OKLAHOMA
STATE RAIL PLAN

2018

U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

January 12, 2018

J. Michael Patterson, Secretary of Transportation
Oklahoma Department of Transportation
200 N.E. 21st St
Oklahoma City, OK 73105-3204

Dear Mr. Patterson,

The Federal Railroad Administration (FRA) has completed its review of the state of Oklahoma's State Rail Plan (SRP), which was submitted to FRA on October 17, 2017.

FRA's review of the SRP found that it contained the required elements in accordance with 49 U.S.C. 22705 and FRA's 2013 State Rail Plan Guidance. This letter serves as notice that FRA formally accepts the SRP.

While FRA finds that the SRP meets the minimum requirements, FRA recommends addressing the following points in future updates to the SRP:

- Chapter 2- Provide a more thorough discussion of rail congestion trends; the discussion can be conceptual in nature, based on projected freight and passenger service growth, and other known trends.
- Chapter 2- Provide a more thorough discussion of highway and airport congestion trends. Consider including a general discussion of level of service conditions for Oklahoma's interstates and roadways. Also consider providing a more in-depth discussion regarding the total enplanement and cargo activity trends.
- Chapter 5- Include information regarding the operating financing plan for both passenger and freight services.

Section 11315(a)(1) of the Fixing America's Surface Transportation Act (P.L. 114-94, December 4, 2015) revised the requirement for State-approved plans to be resubmitted to FRA no less frequently than once every 4 years (previously every 5 years). As such, FRA looks forward to working with you on the next iteration of Oklahoma's State Rail Plan, due in January 2022.

FRA looks forward to a continued partnership with the state of Oklahoma to build and maintain a safe, reliable, and efficient U.S. rail network.

Sincerely,

Will P. Dyer

Will Dyer
Division Chief, National Rail Planning
Office of Railroad Policy and Development

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2018
EXECUTIVE SUMMARY

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INTRODUCTION

The Oklahoma Department of Transportation (ODOT) has developed this Oklahoma 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 socioeconomic impacts. It also describes the State Rail Plan process, Oklahoma's rail vision and supporting goals and objectives; proposed publicly sponsored short- and long-range projects in a Rail Service and Investment Plan; and recommended next steps to potentially address the issues and opportunities identified.

This Oklahoma State Rail Plan is intended to meet the requirements established by the federal Passenger Rail Investment and Improvement Act of 2008 (PRIIA), as amended by the Fixing America's Surface Transportation Act of 2015 (FAST Act), to qualify for future federal funding for rail projects. It is also compliant with Final State Rail Plan Guidance provided by the Federal Railroad Administration (FRA) in September 2013.

The Oklahoma State Rail Plan includes six chapters, and in some cases, supplementary appendices. The document is organized as follows:

Chapter 1 Role of Rail in Statewide Transportation

This chapter introduces the role and importance of rail in the State's transportation network. From a farm-to-market transportation system to an evolving system supporting a thriving economy, rail has helped Oklahoma grow and prosper.

Chapter 2 Existing Oklahoma Rail System: Description and Inventory

This chapter provides an overview and inventory of Oklahoma's existing rail system and services, and identifies the economic, demographic, and transportation demand forecasts and trends that will affect future transportation and economic activity in the state.

Chapter 3 Proposed Passenger Rail Improvements and Investments

This chapter introduces projects and initiatives that will enhance Oklahoma's passenger rail services to better serve the mobility needs of the state and region.

Chapter 4 Proposed Freight Rail Improvements and Investments

This chapter describes the recent improvements and investments that have been made, and potential future investments, by the state's railroads and the State.

Chapter 5 Rail Service and Investment Program

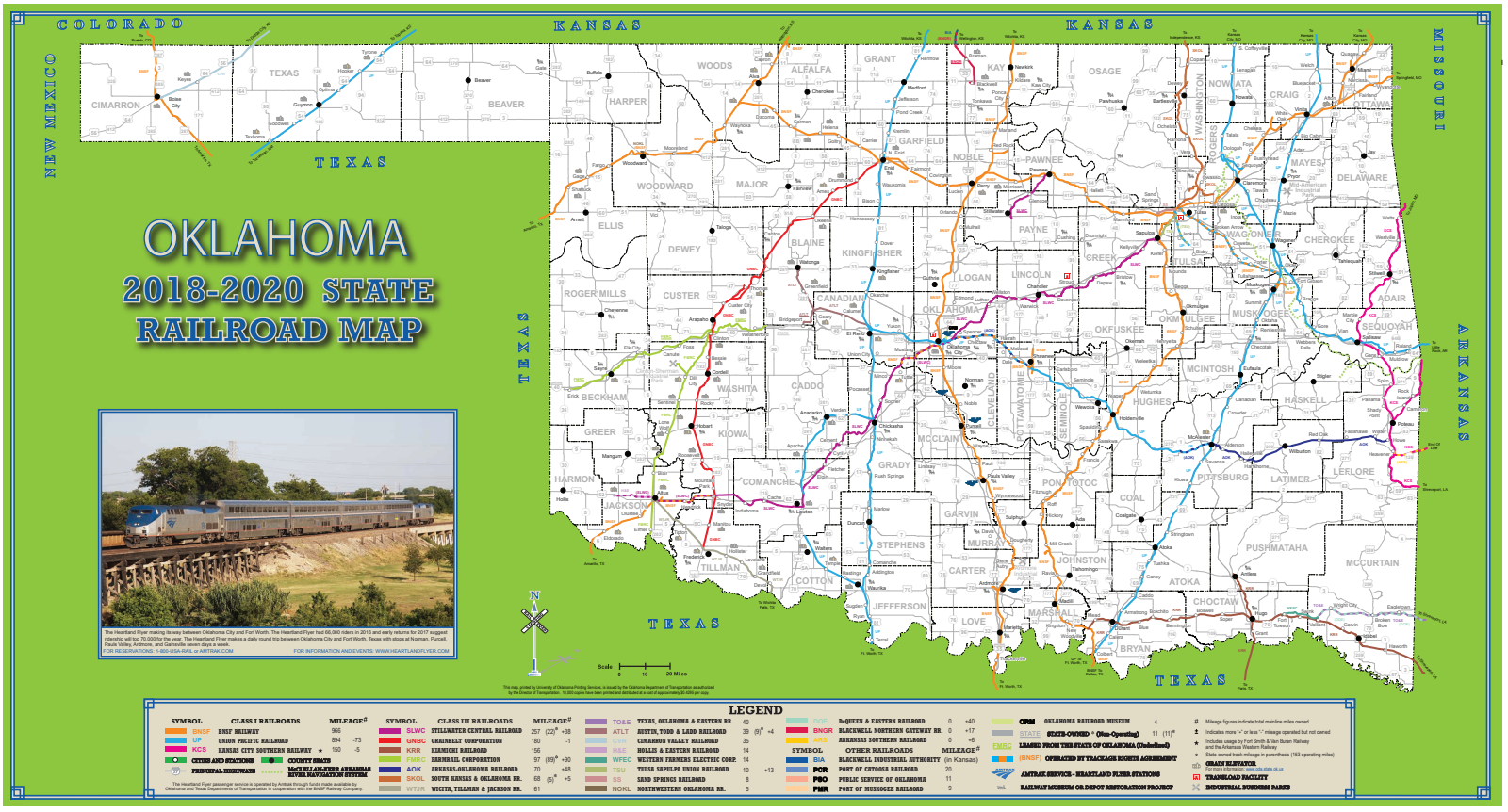
This chapter identifies the state rail vision and related goals and objectives and identifies and prioritizes short- and long-range project investments for the State.

Chapter 6 Public Involvement and Coordination

This chapter describes how ODOT involved stakeholders in the coordination necessary to develop the Oklahoma State Rail Plan.

OKLAHOMA'S RAIL NETWORK

Oklahoma's rail network is a valuable asset that plays an essential role in linking Oklahoma shippers and receivers with markets throughout North America and the global economy via the connecting international multimodal network. Chief among high volume rail shippers and receivers in the state are the agricultural, mining, and chemical industries and electric utilities. Although there are limited intercity passenger services in the state, Amtrak provides essential transportation services for Oklahomans.
A brief description of Oklahoma's rail network is provided below.

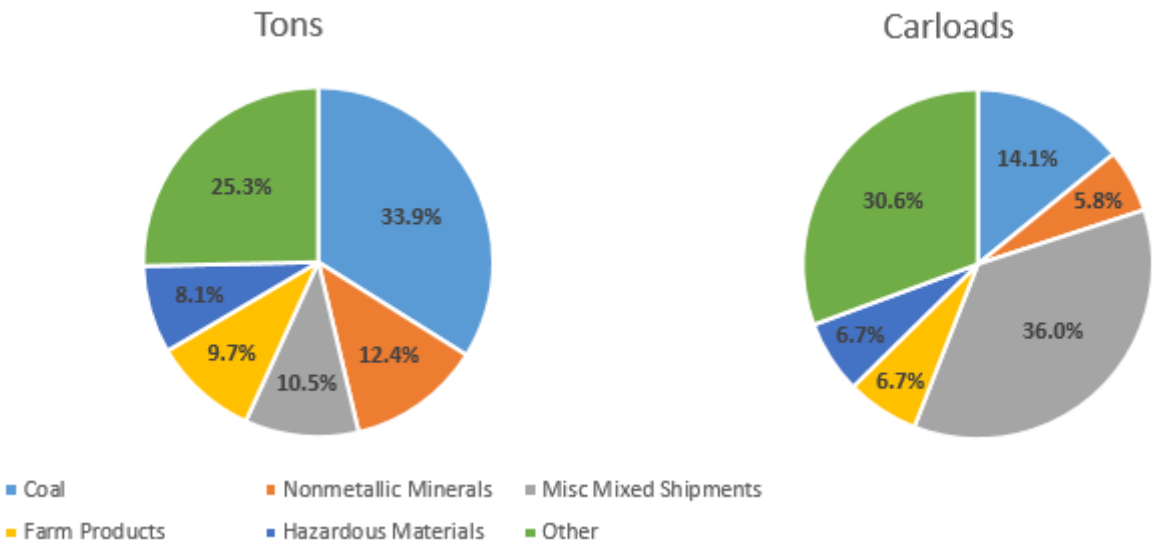


Freight Rail System

The Oklahoma freight rail network is operated by three large Class I railroads and 16 smaller short line railroads and four other railroad owners. The network consists of approximately 3,244 route miles, excluding leases and trackage rights.

Over half of the rail route mileage in the state is owned by two Class I carriers: BNSF Railway (BNSF) and Union Pacific Railroad (UP). These railroads own a total of 1,860 route miles. The remaining Class I railroad, Kansas City Southern Railway (KCS), owns an additional 150 miles in the state. The 16 short line railroads and four other railroad owners (including the State of Oklahoma) in the state own the remaining 1,214 route miles in Oklahoma.

In 2014, Oklahoma's freight railroads carried over 365 million tons of freight or almost 7.3 million rail cars of various commodities which originated or terminated in the state or passed through the state. The leading commodities, comprising almost 75 percent of rail borne tons, are: Coal (123.0 million tons); Nonmetallic Minerals (45.1 million tons); Miscellaneous Mixed Shipments (38.4 million tons); Farm Products (35.5 million tons); and Hazardous Materials (29.7 million tons). The exhibit below illustrates rail movements for these top commodities as a percentage of total tonnage and carloads.



Source: Prepared by HDR, based on 2014 STB Waybill Sample data

Passenger Rail Service

Oklahoma is presently served by one intercity Amtrak train, the Heartland Flyer between Oklahoma City and Fort Worth, Texas. The service was launched on June 14, 1999, and is funded by the states of Oklahoma and Texas, in accordance with federal law requiring states to financially support regional passenger services. Oklahoma currently has no long-distance passenger trains or commuter rail operations. Amtrak operates entirely over the trackage of Class I freight railroad BNSF within the state.

Amtrak's Heartland Flyer service carried 66,105 passengers in Federal fiscal year 2016, a slight decline from the peak year of 2012, when the train carried 87,873 riders. However, passenger trips within Oklahoma have declined at lower annual rates than interstate passenger trips between Oklahoma and Texas.

In 2016, Amtrak inaugurated a Thruway bus service for rail passengers, operating between Oklahoma City, where travelers can connect to the Heartland Flyer passenger train, and Newton, Kansas, where travelers can connect to Amtrak's Southwest Chief operating between Chicago and Los Angeles. The bus makes one intermediate stop in Wichita, Kansas. Oklahoma continues to work with Amtrak and neighboring states on initiatives that could lead to expanded intercity and long-distance passenger service options within the state. Oklahoma is also supporting local community efforts to improve passenger rail stations, notably a $28 million project to develop a multimodal transportation hub at the Oklahoma City station that will serve trains, buses, and light rail.

Rail Impacts

Rail service is essential to Oklahoma's economy. While the basic provision of rail service generates a modest 1,870 direct jobs for the passenger and freight railroads in the state, economic impacts extend further. When the passenger and freight rail transportation, visitor impact (passengers visiting the state), and multiplier job impacts are combined, rail-related employment in Oklahoma amounts to 21,503 jobs and yields a total rail-related economic impact of $1.4 billion paid in income and total economic output of $6.5 billion.

In addition to the direct employment benefits, the availability of rail transport provides cost and logistical advantages to Oklahoma firms that enable the state to compete effectively in the global marketplace. The presence of rail freight is especially important in rural areas where agriculture, mining/drilling, manufacturing, 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 percent. The diversion of freight traffic to rail also increases the safety of state's highway system.

Amtrak intercity passenger rail service connects urban Oklahoma City with rural central and southern Oklahoma and Forth Worth, Texas, which is important given the limited air service in some segments of the state. Passenger train travelers generate income not only for the rail operations, but also for restaurants, hotels, and other visitor served businesses. Furthermore, passenger stations have the potential to increase economic development around the station areas.

Rail Plan Development Process

This Oklahoma State Rail Plan was developed under the authority and guidance of Oklahoma DOT's Rail Programs Division. Oklahoma DOT is the designated rail authority in Oklahoma. The Rail Programs Division is responsible for rail planning in the state, and also for acquiring and administering federal and state funds used to support operation of an intercity passenger rail service, highway construction projects affecting railroad property, railroad crossing safety improvements, and maintaining the state-owned rail lines. The Rail Programs Division coordinated closely with other ODOT divisions in the development of this Oklahoma State Rail Plan, and a companion Oklahoma State Freight Plan that was developed concurrently.

All railroads operating in the state were contacted to solicit information as to their operations, projects or other needs and opportunities, and their opinions as to what the public sector could do to assist or improve the efficiency and expansion of rail and multimodal transportation in the state. Similar interviews were conducted for select rail shippers and receivers located on both the Class I and short line railroad network within the state.

Two meetings were held on March 22 and June 27, 2017, with the Oklahoma State Rail Plan High Leverage Stakeholder Committee, comprised of public and private rail stakeholders. These included representatives from ODOT, the state's freight railroads, metropolitan planning organizations, transportation planning organizations, and special interest groups, among others. Existing conditions of the Oklahoma rail network; identification of bottlenecks, chokepoints, and economic development areas; prioritization of the types of passenger and freight rail projects needed in Oklahoma; and determination of the level of effort and impact of the strategies of the Oklahoma State Rail Plan were discussed at the first meeting. Review of a program of proposed rail projects and improvements for inclusion in the Oklahoma State Rail Plan was discussed at the second meeting.

An online public outreach meeting was held between July 28 and August 18, 2017, to educate stakeholders and the general public regarding the State Rail Plan process, obtain input for developing a rail vision, and to provide a forum for discussion of specific rail issues and needs and opportunities in the state. A total of 86 people participated in the online public meeting.

To provide a medium for public review, the Draft Oklahoma State Rail Plan was posted to the ODOT website (www.ok2017railplan.com) prior to finalization of the Plan.

KEY STAKEHOLDER INPUT ON RAIL ISSUES, CHALLENGES, AND OPPORTUNITIES

Various themes were identified from the comments voiced by High Leverage Stakeholder Committee meeting attendees and noted in public comments received. Among these are:

- Interest in extension of the existing Heartland Flyer intercity passenger rail service from Oklahoma City north to Wichita and Newton, Kansas, and potentially on to Kansas City, Missouri.
- Interest in development of a passenger rail service between Oklahoma City and Tulsa, Oklahoma, and commuter rail service between Oklahoma City and Norman, Oklahoma.
- Interest in establishing a station stop at Thackerville, Oklahoma, to serve the tourism market in this region.
- Interest in freight rail projects, particularly for short lines, including improved connections between railroads and investments targeted at enhancing capacity, efficiency, mobility, and economic activity.
- Identification and the potential to alleviate freight rail and multimodal network chokepoints and bottlenecks statewide.
- Interest in state support of freight and passenger rail projects and in public-private partnerships as another means of helping to finance projects.
- Enhanced safety and security of the state rail network.

Class I railroads related some of their investment plans in the state. These investments will be paid for through internally generated funds. However, short line railroads noted a need for state assistance, especially to help the railroads upgrade their lines for handling 286,000-pound loaded car weights and to enhance capacity, efficiency, and safety.

For short line shippers, line improvements such as upgrades for 286,000-pounded loaded car weights and other enhancements that upgrade rail line infrastructure and facilities to meet current and future rail shipping demands were viewed as a distinct need, as well.

High Leverage Stakeholder Committee members had various recommendations, including review of the state's chokepoints and bottlenecks; prioritizing necessary capacity improvements to enhance rail and multimodal infrastructure and network capacity, efficiency, and access; identification of new economic development activity; exploration of opportunities on underutilized lines in the state's rail network; and review of the challenges to dual railroad access by rail shippers and receivers currently served by only one railroad and development of potential solutions.

Overall, stakeholders and the general public expressed understanding and appreciation of the value and potential of the state's passenger and freight rail network and operations.

OKLAHOMA'S RAIL VISION AND GOALS AND OBJECTIVES

Based on the comments obtained through the outreach effort, ODOT has developed the following vision statement for rail transportation in the state:

"A safe, secure, and efficient rail system that ensures Oklahoma's economic competitiveness and development by maintaining the rail infrastructure and providing rail access and multimodal connectivity for people and goods in an environmentally sustainable manner."

