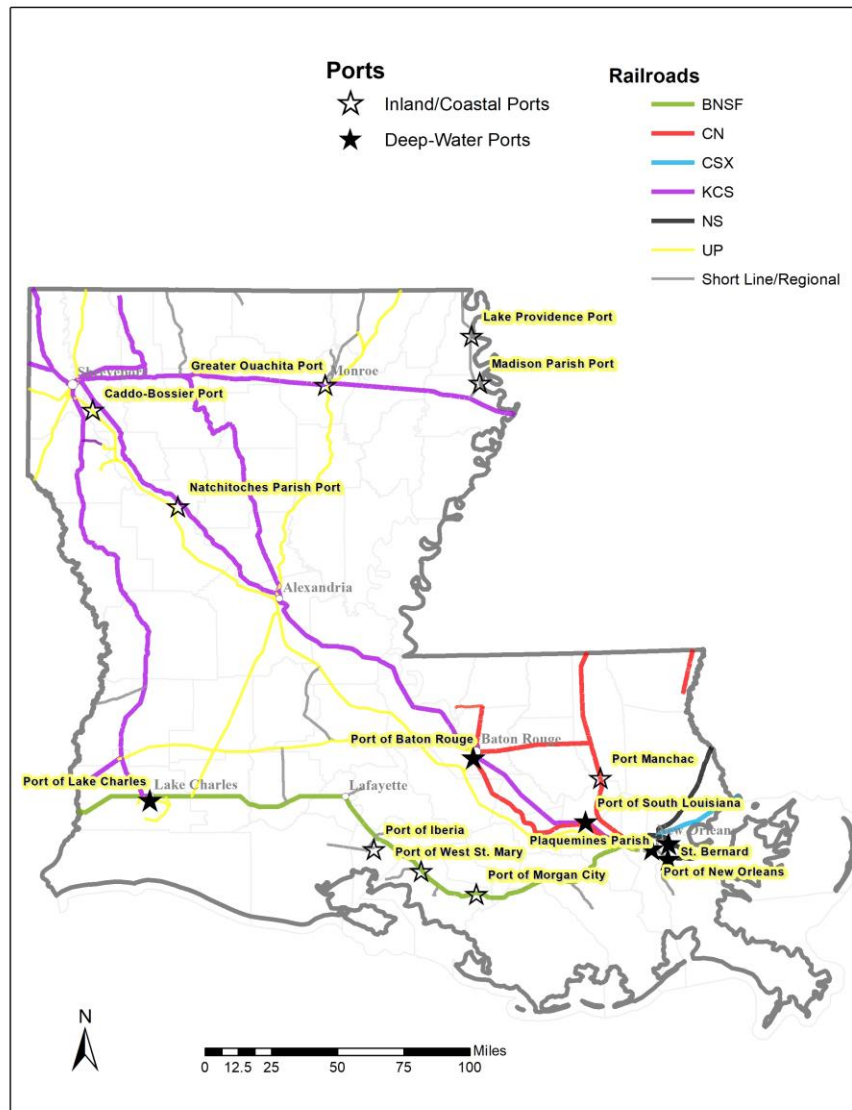
There are 15 rail-served ports in Louisiana and several others that lie close enough to elements of the state rail system that they could easily be reached if the need were to arise. See **Figure 2-26** and Appendix I for more information. There are six deep-water ports, which are:

- Plaquemines Parish
- St. Bernard
- Port of New Orleans
- Port of South Louisiana
- Port of Baton Rouge
- Port of Lake Charles

There are nine inland/coastal ports, which are:

- Port Manchac
- Greater Ouachita Port
- Port of Morgan City
- Port of West St. Mary
- Port of Iberia
- Natchitoches Parish Port
- Caddo-Bossier Port
- Lake Providence Port
- Madison Parish Port

Figure 2-26: Port and Port Connectivity



At the Port of Baton Rouge, Union Pacific is investing over \$20 million to increase the lengths of trains for port shipping from 45 cars to 80 cars. This is part of almost \$60 million in infrastructure investments at the port to make it easier to ship commodities including grain, corn, and soybeans, especially when the level of the Mississippi River is too high or too low

By far, the largest rail served port in Louisiana is the Port of New Orleans. The port handles a plethora of consumer and manufactured goods, natural rubber, steel, coffee, and wood products. It is the only such marine facility in the U.S. to have access to six Class I railroads, and is also served by the four ocean carrier alliances, and over 25 breakbulk and heavy-lift carriers. The Port of New Orleans also utilizes 15 barge lines and 75 truck lines. Neutral access for the Class I railroads is provided by the NOPB.

For decades, the US Department of Transportation through the United States Maritime Administration has been promoting Container on Barge (COB) services by funding select maritime projects that would highlight the inherent advantages of this unique type of waterborne transportation. UNOTI first started our research into this mode in 2009 - 2010 by conducting a field investigation from New Orleans up the Mississippi River to roughly Lock 27, just north of St. Louis. At that time, there were no COB services on the Mississippi, but by 2016 MARAD funded a small demonstration project for \$175 million incorporating Memphis, the Port of Baton Rouge and the Port of New Orleans. This project showed how a unique combination of ports, low-tech transportation, a willing shipper (Seacor AMH) and an emerging commodity (PVC resins) could make COB viable. This service showcases the possibilities of COB but it remains a valuable yet niche transport demonstration.

The COB project functions by Seacor AMH repositioning empty containers from their Memphis operation down to the Port of Baton Rouge's Port Allen terminal where the empties are stuffed with PVC resins, manufactured by chemical plants along the Mississippi River between Baton Rouge and New Orleans, for export from the Port of New Orleans. Petrochemical plants send trucks to the Baton Rouge container yard on the Port Allen Canal where they are collected for stuffing then loaded onto barges for export from the Port of New Orleans. Existing volumes are between 250 to 260 boxes per week with expectations of 300 to 400 boxes per week in 2019. Each container moved by COB is one less moved by truck and the success of the program to date has encouraged Seacor to consider expanding the service as far north as St. Louis.

A recent development may induce more users of COB. American Patriot Holdings, LLC has been promoting Container-on- Vessel, a revolutionary possibility for inland maritime transportation. The concept is similar to Container-on-Barge, but uses a new faster, wake-free vessel rather than the conventional barge. However, there is still skepticism among the inland maritime users since the proof of concept vessel has yet to be built or tested.

Opportunities Arising from Structural Changes

Structural changes in goods movement globally affect Louisiana ports. How Louisiana ports respond to changes will affect connecting rail import/export movements. Four factors on which Class I strategic planners have been focusing are noted below.

- **Panama Canal Expansion** – A major driver in reshaping rail traffic patterns almost certainly is the expansion of the Panama Canal. As noted above, the Class I railroads, particularly NS and CSXT, have been making corridor improvements in anticipation of new traffic coming to East Coast and Gulf ports as a result of this investment.
- **All-water Suez Canal Route** – Another factor is shifts in manufacturing to south Asia, for which the shortest and fastest routes to U.S. markets will be through the Suez Canal, which was expanded to two parallel canals in 2016, to East Coast and Gulf ports.
- **Free Trade Agreements and the Trade War** – Fallout from the trade war between China and the U.S. has impinged on the flow of commerce for rail in the U.S. Freight volumes are down for the second half of 2019 due to the trade war and associated slowing global economy
- **Four Corners Approach** – The traditional pattern of shippers relying on the Port of Los Angeles and the Port of Long Beach, otherwise known as the San Pedro Bay Ports (SPBP), to handle the majority of their Asian/U.S. imports and exports has changed in the last decade. Owing to port disruptions in 2002, 2004 and 2005, and 2012, shippers have sought alternative port gateways for handling their international trade movements. They have adopted what is termed the “four corners approach” to diversify the risk of handling the majority of their container trade through the SPBP. This approach uses ports in the Pacific Northwest, the Atlantic East Coast, and the Gulf of Mexico to complement flows through SPBP.

The forces shaping the future of port activity that are external to Louisiana have implications for the state's port and related rail system demand. The Panama Canal expansion and continued development of an all-water route via the Suez Canal will affect future port and international rail traffic patterns. Shifts in geography of gateway port use, whether tied to risk reduction, cost reduction, or operational changes on the part of shippers, will affect state rail system demand. Institutional influences such as the trade war restricting traditional markets for trade will also influence future port cargo volumes.

Market Strategies Summary

Class I railroads are well aware of market opportunities, such as the examples cited above. As for-profit businesses, they can be counted on to make the most of any such opportunities. In regard to specific commodities, the most dynamic movement is plastic resin production from the increase in Louisiana natural gas frac'ing, finding its way to export from Gulf ports. This is a market which has expanded significantly since 2011 and it is on a rapid growth trajectory.

Structural changes with regard to global traffic movements bear import to Gulf ports and the railroads serving those ports. Oft-discussed are the implications of ongoing Panama Canal expansion, but restricted north-south flows, triggered by the trade war, do not hold promise for increasing rail-borne traffic going to and from Gulf ports.

2.3.1.3 Main Line Capacity Constraint: New Orleans

According to the *National Rail Freight Infrastructure Capacity and Investment Study*, the only major main line capacity constraint in Louisiana is in New Orleans. The study rated the rail plant in New Orleans as near capacity, viz., heavy train flow with moderate capacity to accommodate maintenance and recover from incidents. Without improvement, the strain on capacity will result in slower interchanges between eastern and western carriers. Impacts to motor and emergency vehicle traffic attempting to cross rail lines clogged with trains will worsen as well.

To be sure, the issue has been well recognized for years by the Class I railroads that interchange traffic in New Orleans. In response to the challenges of moving rail freight, a major capacity enhancement initiative has been developed and is described below.

2.3.1.4 Other Class I Needs

Class I railroads have needs to invest substantial amounts of capital into their infrastructure to ensure their capability to move their customers goods efficiently and reliably. Class I railroads typically fund these improvement programs through their internal cash flows. As private enterprises, they can also borrow funds or issue stock to raise the capital for improvements. The completion of the Positive Train Control implementation should free up additional Class I capital to fund other improvements.

2.3.1.5 Short Line Needs

Short line railroads often require some form of public or outside assistance to fund major infrastructure and capacity improvements. A challenge facing short line railroads in Louisiana is the need to upgrade infrastructure for handling heavier railcars with maximum allowable gross weights of 286,000 pounds (up from previous standards of 263,000 and 268,000-pound loaded cars).

2.3.1.6 Safety Enhancement

According to FRA rail safety statistics presented Section 2.2.9, railroad incidents and accidents for the 10 years between 2002 and 2011 declined by a third. The downward trend occurred in all three kinds of reportable incidents: train accidents, highway-rail accidents, and other incidents involving train accidents or crossing incidents that cause physical harm to persons. Louisiana's experience with an

across-the-board decline in FRA reportable incidents mirrors that of the nationwide trends as a whole. Continued investment by the LADOTD and railroads in crossing safety is a continuing need for Louisiana.

2.3.1.7 Positive Train Control Implementation

Federal legislation enumerated in the Rail Safety Improvement Act of 2008 mandates that Positive Train Control (PTC) systems be implemented over a substantial portion of the U.S. rail network by December 31, 2015. According to the Federal Railroad Administration (FRA), lines requiring PTC installation are those carrying 5 million gross tons or more annually (most Class I main lines) that handle any poisonous-inhalation-hazardous materials (some of which are manufactured in Louisiana), and any railroad main lines over which regularly scheduled intercity passenger or commuter rail services are operated. Once complete, FRA estimates that approximately 70,000 miles of track will be equipped with PTC. In 2015 Congress extended the deadline for full implementation of PTC to 2020. This included a two-year testing period after 2018. As of July 1st 2019, the Class I railroads were on schedule to meet this deadline, according to the AAR.

PTC technology can prevent train-to-train collisions, over-speed derailments by enforcing speed limits, unauthorized incursions by trains into established work zones (thus eliminating casualties or injuries to roadway workers), and movement of a train through a switch left in the incorrect position. Legislation requires that PTC be adapted to mitigate the foregoing conditions, and that such systems be interoperable with all railroad operators on each corridor.

PTC is a proactive system of signal enforcement that stops a train before a potential collision or accident occurs. PTC systems may be quite different in sophistication and complexity, depending on the level of automation and functionality, the system architecture, the wayside system upon which the PTC system is based, and the degree of train control that the system can assume.

PTC uses digital communications systems, global positioning system (GPS) technology, and on-board computers with track databases to continuously monitor train location and speed. PTC is integrated with railroad dispatching systems to manage train traffic.

The regulatory criteria for PTC installation applies to most of the Class I railroad miles in Louisiana. As of 2019, PTC technology was installed on 100% of Class I engines, all wayside units and radio towers were in place, and all needed rail employees had been trained in the system. Ninety-one percent of required route-miles were operating under PTC.

2.3.2 Passenger Rail Services

2.3.2.1 Intercity Improvements

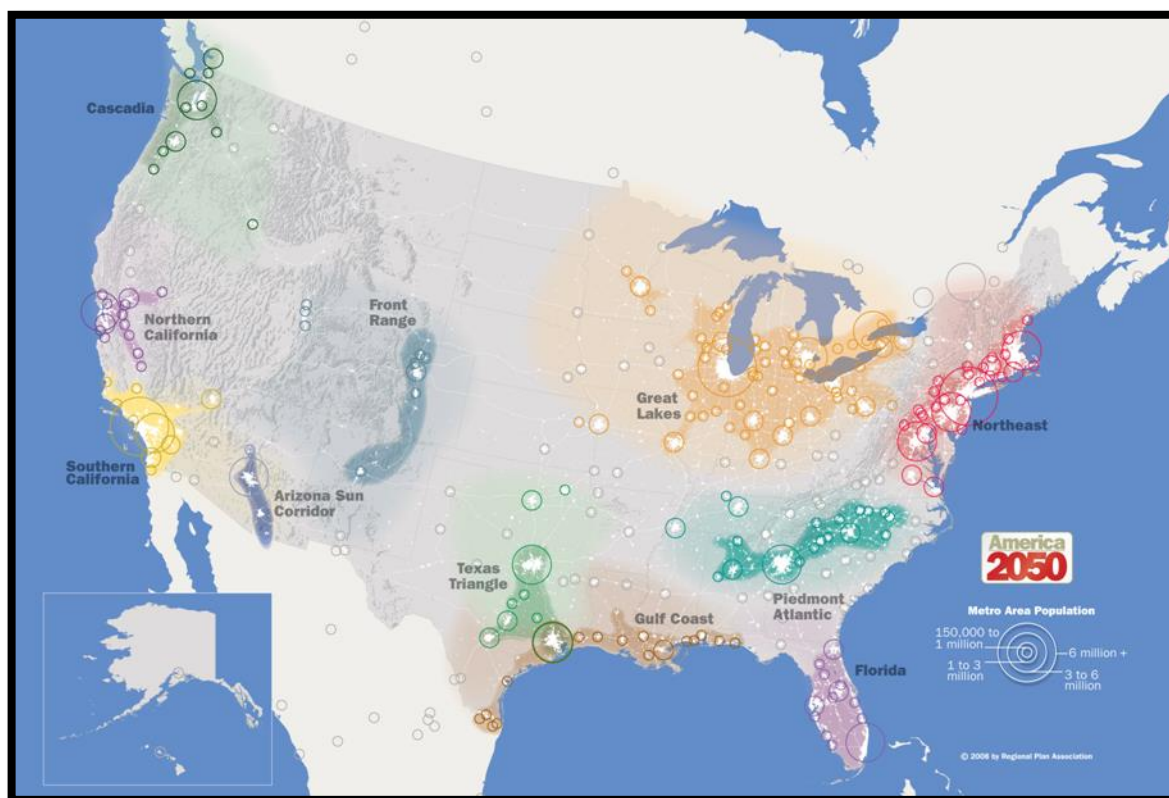
With Louisiana's central location along the Gulf Coast and with New Orleans a connecting hub for rail and water transportation, Louisiana is also the hub for all of the proposed legs of the Gulf Coast High-Speed Rail Corridor:

- Mobile – New Orleans
- Atlanta – Meridian – New Orleans
- Houston – Lake Charles – Baton Rouge – New Orleans
- Memphis – Jackson – New Orleans (Feeder Route)

All connect in the hub of New Orleans, Louisiana. In addition, there are concepts studied for routes linking Shreveport with Dallas to the west and Meridian to the east. Another potential would be to link Shreveport with Baton Rouge and New Orleans.

The state's central location brings both opportunities and challenges. The biggest challenge and opportunity is the growth in travel demand. The increase in short-distance travel demand (trips less than 600 miles) is being influenced by growth along the Gulf Coast, an emerging megaregion. A megaregion is a network of metropolitan areas linked by geography, settlement patterns, shared environment, infrastructure systems, economics and trade, shared culture and history. Southern and Central Louisiana lie within the Gulf Coast Megaregion, which stretches from Brownsville, TX to Pensacola, FL as shown in **Figure 2-26**. According to the 2006 *America 2050* report, most of the nation's population and economic expansion is expected to occur in the emerging megaregions. This increased traffic will strain existing infrastructure beyond capacity and require additional capacity and travel options in order to avoid gridlock.

Figure 2-27: Megaregions of the United States in 2050



Source: <https://web.archive.org/web/20130325033001/http://www.rpa.org/america2050/sync/elements/america2050map.png>

Without expanded transportation capacity, Louisiana's competitive position in the transportation marketplace will deteriorate and the costs for business, manufacturing and trade will increase. These changes will hinder growth and possibly divert economic activity to other regions. Intercity passenger rail is proposed as one option available to increase Louisiana's transportation capacity and travel options. Intercity passenger rail is most competitive in corridors of 100 to 600 miles that link major

cities with frequent service while connecting with other transportation modes. The Gulf Coast High-Speed Rail corridor serves such major city pairs.

Over the past decade Louisiana and the Southern Rail Commission have undertaken several in-depth studies of potential rail passenger corridors.

Southern Rail Commission

Working to begin to address this challenge and opportunity is the Southern Rail Commission (SRC), formerly the Southern High-Speed Rail Commission (SHSRC), which has developed a strong working relationship among its members: Mississippi, Louisiana and Alabama. Texas and Georgia are also potential corridor partners. The Commission members working together have already accomplished key service experiments (i.e., *Gulf Coast Limited*), although they were short-lived, and have worked to lay the foundation for future service. With that focus they are in the process of systematically developing plans for the Gulf Coast High-Speed Rail Corridor stretching from Atlanta to New Orleans, 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 to Mobile 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 routes can be developed. This larger network will help foster development, enhance transportation capacity and provide additional transportation choices.

The Restoration Enhancement Grant was enabled by the Fast Act in 2015. It authorized funding over a 6-year period and most importantly a federal/local 80/20 match. The 20% local match is the minimum. Additional local or private funds help improve the public value of the requested federal investment. Under this grant program in 2019, the Southern Rail Commission (SRC) received \$4.4 million to fund operating expenses for the first year of service along the new Gulf Coast rail line and leverages commitments of approximately \$1.4 million from the states of Louisiana and Mississippi. Additionally, in 2020 the SRC received \$5.45 million for intercity passenger rail service with state supported Amtrak service from New Orleans, LA to Mobile, AL with six station stops in New Orleans, Bay St. Louis, Gulfport, Biloxi, Pascagoula, and Mobile. The service will provide two daily round trips. These awards follow a recent \$33 million federal grant award through the consolidated rail Infrastructure Safety and Improvements Program to complete major infrastructure and capital improvements necessary for service restoration.

Challenges for New Services

Expanding Louisiana rail passenger service faces several challenges. While New Orleans is the corridor hub and will directly benefit from improved access, many of the origins or destinations are outside the state of Louisiana. With the exception of Baton Rouge – New Orleans, the only way to implement additional rail passenger service along the Gulf Coast High-Speed Rail Corridor is in partnership with other states. Unlike other corridors where one state can be the dominant partner and through its commitments and funding sources overcome the budget shortfalls and issues of both itself and partner states, the states of the Southern Rail Commission are truly interdependent. With one or two exceptions, rail service cannot begin or continue without full funding support of all SRC member states. Currently the growth of rail freight traffic has resulted in the freight rail industry requiring some capacity improvements for even one daily round-trip. In addition, safety improvements represent a substantial start-up cost.

These changes are occurring in an environment when state and local transportation budgets are in substantial distress. States or local jurisdictions will be challenged to raise the required 20% 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, USDOT, 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 rail passenger service.

Requirements for the federal funds are rigorous. Not only must prospective applicants have strong state and regional plans, but the state and regional 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.

Finally, Louisiana and its partner railroads must negotiate an agreement acceptable to the Federal Railroad Administration (FRA) that defines performance standards (i.e. schedules, on-time performance) and capacity utilization (balancing freight benefits and passenger rail benefits and preserving some capacity constructed with public funds for future rail passenger service).

Station Needs

As noted in Section 2.1.2.3, Amtrak had identified needs for both ADA-compliance and a state of good repair at its six stations in Louisiana. This finding was supported by LaDOTD's 2018 report on Amtrak station conditions.

Beyond such needs, many more are required at NOUPT and the surrounding rail infrastructure, where new passenger rail services may be implemented connecting New Orleans with Baton Rouge with commuter service; or with Meridian/Atlanta and Mobile to the east, Lake Charles and Houston to the west, and Jackson and Memphis to the north. These improvements are outlined by service corridor in Chapter 3.

2.3.2.2 Hurricane Evacuation

In the aftermath of Hurricane Katrina, it became apparent that additional resources would be required to fully evacuate low-lying areas in New Orleans, and that the local rail network offered a unique asset that could be utilized. With the high percentage of residents not owning cars and with future city rebuilding and growth supported with improved transit, the NOUPT, the Gateway Rail network, and existing rail passenger resources became an additional element of the area's evacuation plans. These plans were tested in 2008 when Hurricane Gustav led to an evacuation of New Orleans.

One of the challenges of expanding the use of passenger rail for evacuation is the limited equipment resources currently available in New Orleans. Thus, providing a readily available source of equipment and staffing for hurricane evacuation trains becomes a key benefit of the expanded rail passenger routes outlined in Chapter 3. In planning for the implementation of new routes, the role of rail passenger service in evacuation plans must be reflected in those plans and in capital investments. To meet this criterion the new service must be robust and have the surge capacity, track capacity and reliability to continue to operate as long as possible during the last stages of evacuation. Additional rail/highway grade separations and fencing in New Orleans and its suburbs and perhaps the passenger flyover at East Bridge Junction would help achieve this goal.

2.3.2.3 Other Intercity Rail Opportunities

A concept that is the subject of continuing study is a Baton Rouge – New Orleans intercity rail service. LaDOTD had originally identified the potential of a new passenger rail service to allow former residents of New Orleans, who had been displaced by Hurricane Katrina in 2005 and had relocated to the Baton Rouge area.

Louisiana State Rail Plan

Rouge area, a means of commuting by rail to downtown New Orleans work centers. A 2010 plan for the service is described in Chapter 3. The Regional Planning Commission in New Orleans, the Capital Region Planning Commission in Baton Rouge, and the Baton Rouge Area Foundation are conducting an update to that plan.

It is likely that the sponsors of the service will be composed of the communities served. The route involves the KCS line for most of the route and has a terminus at NOUPT. An important part of the service will be integration with local transit in New Orleans, needed to move passengers from the train to downtown work centers.

Another concept under study is service between Shreveport area and the Dallas area. More information is provided in Chapter 3. Two studies of this concept are ongoing and are also discussed in Chapter 3. If this service is built, a potential latter phase would be to link it to new service to Meridian, MS and the Crescent Corridor. The Northwest Louisiana Council of Governments intends to study the feasibility of lining Shreveport to Vicksburg, MS by intercity rail passenger service in 2014.

2.3.2.4 Multimodal Integration

The improved rail passenger route is but one part of the transportation product. A key facet is enabling the passenger to reach their final destination in a convenient, timely manner. This requires the rail station to be more than the gateway to the train; it must also offer connections to the passenger's destination whether it is within the city, in the region or another intercity journey. Several Louisiana stations are multimodal terminals. Located downtown they are within easy walking distance of nearby destinations.

New Orleans Union Passenger Terminal offers train-to-train connections and will be the future hub for the Gulf Coast Corridor's three routes. It is also the Greyhound Terminal offering connections to intercity motor coach service. One Amtrak Thruway route to Baton Rouge originates at the station.

Two stations, Lafayette and Lake Charles, are local transit centers offering connections with the local transit bus network. Hammond offers "on call" transit service to the Amtrak station while there are few transit connections except taxis at the remaining stations. There is long-term parking at New Orleans with three other stations offering on-site long-term parking. Three others offered long-term parking nearby, and only New Iberia does not seem to have any long-term parking opportunities around the station area.

The plans for the Gulf Coast High Speed Rail Corridor include initiatives to assure that the proposed stations are Multimodal Gateways. Planning efforts undertaken as the corridor is being developed will reinforce higher density walkable development around the station. The stations will be transit hubs, and in some cases regional transportation hubs, thus allowing convenient transfers that will take the passengers to their final destination. A connection between the Kenner Station and the Louis Armstrong New Orleans International Airport is planned. Some stations, located near Interstate highways will have large parking lots and focus on the auto-train interface.

Finally, providing information to the perspective passenger about intermodal connections and how to get from the train station to their final destination is almost as important as the physical connection itself. Several states have taken advantage of stakeholder resources to develop a corps of station and on-board docents to aid and inform rail passengers of the station services available, taxis, local and regional bus routes, state/city attractions, local/shops and restaurants.

2.3.3 Rail Financial Needs

The development by Louisiana of a funding strategy to support rail transportation, whether commuter rail, intercity passenger rail or freight rail, is the lynchpin for maintaining and expanding existing service and initiating new service. This funding strategy can take many forms as demonstrated by the experience in other states. The most consistent is a flow of funds for both operating and capital support from a guaranteed source (a sales tax on fuel, or a general sales tax). One plan that has shown consistent results is a freight ton-mile fee. Tennessee, for example, charges railroads \$0.4 for every ton of freight moved in the state and uses the revenue for capital investment and maintenance of its short line system, as well as other components of its overall intermodal capacity, as long as the investment can be shown to remove freight from interstate highway trucking. In 2019, Bass, Berry & Sims' attorney Michael Cottone stated the U.S. Supreme Court did not grant certiorari in *Illinois Central Railroad Co. v. Tennessee Department of Revenue*, a Sixth Circuit case involving claims that Tennessee's tax scheme for diesel fuel discriminates against rail carriers in violation of the Railroad Revitalization and Regulatory Reform Act of 1976. The lower courts ruled that the tax was constitutional, therefore, the tax stands.

In general, Louisiana's Class I rail infrastructure shows no major deficiencies, with the exception of the New Orleans Rail Gateway. That noted, Louisiana's short line rail network needs assistance, particularly with regard to upgrading lines to handle maximum loaded car weights of 286,000 pounds and relocating lines outside of urbanized areas as with the New Orleans and Gulf Coast Railroad project. At the same time, Louisiana has no dedicated funding source for rail improvements, either freight or passenger. A dedicated fund, with the flexibility to direct grants or loans to strategic rail projects on a statewide basis, would provide the state the means and opportunity to address many of the issues noted above over a reasonable period of time.

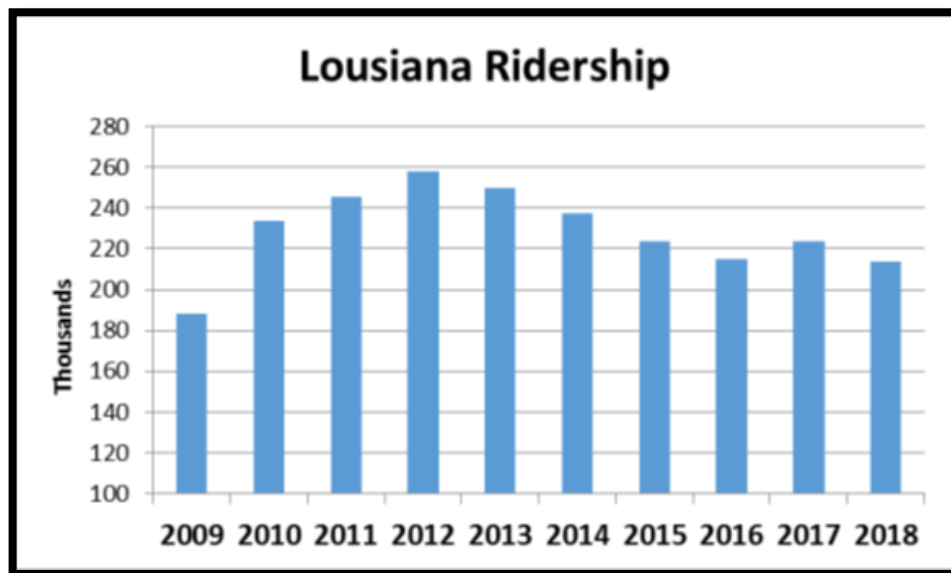
Chapter 3. Proposed Passenger Rail Improvements and Investments

3.1 Introduction

The purpose of this chapter is to describe the proposed improvements in Louisiana that could expand the state's limited passenger rail network, link major population and cultural centers, and enhance mobility for Louisianans while lessening their dependence on the automobile.

Ridership in Louisiana increased after Hurricane Katrina and reached a high in 2012. However, ridership in Louisiana has declined since. See **Figure 3-1**. Leadership and funding are critical issues for Louisiana to maintain and expand its passenger rail service. Strong public support for the development of Baton Rouge – New Orleans intercity rail service was expressed in a 2019 poll by the SRC. The data show that 85% of the respondents think it is very important or important to have an intercity rail service between New Orleans and Baton Rouge. The poll also found that 63% said they would use the train and more than 80% supported the state including passenger rail in the transportation options they currently provide along with highways and airports.