Rail service goals and objectives aligned with the rail vision were developed based on the rail-related benefits, opportunities, issues, and obstacles that had been identified. These goals and objectives are identified in the following table.

TABLE 1: GOALS AND OBJECTIVES

GOAL: Safety and Security

OBJECTIVES:

- Reduce accidents and fatalities
- Ensure the state rail network is secure
- Ensure effective response to emergencies on the state rail network

GOAL: Reliability and Efficiency

OBJECTIVES:

- Improve on-time performance of rail transportation in the state
- Eliminate rail network bottlenecks and chokepoints in the state, where possible

GOAL: Preservation and Improved Access and Connectivity

OBJECTIVES:

- Preserve, maintain, and modernize the state rail network when public benefit can be demonstrated
- Improve rail network access and multimodal connections for passengers and freight in the state

GOAL: Quality of Life and Environmental Stewardship

OBJECTIVES:

- Support responsible land use strategies
- Support responsible environmental stewardship

GOAL: Mobility and Economic Competitiveness and Development

OBJECTIVES:

- Invest in rail network capacity improvements to enhance the intrastate and interstate movement of passengers and freight when public benefit can be demonstrated
- Ensure rail network investments to catalyze and support desired economic growth

PROPOSED RAIL SERVICE AND INVESTMENT PLAN

Based on identified needs and opportunities, potential public benefits, and likely available funding sources, short- and long-range proposed projects were identified and described in a Rail Service and Investment Plan developed for the Oklahoma State Rail Plan. 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 (Years 1-4; 2018-2021). Long-range projects (Years 5-21; 2022-2042) 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 in the future.

Short-Range Needs (Years 1-4; 2018-2021)	Estimated Capital Cost (2017 dollars)
Short-Range Passenger Rail Projects	$648,780,000
Short-Range Freight Rail Projects	$23,270,000
Short-Range Projects Total	$672,050,000

Long-Range Needs (Years 5-21; 2021-2041)	Estimated Capital Cost (2017 dollars)
Long-Range Passenger Rail Projects	$1,210,000,000
Long-Range Freight Rail Projects	$221,530,000
Long-Range Projects Total	$1,431,530,000
State Rail Program Total	**$2,103,580,000**

STATE RAIL PLAN RECOMMENDATIONS AND NEXT STEPS

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

- Continue to support projects that enhance economic development and competitiveness opportunities and bolster rail network access and multimodal connectivity, including development of rail spurs, transload and intermodal facilities, industrial parks, and ports.
- Continue to help the state's railroads, and particularly short lines, secure federal and state funding for critical projects, such as ensuring 286,000-pound carload capacity on lines where shippers demand it through bridge and track improvements, track and yard capacity improvements, railroad interchange improvements, and other infrastructure enhancements.
- Continue to preserve, maintain, and improve access to the state-owned segments of the Oklahoma state rail network.
- Continue to promote and enhance rail safety and surface and signal improvements at grade crossings and explore the potential for grade crossing separations.
- Provide advocacy for rail shippers, by helping to mediate disputes between shippers and their serving railroads.
- Continue to work with neighboring states, passenger rail service providers, and freight railroads on passenger and freight rail initiatives which benefit Oklahoma and the region.
- Support the improvement of existing Amtrak services and Amtrak stations in Oklahoma.
- Support the development of new or expanded intercity and new commuter rail initiatives that enhance mobility options for Oklahomans.

Summary

Oklahoma 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 Oklahoma 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 Oklahoma Department of Transportation expresses its appreciation to those individuals and parties who participated in this effort.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Chapter 1: The Role of Rail in Statewide Transportation

1.1 Introduction

This document was developed by the Oklahoma Department of Transportation (ODOT) to serve as Oklahoma's State Rail Plan (SRP). The Oklahoma SRP is compliant with the federal Passenger Rail Investment and Improvement Act of 2008 (PRIIA), as amended by the Fixing America's Surface Transportation Act of 2015 (FAST Act). In addition to meeting federal requirements, the SRP is intended to formulate a state vision for railroad transportation in the long-range horizon, to the year 2040, and strategies to achieve that vision. With this purpose in mind, the SRP was developed with extensive public participation and involvement by the state's railroads and rail users.

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 State Rail Plan meets the requirements set forth in that legislation and public law, as well as the final *State Rail Plan Guidance*[1] provided by the Federal Railroad Administration (FRA) in September 2013.

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

1.2 Oklahoma's Goals for its Multimodal Transportation System

Oklahoma's vision and goals for its multimodal transportation system are outlined in a number of recently published documents which are updated periodically.

1.2.1 Oklahoma State Freight Plan

Oklahoma's State Freight Plan will be completed concurrently with this Oklahoma State Rail Plan. The primary purpose of the State Freight Plan is to serve as a statewide long-range freight planning document, fully integrated with other state planning initiatives. The State Freight Plan will align with the National Freight Goals through the following potential goals[2]:

- Safe and Secure Travel

[1] https://www.fra.dot.gov/eLib/Details/L04760
[2] Oklahoma Freight Transportation Plan; Oklahoma Freight Advisory Committee Meeting; Oklahoma City, Oklahoma; January 25, 2017

  - Improve the safety and efficiency of freight movement and its interaction with other vehicles.
  - Assure the ability of urban and rural highways to safely accommodate growth in freight traffic.
- Infrastructure Preservation
  - Meet freight transportation needs by maintaining the Oklahoma State Highway System in a state of good repair.
  - Support the preservation of Oklahoma multimodal freight networks through appropriate policies and initiatives.
- Mobility: Choice, Connectivity and Accessibility
  - Ensure the competitive performance of the Oklahoma freight system.
  - Foster a diverse portfolio of modal choices for Oklahoma's freight shippers and receivers in urban and rural areas.
  - Support end-to-end operations of industry supply chains in Oklahoma.
- Economic Vitality
  - Promote competitive access to domestic and international markets for Oklahoma industries.
  - Direct freight-related transportation investments to support the state's economy.
- Environmental Responsibility
  - Support the growth of Oklahoma clean energy by promoting clean fuel use by freight providers.
  - Avoid, minimize, or mitigate adverse environmental impacts of freight transportation.
- Efficient Intermodal System Management and Operation
  - Capitalize on federal funding and finance programs to aid investment in the freight transportation system.
  - Coordinate freight corridor development programs with neighboring states.
  - Safeguard industry supply chains by improving resiliency of the system.

1.2.2 Oklahoma Long Range Transportation Plan

Oklahoma's Long Range Transportation Plan (LRTP)[3] builds on Oklahoma's success with a previous long-range transportation plan and provides direction for all transportation modes in the state, including rail and public transit. The document was adopted and approved in 2015. The LRTP projects the demand for transportation infrastructure and services to the year 2040 and takes into account the social and economic changes that are expected to occur in the state between 2015 and 2040. The LRTP underscores the idea that Oklahoma's economy, quality of life, and competitiveness will require a transportation system that is developed with these changes in mind.

Oklahoma's adopted guiding principle for transportation is "to provide an intermodal transportation system that supports a thriving economy and improved quality of life for Oklahomans by providing safe and efficient movement of people and goods." Oklahoma's associated transportation goals, which support the guiding principle and are the basis for decision making and investment actions covering all transportation modes, include[4]:

- Infrastructure Preservation: Preserve and maintain Oklahoma's multimodal transportation system in a state of good repair.

[3] https://ok.gov/odot/Programs_and_Projects/Transportation_Programs/LRTP_2015-2040.html
[4] https://ok.gov/odot/Programs_and_Projects/Transportation_Programs/LRTP_2015-2040.html

- Mobility Choice, Connectivity, and Accessibility: Facilitate the easy movement of people and goods, improve interconnectivity of regions and activity centers, and provide access to different modes of transportation.
- Economic Vitality: Provide an efficient and effective multimodal transportation system that is coordinated with land development patterns to strengthen communities and support economic development.
- Environmental Responsibility: Minimize environmental impacts related to transportation enhancing the natural environment.
- Efficient Intermodal System Management and Operation: Strengthen the data-driven decision making approach in order to maximize intermodal system performance and operation.

1.2.3 Oklahoma Statewide Transportation Improvement Program

The Statewide Transportation Improvement Program 2015-2018 (STIP)5 is a federally required systematic listing of projects for which federal-aid funding is proposed. This document grows out of the State Transportation Plan (STP) and outlines Oklahoma DOT's funding objectives to maintain a globally competitive and attractive climate for businesses and people, and to ensure that the transportation system contributes to a productive and efficient economy. Oklahoma's rail network is a key asset in attaining these objectives. The current STIP identifies projects funded by the Federal Highway Administration (FHWA), including highway-railroad grade crossing safety projects, and the Federal Transit Administration (FTA) programs. These projects may have a potential intersection with the Oklahoma state railroad network. Rail projects in the state have also been added to the STIP in the past for illustrative purposes to support applications for federal grant funding.

1.3 Rail's Role Within the Oklahoma Transportation System

Today, the rail system in Oklahoma plays an essential freight transportation role both within the state and nationally. Oklahoma's location and position on principal rail corridors provides rail access to every region of the U.S., as well as to Canada and Mexico.

Oklahoma ranks in the top 20 among states in all of the following categories[6]:

- Freight Railroads (16th) – 19 railroads
- Total miles of rail (17th) – 3,273 miles
- Rail tons terminated (20th) – 34.8 million tons
- Rail tons carried (8th) – 297.1 million tons
- Rail carloads carried (9th) – 6,120,800.

Oklahoma also ranks highly among all states for rail movements of many individual commodities. For commodities originating by state, Oklahoma ranks third (3rd) in crushed stone, sand, and gravel products. For commodities terminating in the state, Oklahoma ranks eighth (8th) in crushed stone, sand, and gravel products, tenth (10th) in primary metal products, and ninth (9th) in lumber and wood products[7].

[5] http://www.odot.gov/p-r-div/stip/index.htm
[6] Based on 2012 Association of American Railroad statistics for the U.S. and Oklahoma
[7] Based on 2012 Association of American Railroad statistics for the U.S. and Oklahoma

Rail intercity passenger service in Oklahoma at present includes the Heartland Flyer Amtrak service between Fort Worth, Texas, and Oklahoma City on the BNSF Railway. The Heartland Flyer makes station stops in Oklahoma City, Norman, Purcell, Pauls Valley, and Ardmore, Oklahoma, and Gainesville and Fort Worth, Texas. Connections can be made in Fort Worth to Amtrak's Texas Eagle, which operates between Chicago, Illinois; St. Louis, Missouri; and Los Angeles, California, via San Antonio, Texas.

As several of the metropolitan areas in Oklahoma continue to grow, the need to invest in a diverse network of passenger transportation options that will accommodate this population growth has been recognized. This growth could be accommodated via improved rail corridors providing new intercity passenger services.

In terms of potential future passenger rail service implementation, Oklahoma is located on the federally designated high-speed rail corridor known as the South Central Corridor from Fort Worth, Texas, to Oklahoma City to Tulsa.

1.4 Institutional Structure of Oklahoma's State Rail Program

1.4.1 Oklahoma Department of Transportation Rail Functions

The Oklahoma Department of Transportation is responsible for coordinating the overall state transportation improvement strategy. The department is primarily responsible for rail planning and project development activities, including development of this State Rail Plan. ODOT's headquarters is located in Oklahoma City, Oklahoma.

ODOT is Oklahoma's State Rail Transportation Authority (SRTAA) and State Rail Plan Approval Authority (SRPAA). Furthermore, Oklahoma is in compliance with the requirements of 49 U.S.C. §22102, which stipulates eligibility requirements for long-established FRA rail freight grant assistance program pertaining to state planning and administration.

Other areas of ODOT rail involvement include long-range rail planning, including development of this State Rail Plan, and financing. Financing involves loans and grants for construction and maintenance of track, maintenance and safety improvements at grade highway-rail crossings, and developing new spur tracks to support economic development.

The following are those divisions under the jurisdiction of ODOT which have existing or potential rail-related responsibilities.

Rail Programs Division

The Rail Programs Division of ODOT was established in 1989 to oversee the state's 3,244 miles of rail, 153 miles of which are owned by the state. It is responsible for acquiring and administering federal and state funds used to support operation of the Heartland Flyer passenger service, highway construction projects affecting railroad property, railroad crossing safety improvements, and maintaining the state-owned rail lines. The division comprises five sections: State-owned Rail Line Management, Safety, Rail Passenger, Construction, and Federal Programs.

State-Owned Rail Line Management Section

In 1978, the Oklahoma State Legislature passed the "Railroad Revitalization Act." This Act specified powers and duties of ODOT to address state rail issues. ODOT was authorized and empowered to

acquire, construct, repair, operate, and maintain railroad rights-of-way and trackage on feasible and economically sound railroad routes.
This section oversees the state-owned rail properties and their selected operators, which includes direct responsibility of the rights-of-way, operator contract compliance, property inspections, and all easement/license/lease reviews, and maintains the lease agreements between the state and the operators. It also completes yearly inspections for proper maintenance and administers state funds for the upkeep of these properties. ODOT had successfully leased 98 percent of the lines it owns to Class III (short line) railroad operators.

Safety Section

Oklahoma has 3,852 railroad-highway grade crossings with one-third equipped with active warning devices with either pedestal mounted flashers, gates, cantilevered signals, or any combination of the three. The remaining two-thirds of these crossings are controlled by passive devices such as warning signs.

Each state receives annual federal funding for improving of grade railroad crossings with active warning devices. The FRA has devised a system called the "Priority Index Ranking" to determine which crossings are the leading candidates for funding. The Rail Programs Division Safety Section manages the crossing improvements priorities in Oklahoma. It also manages the FRA Crossing Corridor program, which provides funding for upgrades to remaining crossings in corridors where selected grade crossings are closed.

The most recent highway-rail crossing inventory data collected for the State of Oklahoma in 2009 indicates that Oklahoma at that time had 4,318 crossings that were open to the public including 533, or 12 percent, that were grade separated locations; 1404, or 33 percent, with some type of active warning devices; and 2,381, or 55 percent, with passive warning devices.

Rail Passenger Section

The Rail Programs Division oversees the passenger rail operations in the state, namely the Heartland Flyer. It works with Amtrak to ensure quality and reliable service. It also administers the funding provided to Amtrak for provision of the service.

Construction Section

The Construction Section of the Rail Programs Division coordinates state rail construction activity. It is responsible for reviewing the scope of a railroad's involvement, developing required agreements with the railroads to permit contractor access to railroad property, and ensuring that insurance requirements are met. It oversees projects through to completion and final inspection.

Federal Programs Section

The purpose of the division's Federal Programs Section is to identify and secure funding available for rail improvements. It assures that ODOT is fully compliant and integrated with all Federal rail funding initiatives. It prepares all funding applications and develops the business cases supporting the applications. The section also keeps ODOT staff informed of national rail policy and priorities to position Oklahoma as a benefactor of the policies.

1.4.2 Other State Agencies or Initiatives Related to Rail

Oklahoma State Transportation Commission

The State Transportation Commission (STC) leads the Oklahoma Department of Transportation. The STC was created for the purpose of developing comprehensive transportation policy and planning within the State of Oklahoma. The STC has final approval authority on funding allocations, including the Railroad Revolving Loan and Grant Program (RRLG), federally funded highway-railroad grade crossing safety projects, and highway-railroad grade crossing surface repair projects in Oklahoma.

STC membership is comprised of eight transportation commissioners, which are appointed by the Oklahoma Governor and confirmed by the Oklahoma Senate. The Commission appoints a Director, who serves as the executive head of the ODOT. The current ODOT Executive Director is Mr. Mike Patterson. The Governor also appoints a Secretary of Transportation. The current Secretary of Transportation is Mr. Mike Patterson.

Oklahoma Department of Commerce

The Oklahoma Department of Commerce serves as the primary economic development entity in Oklahoma with the mission to create and deliver high-impact solutions that lead to prosperous lives and communities for all Oklahomans.

Through its two main focuses – business development and community development – the Department of Commerce administers several state and federal programs to meet its goals of assisting individuals, communities, and businesses.

These agencies also provide financial assistance programs that have been utilized to assist in the attraction of new industries on the state's rail lines through a number of initiatives including tax credits and in some instances have provided financial assistance for projects such as track rehabilitation and the construction of spur tracks to industries.

1.4.3 Regional and Local Organizations

Oklahoma's transportation agencies, besides the Oklahoma DOT, include Metropolitan Planning Organizations (MPOs) and Regional Planning Associations (RPAs). Oklahoma's MPOs and RPAs are identified and described in this section.

Metropolitan Planning Organizations

Metropolitan Planning Organizations (MPOs) are federally mandated and 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.

MPOs are required to maintain and continually update a Long-Range Transportation Plan (LRTP) as well as a Transportation Improvement Program (TIP), which is a multi-year program of transportation projects to be funded with federal and other transportation funding sources. As MPO planning activities have evolved to address the movement of freight as well as passengers, they have included consideration of multimodal solutions, improved intermodal connections, and more specific rail and rail-related project solutions. MPOs must work cooperatively with area transportation stakeholders to understand and anticipate the area's travel needs and to develop the aforementioned documents.

There are four MPOs within Oklahoma. These MPOs are described below.[8]

- *Association of Central Oklahoma Governments (ACOG) – Oklahoma City, Oklahoma*
  - Serves the transportation planning boundary, known as the Oklahoma City Area Regional Transportation Study (OCARTS), includes all of Oklahoma and Cleveland counties and portions of Canadian, Grady, Logan, and McClain counties in Oklahoma.
- *Indian Nations Council of Government (INCOG) – Tulsa, Oklahoma*
  - Serves the transportation planning boundary including Tulsa County and portions of Creek, Osage, Rogers, and Wagoner counties in Oklahoma.
- *Lawton Metropolitan Planning Organization (LMPO) – Lawton, Oklahoma*
  - Serves the transportation planning boundary including within the Lawton city limits, with minor adjustments, excluding Fort Sill in Oklahoma.
- *Frontier Metropolitan Planning Organization – Ft. Smith, Arkansas*
  - Serves the transportation planning boundary including portions of LeFlore and Sequoyah counties in Oklahoma.

Regional Planning Associations

Regional Planning Associations (RPAs) are responsible for transportation planning in regions of Oklahoma outside the metropolitan areas represented by MPOs. Oklahoma has 11 RPAs,[9] which are identified below:

- *Association of Central Oklahoma Governments - ACOG*
  - Serves Oklahoma, Canadian, Logan, McClain, Cleveland, and parts of Grady counties.
- *Association of South Central Oklahoma Governments - ASCOG*
  - Serves Caddo, Comanche, Cotton, Tillman, Stephens, Jefferson, and parts of Grady counties.
- *Central Oklahoma Economic Development District - COEDD*
  - Serves Pawnee, Payne, Lincoln, Pottawatomie, Seminole, Okfuskee, and Hughes counties.
- *Eastern Oklahoma Development District - EODD*
  - Serves Okmulgee, Muskogee, McIntosh, Sequoyah, Cherokee, Adair, and parts of Wagoner counties.
- *Grand Gateway Economic Development Association - GGEDA*
  - Serves Washington, Nowata, Craig, Ottawa, Delaware, Mayes, and parts of Rogers counties.
- *Indian Nations Council of Governments - INCOG*
  - Serves Osage, Tulsa, Creek, and parts of Wagoner counties.
- *Kiamichi Economic Development District of Oklahoma - KEDDO*
  - Serves Pittsburg, Haskell, Le Flore, Latimer, Pushmataha, McCurtain, and Choctaw counties.
- *Northern Oklahoma Development Authority - NODA*
  - Serves Alfalfa, Grant, Kay, Major, Garfield, Noble, Blaine, and Kingfisher counties.
- *Oklahoma Economic Development Authority - OEDA*
  - Serves Cimarron, Texas, Beaver, Harper, Woods, Woodward, Ellis, and Dewey counties.
- *Southern Oklahoma Development Association - SODA*

[8] https://www.ok.gov/odot/About_ODOT/Central_Office_Divisions/Metropolitan_Planning.html
[9] https://www.ok.gov/odot/About_ODOT/Central_Office_Divisions/Metropolitan_Planning.html

    - Serves Garvin, Pontotoc, Coal, Atoka, Murray, Johnston, Carter, Love, Marshall, and Bryan counties.
- *South Western Oklahoma Development Authority - SWODA*
    - Serves Roger Mills, Custer, Beckham, Washita, Harmon, Greer, Kiowa, and Jackson counties.

Local Economic Development Agencies

Oklahoma has a number of local public and private economic development agencies which recruit industries and businesses on the basis of their location, available labor force, room for growth, and access to rail and other transportation assets.

The *Oklahoma Directory of Economic Development Organizations* lists 23 entities around the state, including economic development agencies and authorities, chambers of commerce, alliances, development councils, corporations, associations, and marketing coalitions at the regional, county or local level of government.[10] Many of these agencies offer incentives such as tax exemptions and credits and other means of assistance to attract business interests. Under 68 O.S. 1370.7, local governments may form a transportation authority to provide transportation to facilitate the movement of commerce.

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.

These agencies include:

- Oklahoma Department of Commerce
- The State Chamber
- Edmond Economic Development Authority
- Norman Economic Development Coalition
- Greater Oklahoma City Chamber of Commerce
- South Oklahoma City Chamber of Commerce
- Midwest City Chamber of Commerce
- Eastern Oklahoma County – MRO and Aerospace Partnership
- Lawton/Fort Sill Chamber of Commerce and Economic Development Team
- Garfield County Industrial Authority Enid
- Bartlesville Chamber of Commerce and Development Corporation
- Stillwater Chamber of Commerce
- Oklahoma Department of Career and Technology Education, Tulsa
- Port of Catoosa
- Claremore Area Chamber of Commerce
- Claremore Industrial and Economic Development Authority
- Tulsa Area Partnership
- Ada Jobs Foundation
- Vinita Area Chamber of Commerce
- Miami Area Economic Development Service
- City of Miami Oklahoma Community and Economic Development Department
- MidAmerica Industrial Park
- Ponca City Development Authority

[10] http://www.okladot.state.ok.us/maps/basic/index.htm

1.5 Oklahoma's Authority to Conduct Rail Planning and Investment

1.5.1 State Authority for Rail Planning

The Oklahoma Statutes, Title 66 (Railroads) pertains to the establishment of railroad companies in the state of Oklahoma. Oklahoma DOT's rail-related responsibilities per the Oklahoma Statutes are also detailed in Title 66. These include the following:

- Initiation of railroad safety program. Requires ODOT to coordinate construction and maintenance of safety devices at highway-rail crossings (OS-66-125a,).
- Empowerments and provisions for the "Railroad Revitalization Act." Authorizes ODOT to acquire, operate, and maintain railroad right of way (OS-66-304,).

1.5.2 State Authority for Grants and Other Rail Financing

Oklahoma has utilized both federal and state transportation funding programs when rail infrastructure improvements were eligible and appropriate. State-sponsored rail investment in Oklahoma has been provided through ODOT and other state economic development agencies.

- Establishes Railroad Maintenance Revolving Fund (RMRF) (OS-66-309).

- Amendment of General Revenue Fund (GRF) to include appropriations for the purchase of railroad right of way. The initial funds went toward the purchase of the Chicago, Rock Island & Pacific Railroad right-of-way. Amendment of GRF appropriations to include "new" designated appropriations for rail passenger service. Currently appropriates $2 million per year for Oklahoma's portion of Heartland Flyer operating costs (OS-68-2352, OS 1521.

- Established the Oklahoma Tourism and Passenger Rail Revolving Fund (OTPRR) for the purpose of funding passenger rail service. OS 68-500.6 provides an additional $850,000 for this fund annually.(OS-66-325,OS 68-500.6).

- Provisions and terms for Railroad Rehabilitation Act railroad rehabilitation loan program (RMRF) (OS-66-309.3).

Other state-sponsored rail investment programs include:

- Highway-Railroad Grade Crossing Safety Program: This federally funded program provides financial assistance to states for improvements at highway-railroad crossings.
- Grade Crossing Safety Program: This state-funded program assists railroads with funding to defray a portion of the signal maintenance costs at signals installed under the Highway-Railroad Grade Crossing Safety Program since 1973.
- Highway-Railroad Grade Crossing Surface Repair Program: This state-funded program is designed to assist city and county highway authorities and railroads with surface improvements at highway-railroad crossings.

- Primary Road Highway-Railroad Grade Crossing Repair Program: This state-funded program is designed to assist with surface improvements at highway-railroad crossings on the Primary Road System.

Additional details on these rail and rail safety related funding programs appear in Chapter 2 of the State Rail Plan.

1.5.3 State Funding for Rail Projects in the Last Five Years

Recent year funding totals under the aforementioned state rail improvement programs are as follows:

- In 2014 ODOT announced a Rail Crossings Safety Initiative and expected to spend $100 million over three years to improve signage and active warning systems such as flashing lights, gates, and audible alert devices.

1.6 Summary of Freight and Passenger Rail Services in Oklahoma

1.6.1 Existing Rail System

The rail system in Oklahoma is comprised of approximately 3,244 route miles owned by freight railroads and non-operating railroad owners. There are 19 freight railroads in the state. Three of these railroads – BNSF Railway (BNSF), Kansas City Southern Railway (KCS), and Union Pacific Railroad (UP) – are categorized as Class I or major railroads. These carriers own a total of approximately 2,010 route miles, or about 62 percent of the total rail mileage in the state. Sixteen of these railroads are categorized as a Class III railroad (known also as a short line railroad). Short line railroads own a total of 1,041 route miles, or about 32 percent of the total rail mileage in the state. The State of Oklahoma currently owns 153 route miles, or about 5 percent of the total rail mileage in the state. In 2014, the state's freight railroads carried 320.9 million tons of freight, or 6.9 million rail carloads of various commodities, to, from, within and through Oklahoma[11]. The state's freight railroads and non-operating railroad owners and their respective networks in Oklahoma will be identified and described in detail in Chapter 2 of the Oklahoma State Rail Plan.

One Amtrak intercity passenger rail route operates within the state. Amtrak's Heartland Flyer routes' southern terminus is Fort Worth, Texas, and its northern terminus is in Oklahoma City. This service operates over BNSF in Oklahoma. During Amtrak's 2016 Fiscal Year, a total of 69,531 passengers boarded or alighted at the five Amtrak stations in Oklahoma. Boardings and alightings at individual stations ranged from 1,693 to 44,551 in the year, and the busiest station was Oklahoma City[12].

Oklahoma's rail network, as well as its contributions and impacts on the state, are described in greater detail in Chapter 2 of the State Rail Plan.

1.6.2 Rail Initiatives and Plans

Freight Rail Initiatives

There are various freight rail initiatives ODOT has considered. ODOT has studied the potential for optimizing the state's freight rail network and to identify investments in the state's rail infrastructure

[11] Based on 2014 Surface Transportation Board (STB) Confidential Waybill Samples for the U.S. and Oklahoma
[12] Amtrak Fact Sheet, Fiscal Year 2016, State of Oklahoma

that improve the capacity, efficiency, and safety of the state's rail network, promote railroad access and economic development, and bolster connectivity with other transportation modes. Some of these initiatives include:

- Enhancing coordination between Oklahoma DOT and the state's freight railroads
- Increasing maximum allowable gross weights to 286,000 lbs. per car
- Advancing at-grade highway/rail crossing surface and signal improvements
- Expanding rail access and development of industrial spur tracks
- Promoting rail safety
- Leading freight rail studies

These and other freight rail initiatives are discussed in greater detail in Chapter 4 of the State Rail Plan.

Passenger Rail Initiatives

There are various passenger rail initiatives under consideration by ODOT. These include:

- Increase the efficiency of the Heartland Flyer route from Oklahoma City to Fort Worth
- Extend Heartland Flyer to Newton, Kansas
- Implement a new daytime intercity service between Kansas City – Oklahoma City – Fort Worth
- Implement intercity passenger rail service between Tulsa and Oklahoma City
- Implement intercity passenger rail service from South Texas to Oklahoma
- Implement high-speed passenger rail service between Oklahoma City and Fort Worth

These and other intercity and commuter rail service concepts are discussed in greater detail in Chapter 3 of the State Rail Plan.

Chapter 2: Existing Oklahoma Rail System

2.1 Existing Oklahoma Rail System: Description and Inventory

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

2.1.1 Oklahoma's Existing Rail Network

The Development of Oklahoma's Rail Network

Until the period following the Civil War, railroads were not allowed to cross Indian Territory[1]. While the first construction was the Missouri-Kansas-Texas (MKT) line passing through the eastern part of the Territory in the early 1870s, the first railroad allowed through the Unassigned Lands of Central Oklahoma was the Atchison, Topeka and Santa Fe Railway (AT&SF). The AT&SF was chartered in Kansas in 1859, but construction did not actually begin until 1868. Oklahoma construction started in 1885 and was completed to Purcell in 1887, passing through the future site of Oklahoma City. That line was initially part of the Southern Kansas Railroad, wholly owned by the AT&SF. The Southern Kansas also built the rail line from Kiowa, Kansas, through Woodward, Oklahoma to Amarillo, Texas, in 1887 (now part of the BNSF Transcon route between Chicago, Illinois, and Los Angeles, California, via Oklahoma).

The MKT laid its first rails in Oklahoma in 1870, reaching Vinita in 1872. In the early 1900s, the MKT connected Shreveport, Louisiana; San Antonio, Texas; and Tulsa, Oklahoma, and Oklahoma City. Through aggressive expansion, the MKT developed a 3,865-mile system extending from St. Louis and Kansas City, Missouri to Galveston and San Antonio, Texas on its north-south axis and east-west from Shreveport, Louisiana to the Oklahoma panhandle. The MKT main line passed through Vinita, Muskogee, and McAlester, Oklahoma en route from Kansas City and St. Louis, Missouri to Dallas and Fort Worth, Texas.

At the time of the Land Run of 1889, the new Choctaw Line was approaching Oklahoma City from the east. Originating in Memphis, Tennessee and passing through Little Rock, Arkansas, this would later become part of the Chicago, Rock Island, and Pacific Railroad (CRI&P). Since Oklahoma City was also located on the north-south AT&SF line, it became the trade center for nearby towns to its east and west. Around the same time, the Chicago, Kansas and Nebraska Railroad line (owned by CRI&P after 1891) was being constructed between Kansas and Texas, reaching El Reno, Oklahoma in 1890. The Choctaw Coal and Railway Company (also later acquired by CRI&P) completed a line from El Reno to Oklahoma City in 1892. This was followed by various company expansions and acquisitions, and El Reno became the crossroads of the main north-south and east-west lines of the CRI&P system, including a line west to Amarillo, Texas that eventually connected with the Southern Pacific Railroad (SP) at Santa Rosa, New Mexico. Another key CRI&P line between Chicago and Kansas City and the SP at Santa Rosa passed through the Oklahoma panhandle at Guymon.

[1] Before achieving statehood in 1907, Oklahoma was designated as Indian Territory and Oklahoma Territory.

The Atlantic & Pacific Railroad, which subsequently became part of the St. Louis-San Francisco Railway (SLSF), reached Vinita, Oklahoma, in 1871. It was extended to Tulsa, Oklahoma, in 1881–1882 and reached Sapulpa, Oklahoma, in 1886. It was not until the St. Louis & Oklahoma City Railroad Company built from Sapulpa to Oklahoma City in 1898 that the Atlantic & Pacific enjoyed adequate revenue.

During the same period, the St. Louis-San Francisco Railway (SLSF) was building a line from Joplin, Missouri, to Tulsa, Oklahoma. Local Oklahoma City developers formed the St. Louis and Oklahoma City Railroad to extend a line to Sapulpa, Oklahoma, and connect with the SLSF, bringing a third line to Oklahoma City in 1898. At that time, Oklahoma City became the only community in the state with three railroad lines, making it the state's principal distribution center. Two more rail lines were to follow—the MKT in 1902 and the Oklahoma City and Western in 1903.

AT&SF's north-south main line entered the state just south of Arkansas City, Kansas, and passed through Ponca City, Perry, and Guthrie, Oklahoma into Oklahoma City, then south to Fort Worth, Texas. This line is still in use today as a main line of BNSF, successor to the AT&SF, and is the route of the Amtrak Heartland Flyer intercity passenger train between Oklahoma City and Fort Worth, Texas. An alternative main line was constructed between 1900 and 1904 from Newkirk, Oklahoma, located on the original main line, through Cushing and Shawnee to Pauls Valley, Oklahoma, where it rejoined the original main line. The alternative line through Cushing, Oklahoma is no longer in operation except for 8 miles between Shawnee and Aydelotte, Oklahoma.

The Kansas City, Mexico and Orient, with its line from Waldron, Kansas, through Fairview, Clinton, and Altus, Oklahoma into Texas became part of the AT&SF in 1928. It was later spun off and is presently operated by Farmrail Corporation.

Eventually, an extensive network of AT&SF main lines and branch lines covered Oklahoma. Altogether, some 1,500 miles connected most of the oil fields with markets throughout the country and provided transportation for agriculture and industry. Most of the AT&SF main lines are still in use today with only the old Eastern Oklahoma line, Newkirk–Shawnee–Pauls Valley, Oklahoma, and the Oklahoma Central lines having been abandoned, along with some other branches. In 1996, the AT&SF merged with the Burlington Northern Railroad to form the Burlington Northern Santa Fe Railway (now BNSF), which includes the former St. Louis-San Francisco Railway (SLSF) that was merged into BN in 1980.

The SLSF also contributed to Oklahoma's development. It operated an extensive network that was permitted throughout the entire state and built when Oklahoma was still Indian Territory. Oil was discovered adjacent to the SLSF in 1907 and its network reached many important oil fields. Another independent rail line was constructed from Sapulpa, Oklahoma to Denison, Texas in the late 1890s. This line was almost 200 miles long, with a little more than 190 miles located in Oklahoma. The line, equipment, and other property became part of the SLSF in 1901.

The Kansas City, Pittsburg and Gulf, predecessor to today's Kansas City Southern Railway (KCS), constructed a line through the eastern part of the Indian Territory along the Missouri and Arkansas borders in 1895.

Oklahoma's operating freight railroads are divided into two categories, including Class I railroads which are large, primarily long-haul national rail systems and Class III railroads which are commonly referred to as short line railroads, which operate at the local and regional level. Oklahoma also has non-operating railroad owners, which own segments of the Oklahoma rail network and have agreements with Class III railroads to provide rail service.

The passenger rail system is comprised of Amtrak intercity services and privately owned tourist railroads.

Rail lines which have been abandoned or rail banked since 2004 are discussed later in this chapter.

Oklahoma's rail system consists of 3,244 railroad route miles owned by 19 railroads and one non-operating railroad owner.

Table 2-1 below identifies by railroad entity – railroad class (if applicable), standard alpha carrier code (an industry standard two- to four-letter abbreviation), total miles of railroad owned and operated in Oklahoma (including lines leased, operated under contract, trackage rights, and haulage rights, as applicable), and the percentage of the total Oklahoma rail network that each railroad ownership represents. Note that miles leased and/or operated under contract, miles operated under trackage rights, and miles operated under haulage rights are included in the total miles operated figures, allowing total miles operated to exceed total miles owned.

Industrial railroads and private track ownership provide transportation service at industrial installations in Oklahoma, but, due to their classification, the mileage of privately owned industrial track is not included in calculations of the state's rail network. Similarly, the industrial track (including designated industrial leads and spurs) of Class I and III rail carriers is also not included in the route-mile calculations.