Figure 3-1: Amtrak Ridership in Louisiana in the last 10 years



Source: Amtrak

Discussed below are the proposed intercity service, various intercity rail concepts, as well as station improvement needs. Specific studies pertaining to each option are referenced. Where details exist, the narrative for each option describes the corridor, the corridor development plans, stations and equipment, capital costs, and other benefits of the service that were cited in the respective studies.

3.2 Baton Rouge – New Orleans Intercity Service

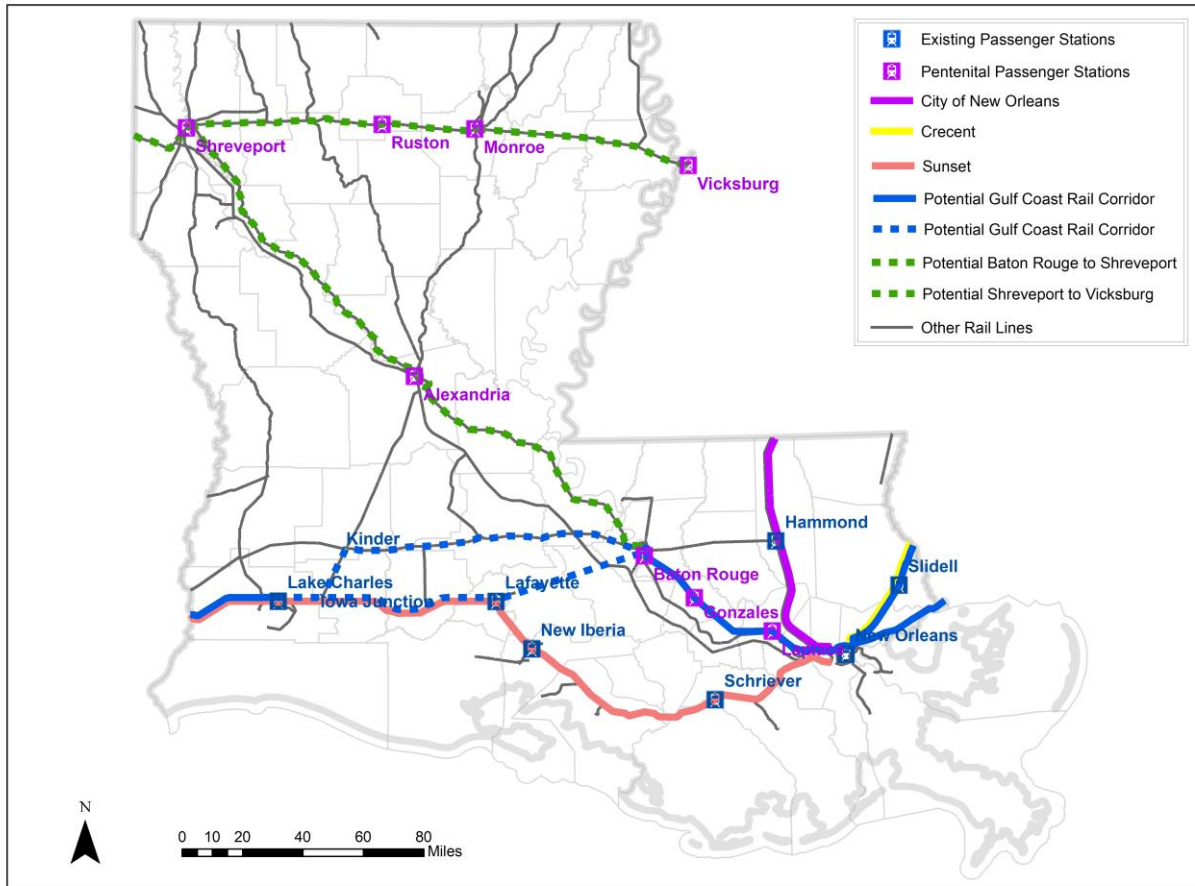
In the aftermath of Hurricane Katrina, the loss of housing and the displacement of New Orleans' population to Baton Rouge and other cities along the Interstate 10 corridor changed regional travel patterns. This resulted in the Baton Rouge – New Orleans corridor becoming Louisiana's highest priority passenger rail route. The need for multiple options for emergency evacuation also added to the importance of this route. Reflecting this priority, the former Southern High-Speed Rail Commission (now the Southern Rail Commission) obtained funding for an in-depth study of the route (*Baton Rouge – New Orleans Intercity Passenger Rail Service Development Plan, Volume I, Summary Report*, December 2010) which was subsequently updated (at least in part) in both 2014 and in 2019.

The Baton Rouge – New Orleans route is the eastern segment of the longer Gulf Coast High-Speed Rail Corridor extending from New Orleans – Lake Charles – Houston previously studied in a report issued in September 2002. The proposed service would have intermediate stops at Kenner (Louis Armstrong New Orleans International Airport), La Place, Gonzales and South Baton Rouge.

3.2.1 Corridor Description

Previous studies identified the KCS line as the apparent best route between Baton Rouge and New Orleans. The total length of the proposed route is almost 80 miles. While most of the route is owned by KCS (67.5 miles), near New Orleans segments of the CN (8.5 miles) and New Orleans Union Passenger Terminal (NOUPT) (3.7 miles) are utilized. The line segment between NOUPT and Orleans Junction (11.5 miles) is used by Amtrak's City of New Orleans. These are illustrated in **Figure 3-2**.

Figure 3-2: Potential Passenger Rail Routes in Louisiana



Source: Prepared by UNOTI.

The route is relatively flat and straight and outside of urban areas there are only three locations with curvature geometry requiring a speed restriction of 70 mph. In Baton Rouge there are three curves with 40 mph speed restrictions while turnouts at junctions in the New Orleans Rail Gateway also have speed restrictions. The proposed route is single track with sidings and has a short segment of double track on the CN between Orleans Junction and Mays Yard. The rail line from NOUPT to Southport Junction is single track with no passing sidings.

Track inspection and timetable speed limits researched in the 2010 report found rail and tie conditions on all of the line segments in generally good condition for present service. The report found 11 significant bridges on the KCS that need replacement or major rehabilitation. The majority of these bridges were found to have pilings in poor condition and some have poor tie conditions. The Bonnet Carré Spillway bridge is especially problematic with a 10 mph speed limit. Other bridges on the route (42 locations in total) need some degree of maintenance/ rehabilitation and need to be converted to ballast deck bridges. There are 157 rail-highway at-grade crossings between Baton Rouge and New Orleans.

The CN and Amtrak segments are controlled by Centralized Traffic Control (CTC), whereby a dispatcher controls switches and signals from a central location. The KCS segment has Automatic Block Signals

(ABS) with train movements authorized by Direct Traffic Control (radio communications with the train dispatcher). With ABS, switches at sidings are not controlled by the train dispatcher but are manually aligned whenever a train has to enter a siding; a time-consuming process where the conductor must walk the length of the train in order to realign the siding switch. Alternatively, the siding switch can be left misaligned, requiring a following train to stop and align the switch. Currently the last 1.8 miles of the route to the proposed Baton Rouge Terminal Station is within Yard Limits, requiring trains to operate at restricted speed (not exceeding 20 mph). In addition, the main line is used as a yard switching lead due to the shortness of the existing lead.

One area of concern was noted in an earlier 2007 report. At Norco the KCS rail line is routed through the Shell Refinery. Currently the main line is used to support in-plant switching and the several spurs that support plant operations.

The KCS operates between four and six freight trains per day between Baton Rouge and Frelsen Junction (KCS's connection to CN's Baton Rouge Subdivision). About 10 freight trains per day use the 0.7 miles between Frelsen Junction and Orleans Junction (CN's route from Jackson, MS) and 12 freight trains and two-passenger trains travel between Orleans Junction and CN's Mays Yard. Between Mays Yard and Southport Junction (connection with the passenger line to New Orleans Terminal) is the complex East Bridge Junction with additional passenger trains operating three days a week (Sunset Limited) and about 30 interchange freight trains/yard transfers a day.

3.2.2 Corridor Development Plan

New passenger trains, operating up to eight round trips daily at speeds up to 110 mph, will require capacity improvements to ensure fluid passenger and freight operations.

Key capacity improvements identified in the *Rail Service Development Plan – Baton Rouge – New Orleans* for the New Orleans Rail Gateway and New Orleans Union Terminal are summarized below. Capacity improvements for the remainder of the route are outlined in Appendix C. The comprehensive improvements listed in the plan include:

- Upgrades to the existing track structure and geometry, including replacing half of the cross-ties;
- Upgrades to the signal system (especially the installation of CTC and PTC);
- Reconfiguration and relocation of siding switches and installation of controlled switches to improve network flexibility and throughput;
- Increases in capacity through the installation of seven additional sidings and two additional trackages;
- Improving NOUPT to accommodate additional trains with greater efficiency;
- Upgrading/replacement of 53 key bridges, especially the Bonnet Carré Spillway bridge;
- Improving the New Orleans Rail Gateway network for additional capacity, fewer delays and greater efficiency;
- Improving or separating rail/highway grade crossings;
- Installing fencing at selected locations.

Improving the New Orleans Rail Gateway network and rail/highway grade crossings are an example of a near-term improvement undertaken to lay the foundation for additional rail passenger service that is of immediate benefit to freight rail customers and motorists. The improvements listed in the plan would provide the capacity to handle the proposed passenger rail improvements (additional frequencies, increased reliability and faster travel times) and the projected rail freight growth.

As this is a route with moderate freight traffic, some of which originates at oil refineries, PTC will be in service in 2020 before any expansion of rail passenger service is undertaken. The installation of PTC may result in the installation of an advanced signal system that would reduce the cost of further signal upgrades required to accommodate rail passenger service. The improvements listed in the plan will provide the capacity to handle the proposed passenger rail improvements (additional frequencies, increased reliability and faster travel times) and the projected rail freight growth. Currently an environmental study is underway, with an expected Findings of No Significant Impact outcome. However, match money has not yet been identified.

3.2.3 Corridor Stations and Equipment

In 2018, HNTB Corporation, the consulting firm hired to explore the rail service project, conducted technical analysis, met with political and community leaders in the proposed areas and designed the preliminary concepts for two “state-of-the-art, multimodal” rail stations. The plans call for one station in Mid City and another suburban station in the Baton Rouge Health District. The Mid City station would serve as the terminus for the corridor service and is being pitched as a catalyst for revitalizing the area. The Redevelopment Authority budgeted \$450,000 for HNTB’s work; the Metro Council and the Southern Rail Commission each paid \$250,000. According to the Advocate, previous estimates for the overall cost of the rail service, including improvements to bridges and crossings, were slightly more than \$260 million. Therefore, this plan was not deemed feasible.

The New Orleans Union Passenger Terminal (NOUPT) in September 2019 received funding of \$6.64 million for the improvement and upgrades of terminal platforms. Funding for the project includes a \$3.7 million federal grant, \$2 million in matching funds from the City of New Orleans and the NOBC, and \$943,000 in matching funds from Amtrak. The project will aid platform modifications: ADA compliance, level boarding for two Amtrak trains (Sunset Limited and City of New Orleans) and improve step height for the third train (Crescent). Level boarding will improve the station’s accessibility for nearly 200,000 annual passengers. It will also increase reliability with improved updates, including expansion of the rail platform canopy, and updating the lighting, air, electrical and water systems. Very importantly, the project will give a major boost for the City-assisted evacuation program (re-fencing and adding a gate for direct connection, trains for evacuation). Work is scheduled to begin in 2020 and to end in 2022.

Five stops have been identified along the corridor: New Orleans (NOUPT), LaPlace Station, Gonzales Station, Suburban Baton Rouge, and Downtown Baton Rouge. **Figure 3-3** is artists’ renderings of the four new required facilities.

Figure 3-3: Artist Renderings of Rail Stations



Current availability of equipment for the service is limited. However, the issuance of the uniform equipment standards for bi-level passenger cars and the likelihood of a passenger car production line being established in the next few years should offer options for equipment acquisition. Service planning assumes state-of-the-art, bi-level trains equipped with WIFI internet access and provisions for food and beverage service, if desired. The trains would operate in three-car push-pull locomotive hauled trains. One of the rail cars would be a cab (driving) car, and coach class would be the only accommodation offered.

3.2.4 Ridership Potential

As was noted earlier, there has been a significant change in regional travel patterns as a result of the displacement of New Orleans population and loss of housing in the city. Given the route length (80 miles), the increase in the daily work trips in the corridor, and the increase in traffic congestion on I-10, the focus of the Baton Rouge – New Orleans service package will cater to workers traveling to and from a job site (70 to 80% of riders) with the majority of schedules during peak commute periods and fares offering multiple-trip discounts. Much like the Capitol Corridor in California (Auburn-Sacramento-Oakland-San Jose), the Baton Rouge – New Orleans is an intercity route but one designed for long-distance daily commuters with intercity travelers being a key secondary market.

The 2010 *Baton Rouge – New Orleans Intercity Passenger Rail, Volume 1, Summary Report* used a ridership forecasting procedure based on the Federal Transit Administration's Aggregate Rail Ridership Forecasting Model. It was felt that basing ridership estimates on the FTA model, which is based on the performance of commuter rail systems, would provide better guidance to planners. **Table 3-1** provides an overview of the forecast results from the 2010 report.

Table 3-1: New Orleans – Baton Rouge Ridership and Ticket Revenues

| Frequency | Speed | Forecast Year | Annual Ridership | Annual Ticket Revenue | Avg. Riders per Train | Tkt. Rev. per Passenger |
|-----------|---------|---------------|------------------|-----------------------|-----------------------|-------------------------|
| 4 RT | 79 mph | 2013 | 461,000 | \$3,946,200 | 165 | \$8.56 |
| 6 RT | 90 mph | 2018 | 644,200 | \$6,339,000 | 156 | \$9.84 |
| 8 RT | 110 mph | 2023 | 886,400 | \$9,866,000 | 165 | \$11.13 |
| 8 RT* | 110 mph | 2028 | 1,205,900 | \$15,109,000 | 224 | \$12.53 |

*Note: *Forecast assumed five additional years of service and Transit Oriented Development around stations.*

Additional forecast details and an overview of the forecast methodology is available in *Baton Rouge – New Orleans Intercity Passenger Rail, Volume 1, Summary Report*.

3.2.5 Capital Costs

The 2010 feasibility study estimated the cost of implementing the passenger service at \$447.8 million. The estimate accounts for improvements for track, structures, signalization, and stations (including \$5.6 million for improvements at NOUPT), rolling stock, and engineering and construction management.

Additionally, CN, which owns the rail segment linking the KCS main line at Kenner Junction with Southport Junction (just east of East Bridge Junction), recommended a flyover of East Bridge Junction for the passenger trains. This improvement would minimize freight train and passenger train conflicts. It was estimated to cost \$50 million, per the 2010 report (\$59 million in 2019). Accordingly, total estimated costs for service implementation would be \$497.8 million. Beyond passenger rail considerations, the flyover would enhance the robustness of a rail evacuation route between Baton Rouge and New Orleans.

In 2019, the total for the new passenger service improvements is estimated at \$522 million.

3.2.6 Benefits Analysis

The 2010 report also looked at the non-cash benefits of the proposed rail service to determine if those benefits outweigh the costs of the investment. The analysis limited benefits to transportation cost savings for service users, enhancement of property value to owners and users of properties around stations, cost savings from reductions in environmental costs as a result of the provision of rail service, and savings due to reductions in LA SWIFT intercity bus service (which has since been discontinued).

The analysis indicated that the Baton Rouge – New Orleans passenger rail service will generate benefits in excess of costs. For every dollar in investment, the service will deliver \$1.65 in benefits (2019), and there is a 78% probability of achieving a positive return on investment.

3.2.7 Plan Update

In February 2014, an update of the 2010 study revisited assumptions about the maximum speed of trains and their frequencies. The Baton Rouge – New Orleans Intercity Rail Feasibility Study Strategic Business Plan was sponsored by the New Orleans Regional Planning Commissions, the Capital Region Planning Commission and the Baton Rouge Area Foundation. Its Capital and Operating Plan called for maximum speeds of 79 mph and two round trips per day as an initial service level. As the popularity of the service and its ridership grows over time, train speeds and frequencies could be increased.

The updated plan assumes the use of Amtrak rolling stock at start-up, obviating the related capital costs in the near term. Also, slower maximum speeds of trains at start-up will serve to minimize required track improvements.

This incremental approach would result in an estimated annual operating subsidy (operating expenses less operating revenues) of \$7.4 million. Capital improvements required for implementing this service would be \$284 million. These figures contrast with an estimated annual operating subsidy of \$18.3 million (\$20 million in 2019 dollars) and the aforementioned capital improvement estimate of \$541 million for the full build-out envisioned in the 2010 plan, i.e., maximum 110 mph speeds and eight round trips per day.

3.3 New Orleans – Baton Rouge – Lake Charles – Houston

This route is the western leg of the Gulf Coast High-Speed Rail network and was intensively reviewed in the *Gulf Coast High-Speed Rail Corridor, Lake Charles to Meridian Corridor Development Plan, Volume I, Summary Report*, June 2007.

3.3.1 Corridor Description

This route extension begins at the Baton Rouge Station. The length of the proposed route extension is approximately 163 miles, 9.2 miles on the KCS and the remainder (154 miles) on the UP. The final 13.6 miles, Iowa Junction to Lake Charles on the UP has passenger service, Amtrak's Sunset Limited.

Outside of the industrial segment in Baton Rouge and the Mississippi River crossing, the route has modest grades and curvature. Between Baton Rouge and Kinder rail weight varies from 133 to 136-pounds reflecting the level of freight traffic on the route. Yard Limits from 3 miles south of Baton Rouge to the Mississippi River Bridge result in speed limits of 20 mph. The bridge crossing, between Lobdell Junction (west end of the Mississippi River Bridge) and Anchorage Junction (2.4 miles, 10 mph speed limit) is very slow. Approximately eight freight trains per day utilize this line segment. The rail line between Anchorage and Livonia is single track with CTC and no controlled sidings. Between Livonia and Kinder (UP Beaumont subdivision) there are five remotely controlled sidings in this segment. Except for one siding, these sidings are less than 10,000 feet in length.

Located at Livonia is the junction of UP's north/south line from New Orleans to Shreveport and its east/west line from Baton Rouge to Beaumont, TX. It is also the location of a major classification yard and crew change point. The classification yard is located on the north/south line south of the junction. With heavy freight traffic on the north/south line and most trains entering the yard or changing crews, congestion and delays are significant. The lack of capacity on the Livonia – Kinder route segment results in trains "queuing up" on the main lines leading to Livonia waiting to enter the yard.

The segment with the heaviest traffic is between Livonia and Kinder with an average of 10 freight trains per day. Paired with the former Southern Pacific Railroad line through Lafayette, this line is operationally an eastbound directional railroad. From Kinder to Iowa Junction the route uses part of the Lake Charles Subdivision. This line is lightly used with no passing sidings, a speed limit of 10 mph and is controlled via Track Warrants issued by radio.

The final route segment is Iowa Junction to Lake Charles (13.6 miles). This segment is a mix of single and double track with Automatic Block Signals. Passenger trains (Sunset Limited) have a speed limit of 70 mph on this line.

One issue with this proposed route is that it has heavy freight traffic and bypasses Lafayette, a major city and home of the University of Louisiana. A direct route exists between Baton Rouge and Lafayette utilizing an historic Southern Pacific line that is now abandoned. Reconstructing the line would require several major structures: a flyover over UP's Livonia Subdivision at Grosse Tete; two movable bridges over navigable waterways; and an 18-mile viaduct over the Atchafalaya River Basin.

3.3.2 Corridor Development Plan

New passenger trains, operating with up to six daily intercity round-trips and six daily commuter round-trips at speeds up to 90 mph, will require capacity improvements to ensure fluid passenger and freight operations. Key capacity improvements identified between New Orleans and Baton Rouge are outlined in the previous section and in Appendix C. Capacity improvements for the remainder of the route are outlined in Appendix D. They include:

- The standard improvements to the New Orleans Rail Gateway and NOUPT which are necessary for all Louisiana passenger rail upgrades;
- Improvements to almost 200 rail/highway grade crossings;
- Upgrade of the existing line's cross-ties, rail, and surface, including any stability and geometry issues which need to be addressed for 90 mph passenger service;
- Signal system upgrades, including full implementation of CTC and PTC, and the associated elimination of manual switching functions;
- Significant additions of double track and major extensions of existing siding, which would increase in scope incrementally with ridership;
- Strategic decisions about where to focus most of the improvements: in a desirable start-up route via Livonia and Kinder which bypasses the more attractive destination of Lafayette, or the route through Lafayette which, while more sensible in the long run from a passenger standpoint, is currently less developed with exiting rail infrastructure.

The comprehensive improvements listed in the plan include the bulleted items in Section 3.2.2 plus a passenger flyover over heavily trafficked rail freight routes.

As noted earlier, improving the New Orleans Rail Gateway network and rail/highway grade crossings will benefit freight rail customers and motorists. The improvements listed in the plan would provide the capacity to handle the proposed passenger rail improvements (additional frequencies, increased reliability and faster travel times) and the projected rail freight growth.

Perhaps the most critical planning/development issue revolves around the alternate routes between Baton Rouge and Lake Charles. One route uses existing freight rail lines (UP) with heavy freight traffic running through Opelousas and Kinder and onto Lake Charles. It misses the major population center of Lafayette. The alternate shorter route follows I-10 and an old rail grade directly from Baton Rouge to Lafayette. However, in doing so it crosses the Atchafalaya River Basin, a major waterway and Mississippi River flood diversion channel. Utilizing this route would require the construction of 46.5 miles of new rail line, the upgrade of five miles of branch line, and major bridge/trestle structures across the navigable waterways and a flood plain. Major environmental issues can be expected.

The link represents a large capital expense for start-up service (2 round-trips). On the other hand, improving the alternate route (Baton Rouge – Lake Charles bypassing Lafayette) means walking away from these infrastructure investments once the service moves to the preferred alternate route via Lafayette. Perhaps the most logical strategy is to improve the New Orleans – Baton Rouge route, then supplement service (New Orleans – Lake Charles) with Thruway Bus Service (connecting at Baton Rouge with Baton Rouge – New Orleans rail service), a daily Sunset Limited and a supplemental New

Orleans – Houston train (both on the former SP route). The Baton Rouge – Lafayette direct link would be postponed until the latter stages of the Gulf Coast High Speed Rail Corridor development (as was done with I-10).

The improvements listed in the plan will provide the capacity to handle the proposed passenger rail improvements (additional frequencies, increased reliability and faster travel times) and the projected rail freight growth.

3.3.3 Corridor Stations and Equipment

The earlier planning studies identified the following stations along this route: NOUPT, Kenner (Louis Armstrong New Orleans International Airport), South Baton Rouge, Baton Rouge, Opelousas, or Lafayette (depending on the route chosen), Lake Charles, with a route extension to Beaumont, TX and Houston. It is anticipated that local authorities will be directly involved in station location and take the lead for construction/ improvement of any station buildings. It is also anticipated that cities and developers will use station and rail service development as an opportunity for enhanced community planning and retail/office/housing development opportunities.

Current availability of equipment for the service is limited. However, the issuance of the uniform equipment standards for bi-level passenger cars and the likelihood of a passenger car production line being established in the next few years should offer options for equipment acquisition.

3.3.4 Ridership Potential

As part of the aforesaid *Gulf Coast High-Speed Rail Corridor Plan, Lake Charles to Meridian Corridor Development Plan*, ridership and ticket revenue forecasts for the New Orleans-Baton Rouge-Lake Charles-Houston corridor were estimated by AECOM Consulting. Forecast assumptions included improved running times, 79 mph and 90 mph, and three intercity frequency options (2 round-trips, 4 round-trips and 6 round-trips). This forecast also includes ridership and ticket revenues for additional commuter schedules (4 round-trips at 79 mph, 6 round-trips at 90 mph) between Baton Rouge and New Orleans. These commuter-oriented trains make additional stops between Baton Rouge – New Orleans (see station write-up for 2010 *Baton Rouge – New Orleans Intercity Passenger Rail Service Development Plan*). As can be seen in **Table 3-2**, demand appears to exist for a more frequent higher speed rail service in the New Orleans – Baton Rouge – Lake Charles – Houston corridor. However, as was noted previously, equipment availability for near-term service initiation is limited.

Table 3-2: New Orleans-Baton Rouge-Lake Charles-Houston Ridership and Ticket Revenues (2012)

| Intercity Frequency | Speed | Annual Ridership* | Annual Ticket Revenue* | Avg. Riders per Train | Pass. Mile per Train Mile | Tkt. Rev. per Train Mile |
|---------------------|--------|-------------------|------------------------|-----------------------|---------------------------|--------------------------|
| 2 RT | 79 mph | 311,028 | \$10,169,000 | 213 | 126.7 | \$16.74 |
| 4 RT | 79 mph | 484,066 | \$15,832,000 | 166 | 98.7 | \$13.03 |
| 6 RT | 79 mph | 651,858 | \$20,788,000 | 149 | 86.5 | \$11.41 |
| 2 RT | 90 mph | Not Forecast | | | | |
| 4 RT | 90 mph | 660,919 | \$21,584,000 | 226 | 135.6 | \$17.77 |
| 6 RT | 90 mph | 872,550 | \$27,731,000 | 199 | 115.9 | \$15.22 |

Note: *Includes connecting traffic from Atlanta-New Orleans and Mobile-New Orleans corridors. This forecast includes local Baton Rouge – New Orleans traffic (commuter and Intercity) and is a separate independent forecast from the Baton Rouge – New Orleans forecast outlined in the previous section.

3.4 New Orleans – Gulfport – Mobile

This route is part of the Gulf Coast High-Speed Rail network, and this segment of the corridor was intensively reviewed in the *Gulf Coast High-Speed Rail Corridor, New Orleans to Mobile Corridor Development Plan, Volume I, Summary Report*, October 2006. This corridor was also studied in the *PRIIA Section 226, Gulf Coast Service Plan Report*, July 2009, and the *Gulf Coast Working Group Report to Congress*, July 2017.

3.4.1 Corridor Description

The rail line is in good condition. Stations and platform locations are identified (although rebuilding of hurricane damage to stations will be required), and the corridor has a strong tourist industry to enhance demand. Improvements undertaken to initiate local service in this corridor can also represent the first phase of efforts to restore service from New Orleans to Florida.

The corridor lies just inland of the Gulf of Mexico. The rail line runs through numerous coastal wetlands crossing 47 creeks or streams, two bays, a lake and seven navigable waterways with movable railroad bridges. The first seven miles of the route is used by Amtrak's daily Crescent and the proposed New Orleans – Meridian route. The first part of this segment is 3.5 miles between NOUPT and East City Junction. This segment, like the station, is leased to Amtrak by the city-owned NOUPT and is equipped with CTC. The next segment is 3.4 miles in length, owned by the Norfolk Southern Railway and runs from East City Junction to New Orleans Terminal Junction. This segment is double track and has CTC.

At New Orleans Terminal Junction the route joins the CSXT route that runs east to Flomaton, AL connecting to rail lines extending to Jacksonville, Cincinnati and Atlanta. This 137-mile route to Mobile is single track with short stretches of double track. Except within the yard limits of Sibert Yard in Mobile and Gentilly Yard in New Orleans, the line is equipped with CTC with 10 controlled sidings that can be used for meets (or passes) and two stretches of double track. Most of the track is 132-pound welded rail with ties in good condition. Maximum passenger train speed is from 60 to 79 mph, although there are some 30 mph speed restrictions in terminal areas and over certain bridges. Much of the line was substantially rebuilt in 2006 due to damage suffered as a result of Hurricane Katrina. Amtrak's *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. For additional frequencies a capacity modeling study will need to be undertaken in collaboration with CSXT to determine the additional capital improvements required for the requested number of frequencies.

The *Gulf Coast Working Group Report to Congress* indicated that the 137.7-mile route from New Orleans to Mobile consisted of 127.1 miles of single track, and 10.6 miles of double track. The average passenger speed on this segment according to the report is 67 mph. The trackage has one siding which is less than 4000 feet, three that are between 4000 to 8000 feet, and six that are longer than 8000 feet. Three of the sidings are manually signaled and seven are remotely controlled. The average siding space is 12.7 miles on this portion of the route. There are 152 signaled and/or gated crossings and 26 non-signaled crossings without gates. The average spacing between the sidings is 12.7 miles. The number of moveable bridges remains unchanged at seven. The variable freight movements are approximately 6.3 North-bound or West-bound, and 6.4 East-bound or South-bound.

As was noted above, the 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. This water traffic is random in nature and generally occurs during daylight hours, the same time period that the corridor passenger trains will 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. The process and agreements undertaken by Amtrak and water stakeholders in Connecticut for the drawbridges between New Haven, CT and Providence, RI may provide guidance in resolving this situation. In addition to local freight trains serving on-line industries, the development plan noted that an average of about 18 to 19 freight trains use the corridor on a daily basis.

3.4.2 Corridor Development Plan

New passenger trains, operating with up to 6 round trips daily at speeds up 90 mph, will require capacity improvements to ensure fluid passenger and freight operations on the line.

Key capacity improvements identified in the aforesaid 2017 *Gulf Coast Working Group Report to Congress* and the *Report for the Southern Rail Commission on Potential Gulf Coast Service Restoration Options*, Amtrak, 2015 are summarized below (see New Orleans Rail Gateway and NOUPT section) and in Appendix E. The comprehensive improvements for the New Orleans, Mississippi, and Alabama sections of the corridor:

- improvements to the New Orleans Rail Gateway network and NOUPT (these are key for all passenger rail projects);
- improved rail/highway grade crossings;
- upgrading the existing sidings from 25mph operation to 45 mph operation;
- lengthening those sidings which are less than 21,000 feet long;
- installing new siding where needed;
- installing/extending double track where needed;
- upgrading moveable bridges;
- expanding capacity at the pertinent rail yards in New Orleans and Mobile.