Table 2-1: Oklahoma Route Mileage by Railroad and Non-Operating Railroad Owner

Railroad	Standard Carrier Alpha Code	Railroad Class	Total Miles Owned	Total Miles Operated[a]
BNSF Railway	BNSF	Class I	966	966
Kansas City Southern Railway	KCS	Class I	150	145
Union Pacific Railroad	UP	Class I	894	821
Subtotal (Class I)			*2010*	*1931*
Arkansas-Oklahoma Railroad	AOK	Class III	70	118
Arkansas Southern Railroad	ARS	Class III	0	6
Austin, Todd & Ladd Railroad	ATL	Class III	39	43
Blackwell Northern Gateway Railroad	BNGR	Class III	0	17
Cimarron Valley Railroad	CVRR	Class III	35	35
Farmrail Corporation	FMRC	Class III	97	187
Grainbelt Corporation	GNBC	Class III	180	179
Kiamichi Railroad	KRR	Class III	156	156
Northwestern Oklahoma Railroad	NOKL	Class III	5	5
Sand Springs Railway	SS	Class III	8	8
South Kansas & Oklahoma Railroad	SKOL	Class III	68	73
Stillwater Central Railroad	SLWC	Class III	257	295
Texas, Oklahoma & Eastern Railroad	TOE	Class III	40	40
Tulsa Sapulpa Union Railway	TSU	Class III	10	23
Western Farmers Electric Corp.	WFEC	Class III	14	14

Wichita, Tillman & Jackson Railway	WTJR	Class III	61	61
Subtotal (Class III)			*1041*	*1260*
State of Oklahoma	N/A	N/A	153	0
Port of Catoosa	N/A	N/A	20	20
Port of Muskogee	N/A	N/A	9	9
Public Service of Oklahoma	N/A	N/A	11	11
Subtotal (Other Railroads)			193	40
Oklahoma Rail Network Total[b]			*3244*	*3231*[c]

Source: Oklahoma DOT; Class I Railroad Annual Reports R-1 (2015); Oklahoma Class I, and III railroads

Notes:

(a) Miles operated does not include trackage and haulage rights.
(b) Additional details about Oklahoma's rail network are located in Appendix A of the Oklahoma State Rail Plan.
(c) 17 miles owned by the State and other railroads are presently not operated.

2.1.1.1 Freight Rail Network

Class I Railroads

Class I railroads are defined as those national railroads that typically operate over thousands of route miles, employ thousands of people, and have revenues and capital budgets in the billions of dollars collectively[2]. There are seven Class I railroads in the United States and Canada; some have transportation linkages to Mexico. Oklahoma is served directly by three Class I railroads: BNSF Railway (BNSF), Kansas City Southern (KCS), and Union Pacific Railroad (UP).

BNSF Railway (BNSF)

BNSF Railway (BNSF), a wholly owned subsidiary of Berkshire Hathaway, is a Fort Worth, Texas-based Class I railroad with a network of approximately 32,500 miles in the U.S. and Canada. BNSF owns approximately 966[3] miles in Oklahoma and is the largest single ownership of rail lines in the state. BNSF serves the U.S. Midwest, West, and South; Gulf Coast and West Coast ports; and Canada. Complete details of BNSF's rail lines within Oklahoma, physical characteristics of each operating division and subdivision, trackage rights, interchanges with other railroads, major rail yards and other facilities, and a detailed map of its network and operating subdivisions within Oklahoma are provided in Appendix A.

Kansas City Southern Railway (KCS)

Kansas City Southern Railway (KCS), a wholly owned subsidiary of Kansas City Southern Industries, is a Kansas City, Missouri-based Class I railroad with a network of approximately 3,500 miles in 10 U.S. states. KCS has approximately 142[4] miles in Oklahoma. KCS serves the U.S. Midwest and South; Gulf Coast ports; and connections to Mexico. Complete details of KCS's haulage rights within Oklahoma, interchanges with other railroads, major rail yards and other facilities, and a detailed map of the lines over which KCS has haulage rights in Oklahoma are provided in Appendix A.

[2] In the United States, the Surface Transportation Board defines a Class I railroad as "having annual carrier operating revenues of $250 million or more" after adjusting for inflation using the Railroad Freight Price Index developed by the Bureau of Labor Statistics.
[3] BNSF 2015 R-1 Report
[4] KCS

Union Pacific Railroad (UP)

Union Pacific Railroad (UP), a wholly owned subsidiary of the Union Pacific Corporation, is a publicly traded Omaha, Nebraska-based Class I railroad with a network of approximately 32,100 miles in 23 U.S. states. UP owns approximately 894[5] miles in Oklahoma. UP serves the U.S. Midwest, West, and South; Gulf and West Coast ports; and maintains direct connections within the rail network of Mexico. Complete details of UP's rail lines within Oklahoma, physical characteristics of each operating division and subdivision, trackage and haulage rights, interchanges with other railroads, major rail yards and other facilities, and a detailed map of its network and operating subdivisions within Oklahoma are provided in Appendix A.

Class II and Class III Railroads

Freight railroads are generally divided into three categories. In addition to the Class I railroads discussed above, smaller railroads include Class II or regional railroads, and Class III or short line railroads.[6]

Oklahoma does not currently have any operating Class II railroads.

There are 16 Class III or short line railroads in Oklahoma. Regional and short line railroads are local railroads that primarily engage in freight haulage or line haul services.

In recent years there has been a trend toward consolidation of railroads within the short line and regional railroad industry with many lines coming under the control of railroad holding companies. In Oklahoma, the state's 15 short line railroads are operated by railroad holding companies, including Watco, Farmrail, Genesee & Wyoming, OmniTRAX, Patriot Rail, and Rio Grande Pacific Corp. Oklahoma's other Class III railroads are generally independently owned. The state of Oklahoma owns 153 miles of trackage, of which all but 8.2 miles are operated by Class III railroads under contract.

Each Class III railroad in Oklahoma is listed in **Table 2-2** below.

Table 2-2: Class III Railroads in Oklahoma

Railroad	Standard Carrier Alpha Code	Railroad Type
Arkansas-Oklahoma Railroad	AOK	Class III
Arkansas Southern Railroad	ARS	Class III
Austin, Todd & Ladd Railroad	ATL	Class III
Blackwell Northern Gateway Railroad	BNGR	Class III
Cimarron Valley Railroad	CVRR	Class III
Farmrail Corporation	FMRC	Class III
Grainbelt Corporation	GNBC	Class III
Kiamichi Railroad	KRR	Class III
Northwestern Oklahoma Railroad	NOKL	Class III
Sand Springs Railway	SS	Class III

[5] UPRR 2016 R-1 Report

[6] See Federal Register, Volume 79, No. 111, June 10, 2014, p. 33257. The STB defines class of railroad based on revenue thresholds adjusted for inflation. For 2013, the most recent available, Class I carriers had revenues of $467.0 million or more. Class II carriers have revenues ranging from $37.4 million to under $467.0 million. Class III carriers have revenues under $37.4 million. All switching and terminal carriers regardless of revenues are Class III carriers. (See 49 CFR 1201.1-1)

South Kansas & Oklahoma Railroad	SKOL	Class III
Stillwater Central Railroad	SLWC	Class III
Texas, Oklahoma & Eastern Railroad	TOE	Class III
Tulsa Sapulpa Union Railway	TSU	Class III
Western Farmers Electric Cooperative	WFEC	Class III
Wichita, Tillman & Jackson Railway	WTJR	Class III

Source: ODOT

A brief description of each operating Class III operating railroad in Oklahoma is included in Appendix A of the Oklahoma State Rail Plan. The descriptions include such details as ownership, miles owned and operated, physical characteristics of rail lines, commodities handled, improvement needs identified by each railroad, and more.

Non-Operating Railroad Owners

A non-operating railroad owner is typically an entity that owns a railroad, but has an agreement with an operating railroad to provide service. There is one non-operating railroad owner in Oklahoma – the state itself, which presently owns several rail lines. A brief description of these rail line segments in the Oklahoma rail network is included in Appendix A of the Oklahoma State Rail Plan. The descriptions include such details as ownership; miles owned; designated operator; physical characteristics of rail lines; improvement needs identified by each entity, if known; and more.

Oklahoma is also home to two port terminal railroads at Tulsa's Port of Catoosa and the Port of Muskogee. Public Service of Oklahoma owns 11 miles of private trackage used to serve a plant in the southeast corner of the state.

2.1.1.2 Passenger Rail Network

This section summarizes the history of passenger rail service in Oklahoma and also provides an overview of the current passenger rail service in Oklahoma provided by Amtrak, whose official name is the National Railroad Passenger Corporation.

2.1.1.2.1 Historical Rail Intercity Passenger Perspective

Historically, railroads were late to develop in Oklahoma. Once built, however, Oklahoma's railroads had an extensive passenger service. By the end of the 19th century, railroads had established themselves as the predominant mode for efficiently moving people and freight. The railroad network in Oklahoma, and with the rest of America, was owned and operated by for-profit private corporations. Passenger rail service in the state began to decline with the improvement of roadways and the affordability of automobiles, starting in the 1920s. Following the World War II, national transportation policy emphasized the development of government-funded air and highway systems that provided public access to transportation infrastructure, which could be used by individuals or private transportation providers. With an even broader range of transportation options available, ridership on passenger trains declined even further.

This shift in U.S. policy toward a system of publicly owned transportation infrastructure represented a different approach than had been taken in in 19th century with private railroads. The roots of this shift could be traced to the lingering effects of the railroad industry's exploitive market behavior toward

farmers in the late 1800s. Several western states, known as the "Granger[7]" states, enacted laws regulating the business practices of the railroads. These state laws were overturned by the U.S. Supreme Court, which upheld the commerce clause of the United States Constitution, but they were replaced with a national policy of railroad regulation that was established with the passage of the Interstate Commerce Act in 1887. Regulation sought to maintain or broaden the public's access to, and benefits from, rail transportation by determining transportation rates and curbing the actions of railroad companies that were based on market forces or predatory behaviors. Regulation of the railroads by the Interstate Commerce Commission (ICC) lasted until 1980 when the Staggers Act deregulated the railroad industry.

Possibly of greater consequence were the improvements to the highway system. Based on observations of Germany's Autobahns by General Dwight Eisenhower, the U.S. interstate highway system was established to provide fast, nonstop roadway travel on a national scale. The interstate highways also aided the shift of freight from railroads to trucks, further eroding the railroad industry's revenues.

In spite of the new competition facing the passenger train, railroad companies often were required to maintain passenger rail services and routes, regardless of their unprofitability. Under ICC regulation, railroads that wanted to terminate a passenger service had to go through an onerous and costly petition process, with no guarantee of success. Faced with potential financial disaster in the railroad industry, caused in part by losses in passenger service, Congress acted and formed the National Railroad Passenger Corporation under the Rail Passenger Service Act of 1970. The act was signed into law by President Richard Nixon, and Amtrak came into existence on May 1, 1971. Railroad participation in Amtrak was voluntary, but offered a relief to railroad companies of the obligation to provide intercity passenger rail service.

The Amtrak business arrangement with volunteering railroads was based upon the following principles:

- In exchange for capital stock in Amtrak, a railroad transferred title to its passenger train equipment to Amtrak.
- The railroad granted to Amtrak the right to operate passenger trains on any tracks in its system.
- The railroad was granted relief from its passenger service obligation.
- Amtrak paid the railroad the incremental cost of maintaining its lines over which Amtrak operated. The costs covered were those required to maintain the freight tracks up to passenger track standards.
- The railroad was indemnified for most liability arising out of passenger operations.

2.1.1.2.2 Current Amtrak Routes

Operations

Oklahoma is directly served by one daily round-trip intercity passenger train, Amtrak's *Heartland Flyer*, operating between the AT&SF Depot in Oklahoma City and the Fort Worth Intermodal Transit Center in Fort Worth, Texas, on the tracks of the BNSF Railway. The *Heartland Flyer* makes intermediate station stops at Norman, Purcell, Pauls Valley, and Ardmore, Oklahoma, as well as Gainesville, Texas.

[7] The National Grange of the Order of Patrons of Husbandry, or simply, 'The Grange,' was formed in 1867. The Grange advocated for rural agricultural interests and was instrumental in the regulation of the railroads.

Oklahoma is also served by Amtrak Thruway Bus Service that provides a connecting transportation link between the *Heartland Flyer* at Oklahoma City and Newton, Kansas, which is a station stop on Amtrak's daily *Southwest Chief* operating between Chicago and Los Angeles. Amtrak inaugurated the connecting bus on April 18, 2016, and provides the service in partnership with Village Tours, LLC of Wichita, Kansas. (Wichita, the largest city in Kansas, is the only intermediate stop on the bus route between Oklahoma City and Newton.)

At Fort Worth, travelers can connect to Amtrak's long-distance *Texas Eagle*, which operates daily between Chicago, St. Louis, Dallas, and San Antonio, Texas. Three days per week the *Texas Eagle* includes coach and sleeping cars headed to and from Los Angeles that are added or subtracted from the New Orleans-Los Angeles *Sunset Limited* at San Antonio. Connections at Fort Worth can also be made to Trinity Railway Express commuter trains operating between Fort Worth and Dallas. Figure **2-1 shows** the current map of Amtrak routes serving the western United States, including the *Heartland Flyer*, *Southwest Chief*, and *Texas Eagle*.

Figure 2-1: Amtrak Western Routes

Source: Amtrak

The southbound *Heartland Flyer* departs Oklahoma City in the morning, arriving at Fort Worth in midday. The northbound train departs Fort Worth in the dinner hour, arriving at Oklahoma City in the evening. This pattern of service has existed since the train's inception, with only minor alterations in the schedule. The 206-mile trip each way currently takes 4 hours, 2 minutes. The southbound *Heartland Flyer* is designated as Amtrak train No. 821 with the northbound being No. 822. **Table 2-3** presents the current *Heartland Flyer* schedule, as presented in the February 2017 Amtrak System Timetable. **Table 2-**

4 presents the Amtrak Thruway bus connection between Oklahoma City and Newton, as presented in the February 2017 Amtrak System Timetable.

Table 2-3: Amtrak's Heartland Flyer Train Schedule

Train No. 821 (runs daily)					Train No. 822 (runs daily)
Read Down	Mile		Station		Read Up
8:25 a.m.	0	Depart	Oklahoma City, OK	Arrive	9:27 p.m.
8:51 a.m.	20	Depart	Norman, OK	Depart	8:47 p.m.
9:08 a.m.	35	Depart	Purcell, OK	Depart	8:26 p.m.
9:32 a.m.	57	Depart	Pauls Valley, OK	Depart	8:01 p.m.
10:24 a.m.	102	Depart	Ardmore, OK	Depart	7:11 p.m.
11:10 am.	141	Depart	Gainesville, TX	Depart	6:30 p.m.
12:27 p.m.	206	Arrive	Fort Worth, TX	Depart	5:25 p.m.

Source: Amtrak

Table 2-4: Thruway Bus Connection with Heartland Flyer (Village Tours)

Bus No. 8903 (runs daily)					Bus No. 8904 (runs daily)
Read Down	Mile		Station		Read Up
4:00 a.m.	0	Depart	Newton, KS – Amtrak Station	Arrive	2:15 a.m.
5:00 a.m.	28	Depart	Wichita, KS – Transit Center	Depart	1:35 a.m.
7:35 a.m.	189	Arrive	Oklahoma City, OK – Amtrak Station	Depart	10:40 p.m.

Source: Amtrak

Amtrak schedules are usually developed by combining the train's actual running time between stations, the allotted time that the train will stop at each station stop for loading and unloading passengers (dwell time), and recovery time, which is added to the schedule as a contingency for unexpected delays that may occur en route. Normal Amtrak timetable practice is to add recovery time before the arrival at the last station or at the ends of discrete segments of a route where a crew change or extended station dwell may occur. However, the *Heartland Flyer* schedule distributes its recovery time between each station pair. When running on-time, the *Heartland Flyer* will tend to arrive at each station a little early but will adhere to the published departure time.

The *Heartland Flyer*'s schedule favors day trips for Oklahomans traveling to Texas. However, except for a day short trip confined to a few hours in Fort Worth, a trip by train to Texas that would allow for a full day of business or recreation in the Dallas-Fort Worth area will require a one-night stay. A trip from Texas to Oklahoma on the train would likely require a two-night stay to allow for at least one full day in Oklahoma for daytime business or personal activities.

Because of the configuration of rail lines capable of hosting passenger trains between Oklahoma and Texas, the *Heartland Flyer* serves Fort Worth instead of Dallas, although Dallas is much larger than Fort Worth. The Fort Worth-Arlington metro area had a 2015 population of 2.4 million, according to the Texas Department of Health and Human Services, which is just one-third of the total Dallas-Fort Worth-Arlington metro area population of 7.1 million.[8] Although historically the AT&SF main line from Oklahoma City always passed through Fort Worth, between 1955 and 1968 the AT&SF split the *Texas Chief* at Gainesville, Texas, and ran some passenger cars directly to and from Dallas on a newly built branch line. However, the AT&SF later divided its branch line to Dallas and sold the segments to Kansas City Southern Railway and Dallas Area Rapid Transit in the early 1990s, precluding its use for passenger service in the future.

Amtrak Operating Agreement

The *Heartland Flyer* service provided by Amtrak is authorized under an operating agreement between Amtrak and the states of Oklahoma and Texas. The agreement outlines that for each federal fiscal year in which service is provided, the responsibilities for the provision of passenger rail service, facilities, and equipment, and the payments to be made by the parties. The operating agreement specifies the frequency of service to be provided, the station stops to be made, the schedule of trips, and the type of equipment to be provided. Amtrak is not required to provide additional frequencies or service on other routes; however, nothing in the agreement restricts Amtrak from providing additional frequencies or service on additional routes at its own discretion and expense.

Amtrak is required to make its best effort to provide a service of high quality. The states and Amtrak are obligated to cooperate in efforts to improve the service. Decisions regarding the on-board menu and pricing, on-board amenities, fares, on-board operating policies, and reservation requirements must be made jointly by the parties. General tariff provisions of Amtrak apply to the *Heartland Flyer*.

Oklahoma and Texas are obligated to provide station facilities, all of which must be compliant with the Americans with Disabilities Act (ADA). All costs for station acquisition and upkeep are the responsibility of the states. If a station is unavailable, the respective state is liable to Amtrak for any losses incurred due to the unavailability, including the provision of alternative transportation.

The States of Oklahoma and Texas pay Amtrak a fixed amount for the service plus 50 percent of the fuel used and BNSF track usage fees. The fuel charges are calculated based upon parameters agreed to by the parties and are a best effort to simulate the actual fuel usage and costs. The flow of funds is analyzed after two-thirds of the contract period has passed and, if the cap is projected to be inadequate, the State agrees to provide additional funding or cooperate with Amtrak in finding cost reductions. The State of Texas has a similar reimbursement agreement accounting for 50 percent of the fuel and BNSF charges but with a different fixed amount.