The improvements listed in the plan would improve grade crossing safety and provide the capacity to handle the proposed passenger rail improvements (additional frequencies, increased reliability and faster travel times) and the projected rail freight growth.

The CSXT route handles hazmat materials and, thus, will require PTC. Given the timeline for the installation of PTC, it will be in service on the Mobile – New Orleans route in late 2020 before any expansion of rail passenger service is undertaken.

3.4.3 Corridor Stations and Equipment

Stations along the New Orleans – Mobile route are New Orleans; the Mississippi stops of Bay St. Louis, Gulfport, Biloxi, and Pascagoula; and Mobile. All of the intermediate stations suffered damage during Hurricane Katrina, and the Mobile station has been demolished. All of the stations were shelters with platforms, and the rebuilding cost was estimated in Amtrak's *Gulf Coast Service Plan Report* to be \$2.4 million (\$2.5 million in 2019).

Current availability of equipment for the service is limited. However, the issuance of the uniform equipment standards for bi-level passenger cars and the likelihood of a passenger car production line being established in the next few years should offer options for equipment acquisition.

3.4.4 Ridership Potential

The Gulf Coast Limited last operated between June 1996 and March 1997 (278 days). During that period, it carried 34,117 riders with ticket revenues of \$427,000. Adjusting for inflation over the 22 years that level of ticket revenue would equate to almost \$700,000 in 2019 dollars. During the period it operated, the Gulf Coast Limited averaged 61 riders per train and average ticket revenues (adjusted) of \$8.04 per train mile.

As part of the *Gulf Coast Working Group Plan*, updated ridership and ticket revenue forecasts for the New Orleans – Gulfport – Mobile corridor were estimated. In the previous decade, forecast assumptions included improved running times, 79 mph and 90 mph maximum speeds, and three frequency options (2 round-trips, 4 round-trips and 6 round-trips). However, as can be seen below in **Table 3-3**, the focus today is on meeting demand for more modest re-establishment of the route.

Table 3-3: New Orleans – Gulfport – Mobile Ridership and Ticket Revenues (2019)

| Frequency | Speed | Annual Ridership | Annual Ticket** Revenue* | Avg. Riders per Train | Annual Rail Pass. Miles | Tkt. per Pass. Mile* |
|-----------|--------|------------------|--------------------------|-----------------------|-------------------------|----------------------|
| 2 RT | 79 mph | 152,838 | \$1,912,000 | 105 | 58.8 | \$9.09 |

3.4.5 Cost Estimates

In conjunction with the in-depth analysis of the proposed New Orleans – Gulfport – Mobile rail passenger service, estimates were compiled of the capital costs required to upgrade the rail line in preparation of service. The 2006 report also outlines order-of-magnitude capital costs for track, right-of-way, bridges, signals, and highway crossings of approximately \$260 million (initial service) to \$471 million (full service). This estimate includes capital costs within the New Orleans Gateway network and New Orleans Union Passenger Terminal discussed above and may include projects also listed in cost estimates for other corridors. While this report included estimates for station improvements, an estimate for equipment was not included. It also does not include estimates of operating costs or required state operating payments.

The cost estimates for establishing New Orleans-Mobile passenger service by the Gulf Coast Working Group in 2017 were broken down into a “Minimum Needed for Passenger Rail Service” and a “Service Level for Ongoing Operations.” For the minimum, upgrading current station facilities cost \$3,478,000, and upgrading the station track in Mobile cost \$1,898,000 for a total of \$5,376,000. For ongoing operations, the costs were broken out as follows: siding improvements \$45,880,000; grade crossings \$2,604,000; yard bypass tracks \$28,036,000; interlocking improvements \$6,892,000; moveable bridge

miter rails \$7,277,000; and a new passenger station west of Mobile \$4,192,000 for a total cost of \$94,881,000.

3.5 New Orleans – Meridian – Birmingham – Atlanta

The proposed northeast leg of the Gulf Coast High-Speed Corridor utilizes the NS's Crescent Corridor linking the cities of Meridian, Laurel, Hattiesburg, Picayune and Slidell with New Orleans. This segment of the corridor 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 and *Gulf Coast High-Speed Rail Corridor Development Plan, Lake Charles to Meridian Corridor Development Plan, Volume I, Summary Report*, June 2007.

3.5.1 Corridor Description

The route passes through rural country with rolling hills. As a result, the line has many short grades and curves. It also crosses a number of streams and rivers, some of which are navigable waterways.

The first seven miles is shared with the proposed New Orleans – Gulfport – Mobile corridor described in the preceding section. From New Orleans Terminal Junction, the line passes just east of NS's Oliver Yard joining the main line to Meridian at Oliver Junction. Except for a stretch of double track between Oliver Junction and X Tower (west of the Lake Pontchartrain Bridge), NS's 195-mile route from New Orleans Terminal Junction to Meridian is mainly single track, with 132-pound welded rail and sidings every 10 to 20 miles. The line is in good condition with the authorized maximum speed for passenger trains being 79 mph. There are, however, lower speed limits due to grades, curves and bridges. One challenge in improving the New Orleans – Meridian route is the rolling country traversed, which results in a high number of curves, some in excess of two degrees. This creates a conflict between faster passenger service (greater curve super-elevation requirement) and freight service (lower super-elevation requirement). It also impacts passenger comfort.

There are 11 sidings on this route segment, six of which are longer than 10,000 feet capable of holding most current freight trains. Except for Purvis (1,087 feet), the other four sidings vary from 6,200 feet to 9,371 feet. While siding spacing appears adequate, the distance between the more usable longer sidings can be as much as 40 miles. The distance between Derby (11,790 feet) and X Tower (beginning of double track in New Orleans) is about 50 miles. Siding spacing greatly impacts the line capacity.

There is CTC signal protection between East City Junction and NE Tower and approximately 12.6 miles of double track with Automatic Block Signals (ABS), whereby trains travel in only one direction on each track between NE Tower and X Tower. From X Tower to Meridian the line is single track equipped with ABS and the siding switches do not have dispatcher controlled switches. As a result, siding switches are required to be manually aligned whenever a train has to enter a siding. This adds a significant amount of time to train meets especially when a freight train has to take the siding for a passenger train (the conductor must walk the length of the train after the switch is realigned). NS has added spring switches at sidings so that trains can leave a siding without having to stop and realign the siding switch.

While NS and KCS have made improvements at Meridian as a result of the Meridian Speedway initiative, the Meridian Terminal is still an operational challenge.

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 CTC. Amtrak's Crescent currently utilizes this route taking four hours and two minutes eastbound (including intermediate stops) between New Orleans and Meridian. This equates to an average speed of just over 50 mph.

3.5.2 Corridor Development Plan

New passenger trains, operating with up to six round trips daily at speeds up 90 mph, will require capacity improvements to ensure fluid passenger and freight operations. Key capacity improvements identified in the *Improvement Implementation Plan – Meridian to New Orleans* are summarized below (see New Orleans Rail Gateway and NOUPT section) and in Appendix F. They include:

- The New Orleans Rail Gateway and NOUPT improvements which are universally applicable to all Louisiana passenger rail proposals;
- Rail/Highway grade crossing improvements in all states included in the proposed corridor;
- CTC and operationally time-sensitive upgrades to all sidings, where the changes for trains meeting and passing are rapid enough to support the higher speeds of passenger rail;
- Operational improvements to five sidings in Mississippi, lengthening of three Mississippi sidings, and the installation of three new sidings on the state route;
- Upgrades to two sidings in Louisiana;
- Amtrak loading and unloading at the platform for the portion of the Meridian Speedway which runs on the proposed passenger route;
- Upgrades to three moveable bridges in Louisiana- Seabrook, Lake Pontchartrain, and Pearl River.

The comprehensive improvements listed in the plan include the bulleted items in Section 3.2.2.

3.5.3 Corridor Stations and Equipment

Stations along this route are Slidell, Picayune, Hattiesburg, Laurel, and Meridian. FY 2011 ridership at the five stations on the route totaled almost 42,000 riders.

3.5.4 Ridership Potential

As part of the aforesaid *Gulf Coast High-Speed Rail Corridor Plan, Lake Charles to Meridian Corridor Development Plan*, ridership and ticket revenue forecasts for the New Orleans-Meridian-Birmingham-Atlanta corridor were estimated by AECOM Consult. Forecast assumptions included improved running times, 79 mph and 90 mph speeds, and three frequency options (2 round-trips, 4 round-trips and 6 round-trips). As can be seen in **Table 3-4** demand exists for a more frequent higher speed rail service in the New Orleans-Meridian-Birmingham-Atlanta corridor. However, as was noted previously, equipment availability for near-term service initiation is limited.

Table 3-4: New Orleans-Meridian-Birmingham-Atlanta Ridership and Ticket Revenues (2019)

| Frequency | Speed | Annual Ridership* | Annual Ticket Revenue* | Avg. Riders per Train | Pass. Mile per Train Mile | Tkt. Rev. per Train Mile |
|-----------|--------|-------------------|------------------------|-----------------------|---------------------------|--------------------------|
| 2 RT | 79 mph | 191,541 | \$8,435,067 | 131 | 90.9 | \$11.15 |
| 4 RT | 79 mph | 305,864 | \$13,435,156 | 105 | 72.4 | \$8.88 |
| 6 RT | 79 mph | 426,119 | \$18,065,736 | 97 | 64.7 | \$7.95 |
| 2 RT | 90 mph | Not Forecast | | | | |
| 4 RT | 90 mph | 363,083 | \$16,430,297 | 124 | 88.6 | \$10.86 |
| 6 RT | 90 mph | 467,583 | \$20,421,214 | 107 | 73.2 | \$8.99 |

*Note: *Includes connecting traffic from Houston-New Orleans and Mobile-New Orleans corridors.*

Additional forecast details and an overview of the forecast methodology is available in *Volume II, Technical Appendices of the Gulf Coast High-Speed Rail Corridor Plan, Lake Charles to Meridian Corridor Development Plan*.

3.5.5 Capital Costs

In conjunction with the in-depth analysis of the proposed New Orleans – Meridian rail passenger service estimates were compiled of the capital costs required to upgrade the rail line in preparation of service. The 2002 report also outlined order-of-magnitude capital costs for track, right-of-way, bridges, signals, and highway crossings is estimated to total approximately \$34 million (initial service) to \$130.5 million (full service). This estimate includes capital costs within the New Orleans Gateway network and New Orleans Union Passenger Terminal discussed above and may include projects also listed in cost estimates for other corridors. While this report included estimates for station improvements, an estimate for equipment was not included. It also did not include estimates of operating costs or required state operating payments. The cost estimates are for 2019. The next step is to do an environmental study of the route.

3.6 New Orleans – Jackson – Memphis

One of the features of the Midwest High-Speed Rail Initiative is the inclusion of several feeder routes – routes with fewer frequencies serving markets with smaller populations. In fact, one of the routes is Chicago-Carbondale, the northern end of the *City of New Orleans* route. The southern end of the City of New Orleans route, New Orleans-Jackson-Memphis through the center of Mississippi, Hammond and on to New Orleans, could be a feeder route to the Gulf Coast High-Speed Corridor. The additional connectivity offered by this feeder route would extend the benefits of the Gulf Coast High-Speed Corridor trunk system. The concept of additional service between New Orleans and Memphis was noted in the *Infrastructure Improvement Program for the New Orleans Union Passenger Terminal*, April 2010 and in the *Mississippi State Rail Plan*, June 2011.

3.6.1 Corridor Description

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. The 2011 *Mississippi State Rail Plan* noted that the McComb Subdivision has 112 to 115-pound welded rail, with ties, ballast and drainage in good condition. There are six controlled sidings on the subdivision, most being from 9,000 to 13,000 feet long. The same report noted that the Yazoo Subdivision has 115 to

136-pound welded rail, with ties, ballast and drainage in fair to good condition. There are 15 controlled sidings on the subdivision, most being from 9,000 to 11,000 feet long. Both subdivisions are single track with short stretches of double track. The subdivisions are signalized with CTC on the single-track segments and ABS on the double track portions (except through Orleans Junction to North Mays where a stretch of double track is equipped with CTC). Maximum authorized speed on both subdivisions is 60 mph for freight trains, and 79 mph for passenger trains.

The line has a significant number of freight trains. In addition to local freight trains serving local on-line industries and Amtrak's City of New Orleans, the *Mississippi State Rail Plan* noted the operation of an average of 12 through freight trains on the McComb Subdivision and about an average of 16 through freight trains on the Yazoo Subdivision. The City of New Orleans currently utilizes this route between New Orleans, Jackson, and Memphis. Northbound between New Orleans and Jackson the trip takes about four hours with an average speed of 46 mph. Northbound between Jackson and Memphis the trip takes about four hours and 30 minutes with an average speed of 50 mph.

As a route with heavy freight traffic and current passenger service, PTC will be in all likelihood in service before any expansion of rail passenger service is undertaken.

Besides overall line capacity, which must be addressed before rail passenger service can be expanded, there is also an area of potential congestion. In Jackson there is an approximately one-mile stretch (Jackson Junction to the KCS Vicksburg line junction) where the KCS and CN share a joint right-of-way through the city (including Jackson Union Station). KCS trains also cross the CN just south of the station. Growth in freight traffic on both railroads and any increase in the number of passenger trains on any lines passing through Jackson will impact track investment requirements.

Also, as part of any planning for additional frequencies on the New Orleans – Jackson – Memphis line of the CN, a capacity modeling simulation will need to be undertaken in collaboration with the CN to determine the additional capital improvements required for the route extension. A simulation is a standard practice in the industry to identify line capacity needs. The simulation program uses anticipated freight and passenger volumes and existing line configurations as inputs and measures the results in terms of delay. Line capacity improvements are added as needed to reduce delay to base case levels.

3.6.2 Corridor Stations and Equipment

Running south to north, CN's former Illinois Central route is the prime rail passenger route linking the major cities of New Orleans, Jackson and Memphis. Key intermediate stops are Hammond and the Mississippi stops of McComb, Brookhaven, Hazlehurst, Jackson, Yazoo City and Greenwood. FY 2011 ridership at the seven intermediate stations on the route totaled over 100,000 riders.

3.6.3 Ridership Potential

Using the Chicago-Carbondale route as guidance, it would appear that two additional frequencies could be operated. 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. This would replicate the service that existed between New Orleans and Memphis before Amtrak began operating rail passenger service. 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.

Current ridership often gives the best guidance on the potential of additional frequencies. Generally an additional frequency will generate fewer riders on average than prior frequencies. Total route ridership will increase, but absent any improvements in travel time or reliability, average riders per train will decline. In conjunction with the development of the 2011 Mississippi State Rail Plan, FY 2009 local ridership for the New Orleans-Jackson-Memphis segment of the City of New Orleans was analyzed. Ridership totaled almost 56,000 riders with ticket revenues of just over \$2 million. That is an average of about 76 riders per train, about \$2,767 in ticket revenues per train and \$6.82 in ticket revenues per train mile.

Local ridership for the New Orleans – Jackson segment of the City of New Orleans in 2009 totaled almost 27,000 riders with ticket revenues of about \$557,000. That is an average of about 36 riders per train, about \$763 in ticket revenues per train, and \$4.17 ticket revenues per train mile. This proposed frequency would clearly benefit from the additional ridership generated by enhanced connectivity to the Gulf Coast High-Speed Rail Corridor.

With travel time and reliability improvements, enhanced connections combined with focused revenue management and targeted promotion/marketing, these results, at least for the initial frequencies, could probably be improved. However, as was noted previously, equipment availability for near-term service initiation is limited.

Given the New Orleans-Jackson-Memphis route's role as a connecting line to the Gulf Coast High-Speed Corridor, including this route when ridership and ticket revenue estimates for the Gulf Coast High-Speed Corridor are next updated might be helpful. This would provide the level of connecting ridership on the route (for both existing and proposed frequencies) as well as guidance as to when new frequencies on the City of New Orleans route should be started.

Furthermore, a rail operations simulation could also be performed to identify the line capacity improvements required to accommodate the anticipated passenger frequencies on the line.

3.7 Meridian – Jackson – Shreveport – Dallas/Fort Worth

As rail passenger service is improved and frequencies added to the New Orleans-Meridian route, new potential route options can be considered for the Crescent. One such option was explored by Amtrak in late 1990s when it studied splitting the Crescent at Meridian and operating a leg of the train from Meridian to Fort Worth. This ridership and ticket revenue study, undertaken by Amtrak as part of its Network Growth Strategy, found the proposed service worth pursuing.

Meridian – Dallas/Fort Worth service would add significant new markets to the *Crescent*, allow same day connections to Amtrak western routes (the current connection requires an overnight stay in New Orleans), and provide direct service between the end-points of the Gulf Coast High-Speed Corridor (Atlanta) and the Texas High-Speed Rail (HSR) Corridor (Dallas/Fort Worth), which in an earlier iteration was known as the Texas T-Bone and Texas Triangle. This route would also provide new east/west service at Jackson, Vicksburg, and Shreveport. A Dallas/Fort Worth leg of the Crescent operating in conjunction with the Gulf Coast and Texas HSR Corridors would mirror European networks where overnight trains link the extreme endpoints of their high-speed systems.

3.7.1 Corridor Description

The Meridian – Fort Worth route is 538 miles long (854 miles Atlanta – Fort Worth), of which about 193 miles are located in Louisiana. The route utilizes rail lines of the KCS and UP. Currently there are no passenger trains operating on most of the route. A 2005 analysis of the route noted the operation of between 10 and 19 through freight trains per day. The maximum authorized timetable speed is 55 mph for freights and 59 mph for intermodal trains. With the extended sidings, track upgrades and CTC between Meridian and Bossier City, the capacity of the line has been increased.

The KCS line between Meridian and Shreveport is a key strategic rail corridor and a new transcontinental rail route. A 2006 agreement between NS and the KCS created joint ownership of the Meridian Speedway with the NS investing \$300 million in the route for track and signaling improvements. These improvements will allow the line to handle twice the number of through freight trains as it did in 2005.

Given the timeline for the installation of PTC, it will likely be in service on this route before any expansion of rail passenger service is undertaken.

In addition to overall line capacity, which must be addressed before rail passenger service can be inaugurated, there are two major areas of potential congestion. The first is the approximately one-mile stretch through Jackson (Jackson Junction to the KCS Vicksburg line junction) where the KCS and CN share a joint right-of-way. As was noted earlier the growth in freight traffic and potential new passenger service will impact track investment requirements at Jackson.

Also, as noted earlier, significant track and operational changes are being implemented in the Meridian Terminal. At this writing, no provisions for Amtrak beyond the present short station stop/crew change activity have been incorporated into the new design. Provisions for passenger train switching or origination/termination of a separate train at Meridian for the Dallas/Fort Worth leg of the Crescent would have to be added to the terminal.

As part of any planning for the Meridian – Dallas/Fort Worth leg of the Crescent a capacity modeling simulation will need to be undertaken in collaboration with Norfolk Southern, Kansas City Southern and Union Pacific to determine the additional capital improvements required for the route extension.

3.7.2 Corridor Stations and Equipment

The Meridian – Dallas/Fort Worth route serves the stops of Meridian, Jackson, Vicksburg, Monroe, Ruston, Shreveport/Bossier City, Marshall, Longview, Mineola, Dallas, and Fort Worth. Since this train would operate as a leg of the Crescent, the new sleeping cars, dining cars and baggage-dormitory cars under construction to replace Heritage equipment would likely be used on this train.

3.7.3 Ridership Potential

Because the Crescent is an Amtrak national network train, instituting a Dallas/Fort Worth leg of the Crescent needs to be coordinated with Texas, Mississippi, Amtrak and the freight railroads.

3.7.4 New Study in Corridor

Ridership forecasting and an operations simulation are the next logical steps in assessing the potential of this route. According to Texas Department of Transportation (TDOTD), a study by Amtrak in 2015 forecasted this corridor could generate ridership from 107,100 to 146,400 annually. In 2015, Northwest Louisiana Council of Government (NLCOG) studied the sections in Louisiana. They forecasted the annual

ridership in 2035 by stations as: Shreveport-Bossier City – 88,977, Ruston – 33,365 Monroe – 36,761, and Vicksburg – 21,893.

Since 2015, there are several studies that have been done on this corridor by different entities. A few significant ones include the North Louisiana Passenger Rail Feasibility Study by NLCOG and 2017 Dallas/Fort Worth to Meridian Passenger Study by TDOT in coordination with UNOTI. It studied the feasibility for intercity passenger rail service along the I-20 Corridor from Texas to Mississippi through North Louisiana, as well as the potential ridership and economic impacts. According to TDOT, this corridor could generate 30 jobs, \$730,609 in labor income, over \$1 million added values, and \$2.2 million total output for Louisiana.

3.8 Shreveport/Bossier City – Dallas/Fort Worth

As was noted in the review of past rail studies, there are two recent ongoing studies of the feasibility of passenger rail service between Shreveport/Bossier City, and Dallas/Fort Worth. The route parallels the I-20 corridor which is seeing increased traffic volumes and land development. One analysis is being conducted by Amtrak on behalf of the Texas Department of Transportation using funds obtained by the East Texas Corridor Council, of Longview, TX. The other study is being sponsored by the North East Texas Regional Mobility Authority, of Tyler, TX.

3.8.1 Corridor Description

The Shreveport/Bossier City – Dallas/Fort Worth route is approximately 236 miles long of which about 22 miles are located in Louisiana. The route could utilize the UP (202 miles) and Trinity Rail Express (34 miles) lines. While there is currently no passenger rail service between Shreveport and Marshall, Amtrak operates one daily frequency between Marshall and Dallas, while Trinity Rail Express operates commuter rail service between Dallas and Fort Worth. The UP route between Shreveport and Dallas is a strategic rail freight corridor and its linkage with the Meridian Speedway makes for a new transcontinental rail route segment between Dallas, Meridian and Atlanta.

Proposed by the North East Texas Regional Mobility Authority, an alternative concept is also under development which assumes a new rail right-of-way parallel but apart from the existing UP line, double track, and electrified and an average speed of about 100 mph.

3.8.2 Corridor Stations and Corridor Frequency

Amtrak is studying 11 stops. These are: Shreveport (also serving Bossier City), Marshall, Longview, Mineola, Wills Point, Terrell, Forney, Mesquite, Dallas, Centre Port/DFW and Fort Worth. The Trinity Express Centre Port/DFW stop will allow access to the Dallas/Fort Worth International Airport. Studied will be a conventional (79 mph) Regional Access Train (short-distance rail service under 500 miles linking rural cities with a major metropolitan area), offering two round-trip frequencies per day.

The alternative concept would have a western terminus at DART's Landview Station and an eastern terminus at Shreveport Regional Airport, and intermediate stations. The service would offer five round trips per day.

3.8.3 Ridership, Ticket Revenue and Capacity Studies

The Amtrak report will outline ridership and ticket revenue estimates, estimated operating costs and capital requirements for the service. Annual operating costs (less ticket revenue) would be funded by the states. Rail capacity requirements will be determined by the UP, owner of much of the proposed route for the Amtrak service. No implementation cost estimate is available.

Ridership estimates for the alternative higher speed concept were not available. The double track configuration would assure sufficient line capacity. A conceptual cost estimate for implementation is \$3 billion.

3.9 Baton Rouge – Shreveport

This route segment would provide a linkage between Baton Rouge, Shreveport, and ultimately Dallas/Fort Worth, assuming the completion of the Shreveport – Dallas / Fort Worth link (discussed above). The service concept was mentioned in a Public Meeting held in October 2012 for the Louisiana State Rail Plan. However, no detailed assessment of a Baton Rouge – Shreveport connection has been conducted.

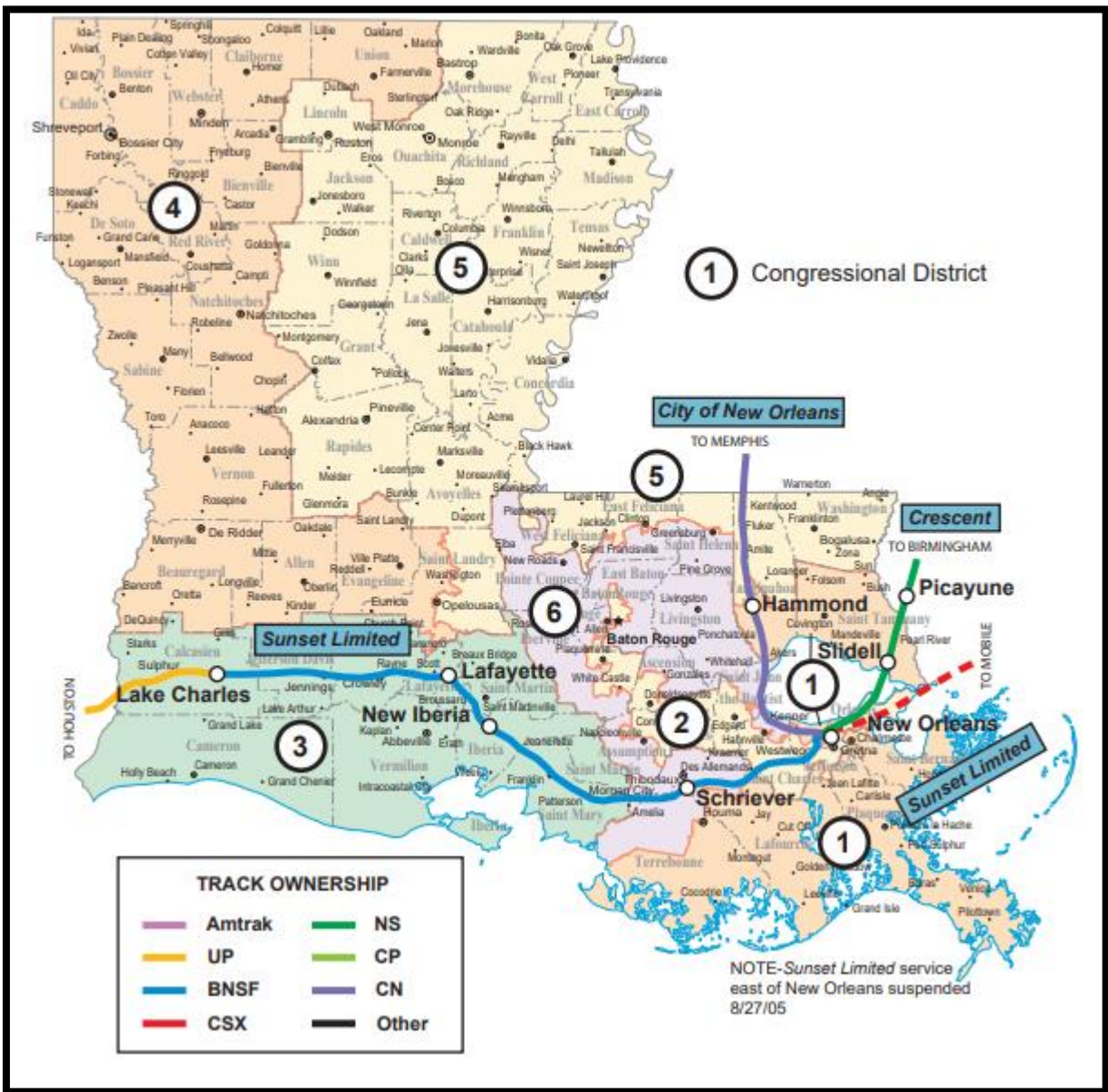
That noted, the route, in conjunction with Shreveport – Dallas service, would provide a link between Dallas, Shreveport, Baton Rouge and New Orleans.

The route between Baton Rouge and Shreveport is approximately 220 to 230 miles in length all located in Louisiana. Two parallel rail routes are available, one utilizing the KCS while the other uses the UP. Both routes serve the major mid-route city of Alexandria. Both rail routes are major freight corridors. Currently no rail passenger service operates on either route.

3.10 Amtrak Needs

Amtrak provides intercity rail passenger service on three corridors in Louisiana. See **Figure 3-4** for current routes in Louisiana. The three services are the Sunset Limited, operating between New Orleans and Los Angeles; the City of New Orleans, between New Orleans and Chicago; and the Crescent, between New Orleans and New York. Amtrak trains stop at seven stations in the state.

Figure 3-4 Amtrak Routes in Louisiana



Source: Amtrak

The projects anticipated are capital upgrades to the Louisiana Amtrak stations for compliance with the Americans with Disabilities Act (ADA) and a State of Good Repair. The stations include New Orleans, Lafayette, and Lake Charles. These stations are owned by their respective cities, and the public benefits of these investments are assurance of ADA-compliance as well as the safety and serviceability of the stations for the traveling public. The estimated cost of these upgrades is \$9.5 million in current dollars. The upgrades are identified for the near term (first 4 years) following the Passenger Rail Stations Assessment.

Table 3-5 shows the Louisiana locations served during FY18.

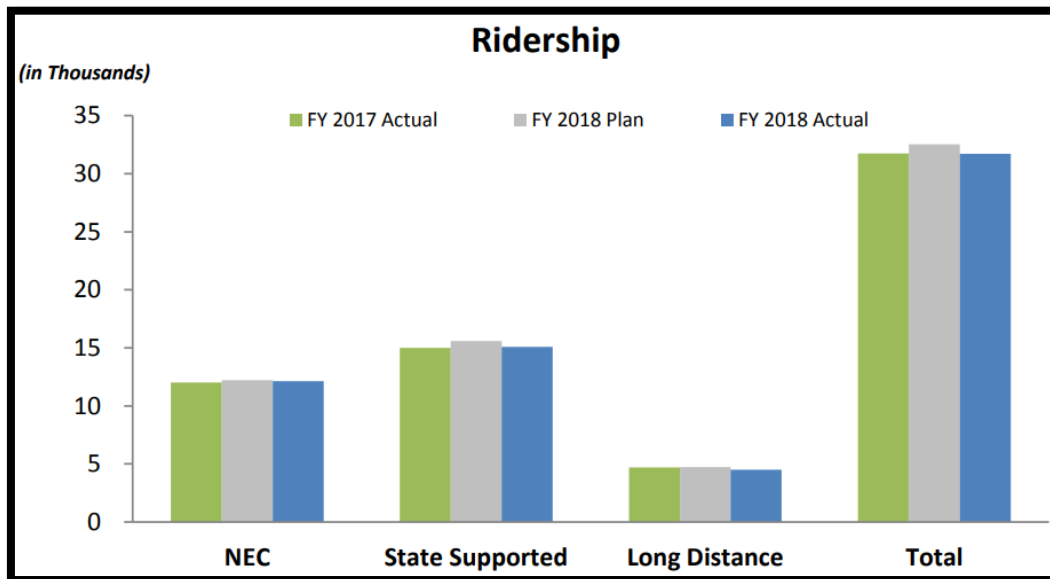
Louisiana State Rail Plan

Table 3-5 Louisiana Locations Served During FY18.

| City | Boardings & Alightings |
|---------------------------------------|------------------------|
| Hammond | 9,350 |
| Lafayette | 6,151 |
| Lake Charles | 3,782 |
| New Iberia | 1,602 |
| New Orleans | 181,544 |
| Schriever | 1,238 |
| Slidell | 9,100 |
| Total Louisiana Station Usage: | 212,767 |

The adjusted operating profit for fiscal year 2018 is a loss of \$ 170.6 million; that is an increase of 11.9% over the previous year. Ridership until February 2019 was (0.83 million) or (2.6%) without the plan. See **Figure 3-5**.

Figure 3-5 The Ridership in 2017 and 2018



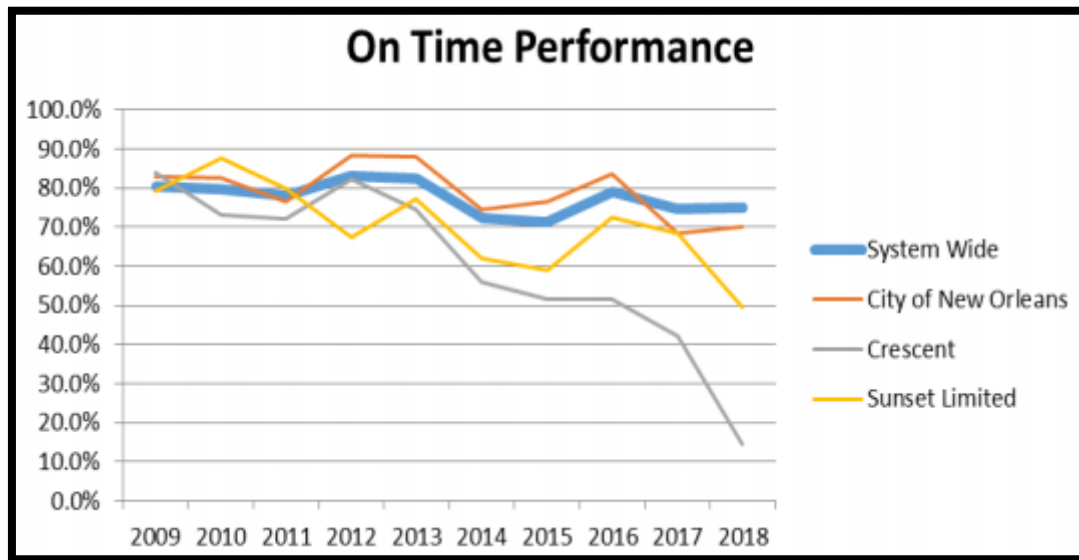
Reliability is measured by on-time arrivals. See **Table 3-6** for service on-time performance percentages.

Table 3-6 On-Time Performance

| Service | Host Railroads | FY18 OTP |
|---------------------|------------------------|----------|
| City of New Orleans | Canadian National | 45.8% |
| Crescent | Norfolk Southern | 31.3% |
| Sunset Limited | BNSF and Union Pacific | 30.3% |

However, historically Amtrak has poor on-time performance. See **Figure 3-6**. The Crescent and Sunset Limited trains, which are routes with long lengths, have poor performers.

Figure 3-6 On Time Performance



Source: LA Railroad Factbook 2019

Amtrak operates the New Orleans maintenance facility, which performs running/turn around maintenance. The facility serves all long-distance equipment and locomotives serving New Orleans including the City of New Orleans, Crescent, and Sunset Limited. In 2016, Amtrak completed a project that included major track restoration, which removed and replaced terminal tracks 2-8 with concrete ties. During this same period, Amtrak relocated the coach yard shop lead to its original location and rebuilt the diesel shop tracks. In 2017, Amtrak improved switching operations by rebuilding and extending yard tracks 1 and 3 to full length.

3.11 New Orleans Rail Gateway and New Orleans Union Passenger Terminal

The New Orleans Rail Gateway network represents another challenge for continued growth of the Gulf Coast Megaregion. As noted earlier, it is the hub for rail passenger service (existing and perspective), interchange point for seven railroads (including New Orleans Public Belt), and transshipment point

between land and marine transportation. Most rail movements travel over rail lines controlled by each of seven railroads in a dense urban area constrained by need to cross waterways at a limited number of points. The jurisdictional complexity, high costs and the difficulties of building in an urban area have limited past efforts to undertake the capital investment needed to address capacity issues.

Looking at all the prospective passenger rail routes outlined below, none can begin without improvements to the New Orleans Rail Gateway. Analysis undertaken in conjunction with several studies shows the interrelationship of New Orleans Rail Gateway track improvements. This is because rail operations are an interconnected network. Capital investments to improve freight operations build capacity for passenger trains, and improvements at New Orleans Union Passenger Terminal (NOUPT) and approach tracks, even those used exclusively by passenger trains, improve the flow of freight trains (even at current rail passenger service levels).

The track condition, layout and capacity of the New Orleans Rail Gateway network impacts the operations of all Gulf Coast High Speed Corridor routes (New Orleans – Gulfport – Mobile, New Orleans – Meridian – Birmingham – Atlanta, New Orleans – Baton Rouge – Lake Charles – Houston and the feeder route of New Orleans – Jackson – Memphis). Current train routes and operations are slow and main lines are often used to stage trains waiting for interchange. Critical legs into NOUPT are single track.

Several Gateway studies have recommended the following:

- A northward connection between the CSXT and NS at NE Tower;
- Renewal of Almonaster Bridge and bypass track around Gentilly Yard;
- Reconfiguration of track and signals at Elysian Fields;
- Signal upgrades/additional track/track realignments at East Bridge Junction;
- Finally, improvements are recommended at Avondale Yard and West Bridge Junction.

If usage of the NS Back Belt rail line through Metairie continues, studies recommend the following:

- Additional track capacity and a modernized signal system;
- Additional crossover and improvement of the alignment of the turnout at East City Junction to NOUPT trackage;
- Curvature reduction at Carrollton Avenue interlocking to increase speeds through the interlocking;
- Grade separation of streets and the rail line through Metairie;
- A third track at Marconi Drive (0.6 miles east of East City Junction) to stage freight trains for interchange.

Alternatively, a new double track rail line (Middle Belt) could be constructed between East Bridge Junction and East City Junction utilizing available right-of-way on the route currently used by passenger trains.

In order to avoid congestion from passenger train “holdouts” on trackage used by freight trains (especially critical for the Middle Belt option) improvements are needed at NOUPT. These improvements will add flexibility and capacity to the existing terminal. The following improvements have been recommended:

- A double track connection between the Terminal throat and yard (North Wye);
- The construction of a double track main line from North Wye to Carrollton Junction (connection to the Middle Belt) and the addition of switches and crossovers to connect to both the east and west branches of the main line;
- Upgraded terminal interlocking.

- Long-term an additional track is recommended between East City Junction to Carrollton Junction (the connection from East City Junction to NOUPT) to expand capacity and reduce delays;
- Long-term the construction of an additional track from Carrollton Junction to CN's Southport Junction.

The following are recommended with the start-up of new rail passenger service:

- Selected additional passenger yard storage and servicing tracks;
- Extension of Tracks 7 and 8 to the terminal;
- Reconnection of tracks 9 and 10;
- Restoration of Track 1.

In addition, new commissary and baggage facilities would be constructed as part of the Howard Street extension project. Also CN recommends a grade-separated flyover for passenger trains at or near East Bridge Junction (location dependent on whether the Back Belt or Middle Belt becomes the preferred freight route).

Needs at NOUPT are related to track improvements for handling existing and anticipated passenger trains, e.g., the Baton Rouge – New Orleans service and new service facilitated by improvements in the Lake Charles – Meridian Corridor, new or restored Gulf Coast service, and potential New Orleans – Memphis service. A total of \$5.6 million of these improvements were cited in the 2010 Baton Rouge – New Orleans commuter rail plan. However, to facilitate additional services and avoid conflicts with freight trains, another set of improvements totaling \$24.5 million in today's dollars appear prudent. These include \$15 million for track improvements at NOUPT and \$9.5 million for the terminal's support yard. The improvements were cited in the *Infrastructure Program for the New Orleans Union Passenger Terminal*, along with cost estimates for Projects I.2 and I.3 identified in the Baton Rouge – New Orleans plan.

Chapter 4. Proposed Louisiana Freight Rail Improvements and Investments

4.1 Introduction

This chapter describes the improvements and investments that could address the freight rail needs of the state. Projects specific to the Class I and short line railroads are discussed. Also appearing below are safety improvement needs at freight railroad crossings in Louisiana.

4.2 New Orleans Rail Gateway Project

The New Orleans Rail Gateway area (**Figure 4-1**) serves freight rail traffic from six Class I railroads: BNSF, CN, CSXT, KCS, NS, and UP. It is also a connection point on Amtrak's southern north-south and east-west passenger rail routes. Through the New Orleans Public Belt (NOPB) railroad, the Gateway links the Port of New Orleans, the fourth largest port by tonnage in the U.S., to the national rail network.

Figure 4-1: New Orleans Gateway Project Area



Source: Louisiana Department of Transportation and Development

The Gateway is one of five major rail interchange points between the eastern and western Class I railroads and uses one of the four major Mississippi River rail bridges. It is one of only three national rail gateways that are both rail interchange hubs and major Mississippi River rail crossings. As such, it is a critical link in the national freight rail system.

The Gateway rail network is operating near capacity with freight trains experiencing a combined 30 hours of delay per day. Addressing this delay could expedite the transfer of railcars between the eastern and western railroads, reducing transit time and costs that are borne by shippers, benefiting the consumer by providing a lower cost of living and contributing to climate change adaptation by reducing greenhouse gas (GHG) emissions from unnecessary and wasteful locomotive idling. Addressing current deficiencies in the Gateway will become increasingly important as the U.S. Department of Transportation's Freight Analysis Framework (FAF) forecasts, with a moderate economic growth of 3%, import and export freight tonnage could double by 2020 and domestic freight tonnage could increase by about 60%. This continued growth of shipping and the resulting port traffic will increase rail traffic in the New Orleans Gateway, including the NS rail line serving the Chalmette area port facilities; rail traffic to and from refineries and chemical terminals in the area; the BNSF/UP rail lines serving shippers on the West Bank; the CN/KCS rail lines on the East Bank; and the NOPB rail line serving the New Orleans port facilities.

4.2.1 Gateway Project

LaDOTD, the New Orleans community and the railroads have been examining rail improvements within the Gateway that would reduce delays and improve rail service to rail customers in the greater New Orleans region. The 2002 *New Orleans Rail Gateway & Regional Rail Operations Analysis* and the 2007 *New Orleans Rail Gateway Infrastructure Feasibility Analysis* evaluated the operations of the Gateway and outlined operational and capital improvements. The key improvements involve upgrading either the "Back Belt" rail lines or creating the "Middle Belt" route option in the central section of the Gateway (**Figure 4-2**). Other improvements include closing crossings, reconfiguring trackage and upgrading bridges and signal systems in the West, Central, and Eastern segments of the gateway. The objective of both the "Back Belt" and the "Middle Belt" is to improve the fluidity, reliability, and capacity of the Gateway for the interchange of local industry and Port traffic as well as the exchange of East-West rail traffic. For more information on the Jefferson Highway Rail Crossing Relocation Project, please see 5.4.1.2.

In 2011 the DOTD and the FRA, in coordination with the NORPC, the Class 1 railroads, and Amtrak, began preparing an Environmental Impact Statement (EIS) for the NORG Program, building upon the two feasible alternatives identified in the 2007 Study. Numerous meetings were held with federal and state agencies, local officials, business leaders, and neighborhood associations to introduce the study. Public meetings were last held in February 2012. There was polarized public opinion to the feasible alternatives identified in the 2007 Study. The 2007 Study projected freight growth but held Amtrak passenger service constant at the current five trains daily while the 2011 Study reflected an increase in passenger service to 62 trains daily into the New Orleans Union Passenger Terminal (NOUPT) based on previously prepared passenger rail corridor planning studies and the State Rail Plan. This increased passenger service would most likely adversely affect the improvements being evaluated. Recognizing these challenges, the DOTD and FRA had numerous discussions regarding the lack of public consensus, projected passenger train service and additional data needs. After much deliberation, it was decided that additional studies were warranted to re-evaluate both the passenger service projections and Gateway-wide improvements to the NORG. DOTD and FRA have mutually agreed to temporarily suspend the current EIS study because there is currently insufficient federal and state funding to conduct the necessary comprehensive studies. When additional funding is secured, freight and passenger train forecasts will be reviewed, and possible alternatives discussed with local elected officials to gauge community support. Studies will continue when there is consensus.

In the meantime, DOTD and FRA will continue studying, as funding is secured, smaller individual projects that will provide public benefit and can be constructed independent of any other Gateway

improvements. It is expected that the railroads will continue advancing some projects to improve rail operations. The first smaller individual project being studied is combining and possibly grade separating the KCS and NOPB at grade crossings of Jefferson Highway (US 90) in Jefferson Parish, between the Ochsner Health Foundation Hospital and Monticello Avenue.

Figure 4-2: New Orleans Rail Gateway “Belts”



Source: Louisiana Department of Transportation and Development

4.2.2 Facilitating Passenger Improvements

As noted in Chapter 3 improvements planned for the New Orleans Rail Gateway will improve performance for existing passenger trains and will facilitate implementation of proposed passenger services. Current train routes and operations are slow and main lines are often used to stage trains waiting for interchange. The Gateway project will improve track condition, add capacity, and contribute to climate change adaptation by reducing greenhouse gas (GHG) emissions from unnecessary and wasteful locomotive idling.

According to the *Gulf Coast Working Group Report to Congress*, July 2017, the Gateway generally consists of double trackage, although there is some single track. It carries all six Class I's as well as the Public Belt. Additionally, all three Louisiana Amtrak trains use the Gateway. All the Class I's have strategic yards and operations in this rail system. Therefore, providing more frequent passenger service within the existing congestion could compound the problems already identified with the Gateway's freight saturation. Note that there is one 3.3-mile section of a planned extension which would host three rail companies at the same time (Amtrak, NS, and CSX). There is another ongoing study, which has been paused, to examine New Orleans regional freight in its totality, including those spaces close to the NOUPT.

4.3 St. James Crude Oil Terminal Rail Expansion

The St. James Rail Terminal (SJRT) is an above ground crude oil and condensate handling and distribution hub located between New Orleans and Baton Rouge. Plains All American Pipeline, LP acquired the facility from U.S. Development Group, LLC (USD). USD completed an expansion of the SJRT, doubling the terminal's capacity to 140,000 barrels – or two unit trains – per day. NuStar Energy, of San Antonio, TX, also operates a rail terminal at the St. James location and is investing around \$40 million to double the capacity of its rail terminal to unload 140,000 barrels of oil per day. The expanded rail capacity contributes to climate change adaptation by reducing greenhouse gas (GHG) emissions from unnecessary and wasteful locomotive idling.

SJRT, which began operations in summer 2010, is part of a nationwide network of crude oil/condensate facilities being developed to facilitate the movement of crude oil from various oil shale developments across the upper Midwest to Gulf Coast destinations. The expanded St. James facility consists of approximately seven miles of rail track and a fully automated 52-spot high-speed railcar offloading rack.

Served by the UP, SJRT currently receives unit train shipments of crude oil, condensate and related products from the Bakken, Niobrara and Eagle Ford shale plays. SJRT is connected via pipeline to an adjacent state-of-the-art crude oil/condensate storage terminal operated by Plains Marketing, L.P.

4.4 Ongoing Class I Projects

Class I railroads generally provide the capital necessary for their own network and infrastructure improvements. In the 2015 plan, the railroads reported to the study team that they intend to have capital expenditures totaling about \$110 million per year in Louisiana in the near term. This figure excluded a major \$200 million expansion program announced by UP in February 2012, as described below.

UP is upgrading sections of their track in Louisiana (and nationwide) in an effort to better accommodate longer unit trains (grain, coal, and crude oil) and projected traffic increases in the state, as well as to generally enhance transportation performance. UP launched infrastructure expansion in Louisiana in response to current and projected petrochemical shipments in southern Louisiana. This program includes a new yard in St. James Parish, a capacity improvement project which adds 29 miles of additional track between Livonia and Addis, and more locations to assemble and stage trains in Livonia.

In 2018, UP planned to invest \$87 million in rail improvements statewide. Approximately a quarter of the funding was dedicated to improvements to the Port of Greater Baton Rouge. The proposed enhancements include additions and upgrades to interchange tracks. The planned improvements should allow the use of 80 car trains, almost doubling the previous rail car capacity. All of UP's rail capacity expansion investments will contribute to climate change adaptation by reducing greenhouse gas (GHG) emissions from unnecessary and wasteful locomotive idling.

Since 2014, Canadian National (CN) has spent \$240 million improving its infrastructure in Louisiana. In 2019, they have slated \$95 million for Louisiana programs related to maintenance and expansion. New expansion programs include a multiyear project rebuilding a 2-mile-long bridge over a spillway near Lake Pontchartrain and the development of a PTC system. Maintenance projects include replacing rail lines, rebuilding crossing surfaces, installing new ties, and general projects related to bridges, signals, and culverts. These robust maintenance and upkeep investments by CN will contribute to climate change adaptation by streamlining locomotive operations, thus reducing the time spent in emitting GHGs.

In 2016, The Kansas City Southern Railway Company (KCSR) invested roughly \$14.3 million for improvement and construction projects in the New Orleans area. 2016 projects also included crossing improvements from Port Allen to Simmesport as well as state-wide general improvements to cross ties, road crossings, and bridges. These robust maintenance and upkeep investments by KCSR will contribute to climate change adaptation by streamlining locomotive operations, thus reducing the time spent in emitting GHGs.

Most of the Class I railroads are also in the process of upgrading their primary rail yards in the state, especially in the New Orleans area, in order to facilitate the velocity and frequency of interchanges and to handle additional rail traffic efficiently. For example, NS is implementing improvements at its Oliver Yard, CSXT at its Gentilly Yard, CN at its Napoleon Avenue Yard, and UP at its Avondale Yard. KCS previously rebuilt and expanded its Deramus Yard in Shreveport and converted it from a standard flat switching yard to an automated hump yard. This key project increased operating efficiency, velocity, and throughput of existing trains through Louisiana as well as accommodating the additional rail traffic generated by the Meridian Speedway corridor service. All these companies' rail yard investments will contribute to climate change adaptation by streamlining locomotive operations, thus reducing the time spent in emitting GHGs.

4.5 Short Line Needs

Beginning in 2015, 11 of the state's 13 short lines reported needs totaling \$526.5 million. Of this amount, \$205 million (or nearly 39% of the total needs) is for upgrading infrastructure to handle heavier railcars. The enhancements are critical to ensuring that shippers located on these lines remain competitive with shippers on Class I lines. All Class I main lines in Louisiana are capable of handling a minimum of 286,000-pound loaded car weights. If the short lines can handle the same freight tonnage as the Class Is, this will contribute to climate change adaptation by streamlining locomotive operations in shipping for both classes of railroads, thus reducing the time spent in emitting GHGs.

An additional \$270 million is needed for a major rail relocation project south of New Orleans. The New Orleans and Gulf Coast Railway is planning a bypass of the City of Gretna to access Mississippi River terminals south of New Orleans. The bypass, to the west of Gretna, has two benefits: more efficient rail operations; and enhanced safety, allowing more than 100 highway-rail at-grade crossings in Gretna to be closed. LaDOTD is assisting in the project. The resulting increase in rail operations efficiency will contribute to climate change adaptation by streamlining locomotive operations, thus reducing the time spent in emitting GHGs.

The remaining \$51.5 million in needs pertain to short line highway-rail crossing improvements and closures on Louisiana short lines. The resulting increase in operational efficiency for the short lines will contribute to climate change adaptation by streamlining locomotive operations, thus reducing the time spent in emitting GHGs.

In 2019, USDOT announced that they awarded a \$10.5 million grant to the Southeast Arkansas and Northeast Louisiana Multimodal Freight Corridor improvement project. This funding is intended to pay for upgrades to a short line rail system shared between the two states. The upgrades should improve connectivity between the Madison Parish Port and the Lake Providence Port. The resulting increase in operational efficiency will contribute to climate change adaptation by streamlining locomotive operations, thus reducing the time spent in emitting GHGs.

4.6 Safety Enhancement Needs

Discussed in Chapter 2, the Highway/Rail Safety Program invests \$9 million per year on improving crossing safety. Of this amount, approximately \$4 million comes from the Federal Highway Safety Program (formerly Section 130 funds). Some of the remainder is obtained from other federal safety improvement funds not specifically earmarked for highways and another \$1 million is available for engineering. Over the last four and a half years the Rail Safety Unit has issued work orders for the railroads to make improvements at various public crossings throughout the state with an estimated total cost of about \$36 million.

To minimize the interface between the rail and highway systems and to reduce grade crossing improvement costs, the Highway/Rail Safety Unit has aggressively pursued crossing closures and they continue to be pursued along Class I railroads where reasonable alternate access is available. When crossings are eliminated, this facilitates rail efficiency, thus contributing to climate change adaptation by streamlining locomotive operations, reducing the time spent in emitting GHGs.

4.7 Positive Train Control Implementation

The regulatory criteria for PTC installation applies to most of the Class I railroad miles in Louisiana. As of 2019, PTC technology was installed on 100% of Class I engines, all wayside units and radio towers were in place, and all needed rail employees had been trained in the system. 91% of required route-miles were operating under PTC.

The six Class I railroads will implement PTC along the following line segments in the state:

- **BNSF** – That portion of track between New Orleans and Lake Charles over which Amtrak’s Sunset Limited operates thrice weekly out of New Orleans and thrice weekly into New Orleans. Also, any portions of track that carry poisonous-inhalation-hazardous materials. The increase in rail efficiency from PTC will contribute to climate change adaptation by streamlining locomotive operations, reducing time spent in emitting GHGs.
- **CN** – McComb Subdivision between New Orleans and McComb, MS, over which Amtrak’s City of New Orleans service operates one train each way daily. Also, any portions of track that carry poisonous-inhalation-hazardous materials. The increase in rail efficiency from PTC will contribute to climate change adaptation by streamlining locomotive operations, reducing time spent in emitting GHGs.
- **CSXT** – The New Orleans-Orlando, FL section of Amtrak’s Sunset Limited used the NO&M Subdivision along the Gulf Coast between New Orleans and Mobile, Alabama, and was suspended in the wake of Hurricane Katrina in 2005. PTC would be installed on this portion in conjunction with any future resumption of passenger rail service. Also, any portions of track that carry poisonous-inhalation-hazardous materials. The increase in rail efficiency from PTC will contribute to climate change adaptation by streamlining locomotive operations, reducing time spent in emitting GHGs.
- **KCS** – No passenger trains operate over KCS lines in Louisiana. However, all portions of track that carry poisonous-inhalation-hazardous materials are subject to implementation of PTC. The increase in rail efficiency from PTC will contribute to climate change adaptation by streamlining locomotive operations, reducing time spent in emitting GHGs.
- **NS** – That portion of track between New Orleans and Meridian, MS over which Amtrak’s Crescent service operates one train each way daily. Also, any portions of track that carry poisonous-inhalation-hazardous materials. The increase in rail efficiency from PTC will contribute to climate change adaptation by streamlining locomotive operations, reducing time spent in emitting GHGs.

- **UP** – That portion of track between Lake Charles and Houston over which Amtrak’s Sunset Limited operates thrice weekly. Also, any portions of track that carry poisonous inhalation-hazardous materials. The increase in rail efficiency from PTC will contribute to climate change adaptation by streamlining locomotive operations, reducing time spent in emitting GHGs.

According to their annual PTC Progress Reports to FRA, CSX, Norfolk Southern, Canadian National, Kansas City Southern, BNSF Railway, Union Pacific and Amtrak all are fully compliant with PTC in Louisiana.

Chapter 5. Louisiana's Rail Service and Investment Program

5.1 Vision

This chapter describes the state's long-term vision for rail service and its role in the statewide multimodal transportation system. See **Figure 5-1**. It addresses the specific projects, programs, policies, laws, and funding necessary to achieve the rail vision and describes the related financial and physical impacts of these proposed actions.

State Rail Vision

The rail vision statement adopted by LaDOTD is provided below, along with its supporting freight and passenger rail service objectives.

The future Louisiana rail system will provide safe, reliable mobility for people and goods. In addition, it will contribute to a more balanced transportation system, economic growth, a better environment and energy conservation. The state's rail infrastructure and levels of service will expand to provide increased transportation efficiency, cost effectiveness, accessibility, capacity, and intermodal connectivity to meet freight and passenger market demands through an investment plan which includes public-private partnerships. To further this vision, the state will take a leadership role in planning rail service improvements.

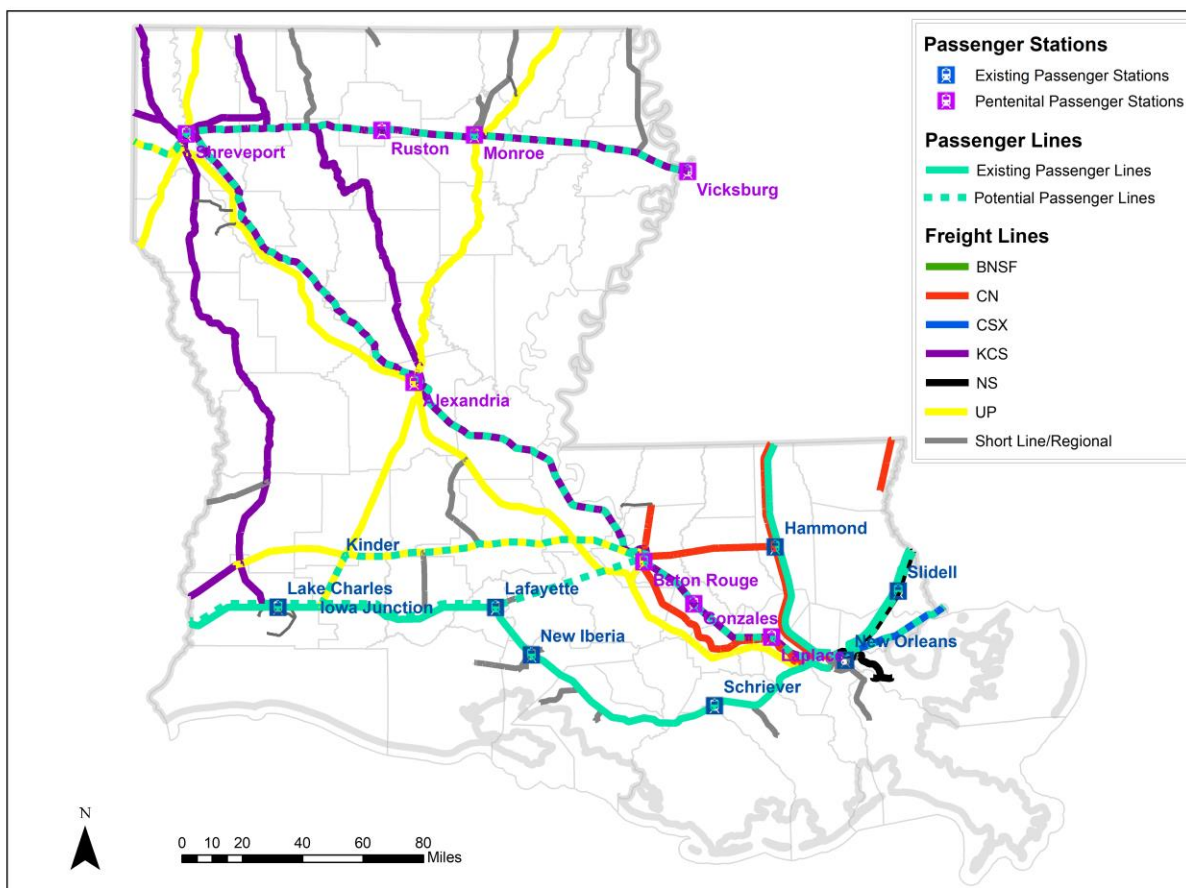
Freight Rail Objectives

- Improve the interchange of Class I rail traffic in New Orleans. Implement New Orleans Gateway (a program of projects)
- Increase the number of miles of track capable of 286,000-pound car weights on the state's short line railroads
- Minimize accidents, injuries, and fatalities at highway-rail grade crossings in Louisiana through crossing closures, safety improvements and grade separations
- Encourage economic development through investments in the rail system, e.g., improved access to marine and river ports, new intermodal facilities, and new industrial leads and spurs
- Establish a dedicated funding source associated with Louisiana ACT No. 22
- Leverage public-private partnerships for funding rail improvements

Passenger Rail Objectives

- Enhance existing services – maintain and improve existing stations
- Engage the freight railroads in new passenger rail planning initiatives
- Continue outreach to stakeholders
- Develop funding strategies for passenger rail initiatives
- Encourage multimodal integration
- Continue with Amtrak station upgrades

Figure 5-1: Proposed Long-Term Vision for Passenger and Freight Rail in Louisiana



Source: Prepared by UNOTI.