The operating agreement has provisions for the states to provide their own passenger equipment (except locomotives) in place of Amtrak's, and provides for the approval and acceptance of the equipment and adjustments in the financial obligations. Amtrak has full responsibility for its equipment and employees and incidents resulting from the operation of the service, except when employees or contractors of a state are involved.

[8] https://www.dshs.texas.gov/chs/popdat/ST2015.shtm

Funding for Heartland Flyer Service

The operation of the *Heartland Flyer* is financed primarily through funds provided by the states of Oklahoma and Texas. The *Heartland Flyer* service began on June 14, 1999, under a state-funding partnership between Amtrak and the Oklahoma Department of Transportation that provides a mechanism for a state, regional, or local entity to establish a passenger rail service using local funds but benefiting from the operating authorities granted to Amtrak under the law. Revenue *Heartland Flyer* operation for the public began on June 15, 1999, one day after the run of an inaugural celebration trip to mark the return of passenger service to Oklahoma.

Amtrak's original 1971 routes were determined by the U.S. Department of Transportation. However, Amtrak's enabling legislation included a provision, Section 403(b) of the Rail Passenger Service Act of 1970 (RPSA), which permitted states and other governmental agencies to partner with Amtrak to operate passenger trains of local interest. Under that provision, Amtrak added several short-distance train services that were reimbursed for a "reasonable share" of the service's loss by the state sponsor. "Reasonable share" was defined as two-thirds of the operating deficit in the original act.[9] In Amtrak reform legislation passed in 1997, the two-thirds provision was revised to a negotiated amount. Amtrak subsequently revised that policy to charge 100 percent of deficits to the sponsor.

The catalyst for today's state-supported *Heartland Flyer* service in Oklahoma was the Taxpayer Relief Act of 1997, which authorized payments by Amtrak to states that did not have passenger rail service. The payment of $23 million to Oklahoma provided the basis to establish the *Heartland Flyer* between Oklahoma City and Fort Worth in 1999, returning passenger rail service to Oklahoma after a 20-year absence. Through 2006, Oklahoma was the sole sponsor of the *Heartland Flyer*, even though the train served both Gainesville and Fort Worth, Texas. Starting in 2007, the State of Texas, through action of the Texas Transportation Commission, allocated $1.8 million to support the service. Since then, Texas has increased its share of sponsorship in the service to a 50 percent stake.

The Passenger Rail Improvement and Innovation Act of 2008 (PRIIA) further refined the local sponsorship provisions by requiring Amtrak to establish a "standardized methodology for establishing and allocating the operating and capital costs" for the locally sponsored services. The law also required all states to financially support any intercity passenger trains operating in their jurisdictions with routes of less than 750 miles under the revised cost-allocation formula. In 2010, the State of Oklahoma provided $1,950,000 for the operation.

Since the *Heartland Flyer*'s inauguration, Oklahoma has also made capital investments to BNSF Railway's tracks in Oklahoma that allowed for an increase in speed to 79 mph over certain segments of the route, thus reducing the travel time between Oklahoma City and Fort Worth. The state's stewardship resulted in the receipt of the Amtrak President's Service and Safety Award for outstanding service in 2010, and has also generated a growing ridership base over the past decade.

Train Equipment

[9] Section 403(b) stated: "Any State, regional or local agency may request of the Corporation (i.e. Amtrak) rail passenger service beyond that included in the basic system. The Corporation shall institute such service if the State, regional or local agency agrees to reimburse the Corporation for a reasonable portion of any losses associated with such services."

Amtrak, under its Operating Agreement with the State of Oklahoma, provides and maintains the rolling stock used by the *Heartland Flyer*. The train consist typically includes one General Electric model P42 "Genesis" locomotive, two double-deck, 74-seat "Superliner" coach cars, and one double-deck, 62-seat "Superliner" snack coach car. This configuration has a total seating capacity of 210. The opposite end of the train from the locomotive will have either a second P42 diesel locomotive or a Non-Powered Control Unit (NPCU), which is a former locomotive that has had its propulsion equipment removed but has retained its train control equipment and train crew accommodations inside the locomotive cab area. Amtrak also calls this piece of equipment a "cab-baggage car," because the space formerly occupied by the diesel engine has been retrofitted to provide space for luggage. (Checked baggage service is not offered on the *Heartland Flyer*, however.) The P42 locomotive is placed at the north end of the train and the cab-baggage car is attached at the south end. By employing a cab-baggage car equipped with train controls at the opposite end of the consist from the locomotive, a train can be operated in either direction by the engineer without the need to turn the train around. This is a method of operation known as "push-pull".

In summer months, a second P42 locomotive may be substituted for the NPCU to provide backup power in case of a locomotive failure. (A total locomotive failure would disable the train's air conditioning and food storage refrigeration.) Also during the peak summer months and during spring break, an additional car is added for increased capacity. The extra car is usually a second café car but without a staffed food counter or provisions. A P42 diesel locomotive has a 4,250-hp engine, and is capable of a top speed of 110 mph, although the trackage and signaling between Oklahoma City and Fort Worth restricts the train's operation to 79 mph maximum.

Ticketing and Service

Reservations are required for travel on the *Heartland Flyer*. Reservations can be made through Amtrak's website (www.amtrak.com), by calling its national reservation center (800-USA-RAIL), or by speaking in person with a ticket agent at the Fort Worth train station. (All other stations on the *Heartland Flyer*'s route are unstaffed.) Tickets are sold on-board by the train staff. Amtrak practices revenue management, or as known in the air travel industry, yield management. Ticket prices are adjusted in accordance with the demand for a certain train on a certain day. Tickets purchased onboard without an advance reservation are charged at the highest price.

On board the train, travelers can relax in the upper level or lower level seating areas of the Superliner coaches. The lower level of the coaches have seating areas to accommodate wheelchairs and mobility impaired passengers, as well as restrooms. The *Heartland Flyer* has a café car, where an attendant in the lower-level café sells snacks, sandwiches, coffee, beverages, and other items, and guests may sit at booths with tables.

In August 2015, Amtrak began offering checked bicycle service on the *Heartland Flyer*, allowing travelers to bring their bicycles with them on their train trip. All bikes are stored inside the train's cab-baggage car, where Amtrak installed 12 bike racks. Passengers with bikes must reserve one of the train's bike rack spaces, by selecting or requesting "add bike" when they purchase their tickets. The add-on fee for a bike rack reservation is less than $20.

Amtrak extended its Pets on Board program to the Heartland Flyer beginning in October 2016. The program allows passengers to bring dogs or cats in an enclosed carrier on board the train with them. Travelers bringing pets on board must make a pet reservation when booking their trip. The add-on fee for bringing a pet on board is $25. Only five pets on board are permitted per trip.

Host Railroad Trackage

The *Heartland Flyer* runs on tracks owned and operated by BNSF Railway, which is headquartered in Fort Worth, Texas. BNSF is the successor to the AT&SF Railway, the longtime operator of this trackage. (The rail line in Oklahoma used by the *Heartland Flyer* was completed in 1887 by two AT&SF subsidiaries, the Southern Kansas Railway and the Gulf, Colorado & Santa Fe, to connect AT&SF's transcontinental main line at Newton, Kansas, with the Gulf Coast port of Galveston, Texas.)

2.1.1.3 Tourist Train Network

This section describes other passenger rail operations within the state of Oklahoma. Other than Amtrak's Heartland Flyer, no other passenger trains operate in Oklahoma strictly for the provision of transportation, although a pilot demonstration occurred in 2014 for a potential future service between Oklahoma City and Tulsa. In other parts of the state, excursion trains operate on irregular schedules over trackage managed by short lines or railroad museums.

2.1.1.3.1 Eastern Flyer Demonstration Service

In February 2014, the passenger operating company Iowa Pacific Holdings ran a demonstration "Eastern Flyer" passenger rail service between the Sapulpa (suburban Tulsa) and Midwest City (suburban Oklahoma City), the first passenger service between the two cities in more than 50 years. The trains ran on trackage operated by Watco's Stillwater Central Railroad, and were a joint partnership between Iowa Pacific and Watco to demonstrate the viability of passenger service over the line. On three consecutive weekends in February, the "Eastern Flyer" made a daily round trip, departing Sapulpa at 8 a.m. and returning to Sapulpa at 6:30 p.m. A one-way trip between Sapulpa and Midwest City took approximately 3 hours. Bus connections at Midwest City were available to and from Oklahoma City. The train consisted of two coaches, a dining car, a dome car, and a club car. The trips were popular, and most departures were completely sold out.

The trips were meant to serve as a demonstration for the establishment of a pilot program of regularly scheduled passenger service by 2019, as specified by ODOT in its sale agreement of the Oklahoma City-to-Sapulpa rail line to Stillwater Central Railroad. The agreement also required Stillwater Central to upgrade the rail line to accommodate maximum speeds of 60 mph for passenger trains and 40 mph for freight trains. Although the track rehabilitation was completed in spring of 2016, ODOT has not officially named a designated passenger rail operator for the pilot service.

2.1.1.3.2 Tourist and Excursion Services

The Oklahoma Railway Museum in Oklahoma City offers short train rides on the museum's vintage railroad equipment. Regularly scheduled 40-minute train rides occur two Saturdays per month, with four trips per day, between April and August. In addition, the museum offers special event rides, including Thomas the Tank Engine weekends and holiday-themed excursions such as the Easter Bunny Express, Independence Day Express, Halloween Train, and Christmas Train. The excursions operate on approximately 3 miles of former Missouri-Kansas-Texas Railroad trackage. For more information, visit www.oklahomarailwaymuseum.org.

Farmrail System, in cooperation with the Lone Wolf Greeters Association and the Quartz Mountain Resort, Arts and Conference Center, operates seasonal "Quartz Mountain Flyer" passenger rail excursions between the Quartz Mountain Resort and Lone Wolf. The excursions began in 2002 using 1950s-era passenger cars restored by Farmrail. Train rides are typically offered in the summer and fall. The train departs mid-morning from the Quartz Mountain station, located at the intersection of State Highways 44 and 44A near Lake Altus. The roundtrip excursion takes about 2 hours, and includes a brief

station stop at Lone Wolf before returning to Quartz Mountain. For more information, visit www.quartzmountain.org, or call (580) 682-1448.

The city of El Reno operates the Heritage Express Trolley on Wednesday through Sunday, linking Heritage Park and the Canadian County Historical Museum (the former CRI&P train station) with the downtown business district. The city pooled local funding with a state grant from ODOT to pay for the construction of the in-street trolley tracks and the acquisition of a former Philadelphia & Western double-ended interurban car built in 1924 by J.G. Brill. The operation began in 2001. The city acquired the streetcar from a dealer in Iowa and converted it to run on propane gas. For more information, visit www.cityofelreno.com/visitors.

2.1.1.4 Railroad Abandonments and Rail Banked Lines

2.1.1.4.1 Background

This section summarizes a general background of rail line abandonments in Oklahoma and the identification of actual rail service discontinuances and abandonments in the state during the last decade. Railroad abandonment occurs when a rail line is no longer used for rail service. Abandonment and discontinuance of common carrier rail service on a given rail line is allowed by federal law. A railroad may abandon a rail line with the permission of the Surface Transportation Board (STB) as generally described in this section. Oklahoma DOT has the responsibility to review proposed abandonments within the state. A 1981 law (05-66-65) provides a minimum of a 1-year waiting period before adjacent land owners were eligible for the purchase of any adjoining rail property for reversion back to farm land. It also includes a prioritization schedule providing railroads and government entities the right of first refusal for the purchase and utilization of existing railroad infrastructure.

The following events had a profound and lasting effect on the Oklahoma railroad network, and launched an extended period of railroad consolidation, divesture, and abandonment in Oklahoma, starting in the 1970s:

- Bankruptcy of the CRI&P in 1980.
- Passage of the 1980 Staggers Act, signed into law by President Carter on October 14, deregulated the U.S. railroad industry, replacing the regulatory structure that existed since the 1887 Interstate Commerce Act. This landmark legislation was one of three major acts passed in a 2-year period culminating in the transport regulation reform effort begun in 1971 during the Nixon Administration. The rail act was meant to restore the nation's freight rail network to economic health following the wave of industry bankruptcies.
- Mergers of Oklahoma railroads that resulted generally in excess route capacity and numerous parallel rail routes in Oklahoma for a single carrier. Notable were the mergers of the MP, MKT, and SP into the Union Pacific in 1982, 1988, and 1996, respectively, and the merger of the AT&SF with the BN in 1995 to form BNSF.

In response to the industry turmoil in the 1970's and 1980's, the state of Oklahoma passed legislation between 1978 and 1988 that ultimately empowered ODOT to acquire, construct, reconstruct, repair, replace, operate and maintain railroad rights-of-way and provide a funding source for rail-related improvements. The Railroad Revitalization Act and legislation enacted to establish the Railroad Maintenance Revolving Fund (RMRF) are those leading to development of the state-owned property programs currently administered through the Rail Programs Division of ODOT.

Some of the most influential legislation enacted in this period established the prioritization of entities to which existing rail infrastructure in danger of being abandoned could be sold. That legislation provided a minimum of a 1-year waiting period before adjacent land owners were eligible for the purchase of any adjoining rail property for reversion back to farm land. The prioritization schedule provided railroads and government entities the right of first refusal for the purchase and utilization of existing railroad infrastructure.

With these new abilities, the State of Oklahoma acquired several rail lines threatened with abandonment. The state recognized the need to preserve branch lines that were important to Oklahoma's commerce and competitiveness. ODOT initially acquired over 600 miles of rail lines with $22 million in state funds. As revenues developed from the leases of these initial purchases, the state made additional acquisitions. Oklahoma now owns 153 miles of rail lines. Currently, all but 8 miles are in service, and five different operators provide rail service on the state-owned trackage.

One of the important acquired groups of rail lines consists of the former north-south CRIP main line between Kansas and Texas, the branch line between El Reno and Oklahoma City, and the branch line north of Lawton. These lines were subsequently leased to UP through a lease-purchase arrangement with final payment made to the state in October 2011. The line is now fully owned by UP and has become an integral part of its network. The former lease revenues were a major source of the funding for ODOT's program to upgrade other short lines. Subsequently, total lease revenues are now greatly reduced.

Funding for state-owned line maintenance comes from the Oklahoma Railroad Maintenance Revolving Fund (RMRF) established by the Railroad Rehabilitation Act of 1978. Revenues from a tax on freight cars and lease payments on the line are contributed to the fund. The state has an 8-year maintenance plan for track and bridge upkeep to address the basic needs of the state-owned lines to meet federal standards for safe operation and continued service.

Rail banking is a process established under federal law that allows public entities to preserve established railroad rights-of-way for future reactivation of rail service, to protect rail transportation corridors, and to encourage energy efficient transportation use. Many abandoned or rail banked lines have been re-purposed for interim recreational trail use in Oklahoma; principal rail trails in Oklahoma will be identified later in this section.

Periodically, ODOT re-evaluates the rail freight network in Oklahoma to identify potential gaps in freight service due to issues such as abandonments or lines taken out of service. The analysis should take into consideration emerging freight economic sectors and distribution patterns.

2.1.1.4.2 Rail Abandonments and Discontinuances Since 2012

49 U.S.C. § 10903 governs the filing and procedure for common carrier application to abandon or discontinue rail operations over any part of its railroad lines as detailed in 49 CFR Part 1152. Abandonment or discontinuation requires a STB finding "that the present or future public convenience and necessity require or permit the abandonment or discontinuance." 49 CFR 1152.50 provides for exemption from the requirements for abandonment and discontinuance when the STB has found approval is unnecessary to carry out rail transportation policy of 49 U.S.C. § 10101, and the actions are of limited scope not requiring shippers be protected from abuse of market power.

The principal requirements for discontinuance or abandonment is that the railroad certify that no local traffic has moved over the line for two years, that any overhead traffic can be routed over other lines, and that no formal complaint is filed by a rail service user. Abandonments have been minimal in

Oklahoma within the last decade, limited mostly to short stretches of trackage serving industries. The exception to this is the former 42-mile BNSF line between Guthrie and Fairmont, Oklahoma, which was recorded as abandoned in 2012[10].

2.1.1.4.3 Rail Banked Lines and Interim Trail Use

Recognizing that abandoned rail lines are typically lost for future transportation uses, rail right-of-way has been proactively rail banked in Oklahoma. Some of these segments may potentially hold strategic value as future transportation corridors in the state. Oklahoma DOT reviews all potential rail abandonments in the state for suitability as recreational corridors under the Federal Rails-to-Trails legislation.

Over 22,000 miles of open rails-to-trails corridors exist nationwide, with approximately 52 miles over 8 total trails in Oklahoma[11]. Some principal rail trails in Oklahoma include the following facilities:

- **Osage Prairie Trail:** Approximately 14 miles of the former Midland Valley Railroad between Tulsa and Skiatook, Oklahoma.
- **Katy Trail:** Approximately 8 miles of the former Missouri-Kansas-Texas Railroad in Tulsa, Oklahoma.

2.1.2 Major Freight and Passenger Terminals

This section identifies and describes Oklahoma's major freight rail terminals and passenger rail stations that serve as intermodal connections to each other and to port-rail and airports in the state.

2.1.2.1 Port-Rail and Air Facilities

Oklahoma does not have any active Class I intermodal facilities, but it is located in proximity to other intermodal facilities operated by BNSF, UP, and KCS in the Dallas/Fort Worth and Kansas City areas. BNSF also operates a facility in the Memphis area. Oklahoma's central location in the Midwest could potentially make it a hub for the development of an additional facility on various domestic intermodal rail corridor services extending to the southern, eastern, and western U.S. and various international ports, thus enhancing access to the rail network in Oklahoma and the reach of Oklahoma's shippers and receivers in the national and global marketplace.