5.2 Program Coordination

Passenger and freight rail play an important role in Louisiana, including the provision of transportation choices, enhanced economic competitiveness, community support, and improved access for communities and neighborhoods throughout the state. 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 different modes of travel.

LaDOTD is Louisiana's State Rail Transportation Authority (SRTA) and State Rail Plan Approval Authority (SRPAA). LaDOTD is responsible for rail planning in the state, including development of the State Rail Plan. Rail-related responsibilities are located primarily within the LaDOTD central office, particularly the Office of Multimodal Commerce, but some rail-related activities are also located within the Department's Integration of the Rail Vision with other Transportation Plans. This State Rail Plan is intended to integrate and expand upon the Louisiana Statewide Transportation Plan, which was updated in 2016.

As noted in Chapter 1, the goals of the Statewide Transportation Plan are:

- **Infrastructure Preservation and Maintenance** – Preserve Louisiana’s multimodal infrastructure in a state of good repair through timely maintenance of existing infrastructure.
- **Safety** – Provide safe and secure travel conditions across all transportation modes through physical infrastructure improvements, operational controls, programs, and public education and awareness.
- **Economic Competitiveness** – Provide a transportation system that fosters diverse economic and job growth, international and domestic commerce, and tourism.
- **Community Development and Enhancement** – Provide support for community transportation planning, infrastructure and services.
- **Environmental Stewardship** – Ensure transportation policies and investments are sensitive to Louisiana’s environment, history, and culture.

The State Rail Plan addresses each of these Statewide Transportation Plan goals. For example, the State Rail Plan calls for:

- Investments in short line railroads’ *infrastructure* to assure their ability to handle heavy weight carloadings.
- Continued *safety*-related investments in grade crossing improvements, closures, and grade separations.
- Investments to improve access to ports in the New Orleans Rail Gateway Project, which will ensure the *economic competitiveness* of both the State and the New Orleans Class I interchange.
- Continuing outreach to the public, *communities*, and other stakeholders to assure their wants and needs with regard to rail transportation are heard; and,
- Support of passenger rail and multimodal integration that work to shift freight and passenger traffic to more *environmentally friendly* rail transportation.

As Louisiana also shares rail corridors and services with other states, it is also essential to coordinate with other states through both direct interaction and through comprehensive review and analysis of State Rail Plans prepared by other states in the region. LaDOTD will submit the draft Plan to surrounding states for their review and comment. As the regions’ states have developed and completed their plans over the course of the past five years, it is likely that this coordination of Plan content will increase as states begin to update their plans. These updates are required every five years per PRIIA.

FRA was directed by PRIIA legislation to develop a Preliminary National Rail Plan to address the rail needs of the U.S. The Preliminary National Rail Plan, published in October 2009, provided objectives for rail as a means of improving the performance of the National Transportation System, which include:

- Increased passenger and freight rail performance
- Integration of all transportation modes to form a more complementary transportation system
- Identification of projects of national significance
- Providing for increased public awareness

FRA initiated regional rail studies to fulfill the PRIIA requirements by engaging in a stakeholder led process to define a future, 40-year vision of a regional rail network that reflects the unique nature, desires, and needs of each region. Regional rail plans study transportation demand at the megaregion scale to reflect ongoing growth patterns in the United States, identified by research such *America 2050*. Regional rail plans can help facilitate rail planning at the state level by informing state rail plans and long-range transportation plans. Regional rail plans can also identify potential passenger rail corridors that warrant further study at a more detailed level. The Southwest Multi-State plan was completed in 2014. The Southeast and Midwest Regional Rail studies are currently on-going and anticipate completion in 2020. The Southeast Regional Rail study includes a rail connection between New Orleans, LA and Mobile, AL, reflecting the Gulf Coast service. LaDOTD will continue to work with FRA and other

Louisiana State Rail Plan

states in the region to ensure that the regions' rail perspectives and issues are adequately addressed within the final National Rail Plan, subsequent updates, and reports.

In addition to the need to coordinate the state's Rail Plan with the National Rail Plan and Freight Network, Louisiana will also coordinate as necessary with the U.S. Military Surface Deployment and Distribution Command's Transportation Engineering Agency, which oversees the federal National Strategic Rail Corridor Network (STRACNET). As noted in Chapter 2, STRACNET is comprised of a 32,000-mile interconnected network of rail corridors and associated connector lines most important to national defense.

5.3 Rail Agencies

The Office of Multimodal Commerce was created by Act No. 719 of the 2014 Regular Legislative Session and is housed within the LaDOTD to enhance the state's focus on multimodal transportation. The office coordinates the state's programs for ports, railroads, aviation and commercial trucking and helps make the case for broad and diverse funding solutions that will address the state's pressing infrastructure needs.

Proposed Organizational or Policy Changes

LaDOTD conducts rail planning along with other modal planning. The establishment of a dedicated funding source for the Rail Program at LaDOTD is identified above as an objective of the State Rail Vision necessary to focus resources to successfully secure federal funding assistance to short lines, further progress on the New Orleans Rail Gateway, and assist in the development of new passenger rail initiatives.

5.4 Potential Effects of Rail Program Implementation

In this section, the passenger and freight rail projects for this 20-year plan are identified, along with the potential effects of these projects. Projects enhancing the safety of at-grade crossings through safety improvements, closures and grade separations are also noted below with freight rail projects. The short range projects (first four years) and long range projects (latter 16 years) are listed in Appendix G (short range) and Appendix H (long range). The total estimated cost of all projects in the 20-year Rail Program is \$2.1 billion.

5.4.1 Passenger Rail Investments

5.4.1.1 Amtrak Station Upgrades

The projects anticipated are capital upgrades to the Louisiana Amtrak stations for compliance with the Americans with Disabilities Act (ADA) and State of Good Repair standards. The stations include New Orleans, Lafayette, and Lake Charles. These stations are owned by their respective cities, and the public benefits of these investments are assurance of ADA-compliance as well as the safety and serviceability of the stations for the traveling public. The estimated cost of these upgrades is \$9.5 million in current dollars. The upgrades are identified for the near term (first 4 years) following the Passenger Rail Stations Assessment.

The predominant number of rail passengers using stations in Louisiana are leisure travelers. Leisure travelers are likely to arrive one hour before the scheduled train departure and are likely to be traveling with suitcases or baby strollers. Because of their tendency to allow a comfortable cushion of time between their arrival at the station and the scheduled train arrival time, leisure travelers are more

predisposed to take advantage of station amenities such as retail services or vending machines. Leisure travelers may not be frequent travelers by train and may be unfamiliar with the characteristics of passenger train service. For these travelers, the availability and ease of finding information about the train services (timetables, etc.), station services (restrooms, parking requirements, etc.), boarding and disembarking procedures, and up-to-date train status information are critical elements of the travel experience at the station.

All of the recent Louisiana station upgrades have had a significant economic impact. \$20,167,021 was generated in station revenue in FY 2018. \$2,301,975 was spent in Louisiana by Amtrak in FY 2017. Amtrak wages in Louisiana were \$14,458,388 for FY 2017. Regarding the impact of public transit use, including rail, on energy efficiency and pollutant emissions, the Transportation Research Board (TRB) last conducted studies about a decade ago. Currently, TRB has a \$90,000 project out to bid to update this research, but a contract has not yet been awarded. Increases in passenger rail usage will decrease VMT on the interstate system, and expansion/addition of activity at passenger rail stations will result in the increased use of other forms of public transit close to the station(s).

Based on Amtrak's schedule of improvements for 2024 and 2025, the projects anticipated are capital upgrades to the Louisiana Amtrak stations for compliance with the Americans with Disabilities Act (ADA) and State of Good Repair standards. These include:

- Train access deficiencies (e.g. platforms will be elevated to meet ADA standards with tactile edging)
- Passenger Information Display Systems (PIDS) deficiencies (e.g. signage and railings for visually impaired passengers)
- Station access and/or key amenity deficiencies (e.g. overhaul mechanical and electrical systems that service trains)

5.4.1.2 Baton Rouge – New Orleans Intercity Rail

The total project for full implementation is estimated at \$522 million, as noted in Chapter 3. However, an ongoing update of that study has estimated a cost of \$262 million for a more limited implementation of two round trips daily. Of this amount, \$75 million for grade crossing improvements and replacement of the Bonnet Carré Spillway bridge is of the highest priority in the short term.

The primary public benefit will be enhancement of mobility and reduction of traffic congestion on Interstate 10 between Baton Rouge and New Orleans. The route could also serve as an evacuation route in case New Orleans is flooded, as it was during Hurricane Katrina. Once the service is implemented, there will be ongoing operating subsidies (operating costs less revenues). These likely will be funded through local sources. The addition of this intercity rail corridor will signal economic recovery from Hurricane Katrina. It will also stimulate local, regional, and national economies through infrastructure investment while simultaneously reducing emissions and gasoline usage. Additionally, it can eliminate as much as 86 million VMT annually from the Baton Rouge-New Orleans I-10 corridor, meaning that about 38,299 tons of CO₂ per year will not go into the air if this project is fully implemented. Regarding overall impacts to transit, the trains' final stop and origin in New Orleans is the New Orleans Union Passenger Terminal, which is linked to other transit options in the city by the Loyola Avenue streetcar. Existing public transit systems around the developing rail stations would become more robust, either through increased ridership or the development of new lines. Walking and bicycling to the stations would also become more accessible. The next step for this project to move forward is an environmental study. For additional information, please see Appendix C.

5.4.1.3 Shreveport/Bossier City – Dallas/Fort Worth and Future Extensions

There are alternative concepts for the implementation of the Shreveport – Dallas train service. One study is being sponsored by the East Texas Corridor Council and conducted by Amtrak and the Texas Department of Transportation; another is being sponsored by North East Texas Regional Mobility Authority.

The former anticipates running a conventional Amtrak operated service on existing freight railroad tracks. No cost figure was available for this concept. The latter envisions a new rail right-of-way with an electrified service and higher speeds, e.g., with top speeds of 110 to 150. A preliminary cost estimate for this is \$3 billion.

LaDOTD does not anticipate implementation in the near term. Full implementation will occur in the longer term. See Appendix G for additional information. The primary public benefit will be enhancement of mobility. Funding sources for this implementation and operating subsidies have not been identified. Potential extensions could be to Vicksburg and Meridian, MS. In 2014, the Northwest Louisiana Council of Governments studied the feasibility of service between Shreveport and Vicksburg. A Meridian connection would enable a through service between Dallas/Fort Worth, Atlanta and East Coast destinations including Washington, DC, Philadelphia, and New York City.

The economic benefits revealed by the study include 30 new permanent jobs, \$730,609 labor income, \$1,178,161 added value and total \$2,259,341 output.

In terms of the impact on greenhouse gas emissions, Volatile Organic Compounds (VOCs) would be reduced by 74.9 metric tons, NO_x 33.8 metric tons, PM_{2.5} 1 metric tons, and SO_x 0.1 metric tons. These environmental benefits would accrue due to a reduction in auto VMT by 87,635,686 annually.

5.4.1.4 New Orleans – Gulfport – Mobile Intercity Rail

LaDOTD also anticipates the long-range implementation of New Orleans – Gulfport – Mobile intercity service. LaDOTD has estimated its contribution to the capital costs at \$5 million.

5.4.2 Freight Rail Investments

5.4.2.1 New Orleans Rail Gateway

The current total estimated project cost is \$496.8 million, which is expected to go higher. The chief private benefits include speedier interchanges for the Class I railroads, with resulting operating cost savings. The chief public benefits are the closures of numerous grade crossings, resulting in enhanced safety and congestion mitigation, i.e., elimination of traffic delays at crossings. Potential funding sources in the near term include CMAQ, Rail Line Relocation, and Projects of National and Regional Significance programs, state and local sources, and railroad contributions. Longer term sources are undetermined at present.

Potential economic benefits include an estimated \$700 million upgrade investment (LaDOTD 2016). It is anticipated that increased and improved throughput might stimulate newer economic activities and savings in energy cost, both for motorists (through reduced congestion), and freight (the economies of rail). The NORGL project would reduce energy consumption in anticipated increase of economic activities in the region. According to AAR (2019) if just 10 percent of the freight that moves by Class 7 or Class 8

(the largest) trucks moved by rail instead, fuel savings would be more than 1.5 billion gallons per year and annual greenhouse gas emissions would fall by more than 17 million tons.

The first smaller individual project being studied is combining and possibly grade separating the KCS and NOPB at grade crossings of Jefferson Highway (US 90) in Jefferson Parish, between the Ochsner Health Foundation Hospital and Monticello Avenue.

The Louisiana Department of Transportation and Development and the Federal Railroad Administration, in coordination with the New Orleans Regional Planning Commission and the railroads operating in the New Orleans metropolitan area are preparing an Environmental Assessment for improvements to the at-grade highway-rail crossings located along US 90 in Jefferson Parish, between the Ochsner Health Foundation Hospital and Monticello Avenue. US 90 is classified as a major arterial and is part of the national highway network. It is also a key route for hurricane evacuation and is used by the police, fire and ambulances for delivery of emergency services. In 2018, an average of 25,000 vehicles per day travel this portion of Jefferson Highway. NORTA's Tulane (39) and Jefferson Transit's Jefferson Highway (E-3) bus routes also traverse this corridor. The corridor has limited opportunities for walking and bicycling.

Transportation studies are underway by several agencies to address vehicular, transit, bicycle and pedestrian access to the expanded Ochsner Campus and envisioned growth to adjacent retail and residential housing. The Jefferson Highway Rail Crossing Relocation project will further improve area mobility. Two at-grade highway-rail crossings, a New Orleans Public Belt Railroad crossing and a Kansas City Southern Railway crossing are less than 700 feet apart between the hospital and Monticello Avenue. This study will evaluate combining these two crossings into a single crossing at either the NOPB or KCS crossing location. The study will also evaluate grade separating the combined crossing at these two locations with a roadway overpass. This project was recommended in a 2007 Infrastructure Feasibility Assessment and identified as Projects N6 and N7 by the NORG Program. It was selected because of its strong public benefit. The goals of combining and possibly grade separating these crossings could include:

- Improving safety by eliminating the hazard of one or both at-grade railway-highway crossings
- Supporting the Ochsner Health Foundation
- Increasing economic competitiveness and improving air quality by reducing vehicle congestion
- Decreasing cost of maintaining two separate at grade crossings
- Increasing freight fluidity through the Gateway and Port of New Orleans.

5.4.2.2 Short Line Railroad Track Upgrades

The total project costs are estimated to be \$205 million. Twenty percent of the project costs (\$41 million) will be financed in the near term, with the remainder (\$164 million) in the long term. The chief private benefits will be the ability of short lines to better serve their customers, being able to handle heavier carloadings (286,000 pounds), and improved operating costs. The chief public benefits will be assurance of short line viability and preservation of competitive transportation options for shippers. Potential funding sources include the CRISI program and railroad contributions. Longer-term sources are undetermined at present. In 2019, the Louisiana legislature created a short line rail assistance program. To date, no funds have been provided. When funding is available a system will be developed to prioritize needs.

5.4.2.3 New Orleans & Gulf Coast Railway Company (NOGC) Rail Relocation

The total project cost is \$270 million. Fifteen percent of the project (\$40.5 million) will be implemented in the near term, with the remainder (\$229.5 million) in the long term. The chief private benefits will be improved access to Mississippi River ports for the NOGC and, thus, an enhanced competitive position for Louisiana. The chief public benefit is the closure of more than 100 grade crossings in Gretna and the surrounding area – a major safety and livability enhancement. Potential funding sources include the BUILD and CRISI funds. In 2018, the New Orleans Regional Planning Commission (NORPC) and the FRA completed the Environmental Impact Statement (EIS) and recommended the NOGC main rail segments be relocated away from Gretna to a suitable industrial site. Funding for this project (approximately \$300 million) has not yet been secured. In 2019, the NOGC began investigating a less expensive (about \$6-\$8 million) shortcut, which has been opposed by the residents and the city council because of the increase in crude oil the trains would be carrying. However, these are oil sands, which are not highly combustible.

5.4.2.4 Other Short Line Railroad Needs

Additional improvement projects for Louisiana short lines total \$51.5 million. The improvements include road closures and crossing improvements on lines belonging to the Acadian Railway, the New Orleans Public Belt Railway, the Louisiana Southern Railroad and Port Rail Link at the Port of Lake Charles. The primary public benefit is enhanced safety. The primary private benefit for the railroads is the reduction or elimination of potential liability for accidents at these crossings. These improvements are anticipated in the long term. Funding sources are undetermined at present.

5.4.2.5 Crossing Safety Improvements

Between 2014 and 2018, the average train accidents were 64 accidents per year and the average of railroad/highway accidents was about 85 accidents per year. There were 49 railroad/highway crossing fatalities and 217 injuries reported in Louisiana during the last five years. Louisiana needs to address railroad traffic fatalities because the numbers of fatalities and injuries related to highway-rail crossings were decreased with less than 50% percent during the last five years. See **Table 2-25**. Strategies to solve the issue of rail road traffic fatalities and injuries should be based on overall traffic safety assessment that utilizes data-driven decision making, continuous follow-up and monitoring practices, deployment of evidence-based countermeasures, and necessary adjustments to increases reaching goals strategies, programs, and projects. Louisiana plans to continue applying for Federal Grants to supplement their annual Highway/Rail Safety program. These projects range from safety upgrades for at-grade crossings to grade separations and more.

The following points are a short-term plan to reach Destination Zero Deaths:

- Comparing five-year trend of all the parishes' total population, total railroad fatal and injury crashes, incidents of rail and motor vehicle crashes at each crossing, and costs associated with these crashes.
- Promoting strategies and countermeasures for Railroad/Highway Crossing issues that focus on problem locations to identify parishes with high railroad-grade collision rates and status of existing warning devices at all crossings.
- Conducting engineering studies to promote the best practices to improve the safety of crossings and select lower-cost alternative technologies to provide an active warning at crossings that lack safety conditions.

- Conducting adequate evaluation criteria to recommend performance targets and strategies, select specific projects/programs, create contracts, and determine the feasibility of fiscal performance.
- Minimizing the interface between the rail and highway systems by identifying locations where alternate accesses are available to reduce costs of grade crossing improvements.
- Ensuring contract agencies and individuals identified in the plans.
- Conducting Parish-based highway-rail at-grade crossing public education programs by supporting the Louisiana Operation Lifesaver plan and organize workshops, presentations, and meetings to support rail-grade safety in parishes with high railroad-grade collision rates.
- Establishing a legislative framework for highway-rail at-grade crossing officer training programs.
- Conducting strict enforcement of rail crossing violations and encouraging enforcement efforts.
- Discussing potential new resources that will further assist in attaining evidence-based strategies goals and analyzing anticipated funding amounts for each fiscal year of these strategies or plans.

LaDOTD's annual program for grade crossing improvements totals to about \$9 million per year. In the near term, identified crossing projects sum to \$11.2 million. The funding sources are the federal High Priority Project funding (90 percent) and state/local funding (10 percent). The specific crossing improvement projects are cited in Appendix G.

5.4.2.6 Grade Separation Projects

LaDOTD's annual program for grade separations also totals to about \$9 million per year. Near term projects sum to \$30.35 million, and long-term projects to \$86.5 million. The primary public benefits of the projects are enhanced safety and improved mobility. The funding sources are federal High Priority Project funding (80 percent) and state funding (20 percent).

Pending funding, the grade separation projects (short term) are as follows:

- H.002960 – LA 3213 – Gramercy/UP overpass – the plans are almost completed (addressing PQU comment) and we have completed the UP agreement.
- H.009288 – LA 1 – DOW overpass – this project is waiting for the H.011133 (Shintech realignment) and will be rescoped after H.011133 has progressed further.

Specific grade separation projects appear in Appendix G and H.

5.5 Rail Passenger Project Impact and Financing Analysis

As discussed in Section 3.2.2 and 3.5.2, in the short-term (4 year) LaDOTD the Rail Plan calls for improvements at Amtrak stations in the state in years 2024 and 2025. These improvements, which will result in compliance with ADA and State of Good Repair standards, will provide increased access to the rail services provided. CRISI funds can be used for these upgrades.

New intercity passenger rail projects will have some level of positive impact on overall rail passenger ridership, rail passenger miles travelled, modal diversion from highway and air, and increased rail passenger revenues and/or reduced costs.

As noted previously, Louisiana has a limited amount of control over the rail passenger operations within the State. Amtrak operates three long distance intercity rail passenger services in Louisiana, and those operations within Louisiana represent only a portion of the total service area of the operations. Intercity rail between Baton Rouge and New Orleans has yet to be implemented, and, should it happen, it will likely be sponsored by the local jurisdictions in partnership with the state.

Amtrak has total fiscal responsibility for its long-distance routes. In Louisiana there are no state-supported corridor routes where the state has the financial responsibility for operating losses but also a voice in the expected performance and operation of the service. Therefore, Louisiana is limited in the means available to improve overall service levels of Amtrak trains; and any capital investments related to the intercity rail corridor must be made at the regional level with concurrence by other states served by the route as well as the host railroad(s).

However, three passenger rail initiatives are underway in Louisiana: intercity service between Baton Rouge and New Orleans; between Shreveport/Bossier City and Dallas/Fort Worth, with potential extensions to Meridian, MS; and New Orleans to Mobile with a possible extension to Orlando. LaDOTD is a member of the Southern Rail Commission, which seeks ultimately to implement higher speed service throughout the Gulf Coast.

Given Louisiana's lack of control over these rail passenger corridors' physical and operational characteristics, LaDOTD will work closely with Amtrak, Transportation for America and the SRC to apply for/obtain CRISI funds, Special Transportation Circumstances funds or Restoration and Enhancement grants. As discussed in Section 2.3.2.1, this arrangement has proven to be successful as is indicated by the New Orleans – Mobile corridor's \$33 million in CRISI funds and \$4.36 million in a Restoration and Enhancement grant. This was a bipartisan effort of the Louisiana, Mississippi, and Alabama Southern Rail Commission (SRC) members, the populace of the states, Governors Phil Bryant and John Bel Edwards, and Congress.

Based on the short-range and long-range investments on the rail system in **Table 5-3**, the following table shows the potential economic impacts of these investments on the state's economy.

Table 5-1: The economic impacts of the short- and long-range investments on passenger rail

| | Short-range | | | | Long-range | | | |
|---------------------------|-------------|----------|---------|--------|------------|----------|---------|----------|
| | Direct | Indirect | Induced | Total | Direct | Indirect | Induced | Total |
| Output ¹ | 123.09 | 40.82 | 53.48 | 217.39 | 776.16 | 257.39 | 337.26 | 1,370.81 |
| Value Added ¹ | 77.38 | 19.65 | 30.59 | 127.61 | 487.91 | 123.88 | 192.87 | 804.66 |
| Labor Income ¹ | 59.61 | 10.74 | 16.38 | 86.72 | 375.87 | 67.70 | 103.27 | 546.84 |
| Employment ² | 389 | 191 | 399 | 979 | 2,453 | 1,202 | 2,516 | 6,171 |

Source: IMPLAN

¹ Millions of 2019 dollars

² Number of jobs

5.6 Rail Freight Project Impact and Financing Analysis

In recent years, LaDOTD has focused its freight rail-related efforts in three main areas. These are:

- Facilitating the implementation of the New Orleans Rail Gateway project.
- Assisting short line railroads to acquire funding for their improvements for infrastructure upgrades for heavier carloadings, crossing improvements, crossing closures, and rail line relocations.
- Enhancing safety at crossings by implementing safety improvements and grade separations.

5.6.1 Financing Plan

The state's proposed short-range and long-range freight projects reflect a continued focus in these areas. Thereby, LaDOTD continues to support the establishment of a dedicated funding source for the Rail Program, with the primary mission of helping the state's railroads, and particularly short lines, secure federal funding for improvements, such as ensuring 286,000-pound carload capacity on lines where shippers demand it. LaDOTD will also continue to make major investments in crossing safety. Additionally, LaDOTD supports the establishment of a state-funded Rail Infrastructure Improvement Program. This program could have a potential budget in a range of \$10 million to \$25 million per year, and, thus, be able to provide the state's required matching funds for federal funds.

For the New Orleans Rail Gateway to be completed within the 20-year time frame of this Plan, CRISI funds, Highway Safety Improvement funds, INFRA funds, and/or Rail Line Relocation and Improvement Capital grants will need to be obtained.

For the New Orleans and Gulf Coast Railway Relocation project to succeed, CRISI funds, Highway Safety Improvement funds, INFRA funds, and/or Rail Line Relocation and Improvement Capital grants will need to be obtained.

5.6.2 Public and Private Economic Effects

With the establishment of a designated funding source for the Rail Program, LaDOTD can expand its efforts to assist in funding rail improvements on private railroads that serve Louisiana shippers and perhaps one day might host new passenger rail services in the State.

Based on the short-range and long-range investments on the rail system in **Table 5-3**, the following table shows the potential economic impacts of these investments on the state's economy.

Table 5-2: The economic impacts of the short- and long-range investments on freight rail

| | Short-range | | | | Long-range | | | |
|---------------------------|-------------|----------|---------|--------|------------|----------|---------|----------|
| | Direct | Indirect | Induced | Total | Direct | Indirect | Induced | Total |
| Output ¹ | 202.10 | 67.02 | 87.82 | 356.94 | 1,037.15 | 343.94 | 450.66 | 1,831.75 |
| Value Added ¹ | 127.05 | 32.56 | 50.22 | 209.52 | 651.98 | 165.54 | 257.72 | 1,075.23 |
| Labor Income ¹ | 97.87 | 17.63 | 26.89 | 142.39 | 502.26 | 90.47 | 138.00 | 730.72 |
| Employment ² | 639 | 313 | 655 | 1,607 | 3,277 | 1,606 | 3,361 | 8,245 |

Source: IMPLAN

¹ Millions of 2019 dollars

² Number of jobs

5.7 Rail Studies and Reports

1. (Freight) Environmental Assessment 1. LA 23 New Orleans & Gulf Coast Railway Relocation PE/NEPA Project Jefferson and Plaquemines Parishes, Louisiana RPC Task LA23RR1RPC/FRA Grant # FR-RLD-0032-14-01-00 March 2018
 - a. This is a 2018 Finding of No Significant Impact (FONSI) Environmental Assessment conducted by the New Orleans Regional Planning Commission for the relocation of the New Orleans and Gulf Coast Railway in order to move the passage of this rail freight route away from downtown Gretna, Louisiana.
 - b. Cost estimate is about \$300 million. FAST Act, FHWA Section 130 Rail-Highway Grade Crossing Program, TIGER grants, Railroad Rehabilitation and Improvement Financing, and Transportation Infrastructure Finance and Innovation Act loans; Transportation Infrastructure Finance and Innovation Act (TIFIA) loan programs, The State of Louisiana Capital Outlay Program, Public-Private Partnerships (PPP), and Tax-Expenditure Finance Programs are all possible sources of funding for the relocation project. As of 2019, no funding from any source has been secured for the project.
2. (Freight) Needed Freight Rail Planning Study: In preparation for the eventuality of the Port of New Orleans acquiring its needed downriver container terminal in St. Bernard Parish, the necessary rail connectivity needs to be studied.
3. (Freight) Needed Freight Rail Planning Study: For the newly-refurbished Avondale Marine site, the necessary rail connectivity needs to be studied.
4. (Passenger) Louisiana Passenger Rail Station Assessment 2018: LLADOTD
 - a. This is a study of how existing and potential stations should be developed to meet the requirements and goals of expanded intercity passenger rail in Louisiana. It focuses on ADA compliance, security concerns, relations to regional/local transit, and economic impacts.
 - b. Funding is not discussed.
 - c. Completion dates are not discussed.
5. (Passenger) Amtrak Host Railroad Report Card 2018
 - a. This is an analysis of how each of the freight railroads with which Amtrak shares rail impacted its on-time performance for the year 2018.
 - b. Funding is not discussed.
 - c. Completion dates are not discussed.
6. (Safety Data) Federal Rail Administration (FRA) Office of Safety Analysis
 - a. This is a website designed to make rail safety data, including accidents at grade crossings and highway-rail accidents, available to the public
 - b. Funding is not discussed.
 - c. completion dates are not discussed.
7. (Safety Data) Positive Train Control (PTC). Association of American Railroads. January 2019
 - a. This is a description of PTC technology and an update of the pace of its implementation by the Class I railroads ca. end of 2018
 - b. By the end of 2018 the Class I's had spent \$10.6 billion of their money implementing PTC. No tax dollars were used.

- c. At the time of the report, PTC was operational on 83% of the designated Class I rail miles. The goal is 100% by the end of 2020.
- 8. (Environmental) The Environmental Benefits of Moving Freight by Rail. Association of American Railroads. July 2019
 - a. This report outlines the environmental superiority of the rail mode of freight transportation.
 - b. Highway congestion due to freight trucking cost \$87 billion in 2018. (Funding for rail replacement of freight trucking was not discussed.)
 - c. 10% of the largest freight trucking loads, if moved by rail, would remove approximately 3.2 million cars from U.S. highways, saving 1.5 billion gallons of fuel per year. (Completion dates were not discussed.)
- 9. (Passenger) Gulf Coast Working Group Report to Congress, July 2017
 - a. This is an overview of the rail developments needed to re-establish passenger rail service from New Orleans to Orlando, Florida. It contains a detailed work-up of best practices for recreating the route from New Orleans to Mobile, which was discontinued after Hurricane Katrina.
 - b. The minimum estimated cost for restoring service from New Orleans to Mobile in this report is \$5,598,663. The minimum continuing operating cost is \$98,810,781. Potential funding sources discussed in the report include a local match to FRA grants, BP Oil Spill Settlement funds, The FAST Act, particularly its Consolidated Rail Infrastructure and Safety Improvements (CRISI) sub-section; the Restoration and Enhancement (REG) program of FAST; the FASTLANE section of the FAST Act; TIGER Grants, the FHWA Railway-Highway Crossings (Section 130) Program, the Alabama Department of Transportation, the Railroad Safety Program of the LLADOTD, the Transportation Infrastructure Finance and Innovation Act (TIFIA), and the Railroad Rehabilitation and Improvement Financing (RRIF) program.
 - c. This report estimates that this service can be restored by 2020.
- 10. (Passenger) Dallas/Fort Worth to Meridian Passenger Rail Study | TxDOT Rail Division | I-20 Corridor Council | October 2017
 - a. This study looked at needed infrastructure improvements and a cost-benefit analysis to establish passenger rail from Dallas/Fort Worth to Meridian Mississippi. The route would run across northern Louisiana. Of note to the Louisiana Rail Plan update are the segments from Marshall, TX to Shreveport, LA and from Shreveport, LA to Vicksburg, MS.
 - b. The cost of the necessary Louisiana segments of improvements would be \$5,719,6470. Funding sources are not discussed.
 - c. Completion dates are not discussed.
- 11. (Freight, Passenger) Louisiana Statewide Transportation Plan- Updated 2016
 - a. This is the FAST Act-required update of the 30-year horizon transportation plan for Louisiana. It covers all modes, including freight and passenger rail.
 - b. Total freight rail needs are \$1,362,733,486. Total passenger rail needs are \$662,047,215. State and federal funding earmarked for rail does not exist in Louisiana. Grants and loans come from the FRA. State and federal highway funds cover highway rail crossing upgrades. Suggested potential funding included PPPs, a general sales tax, a motor fuels sales tax, a vehicle miles travelled fee, local funding options (municipal and parish [county] level), advanced transportation districts (special regional

transportation-oriented tax districts), tolls, indexing motor fuel taxes (tied to inflation), project-specific taxes, increases in motor vehicle registration fees, and surcharges on traffic violations.

- c. The plan estimated that more state funding would start to become more available to transportation projects in general starting in 2020.

5.8 Passenger Rail and Freight Rail Capital Program

A summary tally of the projects, prioritized as short-range and long-range projects, appears in **Table 5-3**. More detail for each of the projects (including description and benefits) can be found in Appendix G and Appendix H.

Table 5-3: Louisiana Rail Program of Projects

| Short-range Needs in Years 1-4 | Project Description | Cost in Millions** |
|---|---|--------------------|
| New Orleans Rail Gateway | Initial construction of the project. Cost estimated at 10% of project needs. | \$53.43 |
| 286K upgrade for short lines | Upgrades of short line trackage to handle 286k-bound maximum carload weights. | \$44.08 |
| NOGC rail relocation | Relocation of NOGC tracks south of New Orleans to access new port facilities (15%). | \$43.54 |
| Station improvements | Upgrades of Louisiana Amtrak stations for ADA compliance and state of good repair. | \$10.6 |
| Crossing improvements | 72 crossing projects are scheduled in the short term. | \$21.06 |
| Grade separations | Six grade separation projects are scheduled in the short term. | \$30.35 |
| Shreveport - Dallas intercity rail* | Environmental planning, design, and initial construction of route in Louisiana. | \$32.25 |
| Baton Rouge - New Orleans intercity rail* | Grade crossing improvements and replacement of the Bonnet Carre' spillway bridge. | \$80.63 |
| Total: | | \$319.95 |
| Long-range Needs in Years 5-20 | | Cost |
| New Orleans Rail Gateway | Full construction of the project. | \$480.63 |
| 286K upgrade for short lines | Upgrades of short line trackage to handle 286k-bound maximum carload weights. | \$176.30 |
| NOGC rail relocation | Relocation of NOGC tracks south of New Orleans to access new port facilities (85%). | \$246.71 |
| Grade separations | Five grade separation projects are scheduled in the long term. | \$86.5 |
| Other short line needs | Upgrades to the short line rail system in Louisiana. | \$55.36 |
| Shreveport - Dallas intercity rail* | Full construction of route and stations; Acquisition of rolling stock. | \$290.25 |
| Baton Rouge - New Orleans intercity rail* | Upgrade of KCS Baton Rouge – New Orleans rail corridor for implementation of commuter rail service. | \$480.53 |
| New Orleans – Mobile intercity rail* | Louisiana's contribution for covering implementation costs. | \$5.38 |
| Total: | | \$1,821.66 |
| Rail Program Total: | | \$2,137.61 |

Note: *Excludes annual operating subsidy. **In 2019 dollars.

The figure identified above for the Shreveport – Dallas intercity rail project is \$322 million in total (short range and long range). This figure represents 10% of the preliminary cost estimate (\$3.2 billion), which in turn corresponds to the proportion of the route in Louisiana.

Currently, all passenger services in Louisiana are provided by Amtrak without a subsidy provided by the state. Planning studies are presently underway for new intercity rail initiatives in the state.

Chapter 6. Coordination and Review

Introduction

The Stakeholder Outreach effort conducted for the Louisiana State Rail Plan was comprised of five elements:

- Public outreach, conducted through three Public Meetings in different parts of the state.
- Solicitation of input from the state's railroads and the state railroad association.
- Outreach to selected rail shippers.
- Engagement with the Freight Rail Advisory Council established for the Statewide Transportation Plan.
- Outreach to passenger rail interests, representing Louisiana and neighboring states.

The purpose of this outreach effort was to provide adequate and reasonable notice of the state's intent to develop a State Rail Plan and an opportunity for rail freight and passenger stakeholders in Louisiana to offer comments on existing services and potential improvements for the future.

In general, the outreach effort revealed interest in passenger rail services, support for infrastructure improvements for Class I and small railroads, and a concern with grade crossing safety. A detailed description of the 2015 outreach process and feedback is described below.

LaDOTD is committed to, and values, public participation. Therefore, participation in the Rail Plan's development was extensive. Since that time, LaDOTD has continued its commitment to engagement and as such, the public participation for this plan is ongoing.

6.1 Stakeholder Outreach Approach

The development of a Stakeholder Outreach Program was one of the first components of the project planning task for the 2015 State Rail Plan. The program called for the development of public outreach tools, and a comprehensive public outreach effort that included public meetings and interviews of various stakeholders involved in, or affected by, the state's rail system. Each of these stakeholder participation elements is described below.

6.1.1 Public Outreach Meetings

Three public outreach meetings on the State Rail Plan were held in October, 2012. These were in New Orleans, Baton Rouge, and Shreveport. The meetings were advertised in the local press, and meeting notices appeared on the LaDOTD website.

Poster boards which displayed the State Rail Plan process as well as maps of the Louisiana rail system were provided for public view prior and during each session. Following introductions, the consultant team provided a presentation outlining the requirements and purpose of rail plans and moderated discussion of both a rail vision for the state and rail-related issues.

A total of 85 people attended the public meetings. Participants included representatives from short line and terminal railroads, MPOs, ports, parishes, the Sierra Club, transportation planning and engineering companies, along with students and private citizens.

Attendees saw a presentation on the State Rail Plan purpose and process as well as on preliminary findings. Participants were asked to fill out comment cards and surveys aimed at capturing their interests and concerns with regard to rail transportation in Louisiana.

Since this time, LaDOTD has hosted public outreach meetings as part of the New Orleans Gateway project (ongoing) and as part of the LA 23 New Orleans and Gulf Coast Railway Relocation project in 2017.

6.1.2 Railroad Outreach

All Class I, short line, and terminal railroads were contacted for their input to the 2015 State Rail Plan. Sought from the Class I's were their investment plans for the foreseeable future, as well as insight in any major rail capacity bottlenecks in the state. Class I railroads typically fund their improvements largely through internal cash flow. Short line railroads in large part have a more challenging time self-funding improvements and often seek capital assistance from the federal and state governments. The Louisiana State Railroad Association (LSRA) was also contacted for insights on railroad needs. The LSRA represents the railroad industry before government and regulatory authorities and the state legislature.

All railroads (both Class I, short line, and terminal) were contacted and asked to provide feedback for this update.

6.1.3 Rail Shipper Interviews

The most direct method of determining the status/condition of the rail network in Louisiana and soliciting the infrastructure, operational, policy, or other needs of these stakeholders with regard to rail operations is through interviews or surveys. In 2015, shippers served by Class I and short line railroads were interviewed for their perspectives on their rail service. Shippers were identified by LADOTD, consulting team members, and serving short line railroads. An effort was made to interview railroads representing a mix of major commodities handled by rail. In all 15 shippers were interviewed by telephone: seven served by Class I railroads and eight by small railroads.

Shippers were asked to comment as to problems or issues with rail service, potential infrastructure or operational improvements that could increase their rail use, and regulatory restrictions that impact rail service. Shippers were also asked their opinion as to the value of a public Rail Infrastructure Improvement program, or any other means that the public sector could provide to assist or enhance rail service to local industries, and their general views as to the future of local rail freight service.

6.1.4 Freight Rail Advisory Council Meetings

The 2015 State Rail Plan effort was conducted as part of the effort to update the Louisiana Statewide Transportation Plan. For the latter plan, three Freight Rail Advisory Council meetings were held in Baton Rouge: one in March, another in October 2013, and a third in January 2014. Membership of these councils included Class I and short line railroads, shippers, the LSRA, LADOTD Rail Section personnel, and other freight rail interests. At the first meeting, the consulting team made a presentation on the State Rail Plan process, and then solicited ideas from the assemblage about work that LADOTD should be doing to help improve freight rail services in Louisiana. In the second meeting, the council was asked to refine the ideas and prioritize them as recommendations. In the third, the council offered comments on the state rail vision, its supporting service objectives, and recommendations and next steps.

MAP-21/FAST Act encourages each state to establish a freight advisory committee composed of a representative cross-section of public- and private-sector freight stakeholders. LaDOTD established a Louisiana freight advisory committee in 2017 as part of the Freight Plan development process. Members

include private-sector business leaders; modal representatives (including port authorities); and representatives of regional, state, and federal agencies. The committee was formed as a permanent advisory body to support LaDOTD's freight-related planning and investment decisions, not only during the development of the Freight Plan, but well beyond. This will provide consistency to ensure a long-term and sustainable coordination between the Statewide Transportation Plan, Rail Plan and Freight Plan. The committee was established to help identify issues and important needs, and to serve as a sounding board for the Plan's findings and recommendations, as they were developed.

In an effort to keep these stakeholders involved, LaDOTD's Office of Multimodal Commerce renamed this permanent committee the "Multimodal Advisory Commission." Additionally, the New Orleans Regional Planning Commission established a Freight Advisory Committee; both of which meet quarterly.

6.1.5 Passenger Rail Outreach

Passenger rail stakeholders were contacted by telephone or e-mail for their perspectives on passenger service needs and opportunities in the state. Contacted were Amtrak, the intercity rail service provider; the Southern Rail Commission, of which Louisiana is a member and which has studied new and improved passenger rail services between Atlanta, New Orleans and Houston; and the National Association of Rail Passengers, a non-profit passenger rail advocacy group.

In coordination with the Southern Rail Commission, Greater New Orleans Inc., and the Baton Rouge Area Chamber of Commerce, a poll was conducted of 1,050 registered voters along the proposed New Orleans – Baton Rouge route. Eighty five percent of the respondents think it is "very important" or "important" to have an intercity rail service between New Orleans and Baton Rouge. The poll also found that 63% said they would use the train and more than 80% supported the state including passenger rail in the transportation options they currently provide along with highways and airports. Other findings in the poll showed that 80% thought a passenger rail service between the states' largest cities would bring economic development, while 82% said they thought it would reduce congestion on I-10. More than 80% of the respondents were more likely to support passenger train service if the trains were used for evacuation of citizens in a future hurricane.

Additionally, LaDOTD conducted a Passenger Rail Station Assessment in 2018. As part of this process LaDOTD, MPOs and city officials conducted field visits to six Amtrak stations. This effort resulted in the development of a guidance document towards the state's passenger rail transportation planning activities by creating a conceptual list of station features and standards that may be applicable to future intercity passenger rail initiatives within the state.

6.2 Coordination with Neighboring States

In its *State Rail Plan Guidance* (issued in September 2013), the FRA identified a need to describe how a State Rail Plan was coordinated with neighboring states with respect to facilities and services that cross state boundaries. LADOTD routinely interacts with neighboring states through involvement in national and regional transportation organizations and to address specific transportation issues as necessary.

Primarily through coordination with the multi-state member Southern Rail Commission, LaDOTD is able to support the redevelopment of passenger rail between New Orleans and Baton Rouge. This multistate effort has resulted in passenger rail restoration efforts along the Gulf Coast receiving a \$4.36 million award through the Restoration and Enhancement (R&E) Grants Program and a \$33 million federal grant award through the Consolidated Rail Infrastructure and Safety Improvements (CRISI) program.

Additionally, in 2017, UNOTI and the Texas Transportation Institute worked together to produce a feasibility study for the Dallas to Meridian passenger rail service.

6.3 Stakeholder Involvement in the State Rail Plan

Rail-related issues which were expressed during stakeholder interviews, surveys or outreach sessions were utilized to complete a number of the 2015 State Rail Plan components.

During the outreach meetings time was set aside to solicit views as to the state's vision for rail transportation as well as to identify general and specific rail issues. This information was documented and presented. LaDOTD used this information to develop a draft rail vision and supporting rail service objectives.

Information obtained as a result of stakeholder interviews was utilized to develop and modify profile information as necessary, to identify infrastructure, operational, and regulatory issues, and to ascertain stakeholders' views on the effectiveness of the state's current involvement in rail planning and oversight as well as strategic roles the state could play in the future to address existing needs.

The following summarizes the most significant issues raised during the outreach process.

6.4 Issues Raised by Stakeholders

6.4.1 Summary of Public Meeting Input

Various themes were identified from the comments voiced by public outreach meeting attendees and noted in the surveys and comment cards. Among these are:

- Interest in Baton Rouge – New Orleans intercity service, in Shreveport/Bossier City – Dallas/Fort Worth intercity service, and in restoration of Gulf Coast service.
- Interest in freight rail projects, particularly for short lines, connections to ports, and the New Orleans Rail Gateway project.
- Interest in state support of freight and passenger rail projects; and in a dedicated funding source for rail projects.
- Concern regarding grade crossing safety.
- Interest in public-private partnerships as another means of helping to realize projects.
- Interest in rails-to-trails and rails-with-trails programs.
- Attention to rail impacts to communities from rail improvements.

Attendees expressed their fears of declining economic fortunes for the state if investments in rail were not made.

6.4.2 Summary of Railroad Outreach

While the Class I railroads have the ability to fund improvements themselves, the state's short line railroads generally do not. Most of these railroads haul rail traffic between their shippers and their Class I connection, for which they receive a switching fee. Fee revenues may be inadequate to fund line improvements. Accordingly, the short lines see a need for state assistance, especially to help the railroads upgrade their lines for handling 286,000-pound loaded car weights.

6.4.3 Summary of Railroad Shipper Comments

Shippers acknowledged the importance of their rail connections, but also cited various areas ripe for improvement. Class I "captive" shippers (shippers served exclusively by one large railroad) noted that

their serving carriers charge prices for transportation service that are too high, while others complained of slow and undependable service. For short line shippers, line improvements like upgrades for 286,000-pound loaded car weights are a distinct need. To this end, these shippers felt the state should have a Rail Infrastructure Improvement program for helping to realize these improvements. Furthermore, some felt that the state could also have a role interceding with their Class I connections and helping to mediate disputes.

6.4.4 Summary of Freight Rail Advisory Council Comments

There were eight specific recommendations pertaining to LADOTD rail activities Freight Rail Advisory Council. These included a dedicated funding source for the Rail Program at LADOTD and staffing it appropriately to help all the state's railroads secure federal grants and loans. It also called for providing state funding for rail infrastructure improvements. When asked to prioritize the recommendations, the council members agreed that all were equally high priority recommendations.

6.4.5 Summary of Passenger Rail Outreach

Evident from comments made at the public meetings, there continues to be interest in passenger rail initiatives. These include Baton Rouge – New Orleans intercity service, restoration of Gulf Coast Amtrak service, and new higher speed routes, running to the west to Houston and the northeast to Birmingham and Atlanta, and Shreveport/Bossier City – Dallas Fort Worth. At the same time, there is recognition that there is no funding source available for any of these concepts.

6.5 Stakeholder Input Incorporated in State Rail Plan

The comments and recommendations received through all aspects of the public outreach process were presented to LaDOTD. These comments and recommendations were utilized in the development of the state rail vision and supporting service objectives outlined in Chapter 5.

Based on the 2015 inputs and ongoing public and stakeholder engagements, LaDOTD will work toward the following initiatives:

- Designate a funding source for the Rail Program, with the primary mission of helping the state's railroads, and particularly short lines, secure federal funding for improvements, such as ensuring 286,000-pound carload capacity on lines where shippers demand it.
- Support the establishment of a state-funded Rail Infrastructure Improvement program for helping to realize these improvements and maintaining lines in a state of good repair. This program could have a potential budget in a range of \$10 million to \$25 million per year.
- Continue to support the New Orleans Rail Gateway project and port-access improvements such as the Gulf Coast Rail Relocation project.
- Continue to promote and enhance rail safety at crossings.
- Continue to work with neighboring states on rail initiatives which benefit the region; continue participation in the Southern Rail Commission on both passenger and freight initiatives.
- Support the improvement of existing Amtrak services and Amtrak stations.
- Support the development of new intercity rail initiatives that enhance mobility options for Louisianans.

6.6 Coordination with Other State Planning Efforts

As noted, the 2015 Louisiana State Rail Plan was developed as part of the Louisiana Statewide Transportation Plan assembled in 2016. Recommendations of the Louisiana Statewide Transportation Plan are incorporated into this update.

Appendix A.

Other States' Passenger & Freight Rail Experiences

A.1 Overview

What follows is a summary of selected experiences of other states with regard to passenger rail services. These experiences provide examples of how existing passenger rail services in Louisiana could be enhanced.

A.2 Other States' Experience

A.2.1 Passenger Information and Personalized Service

One feature of North Carolina's state-sponsored rail service is the personalized service and the information offered the traveler. The state has more than 100 volunteers in its Train and Station Host Association. Riding the *Piedmont* and the *Carolinian*, these train hosts serve as North Carolina goodwill ambassadors and add a welcoming dimension to the service. On-board the train and in stations the hosts assist passengers and provide information about passenger services, the train route, ground transportation, and area attractions. A similar volunteer program could be undertaken at Louisiana stations and on trains traveling into New Orleans, with ambassadors welcoming and assisting passengers with information on taxi and bus connections, hotels and destinations. On trains, the program could supplement the National Park Service's Trails and Rails Program.

A.2.2 Promotion

Promotion of existing rail service is the first step in building awareness and usage of the rail mode. The New Orleans tourism website lists Amtrak on its Transportation page with a link to Amtrak.com. Although there is an Amtrak advertisement, rail service is not mentioned in the New Orleans Official Visitors Guide. The Downtown Alive section of the Lafayette city website mentions Amtrak and has a link to Amtrak.com. Amtrak is mentioned on the Hammond Chamber of Commerce website. However, there is no mention of Amtrak or rail passenger service on the Louisiana Travel website or in the Louisiana Travel Guide.

There are opportunities to improve the promotion and marketing of rail passenger service. A good example is Santa Barbara, CA. The county air pollution control district coordinated the development of the ongoing Santa Barbara Car Free promotion. This promotion links Amtrak, local transit carriers, hotels and attractions. All of the participants in this program work together to provide detailed information on how to visit and enjoy Santa Barbara without an automobile. The promotion offers travel discounts, sample itineraries, a transit route linking key visitor attractions, walking tours and local guided tours. Several other cities in California – San Diego, San Francisco and San Luis Obispo – have adopted this promotion theme. With its extensive transit system, walkable entertainment quarter and focus on Smart Growth, New Orleans is an ideal fit for such a program. Small cities with historic downtowns could also adopt this promotion.

A.2.3 Enhancing Rail Freight Capacity

The State of Washington has a very active rail passenger and freight program. One of the hallmarks of the program is an integrated freight and passenger rail system perspective with the goal being to increase the capacity of both as projects are identified and implemented. In addition to addressing the specific capacity concerns of the freight railroads as rail passenger service is increased, the state also has the long-term goals of maintaining its role as a key hub for international trade and maintaining and expanding intrastate rail shipments (especially of bulk commodities). The latter effort helps to reduce its highway maintenance and capital needs and reduces highway congestion from heavy trucks. With the Class 1 railroads focused on meeting their needs for long-haul traffic, the state is adding additional capacity to make lower gross revenue short-distance traffic attractive.

Some notable projects are:

- **Vancouver, WA Rail Bypass** – Vancouver, WA is one of Washington State’s major ports, especially for bulk commodities. The new bypass track and port rail connection will add capacity for additional passenger trains but will also reduce rail congestion, increase freight rail velocity and in conjunction with other public/private rail projects in the port area greatly enhance the capability and capacity of the port. Completion of a new road bridge over the rail line is enhancing the livability for adjacent neighborhoods.
- **Mt. Vernon Siding Upgrade** – The siding at Mt. Vernon, WA was in poor condition and could not be used by Amtrak trains, thereby limiting schedule flexibility. The siding was also too short to be used by current freight trains. A public/private partnership is upgrading and lengthening the siding to improve operational efficiency and increasing passenger and freight train capacity of the line. The upgrade also includes road improvements to eliminate highway delays when the siding is being used for train meets.
- **Kelso Martin’s Bluff-Kelso to Longview Junction** – With the growth of traffic to the Port of Longview, rail congestion is growing at Longview Junction. As part of Washington State’s High Speed Rail Program, existing tracks are being upgraded, and a third main track leading toward Longview Junction is being added. This additional capacity will allow Port of Longview freight trains to enter and leave the yard freely without delaying Amtrak Cascades passenger trains or through freight trains to the Ports of Tacoma and Seattle.
- **King Street Station** – King Street Station is the main passenger rail station in Seattle. It is also adjacent the BNSF’s main line as it enters a tunnel under downtown Seattle. The project relocates the BNSF main line to accommodate the construction of separate passenger tracks linking the station and the passenger rail maintenance facility. This allows passenger trains to travel between the yard and the station without delay and without delaying freight trains. By eliminating the need to use the freight main line at this location, an area constrained by city development, the project increases freight capacity.

A.2.4 Unified Support

Action by the members of the Midwest Regional Rail initiative – Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin – in signing the Memorandum of Understanding (July 2009) is cited as a strong indication of unity among Midwest states. By cementing an agreement among the states to work cooperatively in supporting and understanding the importance of the network and key connections at the Chicago hub, even if it meant that projects in member states might be deferred to later stages, the memorandum served to demonstrate the value that federal investments in the Midwest region would yield.

The upgrading of the Chicago-St. Louis and Chicago-Detroit corridors with shorter schedules and potentially additional frequencies will bring a key test regarding capital investment. Currently the

Louisiana State Rail Plan

Northeast Corridor (NEC) Regional trains, benefiting from the investment in the NEC, generate revenue that slightly exceeds their operating costs (FY11). Thus if they were state funded trains, they would not require a state operating subsidy. Because it also benefits from NEC capital investments, the new Virginia-sponsored Washington-Lynchburg train has not required an operating subsidy.

Currently (FY11) Chicago-St. Louis service (before state payments) and Chicago-Detroit have revenue/operating cost ratios ranging from 50% and 55%. Illinois makes payments to offset the revenue short-fall while Michigan now is required to do so. How will the revenue/cost ratio change and state subsidy requirements change once all of the Midwest capital investment is in place? Because an operating subsidy is harder to initiate compared to discrete capital project, the future revenue/cost ratio of the Chicago-St. Louis and Chicago-Detroit corridors bears watching.

A.2.5 Equipment

North Carolina has demonstrated that well maintained older equipment can deliver high customer satisfaction for a start-up rail service. The state's 40-year-old cars were overhauled and all mechanical systems standardized. They are delivering signature service on the *Piedmont* route. Utilizing used rail cars saves scarce capital for track improvements. While the availability of used equipment is limited today, states upgrading their corridors and adding frequencies are ordering the new bi-level equipment to expand and standardize their fleets. This should free up equipment that can be overhauled for a 10-year life. New standardized equipment can be ordered at a later date, helping to keep the passenger rail car production line open and avoiding the feast and famine that has marked previous passenger rail car order cycles. In addition, once the new passenger rail cars have been delivered, this older equipment can be mothballed as a reserve fleet available to boost capacity for hurricane evacuations.

A.2.6 Feeder Bus Service

While California sponsors successful rail service on three corridors, perhaps its most notable feature is the extensive Thruway bus network that operates in conjunction with the rail services. The network of bus routes (23 in total) extends the reach of the rail service far beyond the 53 train stations to a total of 175 cities served. A significant number of rail passengers (up to 70% on one route) ride a connecting Thruway bus. The feeder bus network clearly contributes to the success of California's rail program and enhances its value by serving many additional California cities not on rail lines.

The California network has four main functions. These are:

- Increasing ridership on the trains by adding a significant number of additional cities to the rail system;
- Increasing the number of frequencies on corridor routes by adding parallel schedules during off-peak times of the day;
- Providing vital service to transit dependents residing in rural areas that have lost intercity bus service during the past decade; and,
- Enhancing the value of the rail program to taxpayers by serving many more California residents.

Three types of Thruway bus services in California are operated:

- Dedicated, charter motor coaches operated exclusively for Amtrak passengers;
- Mixed Mode, motor coaches operated as regular intercity schedules carrying both rail passengers and bus passengers. The schedules and operations of these routes are coordinated with the train schedules. Financial support in addition to the value of rail passenger tickets lifted is provided to the motor coach operator; and,

- Interline, connecting rail tickets are honored and the motor coach carrier is paid the value of the tickets lifted but no other financial accommodation is undertaken. The schedules may or may not be coordinated with the rail service. This service is most successful when the connecting bus route has a high number of daily frequencies, minimizing the negative impact of any missed connection.

A.2.7 Local Initiatives

As was noted in the *Baton Rouge-New Orleans Passenger Rail Service Development Plan*, Louisiana's efforts to fund Baton Rouge-New Orleans passenger rail service were stymied when the funding source, the Motor Vehicle Sales Tax, fell short of levels required. The Development Plan suggested several potential local funding sources. Elsewhere there are local initiatives to manage and fund rail service.

Orange County in Southern California is an example of a local county that has been in the forefront of advocating local initiatives to manage, coordinate and fund inter-county commuter and intercity rail in the Los Angeles-San Diego-Santa Barbara-San Luis Obispo Corridor (LOSSAN). Orange County adopted a local sales tax to fund track improvements and equipment purchases, and has developed and submitted funding requests for federal transportation funds. Orange County also took action to initiate a funding request for track improvements in another county. It did this because the rail system is an interconnected network, and there was a capacity issue in another county that impacted rail service in Orange County. Currently Orange County, along with other counties that are members of LOSSAN, is developing a Joint Powers Authority to manage the Amtrak's *Pacific Surfliner* service, which serves the length of the 351-mile LOSSAN corridor.

A.2.8 Economic Development

Maine, through its Northern New England Rail Authority (NNEPRA), is an example of a state whose rail passenger program is also an economic development program. The program is unique because it is funded through the efforts of a single state despite the fact that much of the route and many stops are outside the state. Maine and NNEPRA pride themselves as business managers making trains run. The *Downeaster* route is viewed not as a single state service but as an interconnected corridor. The Authority coordinating and working through its partners – Amtrak, Pan Am Railways, Maine DOT and the Massachusetts Bay Transportation Authority – has worked to initiate projects, develop the grant requests, administer the capital and operations grants, and manage the capital projects and operations despite the challenge of having a significant portion of the route outside Maine.

The *Downeaster* is more than rail passenger service. It is viewed as an economic engine for the State of Maine and cities along the route. Initial and subsequent infrastructure upgrading created jobs in the state. It also rebuilt the rail freight infrastructure delivering more efficient freight transportation for businesses in the state. Station building and the new rail service have been a catalyst for development generating more than \$350 million in public and private investment around train stations. Old Orchard Beach, ME (\$22 million in residential, office and retail developments) and Brunswick, ME (\$30 million in retail, hotel, restaurants and office development) are just two of cities that have seen development around their train stations.

It is projected that by 2030 a total of \$7.2 billion in new development will occur along the *Downeaster* route. Rail service and the train station are viewed as the core downtown feature around which development can be focused. Offices, retail and multi-family housing surround the rail station, and density is reduced as the distance from the train station increases. This pattern replicates the urban landscape of the rail era. The *Downeaster* also promotes the Maine Brand, bringing new visitors and new

residents to Maine because of the *Downeaster's* frequent service to Boston. Ridership has grown steadily since 2005.

A.3 Rail Development for Economic Development

One possible option is for the state DOT to provide greater assistance to both freight and passenger rail services for. This could be provided through several funding programs which are managed in different Offices and Divisions within the Environment and Planning Bureau. A plausible scenario is provided in the following outline.

A.3.1 Local Public Funding Rail Systems

Transportation Equity Fund - Short-Line Railroad Rehabilitation Program; Taxes paid on diesel fuel used by aeronautics, railroads, and towboats to be placed in a designated fund for the benefit of those modes of transportation (T.C.A. § 9-4-207). Presently unavailable due to a myriad of law suits.