Owing to its inland position, Oklahoma does not have any seaports; however, the state is located on one major inland waterway navigable for trade or commercial transportation purposes. This waterway, the McClellan-Kerr Arkansas River Navigation System, provides a 445-mile navigable waterway connecting Oklahoma to the Mississippi River and the Gulf of Mexico[12].

Oklahoma has two public river ports or barge terminals on the McClellan-Kerr Arkansas River Navigation System[13]. Both of these facilities have active multimodal connections to the Oklahoma rail network. Descriptions of Oklahoma's river ports with known connections to the Oklahoma rail network are provided in Appendix A of the Oklahoma State Rail Plan.

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[10] STB Case Information; https://www.stb.gov/FILINGS/all.nsf/c72552abc289f85285257515007219bd/ccfa1aeca64bc44d85257a690063b162/$FILE/232884.pdf

[11] http://www.railstotrails.org/our-work/united-states/oklahoma/#state

[12] *http://www.swt.usace.army.mil/Missions/Navigation.aspx*

[13] Ibid.

Oklahoma has three commercial service airports. Primary airports in the state—from which regularly scheduled commercial air service for passengers and from which freight services are also provided, include Oklahoma City, Tulsa, and Lawton. Passenger rail service currently operates in one of the communities served by the state's rail network – Oklahoma City. Freight railroads currently operate within all of the communities served by the state's commercial services airport network. Air facilities in Oklahoma are described later in this chapter.

2.1.2.2 Freight Rail Yards and Facilities in Oklahoma

Oklahoma's operating freight railroads have facilities to support railroad operations and maintenance and interface with freight shippers and receivers in the state. Major freight rail yards, terminals, and facilities of the operating Class I and Class III railroads in Oklahoma, to the extent known through coordination with the state's railroads, are identified and described in Appendix A of the Oklahoma State Rail Plan.

2.1.2.3 Passenger Rail Stations in Oklahoma

There are presently five passenger rail stations in Oklahoma, all served by Amtrak's daily *Heartland Flyer*, as seen in **Table 2-5** below. This train also serves two stations in Texas. Each station sees two trains per day, one in each direction.

Table 2-5: Station Activity of Heartland Flyer Stations in Oklahoma and Texas, 2016

City	State	Daily Trains	FY 2016 ridership	Ridership Ranking
Oklahoma City	OK	2	44,551	2
Norman	OK	2	11,748	3
Purcell	OK	2	1,693	7
Pauls Valley	OK	2	4,321	6
Ardmore	OK	2	7,218	5
Total Oklahoma Station Activity			69,531	
Gainesville	TX	2	6,337	4
Fort Worth	TX	2	56,642	1
Total Heartland Flyer Ridership			66,105	

Source: Amtrak

Each passenger rail station on the *Heartland Flyer*'s route is identified below.

Oklahoma City, Oklahoma

The AT&SF Depot (Amtrak station code OKC) is located on the eastern edge of downtown Oklahoma City, within easy walking distance of the Bricktown entertainment district and the basketball/hockey arena. The station's waiting room is open from 7:30 to 8:45 a.m. and again from 9:00 to 11:00 p.m.

Tickets may be purchased in advance over the internet at www.amtrak.com, over the telephone by calling 1-800-USA-RAIL or on-board the train. The *Heartland Flyer* is a reservation-only train and space must be reserved in advance. Onboard tickets will usually cost more than those purchased in advance. No checked baggage is handled at Oklahoma City.

The historic AT&SF Depot was opened in 1934 as part of a downtown track elevation project, and embodies the Art Deco architectural style that was popular at the time. Oklahoma City now owns the facility, after acquiring it from the private party that had initially bought the station from BNSF in 1998. The station was listed on the National Register of Historic Places in 2015. The U.S. Department of Transportation awarded the city a $13.6 million Transportation Investments Generating Economic Recovery (TIGER) grant in 2013 to help fund a $28 million project that will convert the depot into an intermodal transportation hub, improving passenger waiting facilities, adding space for Amtrak ticketing and checked baggage services, expanding accessibility, streetscaping, and neighborhood connectivity for bicycles and pedestrians, and providing a multimodal transit connection to the Oklahoma City streetcar, currently under construction. The station renovations are expected to be completed in 2017.

Location	AT&SF Depot is located at 100 South E.K. Boulevard, Oklahoma City, OK 73102
Facilities	Station building with enclosed waiting room, restrooms, and Quik-Trak ticket machine. Station is ADA accessible. Station platform has a wheelchair lift for passenger-train loading and unloading.
Station Hours	7:30 a.m. to 8:45 a.m. and again from 9:00 p.m. to 11:00 p.m. daily
Parking	There are 10 short-term parking spaces and additional long-term parking spaces at a paid station lot staffed by an attendant.
Major Highways	North South: I-35, U.S. 77 East West: I-40, U.S. 62 Northeast-Southwest: I-44
Intercity Rail	The *Heartland Flyer* operates one round trip daily between Oklahoma City and Fort Worth. The train departs in the morning, returning in the evening.
Intercity Bus	Amtrak Thruway Bus Service operates one round trip daily between the AT&SF Depot in Oklahoma City and Newton, Kansas, to connect with Amtrak's *Southwest Chief* train between Chicago and Los Angeles. The bus departs in the evening, after the arrival of the *Heartland Flyer* train, and returns in the morning in time for travelers to connect to the departing *Heartland Flyer*. Greyhound and Jefferson Lines offer intercity buses on north-south routes along I-35 and east-west along I-40. A diagonal route from Wichita Falls, TX to Tulsa and beyond operates along I-44. The intercity bus station is located approximately 2,000 feet west of the depot.
Aviation	Will Rogers World Airport is served by five major airlines with direct service to 22 destinations, many of which are hub airports with connection throughout the world. The airport is located approximately 6 miles southwest of the Central Business District.
Public Transit	EMBARK (formerly Metro Transit) provides local bus and ferry transit as well as parking solutions in Oklahoma City. EMBARK Route 15 to Midwest City (operates weekdays only) and Route 11 to Reno (operates Monday-Saturday) both stop one block west of the AT&SF Depot along Robinson Street. Both routes terminate at the downtown Oklahoma City Transit Center, which will afford local bus transfers to most parts of the city. Routes operate Monday through Friday with some routes offering Saturday service. Most routes begin service around 5:30 a.m. and terminate service around midnight.
Rental Car	Yes, with station pickup available during normal business hours.

Taxi	Yes. Numerous taxi providers, 24/7.

Norman, Oklahoma

The AT&SF Depot in Norman (NOR) has an enclosed waiting room but no amenities or services. The brick and limestone station facility was built in 1909, in a Mission Revival architectural style, and is listed on the National Register of Historic Places. The station's waiting room occupies one side of the building, and is open daily from 8:50 a.m. to 9:11 p.m. The other side of the building is used as a concert hall, exhibit gallery, and event space managed by a nonprofit performing arts studio called "The Depot."

Location	AT&SF Depot is located at 200 South Jones Avenue, Norman, OK 73069
Facilities	Station building with enclosed waiting room but no amenities. Station waiting room is not ADA accessible. Station platform has a wheelchair lift.
Station Hours	8:50 a.m. to 9:11 p.m. daily
Parking	Short-term and long-term parking is free, and is available across the tracks from the station. There are also provisions for bicycle parking.
Major Highways	North-South: I-35, U.S. 77 East-West: O-9
Intercity Rail	The *Heartland Flyer* operates one round trip daily between Oklahoma City and Fort Worth. The train departs in the morning, returning in the evening.
Intercity Bus	Greyhound serves Norman with a station at 506 N. Porter Ave. The bus route operates along the I-35 corridor, with transfers available to other destinations at Oklahoma City.
Aviation	University of Oklahoma Max Westheimer Airport is a general aviation facility without scheduled service. Norman is in the service area of Oklahoma City's Will Rogers World Airport for scheduled services.
Public Transit	CART (Cleveland Area Rapid Transit) operates six city bus routes in Norman and three University of Oklahoma campus routes on weekdays and most Saturdays. CART also operates a commuter route, the Sooner Express, to Oklahoma City Monday through Friday. The N21 bus passes 1 block east of the Norman station on St. Peters Avenue, and proceeds to the South Loop transfer station on the Oklahoma University campus for connections to all quadrants of the city. The buses run 7 a.m. to 9 p.m. Monday through Friday with reduced Saturday service.
Rental Car	Yes, with station pickup available during normal business hours.
Taxi	Yes. Numerous taxi providers, 24/7.

Purcell, Oklahoma

The Purcell (PUR) station, located at the bottom of Depot Hill, was built in 2001 specifically for the Heartland Flyer service. The brick station building station has an enclosed waiting room, open daily from 9:09 a.m. to 8:51 p.m., but no other amenities or services. The station is owned by the City of Purcell.

Location	East Main Street and North AT&SF Avenue, Purcell, OK 73080

Facilities	Station building with enclosed waiting room but no amenities. Station is ADA accessible, and station platform has a wheelchair lift.
Station Hours	9:09 a.m. to 8:51 p.m. daily
Parking	Twenty-five spaces of free parking (short-term and long-term) are available at the station property.
Major Highways	North-South: I-35, U.S. 77 East-West: O-39
Intercity Rail	The *Heartland Flyer* operates one round trip daily between Oklahoma City and Fort Worth. The train departs in the morning, returning in the evening.
Intercity Bus	None.
Aviation	Purcell Municipal Airport – Steven E. Shephard Field is a general aviation facility without scheduled service. Purcell is in the service area of Oklahoma City's Will Rogers World Airport for scheduled services.
Public Transit	Delta Public Transit operates a demand/response rural transit system serving Purcell.
Rental Car	Yes, with the agencies located in Norman. Station pickup available during normal business hours.
Taxi	Yes. Several Norman taxi providers will serve Purcell for a surcharge.

Pauls Valley, Oklahoma

The Pauls Valley (PVL) depot was built in 2002 specifically for the Heartland Flyer service. ODOT helped fund the station's construction, under a state initiative to provide funding assistance for the construction or renovation of passenger rail stations along the Heartland Flyer's route using federal Transportation Equity Act for the 21st Century (TEA-21) money. The new station was designed to match the style of the adjacent historic frame depot, built by the AT&SF Railway in 1905 and now housing the AT&SF Depot Museum. The new station building has an enclosed waiting area, open daily from 9:34 a.m. to 8:26 p.m., but no other amenities or services. The station is owned by the City of Pauls Valley.

Location	South AT&SF Street and East Paul Avenue, Pauls Valley, OK 73075
Facilities	Station building with enclosed waiting room but no amenities. Station is ADA accessible, and station platform has a wheelchair lift.
Station Hours	9:34 a.m. to 8:26 p.m. daily
Parking	Station lot has 10 short-term and 10 long-term spaces of free parking. Other free parking is available adjacent to the station.
Major Highways	North-South: I-35, U.S. 77 East-West: O-19
Intercity Rail	The *Heartland Flyer* operates one round trip daily between Oklahoma City and Fort Worth. The train departs in the morning, returning in the evening.
Intercity Bus	Greyhound operates intercity buses along the I-35 north-south route. The station is located at 215 West Paul Ave., co-located with Delta Public Transit.
Aviation	Pauls Valley Municipal Airport is a general aviation facility without scheduled service. Pauls Valley is in the service area of Oklahoma City's Will Rogers World Airport for scheduled services.
Public Transit	Delta Public Transit operates a demand-response rural transit system serving

	Pauls Valley.
Rental Car	Yes, with station pickup available during normal business hours.
Taxi	Yes. Taxis from Norman or Ardmore will serve Pauls Valley for a surcharge.

Ardmore, Oklahoma

The historic brick and stucco train station in Ardmore (ADM) was built by the AT&SF in 1916, and is listed on the National Register of Historic Places. The City of Ardmore owns the building, and in 2001 completed a $1.6 million restoration, partially funded by ODOT using federal TEA-21 contributions. The station building has an enclosed waiting room that is staffed by volunteers from the Ardmore Main Street Authority, the civic group that spearheaded the initial station restoration project. The authority also manages an event space in the station that has been used for meetings, receptions, and other occasions. The City of Ardmore, the Main Street Authority, and the chamber of commerce are currently advancing the development of Depot Park, a planned downtown greenspace to be used for recreation and city events on land adjacent to the train station.

Location	251 East Main Street, Ardmore, OK 73401
Facilities	Station building with enclosed waiting room but no amenities. Station is ADA accessible, and station platform has a wheelchair lift.
Station Hours	n/a
Parking	There are 48 spaces of free short-term and long-term parking at the station.
Major Highways	North-South: I-35, U.S. 77 East-West: U.S. 70
Intercity Rail	The *Heartland Flyer* operates one round trip daily between Oklahoma City and Fort Worth. The train departs in the morning, returning in the evening.
Intercity Bus	Greyhound serves Ardmore with intercity buses along the I-35 north-south route. The bus station is located near the interstate at 2501 W. Broadway, approximately 2 miles west of the train station.
Aviation	Ardmore Downtown Executive Airport is a general aviation facility without scheduled service. Ardmore Municipal Airport is a general aviation facility and industrial park without scheduled air service.
Public Transit	Southern Oklahoma Rural Transportation System operates a demand/response transit operation that serves Ardmore and Carter County.
Rental Car	Yes, with station pickup available during normal business hours.
Taxi	Yes. Numerous taxi providers, 24/7.

Gainesville, Texas

The historic Gainesville station was built in 1902 by the AT&SF Railway. The station has an enclosed waiting room but no other amenities or services, and also houses the AT&SF Depot Museum.

Location	605 East California Street, Gainesville, TX 76240
Facilities	Station building with enclosed waiting room but no amenities. Station is ADA accessible, and station platform has a wheelchair lift.
Station Hours	11:14 a.m. to 6:45 p.m. daily

Parking	There are 15 spaces of free short-term and long-term parking at the station.
Major Highways	North-South: I-35 (co-located with U.S. 77) East-West: U.S. 82
Intercity Rail	The *Heartland Flyer* operates one round trip daily between Oklahoma City and Fort Worth. The train departs in the morning, returning in the evening.
Intercity Bus	Greyhound serves Ardmore with intercity buses along the I-35 north-south route. The bus station is located at 1934 North I-35 Frontage Road, approximately 2 miles northwest of the train station.
Aviation	Gainesville Municipal Airport is a general aviation facility without scheduled service.
Public Transit	The rubber-tired Gainesville Trolley runs Friday through Sunday between the Amtrak depot, the Downtown Square, the Frank Buck Zoo, and the Gainesville Factory Shops and the Shopping Center. TAPS Public Transit provides both paratransit and demand-response, shared-ride public transit services in the Gainesville region.
Rental Car	Yes, with station pickup available during normal business hours.
Taxi	Yes. Safeway Transportation, 24/7.

Fort Worth, Texas

The Fort Worth Amtrak station is the city-owned Fort Worth Intermodal Transit Center (ITC). The ITC is a multimodal hub that brings together several public transportation options in the Fort Worth Central Business District. Travelers can make connections to Amtrak's *Heartland Flyer* and *Texas Eagle* intercity passenger trains, Trinity Railway Express commuter trains, commercial intercity buses, local city transit buses, and rental cars. The transit center was built in in 2002, and is located just north of the former 1899-built Union Depot, which Amtrak had used prior to the ITC's opening.

The Fort Worth ITC is located immediately adjacent to the east edge of downtown Fort Worth. The facility is a full-service Amtrak station open daily from 8:00 a.m. until 6:00 p.m., and includes a staffed ticket window and checked baggage counter operating from 10:00 a.m. until 5:30 p.m. A self-serve Quik-Trak ticket kiosk is available from 8:30 a.m. until 10:00 p.m. The station features an enclosed waiting room with payphones and an ATM. Fort Worth handles checked baggage for the *Texas Eagle*. The *Heartland Flyer* does not have checked baggage. Passengers transferring from the *Texas Eagle* to the *Heartland Flyer* with checked bags must claim those bags before boarding.

Location	Fort Worth Intermodal Transit Center, 1001 Jones Street, Fort Worth, TX 76102
Facilities	Station building with enclosed waiting room, staffed Amtrak ticket office, staffed Amtrak checked baggage counter, and Quik-Trak ticket kiosk. Station building and station platform are ADA accessible.
Station Hours	Waiting room: 8:00 a.m. to 6:00 p.m. daily. Ticket office and checked baggage counter: 10:00 a.m. to 5:30 p.m. daily
Parking	There is no parking directly associated with the station, but on-street metered parking is available as well as commercial parking adjacent to the station site.
Major Highways	North-South: I-35W, U.S. 81, and U.S. 77 (co-located with I-35W), U.S. 287 East-West: I-30, U.S. 377
Intercity Rail	The *Heartland Flyer* schedule is timed to make a convenient transfer to the

	Texas Eagle. The *Texas Eagle* is a daily train operating between Chicago and San Antonio. The eastbound (toward Chicago) and the westbound (toward San Antonio) trains meet at Fort Worth in the early afternoon, affording transfers in either direction. On Monday, Wednesday, and Friday, the westbound *Texas Eagle* continues to Los Angeles after a 5-hour layover in San Antonio. The eastbound *Texas Eagle* returns from Los Angles and arrives at Fort Worth on Tuesday, Friday, and Sunday.
Intercity Bus	Greyhound Lines intercity buses serve the ITC. Buses to points east or north almost universally require a transfer at Dallas. Direct buses are available to several points west, mostly via the I-20 or U.S. 287 corridors. Train and bus schedules are not coordinated.
Aviation	Dallas-Fort Worth (DFW) Airport is a major hub facility serving more than 200 domestic and international destinations by 23 air carriers.
Public Transit	Trinity Railway Express (TRE) commuter trains operate between Dallas and Fort Worth. A shuttle connection to the Dallas/Fort Worth Airport is also offered from TRE's CentrePort/DFW Airport station. TRE trains operate every 30 to 60 minutes Monday through Friday from about 4 a.m. to midnight, and every 60 minutes from about 5 a.m. to midnight on Saturday. No Sunday service is offered. TRE offers a convenient connection to the DART light rail system at Dallas Union Station. The "T" operates 18 local and 5 express bus routes directly from the ITC. The routes extend to all quadrants of the "T" service area. Most buses operate from around 5 a.m. until 10 p.m. daily. The "T" also operates "Molly the Trolley," a free downtown circulator between the ITC, Fort Worth Convention Center, and Sundance Square that operates daily every 10 minutes from 10 a.m. to 10 p.m. On Saturday, a the Stockyards Station Trolley runs directly from the ITC to the Fort Worth stockyard district from 10 a.m. to 10 p.m.
Rental Car	Yes, with station pickup available during normal business hours.
Taxi	Yes. Numerous taxi providers, 24/7.