FastTrack Infrastructure Development Program (FIDP); Local communities that apply to Tennessee Department of Economic & Community Development (TNECD) with a goal of improving public infrastructure in order to create new jobs and business investment may be eligible to receive FIDP funds. Projects must be tied to a company commitment to create or retain a defined number of jobs. Qualifying projects must involve companies engaging in manufacturing or other economic activities beneficial to Tennessee. Companies for whom more than 50 percent of the product or service is involved in the manufacture of products for export are also eligible. Grants require local community matching funds calculated along a varying scale based on a community's ability to pay. Rail access to industrial sites is an eligible activity under this program.

Fixed Guideway Capital Investment Grants-Section 5309 (New Starts or Small Starts Grants); This program provides grants for new and expanded rail, bus rapid transit, and ferry systems that reflect local priorities to improve transportation options in key corridors. This funding source has not been used in Tennessee, but is a potential source for new rail services.

A.3.2 Railroad Grant Programs

A state could utilize appropriated funds to support projects that seek to strategically expand rail access and opportunities by:

- Impacting job creation and capital investment by industries that require rail access
- Enhancing the marketability of available industrial sites and/or reducing highway and bridge maintenance costs by diverting heavy freight from the roadway network to rail.

Tennessee has experimented with such a system to expedite the following rail developments:

Class I

- Construct a rail line spur 18 miles to the CN Fulton Subdivision providing second Class I access for Memphis Regional Megasite
- Construct a rail spur from CSX Memphis Subdivision to the I-40 Advantage Industrial Park Site in Brownsville

Short line Improvements and Investments

- New rail service to the Port of Cates Landing provided by TennKen to create a connection between water and rail modes in Tiptonville. On April 19, 2016 the Surface Transportation

Board granted authorization for the Northwest Tennessee Regional Port Authority to construct 5.5 miles of new rail.

- Construction of a short line spur to CN in order to provide the Memphis Regional Megasite with rail access to two Class I railroads.
- Preservation of short lines with low traffic volume (or which may have low volume in the future due to expected decreases in coal traffic) but which have potential for future economic development.

Appendix B.

Current Economic Impacts

Introduction

The estimated economic impacts of rail activity in Louisiana address the rail transportation service impacts on other industries directly and tangentially (the Economic Ripple Effect). IMPLAN – The IMPLAN online app, was used which is produced by the Minnesota IMPLAN Group, Inc. It is an economic modeling, input-output based, social account matrix software used to estimate the economic impacts to a defined geography (i.e., the State of Louisiana) ensuing from expenditures in an industry or group of industries (or, commodity, or group of commodities). A social account matrix reflects the economic interrelationships between the various industries (and commodities), households, and governments in an economy and measures the economic interdependency of each industry on others through impact multipliers. Impact multipliers are developed within IMPLAN from regional purchase coefficients, production functions, and socioeconomic data for each of the economic impact variables and are geographically-specific. IMPLAN data and industry-accounts closely follow the conventions used in the “Input-Output Study of the U.S. Economy” by the Bureau of Economic Analysis.

Approach and Terminology

The economic impact estimation approach follows generally-accepted industry impact analyses by identifying and categorizing the range of impacts directly and tangentially related to rail transportation. The following outlines approach and terminology used in the analysis.

Three economic impact **types** of rail activities are quantified: *direct*, *indirect*, and *induced* impacts. And for each impact **type**, five impact **measures** are derived: *jobs (employment)*, *income*, *value-added*, *output*, and *indirect business taxes*. These impact types and measures are defined below.

Impact Types – The rail transportation activity impacts each consist of three impact types (and a combined total):

- *Direct* – Impacts from the provision of freight rail transport, as well from the firms/industries that use rail to ship and receive goods or service visitors from out-of-state.
- *Indirect* – Impacts associated with the suppliers that provide intermediate goods and services to the *directly* impacted industries (part of the Economic Ripple Effect).
- *Induced* – Impacts associated with the re-spending of earned income from both the *direct* and *indirect* industries in the study area (part of the Economic Ripple Effect).
- *Total* – Aggregated *direct*, *indirect*, and *induced* components.

Impact Measures – Each impact *type* is *measured* in terms of five economic metrics:¹

- *Jobs/Employment* – Employment measured in terms of full-time-equivalent (FTE) job-years.
- *Income* – The wage/salary earnings paid to the associated jobs.
- *Value-Added* – The net additional economic activity (i.e., total output less gross intermediate inputs), synonymous with GRP (gross regional product) or GSP (Gross State Product). Includes employee and proprietor income, other income types, taxes, etc., required in the production of final goods and services.

¹ Note that all monetary impact measures are presented in 2017 dollars terms herein (i.e., income, value-added, output, and indirect business taxes).

- *Output* – The total sales value associated with all levels of economic activity (comprised of gross intermediate inputs *and* value added, combined).
- *Indirect Business Taxes* – Inclusive of various taxes (sales, property, excise, etc.), fines, fees, licenses, permits, etc. resulting from economic activity.

Result Summary

The foregoing summary economic analysis clearly demonstrates that rail activities and services provide a vital role in Louisiana's economy. The associated employment, income, value added, output, and indirect business tax impacts span all industries and reach every region of the state. Key findings include:

- The impact of rail transport goes far beyond the 3,528 directly employed in the provision of rail transport. When the freight and visitor user impact activities and the indirect/induced effects are included, rail-related employment in Louisiana totals 8,863 jobs. These total jobs represent 0.5% of the 1.9 million total jobs statewide, as reported by the U.S. Bureau of Economic Analysis, inclusive of all types of employment (BLS 2017).
- Manufacturing is perhaps the most rail-integrated industry, especially the chemical/petrochemical subsectors. Tracing commodity flows to industry output indicates that 1,739 direct jobs arise in industries that use rail to either ship finished goods/products or receive inputs via rail. These direct manufacturing jobs (excluding multiplier effects) account for 2% of manufacturing sector employment in Louisiana.
- If railroads did not accommodate demand, consignees and shippers could use other modes (i.e., truck, water, air, etc.) to transport freight. However, the use of other modes would likely entail higher transport costs (due to long transport distances, price, logistics, etc.), and could increase overall demand (and resulting handling costs) for all users of other modes (both the diverted rail users as well as current users). The long-term result would be a partial migration of industry away from Louisiana to other locations with relatively better rail accessibility, and better modal options/mix.

While it would be erroneous to conclude that all these impacts are entirely and solely dependent on rail, and would disappear if rail completely disappeared, the findings do show that rail service facilitates business throughout the state. Specifically, these impacts highlight the magnitude of rail use by manufacturers across the state, as well as others who transport materials, component parts, and products. In particular, the rail-related economic impacts are primarily associated with chemical and petro-chemical movements.

Justification

UNOTI did not use TRANSEARCH data for the state rail plan update, and relied upon 2017 data from the Surface Transportation Board Carload Waybill sample dataset as well as 2017 data from IMPLAN.

IMPLAN provides commodity-to-industry production and absorption matrices that enable the quantification, for example, of how inbound chemicals are used (absorbed) across Louisiana industries in the respective production processes (e.g., plastics manufacturing) to create consumable final goods and services. IMPLAN does not disaggregate freight and passenger aspects of the economic impacts of rail. However, due to the trade-conflict related uncertainties -associated with frequently-changing freight rail dynamics at the time of this update, we held that a reliable disaggregated metric of freight rail economic impacts was not viable. We decided to evaluate the economic impacts to the state of freight transport as a whole, using IMPLAN analysis.

We also used the Bureau of Labor Statistics (BLS) to find the current numbers of employed in Louisiana by industry for location quotients in running our analysis of the current economic condition of the oil and gas industry in Louisiana. This industry has been in decline since about 2015 due to a significant drop in the international price of crude oil.

Appendix C.

Key Capacity and Operational Improvements on the New Orleans-Baton Rouge Corridor

This appendix provides a summary of recommended improvements to the New Orleans-Baton Rouge rail line. For additional details please see *Baton Rouge – New Orleans Intercity Passenger Rail Service Development Plan, Volume I, Summary Report*, December 2010, as well as the 2014 and 2019 updates. Most of these recommended improvements need to be in place before service begins while other improvements will be needed as service frequencies and speeds are increased.

New Orleans Gateway and New Orleans Union Passenger Terminal – As outlined in the main report, improvements to the New Orleans Rail Gateway network and NOUPT are a precursor to major improvement to corridor rail lines and critical to the operation of all proposed passenger rail routes.

Rail/Highway Grade Crossings – As outlined in the report noted above, there are 157 public and private grade crossings in the corridor. All the member states have grade crossing programs that are implementing crossing improvements and actively seeking additional funding to continue to improve or eliminate highway-rail grade crossings along their rail lines, including the New Orleans-Baton Rouge corridor. Grade crossing improvements range from complete separation, to consolidation of multiple crossings into a few upgraded crossings, to sealed corridors (crossings with four-quadrant gates with lane medians that prevent vehicles from running around the gates). In most cases all crossings will be upgraded with Constant Warning Time Circuits that automatically adjust warning time to individual train speed. Finally, new sidings can be constructed or grade crossings that intersect sidings can be relocated to avoid highways being blocked when train meets occur.

Existing Line Upgrades – The existing track and roadbed needs to be rehabilitated with replacement of 50% of the cross-ties. To address subgrade stability issues, embankment stabilization or grout injection at key locations and a track raise for the entire KCS route needs to be undertaken. In order to support the increased super-elevation associated with 110 mph passenger service, 12 curves need to be modified with longer spirals.

Signal System Upgrades – Between Baton Rouge, LA and Frelsen Junction on the KCS, dispatcher managed Centralized Traffic Control (CTC) System supporting 110 mph operations needs to be installed to replace the current Automatic Block Signal System. Currently the existing sidings have manual turnouts, and the sidings themselves are not controlled for track occupancy. As a result trains entering a siding must stop, and crews must line the switch so that the train can then proceed slowly into and through the siding. The switch must then be aligned for main line movement. This activity takes a significant amount of time and negatively impacts line capacity. Installing CTC (so the train does not have to stop), upgrading siding turnouts to allow 45 mph operation (#20 turnouts) and upgrading siding track signal systems would allow faster clearing of the main line for trains entering the siding and less delay for trains meeting and passing.

New Double Track and Siding Extensions – Adding passenger rail service will require substantial capacity increases. In Baton Rouge it is recommended that the yard lead be extended to avoid using the main line for switching. Many existing sidings are too short for today's longer freight trains. Lengthened sidings provide new flexibility for train meets and passes. The following siding extensions or double track segments are recommended:

- Essen Siding
- Gonzales Siding
- Barman Siding
- McElroy Siding
- Gramercy Siding
- Norco Siding
- Frellsen Siding
- Frellsen Second Main Track (CN)
- Mays Yard Second Main Track (CN)

In lieu of signal upgrades/additional track/track realignments at East Bridge Junction, Canadian National recommends a grade-separated flyover for passenger trains at East Bridge Junction.

Bridges – All 53 bridges on the KCS need some rehabilitation, upgrades or replacement.

Recommended is new ballast deck bridge superstructure and new substructure to support passenger service.

Bonnet Carré Spillway Bridge – The existing Bonnet Carré Spillway cannot support rail passenger service and should be replaced. A number of timber piles and over half of the pier caps are in poor condition. The current speed limit on the bridge is 10 mph, which is not suitable for passenger service. Recommended is a new concrete ballasted deck bridge. A new bridge would also return the line to its original tangent alignment that existed before the spillway was built.

The total estimated costs for a full build-out of eight round trips daily, operating between Baton Rouge and New Orleans with maximum allowable speeds of 110 mph, is \$522 million in today's dollars. However, as noted in Chapter 3, an ongoing update of the 2010 study has estimated costs at \$255 million for a scaled down vision of service implementation.

The 2013 *Draft Baton Rouge – New Orleans Intercity Rail Feasibility Study, Capital and Operating Plan*, relies heavily on the technical work done for the previously discussed 2010 *Rouge – New Orleans Intercity Passenger Rail Service Development Plan, Volume I, Summary Report*. In an effort to pare the capital investment required for start-up, the plan included assumptions about fewer train frequencies (i.e., two daily round trips) with maximum allowable speeds of 79 mph. It also assumed the lease of rolling stock from Amtrak rather than the purchase of new equipment.

Once the service is established and ridership grows, the service can build toward the full build-out envisioned in the 2010 study.

Appendix D.

Key Capacity and Operational Improvements on the Baton Rouge-Lake Charles Segment of the New Orleans-Lake Charles Corridor

This appendix provides a summary of recommended improvements to the Baton Rouge – Lake Charles segment of the New Orleans – Lake Charles rail line. For additional details please see the *Gulf Coast High-Speed Rail Corridor Plan, Charles to Meridian Corridor Development Plan, Lake Volume I, Summary Report*, June 2007. Most of these recommended improvements need to be in place before service begins while other improvements will be needed as service frequencies and speeds are increased.

New Orleans Gateway and New Orleans Union Passenger Terminal – As outlined in the main report, improvements to the New Orleans Rail Gateway network and NOUPT are a precursor to major improvement to corridor rail lines and critical to the operation of all proposed passenger rail routes.

Rail/Highway Grade Crossings – As with the New Orleans – Baton Rouge route discussed in Appendix C, states are engaged in trying to improve their rail/highway crossings. There are almost 200 grade crossings on this segment of the corridor.

Existing Line Upgrades – The existing track and roadbed needs to be brought to a state-of good-repair with selected replacement of cross-tie, rail and line and surface. Any subgrade stability issues should be addressed with embankment stabilization or grout injection and/or additional ballast which raises the track. In order to support the increased super-elevation associated with 90 mph passenger service, selected curves need to be modified with longer spirals.

Signal System Upgrades – Between Baton Rouge and Lake Charles there are segments of Automatic Block Signals (Iowa Junction-Lake Charles) and segments without signals controlled via Track Warrant (Kinder-Iowa Junction). The remainder of the route is controlled with CTC (Lobdell Junction-Kinder). CTC needs to be installed on track segments without it in order to assure safe fast passenger service. Signal systems need to be upgraded to support 90 mph operations. On line segments without CTC, the existing sidings and junctions have manual turnouts, and the sidings themselves are not controlled for track occupancy. As a result trains entering a siding must stop, and crews must line the switch so that the train can then proceed slowly into and through the siding. The switch must then be aligned for main line movement. This activity takes a significant amount of time and negatively impacts line capacity. Siding turnouts on all line segments should be upgraded to allow 45 mph operation (#20 turnouts), and the siding track signal systems should be upgraded to allow faster clearing of the main line resulting in less delay for trains meeting and passing. If the alternate route between Baton Rouge and Lafayette is chosen (currently an abandoned right-of-way), CTC and #20 turnouts need to be installed as part of construction. In Baton Rouge the CN crossing should be fully signaled.

New Double Track and Siding Extensions – Adding passenger rail service will require substantial capacity increases. Many existing sidings are too short for today's longer freight trains. Lengthened sidings provide new flexibility for train meets and passes. In Baton Rouge it is recommended that a yard lead be extended north over the CN crossing to connect with the first switch into the Exxon facility. This would avoid using the main line for switching and transfers to the Exxon facility. As passenger frequencies are added, this switching lead would be extended to the O.K. Allen Bridge. As more passenger frequencies are added, an existing track east of the main line would be upgraded into a new third track extending from the Baton Rouge station to the O.K. Allen Bridge. This would further separate

passenger and freight trains in Baton Rouge. In West Baton Rouge it is recommended that the direct connection between KCS and UP be restored. This new 8,000-foot connection would bypass the slow circuitous route via Anchorage Junction. Switches would be realigned to make this the main route. Eventually a second track would be added to this connection. A short siding at West Junction bypassing the existing connection would allow an opposing train to be held closer to the single track bridge speeding operations. Between Anchorage and Livonia at least one or two sidings need to be constructed. These improvements would also benefit freight operations. At Lake Charles extensions of track leads on both sides of yard are recommended to reduce the conflicts between freight and passenger trains and port transfers.

Route Options – Between Baton Rouge and Lake Charles there are two route options; the first via Livonia and Kinder currently has active freight service, while the second via Lafayette utilizes an abandoned former Southern Pacific right-of-way. While the first route is attractive for start-up with potentially lower capital costs, it has heavy freight traffic and bypasses Lafayette. Major capacity projects on the Livonia/Kinder route are:

- 4,000-foot flyover at Livonia for passenger trains connecting UP's Anchorage Subdivision and Beaumont Subdivision. This flyover avoids conflicts with activities at UP's Livonia Yard just south of the junction;
- A new siding/connection just west of the junction on the Beaumont Subdivision to allow passenger trains to pass eastbound Beaumont Subdivision freight trains being held out of Livonia Yard;
- Between Livonia and Kinder extend three sidings (Krotz Springs, Lawtell and Basile) to 9,000 feet each. New turnouts allowing faster speeds would also be installed. This makes sidings usable by today's longer freight trains;
- Between Kinder and Iowa Junction, UP's Lake Charles Subdivision (19.4 miles) needs to be upgraded with a new track structure, CTC and upgraded siding switches on the Edna siding. The connections to the Beaumont Subdivision would be upgraded for higher speeds;
- At Iowa Junction the connection between UP's Lake Charles Subdivision and BNSF's Lafayette Subdivision would be upgraded for higher speeds, and Iowa siding would be lengthened to form a section of double track through the junction to allow for meets at the junction.

Major capacity projects on the approximately 52-mile Baton Rouge – Lake Charles “Direct Route” via Lafayette are:

- New rail line between Kahns (West Baton Rouge) and Atchafalaya River Basin;
- Passenger train flyover over UP's heavily trafficked Livonia Subdivision at Grosse Tete;
- 18-mile viaduct over the Atchafalaya River Basin;
- Two movable bridges;
- Two three-mile sidings at each end of the Atchafalaya Viaduct;
- Rebuilding the 10-mile Delta short line from Lafayette to Breaux Bridge;
- Construction of a second track bypassing BNSF Lafayette Yard;
- Upgrading and extensions of the Crowley, Midland, and Roanoke sidings;
- Iowa Junction siding would be extended eastward, while westward it would be extended to Lake Charles creating a segment of double track between Lake Charles and Iowa Junction.

As additional frequencies are added, additional segments of double track will be required.

Appendix E.

Key Capacity and Operational Improvements on the New Orleans-Gulfport-Mobile Corridor

This appendix provides a summary of recommended improvements to the New Orleans- Gulfport-Mobile rail line. For additional details please see the *Gulf Coast High-Speed Rail Corridor, New Orleans to Mobile Corridor Development Plan, Volume I, Summary Report*, October 2006. Also see the *Gulf Coast working Group Report to Congress, Final Report*, July 2017. These recommended improvements would be phased over time based on the number of frequencies to be operated.

New Orleans Gateway and New Orleans Union Passenger Terminal – As outlined in the main report, improvements to the New Orleans Rail Gateway network and NOUPT are a precursor to major improvement to corridor rail lines and critical to the operation of all proposed passenger rail routes.

Rail/Highway Grade Crossings – As with the New Orleans – Baton Rouge route discussed in Appendix C, states are engaged in trying to improve their rail/highway crossings.

Existing Siding Upgrades (all current sidings) – The existing sidings on the route, while they have controlled switches, have 25 mph turnouts and the sidings themselves are not controlled for track occupancy. As a result, trains entering sidings travel at a very slow speed. This negatively impacts line capacity. Upgrading siding turnouts to allow 45 mph operation (#20 turnouts) and upgrading siding track signal systems would allow faster clearing of the main line for trains entering the siding and less delay for trains meeting and passing.

New Sidings, Double Track and Siding Extensions – Siding length and distance between sidings also impacts line capacity. Short sidings (less than 21,000 feet) cannot accommodate multi-train meets or handle today's longer freight trains. Re-spacing sidings provides more uniform siding-to-siding running time. One challenge in achieving optimum siding length and spacing is the number of bayous, rivers and wetlands crossed by the route. In Louisiana Lake Catherine siding would be lengthened, and the Michoud double track would be extended one mile eastward.

In Mississippi the plan recommends:

- Lengthening Orange Grove, Gautier, Nicholson Avenue and Claiborne sidings;
- A new siding would be constructed between the East and Middle Pascagoula Rivers;
- A new Ocean Springs siding would be constructed two miles east of the current short Ocean Springs siding; the siding would improve siding spacing and minimize the impact on local highway traffic of trains waiting for meets;
- Beauvoir and Harbin sidings would be linked to form a 17-mile stretch of double track through Gulfport; this segment of the corridor has about one-third of all the grade crossings on the line.

The recommended 17-mile stretch of double track through Gulfport would facilitate running meets between trains (freight and passenger) reducing grade crossing delays. Also, as the mid-point of the route this segment of double track facilitates the clock time scheduling of passenger trains (trains scheduled out of each terminal at a set hourly time) since they would both meet at this point.

In Alabama capacity improvements include extending double track from Choctaw Yard to Brookley Siding and constructing a new Choctaw siding. The St. Elmo siding would be replaced with two new sidings at Fowl River and Little Franklin. Long term, double track would be extended from Brookley to Fowl River.

Upgrade Movable Bridges – There are seven movable bridges between New Orleans and Mobile. While the bridges are structurally sound, as a result of their design (use of stringers on 9-foot centers instead of 6-foot 6-inch centers) there are movements of the rails and ties under trains. This movement causes signal system reliability issues on former Louisville & Nashville Railroad bridges when trains are operated over the bridges at speeds over 30 mph (25 mph is the maximum authorized speed for freight trains). This situation continues despite major upgrades to the bridges undertaken by CSXT to facilitate traffic growth. Another issue is that some bridges are founded on timber or steel pile piers, which results in additional bridge flexibility. While some improvements were reportedly made in conjunction with the line rebuilding after Katrina, further structural upgrades to the movable bridges should be investigated.

Gentilly and Sibert Freight Yards – Two major freight yards, CSXT’s Gentilly freight yard located in New Orleans and Sibert freight yard located in Mobile, have capacity and operational issues that could significantly impact the reliability of corridor rail passenger operations. Obsolete track layouts and a lack of capacity cause the operations of both yards to spill over to the main line. Main line sidings are used to stage trains waiting to enter the yard. Both actions significantly degrade line capacity. The impact of additional outlying staging capacity or additional departure/receiving tracks should be studied.

Appendix F.

Key Capacity Improvements on the New Orleans-Meridian Corridor

This appendix provides a summary of recommended improvements between Meridian and New Orleans on the New Orleans – Meridian – Birmingham – Atlanta rail line. For additional details please see *Gulf Coast High-Speed Rail Corridor Development Plan, Phase I: Improvement Implementation Plan – Meridian to New Orleans, Volume I, Summary Report*, September 2002. These recommended improvements would be phased over time based on the number of frequencies to be operated.

New Orleans Gateway and New Orleans Union Passenger Terminal – As outlined in the main report, improvements to the New Orleans Rail Gateway network and NOUPT are a precursor to major improvement to corridor rail lines and critical to the operation of all proposed passenger rail routes.

Rail/Highway Grade Crossings – As with the New Orleans – Baton Rouge route discussed in Appendix C, states are engaged in trying to improve their rail/highway crossings.

Centralized Traffic Control and Upgrades to all Existing Sidings – CTC, where siding signals and switches are controlled by a dispatcher, is critical to increasing line capacity for additional passenger trains and decreasing running time on the New Orleans-Meridian corridor. Currently the existing sidings have manual turnouts, and the sidings themselves are not controlled for track occupancy. As a result trains entering a siding must stop, and crews must line the switch so that the train can then proceed slowly into and through the siding. The switch must then be aligned for main line movement. This activity takes a significant amount of time and negatively impacts line capacity. Installing CTC supporting 90-mph operations, upgrading siding turnouts to allow 45 mph operation (#20 turnouts) and upgrading siding track signal systems would allow faster clearing of the main line for trains entering the siding and less delay for trains meeting and passing.

New Sidings, Double Track and Siding Extensions – One challenge in achieving optimum siding length and spacing is the number grades on the line. NS has indicated that sidings located on grades lead to operational problems. In Mississippi the plan noted above recommends the installation of CTC, #20 turnouts and siding signal control at Basic, Hawkes, Shows Field, Dragon and Richburg. Also in Mississippi in addition to signal and turnout improvements the plan recommended that the sidings at Derby, Barnett and Lumberton be lengthened. Three new sidings in Mississippi are recommended: Carriere, Moselle and Heidelberg. Because of the distance between Derby and X Tower (50 miles), the plan recommended early action on the construction of the Carriere siding (funding design underway) and upgrading of Derby siding.

Two sidings located in Louisiana – Woods and Pearl River – are also recommended for improvements.

Meridian Interlocking and Track Configuration – The Meridian Terminal track configuration, left over from five separate railroad companies that served Meridian at one time, had many operational and physical barriers to efficient flow through the terminal. As a part of the Meridian Speedway project (a joint effort of NS and KCS on the line from Meridian to Shreveport), the terminal has been redesigned. The design is presently being phased in. Other trackage and operational changes will eliminate the many conflicts between the two railroads as the new track configuration is installed. NS fuels many of its trains at Meridian. Also, there are crew changes, exchanges of freight, and interchanges of through trains between the two railroads there, so most NS trains at present stop in Meridian.

At the completion of track changes, KCS Artesia Subdivision trains will not have to stop in Meridian except for crew changes, and the two crossings of NS by KCS through trains will be eliminated. All pick-ups and set-outs for Meridian by main line trains will be handled at Marion, approximately four miles from Meridian on the Artesia Subdivision. These cars will be shuttled to Meridian by a local switch crew. This will eliminate the working of through trains in the KCS Meridian Yard and improve movement of through freight trains.

At this writing, no signaling will be provided on either railroad between the end of ABS signaling south of Meridian and the beginning of CTC east of Meridian on NS. KCS CTC will end just west of the present west yard limit. The KCS Artesia Subdivision east of Meridian is unsignaled and will remain so. All turnouts in the terminal will be hand-thrown. However, with the elimination of the double crossings between the two railroads, the effect of the hand-thrown turnouts on terminal throughput is expected to be minimal. Amtrak loading and unloading at the depot platform is provided for in the new design.

Upgrade Movable Bridges – Three movable bridges – Seabrook, Lake Pontchartrain and Pearl River – are located on the route in Louisiana. Speed restrictions on the bridges negatively impact running time on the New Orleans-Meridian route. Recommended in the Phase I: Improvement Implementation Plan is the installation of an improved miter rail design on the bridges.

Appendix G.