Multimodal Connectivity

Amtrak Fort Worth Connections. The *Heartland Flyer* schedule is timed to make a convenient transfer to Amtrak's long-distance *Texas Eagle* train at Fort Worth (see **Table 2-6**). The *Texas Eagle* operates daily between Chicago and San Antonio. The eastbound (toward Chicago) and westbound (toward San Antonio) trains meet at Fort Worth in early afternoon, affording transfers in either direction. On Monday, Wednesday, and Friday, the westbound *Texas Eagle* continues to Los Angeles after a 5-hour layover in San Antonio. The eastbound *Texas Eagle* returning from Los Angles arrives at Fort Worth on Tuesday, Friday, and Sunday. This continuation to Los Angeles is facilitated by transferring a coach and sleeping car off the *Texas Eagle* at San Antonio and onto another train, the *Sunset Limited*, which operates between New Orleans and Los Angeles. The *Sunset Limited* only operates three days per week in each direction, whereas the *Texas Eagle* is a daily train. On the return, cars are removed from the *Sunset Limited* and attached to the *Texas Eagle* at San Antonio for the trip to Chicago via Fort Worth. Travelers can also connect at San Antonio from the *Texas Eagle* to the *Sunset Limited* operating eastward to Houston and New Orleans, on days when the *Sunset* operates, although the wait time in San Antonio is approximately 7 hours (dropping to 4 hours when returning from to Houston and New

Orleans, and connecting to the eastbound *Texas Eagle* at San Antonio). This connection accommodates transfers to and from the Heartland Flyer.

The westbound *Texas Eagle* from Chicago and Fort Worth arrives daily at San Antonio at 9:55 p.m. The eastbound *Texas Eagle* to Fort Worth and Chicago departs San Antonio daily at 7:00 a.m. The westbound *Sunset Limited* from New Orleans to Los Angeles departs San Antonio at 2:45 a.m. on Tuesday, Thursday, and Sunday. The eastbound *Sunset Limited* from Los Angeles to New Orleans arrives at San Antonio at 4:50 a.m. on Tuesday, Friday, and Sunday.

Table 2-6: Amtrak Connections at Fort Worth

From	To	Arrive	Depart	Layover
Heartland Flyer from Oklahoma City	Eastbound *Texas Eagle* to Chicago	12:27 p.m.	2:20 p.m.	1 hour, 53 minutes
Heartland Flyer from Oklahoma City	Westbound *Texas Eagle* to San Antonio and Los Angeles	12:27 p.m.	2:10 p.m.	1 hour, 43 minutes
Eastbound *Texas Eagle* from San Antonio and Los Angeles	*Heartland Flyer* to Oklahoma City	1:58 p.m.	5:25 p.m.	3 hours, 27 minutes
Westbound *Texas Eagle* from Chicago	*Heartland Flyer* to Oklahoma City	1:25 p.m.	5:25 p.m.	4 hours, 0 minutes

Source: Amtrak System Timetable, February 2017

Connections from the *Heartland Flyer* to the *Texas Eagle* are quite convenient, considering the length of the trip usually involved on Amtrak long-distance trains. Returning to Oklahoma does require a longer wait but not totally out of reason. For a shorter intrastate trip from Oklahoma to Austin or San Antonio, the wait times at Fort Worth might be considered too long. For trips on the *Eagle* to or from points west of San Antonio, there is a lengthy layover in San Antonio also.

Amtrak also operates contracts with Greyhound to provide a Thruway Bus connection from Fort Worth to Waco, Bryan, Prairie View, and Houston. This bus connection is available to Amtrak passengers when booking travel on either the *Heartland Flyer* or the *Texas Eagle*. Southbound bus No. 8221 departs the Fort Worth ITC at 1:55 p.m. and arrives at the Greyhound station in Houston at 7:50 p.m. Northbound bus No. 8222 departs the Houston Greyhound station at 7:45 a.m. and arrives at the Fort Worth ITC at 1:40 p.m.

The new Amtrak Thruway Bus Service connection between the *Heartland Flyer* at Oklahoma City and Amtrak's Chicago-Los Angeles *Southwest Chief* at Newton, Kansas, opens up additional opportunities for travel. Oklahoma residents now have a new way of reaching Chicago or Los Angeles using the bus connection at Newton, Kansas. Because of the schedule times of the *Heartland Flyer* and *Southwest Chief*, the Thruway bus operates as an overnight service each way, which may not be convenient for all travelers. **Table 2-7** provides a summary of connections that could be made for a transcontinental trip from Chicago to California that incorporates use of the *Heartland Flyer* and its Amtrak Thruway Bus connection at Oklahoma City, as well as the long-distance trains those services connect to.

Table 2-7: Amtrak Train/Bus Connections With Heartland Flyer

Read Down				**Read Up**
Train 3	**Daily**	**Southwest Chief**	**Daily**	**Train 4**
3:00 p.m. (Day 1)	Leave	Chicago, IL	Arrive	3:15 p.m. (Day 3)
10:45 p.m. (Day 1)	Leave	Kansas City, MO	Dp	7:43 a.m. (Day 3)
2:45 a.m. (Day 2)	Arrive	Newton, KS *(connection with Oklahoma City bus)*	Leave	2:59 a.m. (Day 3)
4:45 p.m. (Day 2)	Leave	Albuquerque, NM	Leave	12:10 p.m. (Day 2)
8:15 a.m. (Day 3)	Arrive	Los Angeles, CA	Leave	6:10 p.m. (Day 1)
Bus 8903	**Daily**	**Thruway Connection**	**Daily**	**Bus 8904**
4:00 a.m.	Leave	Newton, KS *(connection with Southwest Chief train)*	Arrive	2:15 a.m.
7:35 a.m.	Arrive	Oklahoma City, OK *(connection with Heartland Flyer train)*	Leave	10:40 p.m.
Train 821	**Daily**	**Heartland Flyer**	**Daily**	**Train 822**
8:25 a.m.	Leave	Oklahoma City, OK *(connection with Newton, KS bus)*	Arrive	9:27 p.m.
12:27 p.m.	Arrive	Fort Worth, TX *(connection with Texas Eagle train)*	Leave	5:25 p.m.
Train 21	**Daily**	**Texas Eagle**	**Daily**	**Train 22**
1:45 p.m. (Day 1)	Leave	Chicago, IL	Arrive	1:52 p.m. (Day 2)
7:55 p.m. (Day 1)	Leave	St. Louis, MO	Leave	7:55 a.m. (Day 2)
1:25 p.m. (Day 2)	Arrive	Fort Worth, TX *(connection with Heartland Flyer train)*	Leave	2:20 p.m. (Day 1)
2:10 p.m. (Day 2)	Leave	Fort Worth, TX	Arrive	1:58 p.m. (Day 1)
6:30 p.m. (Day 2)	Leave	Austin, TX	Leave	9:31 a.m. (Day 1)
9:55 p.m. (Day 2)	Arrive	San Antonio, TX	Leave	7:00 a.m. (Day 1)

		(through coach and sleeping car operates to/from Los Angeles three days per week via Texas Eagle train)		
Train 421	**Tri-Weekly**	**Texas Eagle**	**Tri-Weekly**	**Train 422**
2:45 a.m. (Tu/Th/Su)	Leave	San Antonio, TX *(through coach and sleeping car operates to/from Chicago via Texas Eagle train)*	Arrive	4:50 a.m. (Tu/Fr/Su)
1:22 p.m. (Tu/Th/Su)	Leave	El Paso, TX	Leave	3:35 p.m. (Mo/Th/Sa)
8:35 p.m. (Tu/Th/Su)	Leave	Tucson, AZ	Leave	9:15 a.m. (Mo/Th/Sa)
5:35 a.m. (We/Fr/Mo)	Arrive	Los Angeles, CA	Leave	10:00 p.m. (Su/We/Fr)

Source: Amtrak System Timetable, February 2017

Because their trips span multiple days, long-distance trains like the *Texas Eagle*, *Southwest Chief*, and *Sunset Limited* operate with different equipment from the daytime-only *Heartland Flyer*. Long-distance trains have double-deck coaches for seating, sleeping cars that have private compartments of varying sizes with fold-down beds for overnight travel, lounge cars with larger windows and open seating on an upper level and a staffed café counter selling snacks and beverages on the lower level, and dining cars serving meals.

Trinity Railway Express Fort Worth Connections. Trinity Railway Express (TRE) is a commuter rail service that operates between Dallas and Fort Worth. A shuttle connection to the Dallas-Fort Worth Airport (DFW) is also available at TRE's CentrePort/DFW Airport station. TRE trains operate every 30 to 60 minutes Monday through Friday from about 4 a.m. to midnight, and every 60 minutes from about 5 a.m. to midnight on Saturday. No Sunday service is offered. TRE offers a convenient connection to the DART light rail system at Dallas Union Station.

Table 2-8 details the minimum wait times that travelers will experience when making a transfer between the Heartland Flyer and TRE commuters at Fort Worth, as part of a multi-ride trip between Oklahoma and Dallas or DFW Airport. Air travelers using the TRE shuttle connection at CentrePort/DFW Airport station should allow 40 minutes for the shuttle to arrive at DFW terminals. The shuttle runs every 15 minutes, but is synchronized to TRE arrivals and departures (which are timed every 30 to 60 minutes depending on time of day and day of operation).

Table 2-8: Heartland Flyer/Trinity Railway Express Connections at Fort Worth ITC

From OKC to Dallas	**Mon.-Fri.**	**Sat.**	**Sun.**
Amtrak: Arrive Fort Worth on Heartland Flyer	12:27 p.m.	12:27 p.m.	12:27 p.m.
Wait time at Fort Worth	*58 min.*	*28 min.*	*n/a*
TRE: Depart Fort Worth	1:25 p.m.	12:55 p.m.	n/a
TRE: Arrive CentrePort/DFW Airport	1:49 p.m.	1:19 p.m.	n/a
TRE: Arrive Dallas Union Station	2:22 p.m.	1:52 p.m.	n/a

From Dallas to OKC	Mon.-Fri.	Sat.	Sun.
TRE: Depart Dallas Union Station	4:00 p.m.	3:30 p.m.	n/a
TRE: Depart CentrePort/DFW Airport	4:31 p.m.	4:01 p.m.	n/a
TRE: Arrive Fort Worth	4:56 p.m.	4:26 p.m.	n/a
Wait time at Fort Worth	*29 min.*	*59 min.*	*n/a*
Amtrak: Depart Fort Worth on Heartland Flyer	5:25 p.m.	5:25 p.m.	5:25 p.m.

2.1.3 Passenger Rail Service Objectives

ODOT's freight and passenger rail network is an integral component of a broader multimodal network and an even larger national and global transportation system. The vision, goals, and objectives of Oklahoma's rail system have been developed in view of the system's role in domestic and internal commerce, and in recognition of the important role rail transportation plays in improving the state's economy and environment. Extensive public engagement helped inform ODOT's development of a vision statement as the guiding principle for its rail network, as well as five goals for the state's transportation system that support the state's overall vision, serve as broad statements of purpose for the state's rail transportation system, and will be used to guide future rail planning efforts. Each goal was translated into specific objectives, which serve as targeted, measurable, intended outcomes for rail transportation in the State. Taken together, the vision, goals and objectives reflect the desires of rail stakeholders and constituents to preserve and enhance the system, while recognizing the challenges and opportunities that exist in a rapidly changing economy.

This section restates the overall vision and goals of the state's rail network that were developed by ODOT, along with objectives specifically related to passenger rail service as well as other state objectives that passenger rail service would receive benefits from.

2.1.3.1 Vision

Oklahoma seeks to expand its economy and meet the needs of its future growth while also aligning its rail system with regional and national goals when appropriate. The State intends to accomplish this through coordinated efforts aimed at developing a dynamic and responsive statewide rail system that provides for the safe, effective and environmentally sound movement of both people and goods.

2.1.3.2 Goals and Objectives

Goal 1: Further develop and expand rail-based economic activity across Oklahoma and the region.

Objectives:

- Expand rail capacity to promote and meet projected growth in freight and passenger demand.

Goal 2: Maintain and develop a dynamic rail system that provides safe, efficient and reliable movement of people.

Objectives:

- Provide a safe and secure rail system that employs advances in rail technology to protect both people and assets.
- Recommend rail as part of a multi-modal transportation vision and comprehensive funding strategy throughout Oklahoma.
- Create a cohesive door-to-door passenger network that grows with Oklahoma.
- Re-establish passenger rail service where supported by demand.

- Expand metropolitan area transportation options available for residents and visitors.
- Continue use of federal policy-compliant project development procedures to advance viable passenger rail concepts.
- Integrate Oklahoma's major population centers into the national passenger rail system.

Goal 3: Maintain and develop a dynamic rail system that provides safe, efficient, and environmentally sound movement of goods.

Objectives:

- Provide a safe and secure rail system that employs advances in rail technology to protect both people and assets.
- Comply with all Federal Railroad Administration policies, procedures, and regulations.
- Cost-effective programs to preserve the existing freight rail network and to meet expected future rail network capacity needs, including addressing potential chokepoints in the system.
- Upgrade rail infrastructure as required to permit universal accommodation of higher capacity rail rolling stock and higher operating densities.

Goal 4: Identify, develop, and secure funding that promotes and enhances rail system investment.

Objectives:

- Identify stable and sufficient funding secured for a program of rail investments to support operating, constructing, and maintaining Oklahoma's rail network.
- Develop statutory authority to enable the use of innovative funding sources such as public-private partnerships.
- Secure additional funding for high-priority grade crossing improvements that protects the public and enhances rail service.

Goal 5: Promote the understanding of both rail service as a cost-effective, safe, secure, environmentally sound, and energy efficient means of improving freight and passenger mobility, as well as its importance to Oklahoma's economy.

Objectives:

- Promote effective safety and security partnerships with passenger and freight railroads.
- Provide an open door to ODOT's planning process, and transparency in communicating with and educating the public.
- Foster an appreciation of short and longer-term rail-related benefits by elected officials, the business community, and the public.
- Implement an expedited decision-making process to advance beneficial rail projects.
- Create an understanding by elected officials, the business community, and the public of where and when passenger rail service is a viable transport alternative.
- Generate an awareness of agriculture-related rail issues in Oklahoma by elected officials, the business community, and the public.
- Continue education on the benefits of rail transportation and the opportunities to integrate rail and other modes of transportation.

2.1.4 Amtrak Performance Evaluation

This section provides an overview of the metrics associated with intercity passenger rail operations in Oklahoma. It presents available information on ridership, operating performance, and financial results for these services. The information presented in this section constitutes the extent of ODOT's monitoring of Amtrak performance. As noted earlier, Amtrak operates one intercity passenger train in Oklahoma, the *Heartland Flyer*, connecting Oklahoma City, Oklahoma, with Fort Worth, Texas. The performance characteristics for this train are outlined below. The information is presented for Amtrak Fiscal Years, which begin on October 1 of the prior year and end on September 30 of the year identified.

2.1.4.1 Ridership and Utilization

Passenger boarding and disembarkations at Oklahoma stations have declined in recent years, as seen in **Table 2-9** below. However, the decline in total station activity in Oklahoma was less than the overall decline in ridership on the *Heartland Flyer*, meaning that use of the train for intrastate travel within Oklahoma did not decline as much as use of the train for interstate travel to Texas. In FY2016, the total volume of passenger activity at all stations in Oklahoma was 69,531.

Table 2-9: Annual Boardings and Alightings at Amtrak Heartland Flyer Stations, 2012-2016

City	FY 2012	FY 2013*	FY 2014	FY 2015	FY 2016
Oklahoma City, OK	59,212	54,952	52,099	45,691	44,551
Norman, OK	15,207	13,902	13,978	11,781	11,748
Purcell, OK	2,137	2,431	1,834	1,960	1,693
Pauls Valley, OK	5,706	5,360	5,891	4,535	4,321
Ardmore, OK	10,278	9,729	9,053	7,967	7,218
Gainesville, TX	8,055	6,476	7,178	7,132	6,337
Fort Worth, TX	74,883	69,517	66,389	58,126	56,642
Total Oklahoma Station Activity	92,540	86,374	82,855	71,934	69,531
Change Year Over Year	4.1%	-6.7%	-4.1%	-13.2%	-3.3%
Total Heartland Flyer Ridership	87,873	81,346	77,861	69,006	66,105
Change Year Over Year	4.6%	-7.4%	-4.3%	-11.4%	-4.2%

*Note: In FY 2014, Amtrak began counting actual lifted ridership for multi-ride tickets (due to eTicketing), rather than the estimated multi-ride ridership used previously. To ensure accurate comparisons, the FY 2013 ridership figures are revised figures that appeared in Amtrak's FY 2014 reporting, with data restated using this same method. This change had no impact on ticket revenues.

Sources: Amtrak Fact Sheets, States of Oklahoma and Texas, Fiscal Years 2012-2016; Amtrak; Texas DOT 2016 Texas Rail Plan Update.

The ridership achieved in Fiscal Year 2012 of 87,873 was an all-time peak for the *Heartland Flyer*, since the train's startup in 1999. The ridership declines experienced since the peak year of 2012 could be attributed to various potential factors including (1) the decline in gasoline prices since 2013 that made

auto travel more attractive,[14] (2) flooding and service disruptions in 2015,[15] or (3) construction projects around stations with possible disruptions to station parking and access.

The 4.2 percent decline in *Heartland Flyer* ridership in Fiscal Year 2016 contrasts with the 0.2 percent increase in Amtrak ridership for all state-supported trains and the 1.3 percent increase in total Amtrak systemwide ridership, as seen in **Table 2-10**below.