Short-range Investment Program

G.1 Freight and Passenger Projects

| Project Name | Project Description | Project Benefits | Cost (in 2019 dollars) |
|--|--|--|--|
| New Orleans Rail Gateway | Initial construction of the project. Cost estimated 10 percent of project needs. | Provides for improved interchange between Class I railroads. Eliminates grade crossings and provides congestion mitigation. | \$480.63M Source: Federal CRISI, CMAC, Rail Line Relocation, PNRS programs; state and local sources; railroad contributions. |
| Short Line Track Upgrades | Upgrades of short line trackage to handle 286,000-bound maximum carload weights. Cost estimated at 20 percent of statewide needs. | Provides for more efficient operations and 286,000-pound carload capability. | \$44.1M Source: Federal CRISI program; railroad contributions. \$11.3M Source: Infrastructure for Rebuilding America (INFRA) No state funds. |
| NOGC Rail Relocation | Relocation of New Orleans and Gulf Coast Railroad tracks south of New Orleans to access new port facilities. Cost estimated 15 percent of project needs. | Provides for multiple crossing closures and more efficient operations. | \$43.5M Source: Federal CRISI, PNRS, Rail Line Relocation programs. |
| Amtrak Station Upgrades | Upgrades of Louisiana Amtrak station for ADA compliance and State of Good Repair: New Orleans, Lafayette, and Lake Charles. | Assures ADA compliance and a state of good repair for three stations. | \$10.2M Source: Federal Intercity Passenger Rail Service Corridor program, CRISI; local sources. |
| Shreveport-Dallas Service | Environmental planning, design, and initial construction of route in Louisiana. | Provides for enhanced mobility for Louisiana residents by instituting a new rail service on an intercity corridor linked only by highways. | \$32.3M Source: local sources; others to be determined. |
| Baton Rouge-New Orleans Service | Grade crossing improvements and replacement of the Bonnet Carré Spillway bridge. | Provides for enhanced mobility for Louisiana residents by instituting a new rail service on an intercity corridor linked only by highways. | \$80.6M Source: local sources; others to be determined. |
| Total Program: | | | \$264.1M |

G.2 Crossing Projects

| Project Name | Project Description | Project Benefits | Cost |
|--|--|-------------------------|--|
| BNSF (New Iberia) LA 14/Center St. H.009843 | Safety improvement to BNSF crossing, District 3, Iberia Parish | Enhances public safety. | \$300,000 Source: federal and state funds |
| Cleveland Ave: NS RR Xing (Slidell) H.009152 | Safety improvement at NS crossing, District 62, St. Tammany Parish | Enhances public safety. | \$1,500,000 Source: federal and state funds |
| KCS (Deridder) Several RR Xing H.010088 | Safety improvement at several crossings, District 7, Beauregard Parish | Enhances public safety. | \$900,000 Source: federal and state funds |
| UP RR Xings (Grant) H.010669 | Safety improvement at UP crossings, District 8, Grant Parish | Enhances public safety. | \$700,000 Source: federal and state funds |
| UP Several RR Xings (Caddo) H.011028 | Safety improvement at UP crossings, District 4, Caddo Parish | Enhances public safety. | \$1,200,000 Source: federal and state funds |
| NS Several RR Xings (Plaquem & St. Bern) H.011103 | Safety improvement at NS crossings, District 2, Plaquemines and St. Bernard Parishes | Enhances public safety. | \$200,000 Source: federal and state funds |
| US 61: IC RR Xing (Baton Rouge) H.011109 | Safety improvement at IC (CP) crossing, District 61, East Baton Rouge | Enhances public safety. | \$500,000 Source: federal and state funds |
| LA 1064: IC RR Xing (Tangipahoa) H.011113 | Safety improvement at IC (CP) crossing, District 62, Tangipahoa Parish | Enhances public safety. | \$200,000 Source: federal and state funds |
| US 425: UP RR Xing (Mer Rouge) H.011124 | Safety improvement at UP crossing, District 5, Morehouse Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| ALM Several RR Xings (Ouach & Morehouse) H.011144 | Safety improvement at ALM crossing, District 5, Morehouse and Ouachita Parishes | Enhances public safety. | \$200,000 Source: federal and state funds |
| Riverton Camp Rd: UP RR Xing (Caldwell) H.011188 | Safety improvement at UP crossing, District 58, Caldwell Parish | Enhances public safety. | \$300,000 Source: federal and state funds |
| LA 1029: IC RR Xing (Walker) H.011129 | Safety improvement at IC (CP) crossing, District 62, Livingston Parish | Enhances public safety. | \$200,000 Source: federal and state funds |
| LA 107: KCS RR Xing (Mansura) H.011229 | Safety improvement at KCS crossing, District 8, Avoyelles Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| BNSF (New Iberia) Jeff. Terrace Blvd. H.009868 | Safety improvement at BNSF crossing, District 3, Iberia Parish | Enhances public safety. | \$400,000 Source: federal and state funds |
| BNSF (Crowley) Several Crossings H.010073 | Safety improvement at BNSF crossings, District 3, Acadia Parish | Enhances public safety. | \$1,200,000 Source: federal and state funds |
| RT 207 (Central Dr): BNSF RR Xing (Iberia) H.010614 | Safety improvement at BNSF crossing, District 3, Iberia Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| Deare Street: BNSF RR Xing (New Iberia) H.010666 | Safety improvement at BNSF crossing, District 3, Iberia Parish | Enhances public safety. | \$500,000 Source: federal and state funds |

| | | | |
|--|---|-------------------------|---|
| BNSF (Cade) LA 92 H.009847 | Safety improvement at BNSF crossing, District 3, St. Martin Parish | Enhances public safety. | \$300,000 Source: federal and state funds |
| UP (Opelousas) Several RR Xings H.010090 | Safety improvement at UP crossing, District 3, St. Landry Parish | Enhances public safety. | \$1,500,000 Source: federal and state funds |
| LA 54: IC RR Xing (Garyville) H.010693 | Safety improvement at IC (CP) crossing, District 62, St. John Baptist Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| LA 158: KCS RR Xing (Grant) H.011119 | Safety improvement at KCS crossing, District 8, Grant Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| LA 14: LDRR Xing (New Iberia) H.011127 | Safety improvement at LDRR crossing, District 3, Iberia Parish | Enhances public safety. | \$500,000 Source: federal and state funds |
| LA 50: KCS RR Xing (St. Rose) H.011132 | Safety improvement at KCS crossing, District 2, St. Charles Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| LA 466 NOGC RR Xing (Jefferson) H.013292 | Safety improvement at crossing, District 2, Jefferson Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| LA 16 IC RR Xing (Tangipahoa) H.013334 | Safety improvement at crossing, District 62, Tangipahoa Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| Doyle Street BNSF RR Xing (Jefferson Davis) H.012872 | Safety improvement at crossing, District 7, Jefferson Davis Parish | Enhances public safety. | \$400,000 Source: federal and state funds |
| LA 107 KCS RR Xing (Rapides) H.013288 | Safety improvement at crossing, District 8, Rapides Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| LA 611-9 NS RR Xing (Jefferson) H.013435 | Safety improvement at crossing, District 2, Jefferson Parish | Enhances public safety. | \$50,000 Source: federal and state funds |
| LA 378 UP RR Xing (Calcasieu) H.013430 | Safety improvement at crossing, District 7, Calcasieu Parish | Enhances public safety. | \$700,000 Source: federal and state funds |
| LA 111 KCS RR Xing (Vernon) H.014159 | Safety improvement at crossing, District 8, Vernon Parish | Enhances public safety. | \$700,000 Source: federal and state funds |
| Benton Road KCS RR Xing (Bossier) H.013021 | Safety improvement at crossing, District 4, Bossier Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| LA 26 BNSF RR Xing (Jefferson Davis) H.014185 | Safety improvement at crossing, District 7, Jefferson Davis Parish | Enhances public safety. | \$200,000 Source: federal and state funds |
| LA 167 LAS RR Xing (Jackson) H.014074 | Safety improvement at crossing, District 5, Jackson Parish | Enhances public safety. | \$200,000 Source: federal and state funds |
| Greenwell Springs ICRR Xing (East Baton Rouge) H.006380 | Safety improvement at crossing, District 61, East Baton Rouge Parish | Enhances public safety. | \$400,000 Source: federal and state funds |

| | | | |
|--|--|-------------------------|--|
| French Street BNSF RR Xing (Iberia) H.009861 | Safety improvement at crossing, District 3, Iberia Parish | Enhances public safety. | \$1,200,000 Source: federal and state funds |
| IC RR Xings South to LSU (East Baton Rouge) H.012344 | Safety improvement at crossing, District 61, East Baton Rouge Parish | Enhances public safety. | \$1,400,000 Source: federal and state funds |
| LA 26 BNSF RR Xing (Jefferson Davis) H.012805 | Safety improvement at crossing, District 7, Jefferson Davis Parish | Enhances public safety. | \$800,000 Source: federal and state funds |
| LA 3272 UP RR Xing (Iberville) H.013438 | Safety improvement at crossing, District 61, Iberville Parish | Enhances public safety. | \$400,000 Source: federal and state funds |
| Barksdale Boulevard UP RR Xing (Bossier) H.013708 | Safety improvement at crossing, District 4, Bossier Parish | Enhances public safety. | \$50,000 Source: federal and state funds |
| Alliance St. IC & KCS RR Xing (Jefferson) H.013768 | Safety improvement at crossing, District 2, Jefferson Parish | Enhances public safety. | \$500,000 Source: federal and state funds |
| Lee Martin Road IC RR Xing (Livingston) H.013900 | Safety improvement at crossing, District 62, Livingston Parish | Enhances public safety. | \$300,000 Source: federal and state funds |
| LA 523 UP RR Xing (Caddo) H.013998 | Safety improvement at crossing, District 4, Caddo Parish | Enhances public safety. | \$20,000 Source: federal and state funds |
| Lyddy Turnpike KCS RR Xing (Sabine) H.014195 | Safety improvement at crossing, District 8, Sabine Parish | Enhances public safety. | \$400,000 Source: federal and state funds |
| Barrow Street UP RR Xing (Iberville) H.013861 | Safety improvement at crossing, District 61, Iberville Parish | Enhances public safety. | \$200,000 Source: federal and state funds |
| Coach Williams Drive UP RR Xing (Calcasieu) H.014162 | Safety improvement at crossing, District 7, Calcasieu Parish | Enhances public safety. | \$120,000 Source: federal and state funds |
| Cotton& Silo BNSF RR Xing (St. Mary) H.011723 | Safety improvement at crossing, District 3, St. Mary Parish | Enhances public safety. | \$1,000,000 Source: federal and state funds |
| West/Homestead UP RR Xing (Iberville) H.013764 | Safety improvement at crossing, District 61, Rapides Parish | Enhances public safety. | \$500,000 Source: federal and state funds |
| Parkerson AKDN RR Xing (Acadia) H.013944 | Safety improvement at crossing, District 3, Acadia Parish | Enhances public safety. | \$100,000 Source: federal and state funds |
| LA 154 KCS RR Xing (Bossier) H.014157 | Safety improvement at crossing, District 4, Bossier Parish | Enhances public safety. | \$100,000 Source: federal and state funds |

| | | | |
|---|--|-------------------------|--|
| Caroline Street BNSF RR Xing (Iberia) H.009862 | Safety improvement at crossing, District 3, Iberia Parish | Enhances public safety. | \$50,000 Source: federal and state funds |
| LA 151 KCS RR Xing (Ouachita) H.012439 | Safety improvement at crossing, District 5, Ouachita Parish | Enhances public safety. | \$800,000 Source: federal and state funds |
| Plaquemine Sts UP RR Xing (Iberville) H.012851 | Safety improvement at crossing, District 61, Iberville Parish | Enhances public safety. | \$2,100,000 Source: federal and state funds |
| St. John Sts IC RR Xing (St. John the Baptist) H.013017 | Safety improvement at crossing, District 62, Rapides Parish | Enhances public safety. | \$2,000,000 Source: federal and state funds |
| LA 125 UP RR Xing (LaSalle) H.013541 | Safety improvement at crossing, District 58, LaSalle Parish | Enhances public safety. | \$250,000 Source: federal and state funds |
| Jefferson Sts NOPB RR Xing (Jefferson) H.013825 | Safety improvement at crossing, District 2, Jefferson Parish | Enhances public safety. | \$500,000 Source: federal and state funds |
| Gro Racca Road UP RR Xing (Jefferson Davis) H.013855 | Safety improvement at crossing, District 7, Jefferson Davis Parish | Enhances public safety. | \$200,000 Source: federal and state funds |
| Estes Road UP RR Xing (Jefferson Davis) H.013857 | Safety improvement at crossing, District 7, Jefferson Davis Parish | Enhances public safety. | \$200,000 Source: federal and state funds |
| Ward Road UP RR Xing (Allen) H.013858 | Safety improvement at crossing, District 7, Allen Parish | Enhances public safety. | \$200,000 Source: federal and state funds |
| Guillory Ave UP RR Xing (Allen) H.013859 | Safety improvement at crossing, District 7, Allen Parish | Enhances public safety. | \$200,000 Source: federal and state funds |
| LA 742 UP RR Xing (St. Landry) H.013860 | Safety improvement at crossing, District 3, St. Landry Parish | Enhances public safety. | \$300,000 Source: federal and state funds |
| US 61 IC RR Xing (East Baton Rouge) H.013864 | Safety improvement at crossing, District 61, East Baton Rouge Parish | Enhances public safety. | \$300,000 Source: federal and state funds |
| Industrial Park I UP RR Xing (LaSalle) H.001853 | Safety improvement at crossing, District 58, LaSalle Parish | Enhances public safety. | \$500,000 Source: federal and state funds |
| Baton Rouge Sts KCS RR Xing (East Baton Rouge) H.012449 | Safety improvement at crossing, District 61, East Baton Rouge Parish | Enhances public safety. | \$1,700,000 Source: federal and state funds |
| US 90 NOGC RR Xing (Jefferson) H.013339 | Safety improvement at crossing, District 2, Jefferson Parish | Enhances public safety. | \$150,000 Source: federal and state funds |
| LA 1 UP RR Xing (West Baton Rouge) | Safety improvement at crossing, District 61, West Baton Rouge Parish | Enhances public safety. | \$300,000 |

| | | | |
|---|---|-------------------------|--|
| H.011133 | | | Source: federal and state funds |
| LA 126 UP RR Xing (Caldwell) H.011293 | Safety improvement at crossing, District 58, Caldwell Parish | Enhances public safety. | \$50,000 Source: federal and state funds |
| Old Plain Dealing Road UP RR Xing (Bossier) H.012271 | Safety improvement at crossing, District 4, Bossier Parish | Enhances public safety. | \$20,000 Source: federal and state funds |
| LA 3063 UP RR Xing (Calcasieu) H.012791 | Safety improvement at crossing, District 7, Calcasieu Parish | Enhances public safety. | \$50,000 Source: federal and state funds |
| Horridge Street BNSF RR Xing (Calcasieu) H.014035 | Safety improvement at crossing, District 7, Calcasieu Parish | Enhances public safety. | \$30,000 Source: federal and state funds |
| Reine Street UP RR Xing (Ascension) H.013779 | Safety improvement at crossing, District 61, Ascension Parish | Enhances public safety. | \$400,000 Source: federal and state funds |
| Baldwin Sts BNSF RR Xing (St. Mary) H.011706 | Safety improvement at crossing, District 3, St. Mary Parish | Enhances public safety. | \$1,100,000 Source: federal and state funds |
| LA 742 IC RR Xing (Iberville) H.012789 | Safety improvement at crossing, District 61, Iberville Parish | Enhances public safety. | \$20,000 Source: federal and state funds |
| Total Program: | | | \$32.220M |

G.3 Grade Separation Projects

| Project Name | Project No. | Project Description | Fiscal Year | Project Benefits | Cost | Source |
|---|-------------|---|-------------|---|-----------|-------------------------|
| LA 1: new RR Bridge @ DOW Spur crossing | H.009288 | Phase 5 (Final Plans) | FY 21-22 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this high-volume roadway. | \$1.5 M | State and Federal Funds |
| LA 1: new RR Bridge @ DOW Spur crossing | H.009520 | Phase 2 (Env.), Phase 5 (Preliminary Plans) | FY 21-22 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this roadway to address projected needs. | \$7 M | State and Federal Funds |
| | | Phase 4 (Utilities), Phase 3 (R/W), Phase 5 (Final Plans) | FY 23-24 | | | |
| LA 3213: Gramercy Bridge over UP Railroad | H.002960 | Phase 5 (Final Plans) | FY 19-20 | Eliminates crossing exposure, thus enhancing public safety | \$2.1 M | State and Federal Funds |
| | | Phase 6 (Letting) | FY 20-21 | | \$16 M | |
| LA 397: New Bridge at UPRR | H.009521 | Phase 2 (Env.) | FY 22-23 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this roadway. | \$0.75 M | State and Federal Funds |
| LA 3105: Underpass @ KCS South of I-20 | H.009522 | Phase 2 (Env.) | FY 21-22 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this high-volume roadway. Will also prevent traffic backups on I-20 ramp due to RR crossing. | \$1.5 M | State and Federal Funds |
| LA 34: Bridge over KCS | H.001547 | Phase 2 (Env.) | FY 23-24 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this high-volume roadway. | \$1.5 M | State and Federal Funds |
| Total | | | | | \$30.35 M | |

Appendix H.

Long-range Investment Program

H.1 Freight and Passenger Projects

| Project Name | Project Description | Project Benefits | Cost (in 2019 dollars) |
|---|---|---|--|
| Short Rail Infrastructure | Upgrades to a short-line rail system in Arkansas and Louisiana | Projects will benefit the Port of Lake Providence, Port of Madison and local economies by increasing capacity, efficiency and safety for goods shipped along the corridor | \$44.08M Funded by USDOT IRAP |
| New Orleans Rail Gateway | Full construction of the project. Cost estimated 90 percent of project needs. | Provides for improved interchange between Class I railroads. Eliminates grade crossings and provides congestion mitigation. | Estimated \$43.54M Source not determined. |
| Short Line Track Upgrades | Upgrades of short line trackage to handle 286,000-bound maximum carload weights. Cost estimated at 80 percent of statewide needs. | Provides for more efficient operations and 286,000-pound carload capability. | \$176.30M Source not determined. No state funds. |
| NOGC Rail Relocation | Relocation of New Orleans and Gulf Coast Railroad tracks south of New Orleans to access new port facilities. Cost estimated at 85 percent of project needs. | Provides for multiple crossing closures and more efficient operations. | \$246.71M Source not determined. |
| LAS Road Closures | Working with LADOTD on road closures. | Enhances public safety. | \$26.88M Source not determined. |
| AKDN Road Closures, Crossing Safety Improvement | Closing of multiple road crossing within short distances on the railroad and placement of highway stop signs on state roads | Enhances public safety. | \$1.61M Source not determined. |
| NOPB Road Closures | Working with LADOTD on road closures. | Enhances public safety. | \$21.50M Source not determined. |
| Port Rail Link Road Closures, Crossing Safety Improvements | Working with LADOTD on road closures and upgrade crossing warning signals. | Enhances public safety. | \$5.38M Source not determined. |
| Baton Rouge-New Orleans Intercity Rail | Upgrade of KCS Baton Rouge-New Orleans rail corridor for implementation of commuter rail service. | Enhances passenger mobility. | \$480.53M Source not determined. No state funds. |

| | | | |
|--|--|------------------------------|-------------------------------------|
| Shreveport-Dallas Intercity Rail | Full construction of route and stations; acquisition of rolling stock. | Enhances passenger mobility. | \$290.25M Source not determined. |
| New Orleans-Mobile Intercity Rail | Louisiana's contribution for covering implementation costs. | Enhances passenger mobility. | \$5.38M USDOT Grant |
| Total Program: | | | 1,318M |

H.2 Grade Separation Projects

| Project Name | Project No. | Project Description | Fiscal Year | Project Benefits | Cost | Source |
|---|-------------|---|-------------|---|-----------|-------------------------|
| LA 1: new RR Bridge @ DOW Spur crossing | H.009288 | Phase 6 (Letting) | FY 24-25 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this high-volume roadway. | \$40 M | State and Federal Funds |
| US 61: IC RR Overpass @ S. Choctaw Dr. | | Phase 2 (Env.) | FY 21-22 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this high-volume roadway. | \$1.5 M | State and Federal Funds |
| LA 397: New Bridge at UPRR | H.009521 | Phase 5 (Preliminary Plans) | FY 24-25 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this roadway. | \$ 9 M | State and Federal Funds |
| | | Phase 3 (R/W), Phase 4 (Utilities), Phase 5 (Final Plans) | FY 26-27 | | | |
| LA 3105: Underpass @ KCS South of I-20 | H.009522 | Phase 5 (Preliminary Plans) | FY 23-24 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this high-volume roadway. Will also prevent traffic backups on I-20 ramp due to RR crossing. | \$ 18 M | State and Federal Funds |
| | | Phase 3 (R/W), Phase 4 (Utilities), Phase 5 (Final Plans) | FY 25-26 | | | |
| LA 34: Bridge over KCS | H.001547 | Phase 5 (Preliminary Plans) | FY 25-26 | Eliminates crossing exposure, thus enhancing safety. Will also enhance the capacity of this high-volume roadway. | \$ 18 M | State and Federal Funds |
| | | Phase 3 (R/W), Phase 4 (Utilities), Phase 5 (Final Plans) | FY 27-28 | | | |
| Total | | | | | \$ 86.5 M | |

Appendix I.

Louisiana Economic Development Example Sites

I.1 Introduction

This appendix is a list of Louisiana's rail system related sites that could potentially be utilized for future Louisiana economic development.

I.2 Data Source and Selection Process

UNOTI started with the sites in the Louisiana Site Selection database of the office of Louisiana Economic Development. The following initial criteria were used to select potential sites in the database:

- Distance to railroad: on site or adjacent site
- Condition: undeveloped or partially developed
- Purpose: industrial or industrial commercial

A short list of example sites was created, then a further selection process was conducted:

- The sites needed to be 150 acres or greater in size. This condition was used to support sites that could be part of the new trend in Louisiana towards plastics manufacturing and LNG development.
- The sites are relative to parishes which already had planned for or undergone significant economic development since existing economic activities could leverage development at the proposed sites. These were identified by accessing the maps of proposed or extant developments at the 1012 Industry Report site, "Industrial projects driving growth in south Louisiana."
- Research was done on the adjacent and proximate rail, road, marine, and air infrastructure capacities of each site; their utility infrastructures, and the status of each site regarding environmental toxicity, archeological and cultural status, and wetlands and habitat/species sensitivity. The sites' preliminary geotechnical reports were utilized to gain a sense of what kinds of structures might be possible for development.

The following are three example sites for development.

I.3 Example Sites

I.3.1 Millhaven Plantation: 645 acres, Ouachita Parish

Ouachita parish is home to Graphic Packaging International. It is also next to Richland parish, where the proposed Tennessee Gas Pipeline Co. (Kinder Morgan) would run. Together these facilities would total \$211.5 million in value.

The Millhaven Plantation site is adjacent to the Kansas City Southern Railroad (KCS), LA HWY 594 and Huenefeld Road. It is proximate to the shallow Ouachita River 7.2 miles away, and the shallow Greater Ouachita Parish Port is eight miles away. The Monroe Regional Airport 3.2 miles away, which has commercial, freight, and charter capacities. It is adjacent to potable water lines from the City of Monroe and Better Water Works, and a city sewer line. The site is near a power substation and has Entergy power lines crossing it, and there is an Atmos Energy natural gas distribution line on the site. It is adjacent to copper and fiber optic telecommunications cables from AT&T and Centurylink.

The geotechnical report indicates that deep pile-supported foundations for heavy buildings are suitable in this soil. The phase 1 Environmental Site Assessment (ESA) noted five recognized environmental conditions (RECs), that is, presences of chemical toxicity, one on the site and four either adjacent to or in near proximity. The one on site consisted of old storage drums of agrichemicals, oils, and lubricants for farm machinery. There are diesel storage tanks on the site which are considered de facto RECs, but these were reported to be in good condition in 2011. There are small areas of wetlands on the site which require permitting from the Army Corps of Engineers (ACE) for development. The archeological sites discovered were not deemed eligible for placement on the National Register of Historic Places. Therefore, this is a piece of farmland which could readily be developed. The appropriate wetlands permitting from the ACE should be secured.

1.3.2 Industrial Park East Tract 175: 339 acres, Calcasieu Parish

Calcasieu parish is home to the proposed or developed Sasol Ltd. cracker, Lake Charles LNG, Magnolia LNG, Lake Charles Methnaol, Axiall/Lotte Chemical, G2X Energy (methanol), Entergy (Westlake), Valero (refinery), Marubeni, Inc. (grain); Advanced Refining Technologies, Gulf South Pipeline, and Phillips 66 proposed projects in Calcasieu Parish valued at potentially over \$36.77 billion dollars.

The site is owned by the Port of Lake Charles. It is connected by rail spurs to the Union Pacific railroad 0.1 miles away, and to BNSF and KCS 9.8 miles away. It is adjacent to LA HWY 397, and proximate to US HWY 90, I-10, and to parish roads Swift Plant Road and McCown Road. The site is 4.4 miles from the shallow Calcasieu River. Lake Charles is five miles away. The deep-water Port of Lake Charles is 4.3 miles away, and the Lake Charles Deep-Water Channel is 14 miles away. The Chennault International Airport is less than a half mile away, and the Lake Charles Regional Airport, with commercial, freight, and charter capabilities, is 7.8 miles away. Lafayette Regional Airport is 68 miles away.

Electricity is transmitted to the site by Entergy. There is a potable water main to the site from Waterworks District #5 Ward 3 in Calcasieu Parish. Wastewater infrastructure was not mapped as of 2010. Telecommunications lines from AT&T run into the site. Natural gas lines are on site from Centerpoint Energy.

The geotechnical survey conducted 1996 did not include any recommendations for structural foundations, only for pavements. The survey expressed concerns about how high the water table was at the time. As of 2010, there were no potential historic or cultural disturbances, no threatened or endangered species or habitats, and no wetlands or Waters of the US. Two hazardous liquids pipelines cross the site. However, a fully updated geotechnical survey is necessary to determine the feasibility of deep foundation piles, as well as a cost estimate for building a wastewater treatment plant.

1.3.3 Avondale Marine Site: 254 acres, Jefferson Parish

The former Avondale Shipyard is 254 acres located in Jefferson Parish. It has 1.5 miles of deep-water Mississippi Riverfront access, docks, gantry cranes, warehouses, facilities once used for shipbuilding, and offices. Currently the site has rail access to the Union Pacific Railroad.

The Port of New Orleans agreed on August 20th, 2018 to allow Avondale Marine LLC, a joint venture between Hilco Redevelopment Partners and T. Parker Host, to develop an additional port and intermodal terminal in the Jefferson Parish operations zone of the Port. Although Union Pacific now controls the rail access, Avondale Marine wants the Port-owned New Orleans Public Belt Railroad (NOPB) to do this to foster competition among all six Class I railroads at the site. Avondale Marine has agreed to finance the NOPB rail spur connecting the site to the railroads. The goal is to ultimately have a loop track at Avondale to connect the NOPB to all six Class I railroads for purposes of linking the site to

the rest of the US. The redeveloping site purchased by Avondale Marine on October 4th, 2018 is to function as a modern global logistics hub with value-added industrial capabilities to bring large-scale manufacturing to Louisiana.

Appendix J.

Documents and Sources for the Louisiana State Rail Plan

J.1 Introduction

This appendix is a compilation of the major documents and sources consulted in the production of the Louisiana State Rail Plan. Items are listed by the major rail plans elements wherein they were used.

J.2 Freight Rail Elements

- 2018 – R-1 Annual Reports to the Surface Transportation Board – Form 702 Miles of Road at Close of Year, by States.
- Railroad, Federal Railroad Administration (FRA), Surface Transportation Board (STB), and various rail industry and related websites, including the Association of American Railroads (AAR) and American Short Line and Regional Railroad Association (ASLRA); Louisiana water port websites; various maps and aeries including Goggle Earth.
- New Orleans Rail Gateway Benefits Report, prepared by Cambridge Systematics, 2008.
- New Orleans Rail Gateway Infrastructure Feasibility Analysis, prepared by Brown, Cunningham, Gannuch Engineering, 2007.
- Federal Highway Administration- Commodity Flow Survey Version FAF 4.5- for 2019 update.
- *Louisiana Freight Mobility Plan*, prepared by CDM Smith Inc., 2017.
- Waybill data 2017- for 2019 update.
- LLADOTD New Orleans Rail Gateway Project-
<http://wwwsp.LaDOTD.la.gov/Business/Projects/norg/Pages/default.aspx>.

J.3 Passenger Rail Elements

- *Gulf Coast High Speed Rail Corridor Development Plan, Phase I, Improvement Implementation Plan - Meridian to New Orleans*, prepared by Burk-Kleinpeter, Inc., 2002.
- *Louisiana Statewide Rail System Plan*, prepared by Wilbur Smith Associates, 2003.
- *Gulf Coast High-Speed Rail Corridor, New Orleans to Mobile Corridor Development Plan*, prepared by Burk-Kleinpeter, Inc., 2006.
- *Gulf Coast High-Speed Rail Corridor Plan, Lake Charles to Meridian Corridor Development Plan*, prepared by Burk-Kleinpeter, Inc., 2007.
- *Vision Plan for the Baton Rouge – New Orleans Intercity Passenger Rail*, prepared by the Louisiana Department of Transportation and Development, Intermodal Transportation Division, 2008.
- *A Report on Accessibility and Compliance with the Americans with Disabilities Act of 1990*, Amtrak, 2009.
- *Baton Rouge – New Orleans Intercity Passenger Rail Service Development Plan*, prepared by Burk-Kleinpeter, 2010.
- *Baton Rouge – New Orleans Intercity Rail Feasibility Study, Draft Capital and Operating Plan*, prepared by HNTB, 2013.
- *New Orleans Union Passenger Terminal Master Plan Update*, prepared by Manning Architects, 2007.
- *Infrastructure Investment Program for the New Orleans Union Passenger Terminal*, prepared by AECOM, 2010.
- Presentation by J. Kent Rodgers, Northwest Louisiana Council of Governments, on proposed Amtrak service between Shreveport and Dallas, July 2013. Presented to LADOTD and the Regional Planning Advisory Council. Based on findings of an ongoing Amtrak study sponsored by the Texas Department of Transportation.

- *Dallas/Fort Worth to Shreveport - Bossier City High Speed Rail Project*, a presentation by the North East Texas Regional Mobility Authority to LADOTD and the Regional Planning Advisory Council, 2013.
- Amtrak website and monthly performance reports, various.
- Amtrak System Timetable, various.
- *Mississippi Rail Plan*, prepared by Wilbur Smith Associates, 2011.
- Gulf Coast Working Group Report to Congress, by The Gulf Coast Working Group, 2017.
- Crescent Fort-Worth Extension, prepared by Amtrak, 2015.
- North Louisiana Passenger Rail Feasibility Study, prepared by Northwest Louisiana Council of Government, 2015.
- Dallas/Fort Worth to Meridian Passenger Study, prepared by Texas Department of Transportation, 2017.

J.4 Rail Economic Impacts

- IMPLAN commodity data for 2017.
- Waybill data for 2017.
- Bureau of Labor Statistics, 2017 and 2019 data for Louisiana.

J.5 Rail Socio-environmental Impacts/Livability

- *Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: Gulf Coast Study, Phase I*, a report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research (CCSP Report).
- *Louisiana Speaks Regional Plan*, Louisiana Recovery Authority, 2007.
- *Freight Railroads Help Reduce Greenhouse Gas Emissions*, Association of American Railroads, April 2019.
- *The Environmental Benefits of Moving Freight by Rail*, Association of American Railroads, July 2019.

J.6 Project Funding and Evaluation Methodology

- *Louisiana Rail Program Financing Report*, prepared by HDR Inc., June, 2010.
- *Ohio State Rail Plan*, prepared by Wilbur Smith Associates, 2010 (source of evaluation methodology).
- *Draft Louisiana Rail Infrastructure Improvement Program Policies and Procedures*, prepared by the Louisiana Department of Transportation and Development, Marine & Rail Transportation Section, 2010.

J.7 Safety and Security Element

- FRA accident database.
- Strategic Rail Corridor Network (STRACNET).
- Louisiana Highway Safety Plan, Federal Fiscal Year 2017.
- Louisiana Highway Safety Plan, Federal Fiscal Year 2018.

J.8 State Rail Vision and Other Key Plan Elements

- 2008 – Public Law 110-432 regarding State Rail Plans.
- *State Rail Planning Best Practices*, prepared for the American Association of State Highway and Transportation Officials (AASHTO), prepared by Cambridge Systematics, 2009.
- *Kansas State Rail Plan*, prepared by Wilbur Smith Associates, 2011.
- *State Rail Plan Guidance*, prepared by FRA, 2012.