Table 2-10: Ridership for Heartland Flyer and all Amtrak State-Supported and System Trains, 2012-2016

Service	FY 2012	FY 2013*	FY 2014	FY 2015	FY 2016
Heartland Flyer	87,873	81,346	77,861	69,006	66,105
Change Year Over Year	+4.6%	-7.4%	-4.3%	-11.4%	-4.2%
All State Supported	15,081,477	14,821,481	14,731,993	14,686,508	14,709,344
Change Year Over Year	+2.1%	-1.7%	-0.6%	-0.3%	+0.2%
All Amtrak Trains	31,240,565	30,854,945	30,921,274	30,882,129	31,274,790
Change Year Over Year	+3.5%	-1.2%	+0.2%	-0.1%	+1.3%

*Note: In FY 2014, Amtrak began counting actual lifted ridership for multi-ride tickets (due to eTicketing), rather than the estimated multi-ride ridership used previously. To ensure accurate comparisons, the FY 2013 ridership figures are revised figures that appeared in Amtrak's FY 2014 reporting, with data restated using this same method. This change had no impact on ticket revenues.

Source: Amtrak Monthly Performance Reports for September 2012 - 2016

"Passenger-miles per train-mile" is a measure of utilization generated by dividing service passenger-miles (moving one passenger one mile is one passenger mile) by route train-miles (moving a train one mile is one train-mile). The measure for the *Heartland Flyer* has declined slightly over the past six years, as seen in **Table 2-11** below.

Table 2-11: Two-Year Rolling Average, Passenger-Mile per Train-Mile for the Heartland Flyer

Fiscal Years	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Heartland Flyer	96	101	99	93	87	80

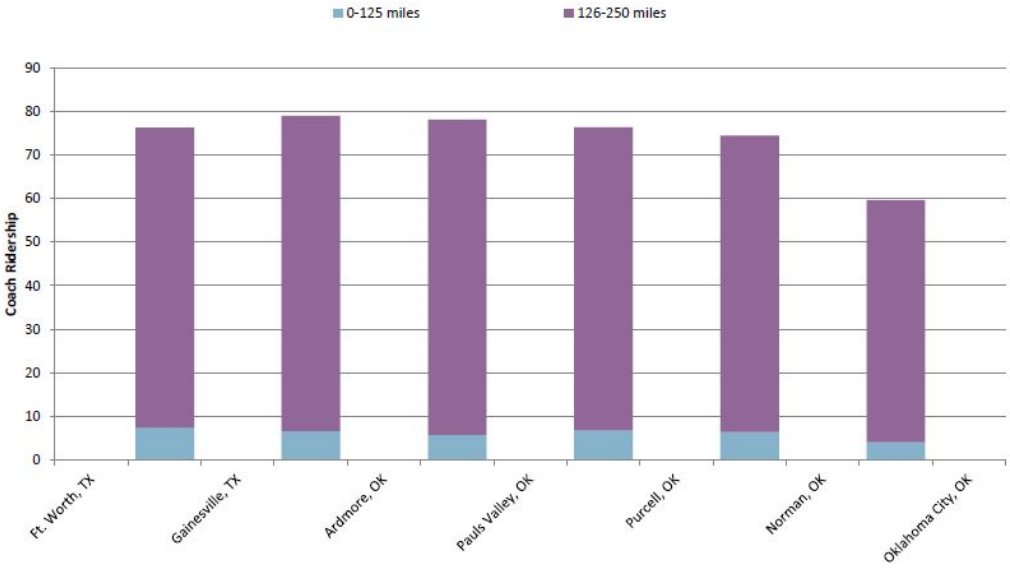
Source: FRA Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations for September 2010 – 2016

[14] Based on GasBuddy.com, average gasoline prices in Oklahoma declined from ~ $3.50 per gallon in 2013 to ~ $1.80 per gallon in January 2015. Prices increased later in 2015 but started falling mid-year and fell to a low of ~ $1.30 in February 2016. Following that low, prices stabilized at ~ $2.00.
http://www.oklahomagasprices.com/retail_price_chart.aspx

[15] http://www.purcellregister.com/news/article_1b8d4a3e-0484-11e5-87b3-53512550d7e8.html

Each one-way trip made by the Heartland Flyer constitutes 206 train-miles. Data provided by Amtrak indicates that the average trip length in FY 2016 was 174 miles. As shown in **Figure 2-2** below, the majority of trips made on the Heartland Flyer are more than 125 miles, which is roughly the travel distance from Oklahoma City to the Texas state line.

Figure 2-2: Distribution of Heartland Flyer Ridership by Leg



Source: Amtrak

Table 2-12 below compares the 10-year growth rate in ridership, ticket revenue, and passenger-miles of the Heartland Flyer with the average change for all Amtrak state-supported trains between Fiscal Year 2006 and Fiscal Year 2016. According to Amtrak, the 10-year growth rate in the *Heartland Flyer*'s average revenue per rider of 56 percent was the third highest among all state-supported routes.

Table 2-12: 10-Year Growth Rates for Heartland Flyer, 2006-2016

Service	Coach	Business Class	Total
Ridership			
Heartland Flyer	3%	n/a	3%
State Supported Average	18%	17%	19%
Total Revenues			
Heartland Flyer	56%	n/a	56%
State Supported Average	51%	59%	55%
Passenger Miles			
Heartland Flyer	10%	n/a	10%
State Supported Average	18%	15%	19%

Source: Amtrak

The Texas Transportation Institute released a 2010 study of the benefits and impacts of the *Heartland Flyer* that provided survey-based information about passenger profiles, including the modes of

transportation used before the 1999 launch of the service.[16] The study's key findings are shown in **Table 2-13**. This table shows that the vast majority of ridership (62 percent) comes from trips diverted from automobile (either a private vehicle or rental car). However, another significant segment of train passengers (28.5 percent) said they would not travel at all in the absence of the train's service. These passengers are referred to as "induced demand".

Table 2-13: Key Passenger Profile Statistics of the Heartland Flyer

Input / Parameter	Percent
Passengers Diverting from Automobile	62.0%
Passengers Diverting from Air	6.5%
Passengers Diverting from Bus	3.0%
Induced (would not travel in absence of service)	28.5%
Passengers on Business	4.3%

Source: 2010 TTI Study, Table 5-9 and Table 5-11.

Table 2-13 above also shows that a small of passengers (approximately 4 percent) use the train to travel for business, while the remaining passengers use the train to visit family and friends, for recreation, or other personal reasons.

The *Heartland Flyer* is used primarily by travelers in Oklahoma for intrastate travel within Oklahoma or interstate travel to Texas, as shown in **Table 2-14** below. Fort Worth was the destination of 82 percent of the riders who boarded or disembarked at Fort Worth in Fiscal Year 2016, although only 18 percent of riders who purchased roundtrip tickets began their journey in Fort Worth. The Days Away column, measured from the origin station, indicates the average number of days that passed before the roundtrip customer returned to their origin station, ending their trip. The Days Stayed column, measured while from the destination station, of a roundtrip ticket purchaser, indicates the average number of days that passed before the customer returned to the destination to begin the trip back home.

Table 2-14: Station Activity of Heartland Flyer Stations in Oklahoma and Texas, 2016

City	State	FY 2016 Ridership	Ridership Ranking	Round Trip Originations	Days Away from Origin	Days Stayed at Destination
Oklahoma City	OK	44,551	2	73%	3.05	4.26
Norman	OK	11,748	3	82%	2.54	4.49
Purcell	OK	1,693	7	82%	2.38	5.96
Pauls Valley	OK	4,321	6	83%	2.54	3.60
Ardmore	OK	7,218	5	73%	2.43	3.33
Total Oklahoma Station Activity		69,531				
Gainesville	TX	6,337	4	65%	2.79	2.87

[16] Texas Transportation Institute, "Measuring the Benefits of Intercity Passenger Rail" A Study of the Heartland Flyer Corridor", Report #169116-1, April 2010.

Fort Worth	TX	56,642	1	18%	3.69	2.14
Total Heartland Flyer Ridership		66,105				

Source: Amtrak

More than 70 percent of all trips made on the Heartland Flyer and ticket revenue generated came from the Oklahoma City-to-Fort Worth travel market, as can be seen in **Table 2-15** below. Two stations generated 80 percent of the Heartland Flyer's ticket revenue, Oklahoma City and Fort Worth.

Table 2-15 below shows the top travel markets of the Heartland Flyer in Fiscal Year 2016, when measured by ridership and revenue. In both cases trips between Oklahoma City and Fort Worth provided the majority of travel demand and ticket revenue.

Table 2-15: Top Heartland Flyer City Pairs for Ridership and Ticket Revenue, 2016

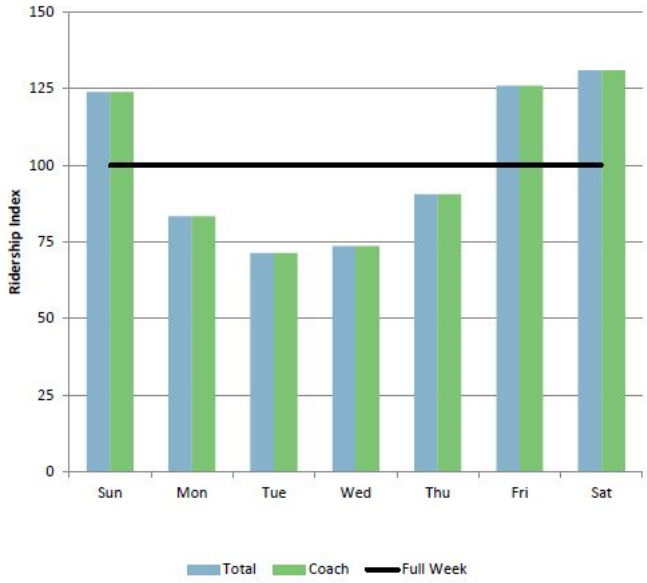
Ridership, FY2016				
Rank	**Top City pairs**	**Ridership**	**Miles**	**Time**
1	Oklahoma City-Fort Worth	38,000	206	3:58
2	Norman-Fort Worth	9,100	186	3:28
3	Ardmore-Fort Worth	3,300	104	1:53
4	Oklahoma City-Gainesville	2,600	141	2:46
5	Gainesville-Fort Worth	2,200	65	1:12
6	Pauls Valley-Fort Worth	2,100	149	2:46
7	Oklahoma City-Ardmore	2,000	102	2:04
8	Purcell-Fort Worth	1,100	171	3:11
9	Norman-Pauls Valley	700	37	0:42
10	Norman-Gainesville	700	121	2:16
*	Remaining	3,400	n/a	n/a
Ticket Revenue, FY2016				
Rank	**Top City pairs**	**Revenue**	**Miles**	**Time**
1	Oklahoma City-Fort Worth	$1,210,000	206	3:58
2	Norman-Fort Worth	$262,000	186	3:28
3	Oklahoma City-Gainesville	$66,000	141	2:46
4	Ardmore-Fort Worth	$59,000	104	1:53
5	Pauls Valley-Fort Worth	$55,000	149	2:46
6	Oklahoma City-Ardmore	$36,000	102	2:04
7	Purcell-Fort Worth	$30,000	171	3:11
8	Gainesville-Fort Worth	$28,000	65	1:12
9	Norman-Gainesville	$15,000	121	2:16
10	Norman-Ardmore	$8,000	82	1:35
*	Remaining	$30,000	n/a	n/a

Source: Amtrak

Ridership on the *Heartland Flyer* tends to be heaviest on weekends (about 125 percent above average), with Friday, Saturday, and Sunday the busiest travel days on train, as seen in **Figure 2-3.** Tuesday and Wednesday are the lowest days of travel (between 70 and 75 percent of average).The figure below

compares the distribution of ridership by week by passenger departure date using five years of ridership data, from Fiscal Year 2012 through 2016. The index line of 100 indicates the ridership average for the entire week. The southbound *Heartland Flyer* has heavier ridership on Friday and Saturday, and the northbound on Sunday, indicating that weekend breaks are being taken south of Oklahoma City.

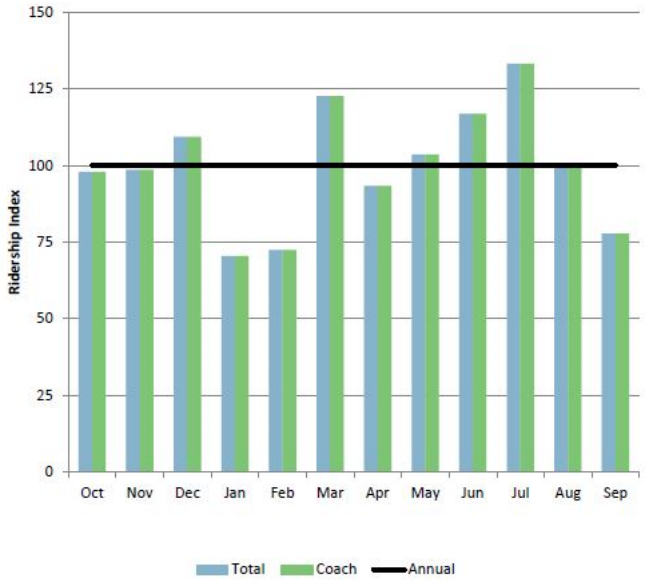
Figure 2-3: Heartland Flyer Travel Distribution by Day of Week



Source: Amtrak

Spring and summer are the heaviest travels seasons on the *Heartland Flyer* as shown in **Figure 2-4** below. This figure compares the distribution of ridership by month using five years of data, from Fiscal Year 2012 through 2016. The index line of 100 indicates the ridership average for the entire year. June and July are the highest summertime ridership months (120 percent to 130 percent above average), with a spike in ridership in March that can be attributes to college spring breaks. December, another above-average travel month, also benefits from college student travel during the holidays. The lowest ridership months are January, February, and September (70 percent to 75 percent of average).

Figure 2-4: Heartland Flyer Travel Distribution by Month



Source: Amtrak

2.1.4.2 Financial Performance

Revenue and cost information is shown in **Table 2-16** below. One critical factor brought to light in the table has been the increase in contract costs for the *Heartland Flyer* as a result of the PRIIA-mandated revisions made to the cost allocation formula that has become the basis for the annual service delivery charges that Amtrak levies on all states for the operation of state-supported trains. As seen in **Table 2-16** below, the annual payments made by Oklahoma and Texas to support the operation of the Heartland Flyer jumped 40 percent between 2013 and 2014, when the PRIIA-mandated revised cost allocation formula was applied to state charges. **Table 2-16** also includes information on total ridership since the start of the service, total revenues (including food and beverage sales revenue), and the total contract cost paid to Amtrak by Oklahoma and Texas for operation of the *Heartland Flyer*. (Note: All dollar amounts in **Table 2-16** have been adjusted to 2015)

Table 2-16: Key Operational and Financial Statistics of Heartland Flyer, 1999-2016

Fiscal Year	Total Ridership	Total Contract Cost	Oklahoma Contract Cost	Texas Contract Cost	Total Revenues	Average Farebox	Capital Expenditures
1999	26,832	$1,309,462	$1,309,462	$0	$570,083	$21.25	$5,725,293
2000	65,529	$5,237,846	$5,237,846	$0	$1,384,637	$21.13	$0
2001	57,799	$5,237,846	$5,237,846	$0	$1,187,670	$20.55	$0
2002	52,584	$5,237,846	$5,237,846	$0	$1,014,422	$19.29	$0
2003	46,592	$4,700,000	$4,700,000	$0	$880,808	$18.90	$0
2004	54,223	$4,700,000	$4,700,000	$0	$1,012,013	$18.66	$0
2005	66,968	$3,900,000	$3,900,000	$0	$1,322,664	$19.75	$0
2006	64,078	$3,900,000	$3,900,000	$0	$1,303,138	$20.34	$0
2007	68,245	$4,000,000	$2,000,000	$2,000,000	$1,320,790	$19.35	$0

2008	80,892	$4,000,000	$2,000,000	$2,000,000	$1,880,832	$23.25	$0
2009	73,564	$4,000,000	$2,000,000	$2,000,000	$1,744,746	$23.72	$3,750,000
2010	81,749	$4,122,502	$2,211,251	$1,911,251	$1,972,544	$24.13	$540,134
2011	84,039	$4,400,000	$2,325,000	$2,075,000	$2,101,750	$25.01	$3,664,391
2012	87,873	$4,550,000	$2,325,000	$2,225,000	$2,257,672	$25.69	$0
2013	81,226	$4,200,000	$2,100,000	$2,100,000	$2,201,774	$27.11	$0
2014	77,881	$5,900,000	$2,950,000	$2,950,000	$2,135,475	$27.42	$0
2015	69,006	$5,700,000	$3,200,000	$2,500,000	$2,278,000	$33.01	$0
2016	66,105	$5,752,906	$3,252,906	$2,500,000	$2,221,000	$33.60	$0

Source: Oklahoma Department of Transportation

Table 2-16 shows that in the first year of operation (not a full year), ridership totaled 26,832 and increased continually over time to a peak of 87,873 in 2012. The ridership has been declining since then, and in Fiscal Year 2016 amounted to 66,105. **Table 2-16** also shows that the average farebox revenue fluctuated from approximately $20 per trip in the initial years of operations to a maximum of $33 in 2015 (all in current dollars and including food and beverage purchases on the train). Total operating costs of the service amounted to nearly $5.6 million in FFY 2016. Although these costs are lower in nominal terms than in 2014, they are higher than at the peak of the demand in 2012. The operating cost efficiency fluctuated from year to year but in general (except for FFY 2013) remained below the 50 percent fare box recovery ratio.

The impact of the change in the cost allocation formula can be seen in **Table 2-17** below, comparing the *Heartland Flyer*'s cost recovery with and without the contribution from the state's payments. The revenue-to-cost or cost recovery ratio is calculated as follows: total ticket revenue, including ticket revenue and revenues from meals, on-board services, and other operating sources, divided by fully allocated operating costs. The ratio is a metric of the amount, by percentage, of the service's costs that are covered by revenues. The cost recovery ratios presented in **Table 2-17** are measured on a two-year rolling average. Excluding state payments, passenger-related revenues have consistently accounted for 24 to 26 percent of the Heartland Flyer's fully allocated operating costs. When state revenues are factored in, however, the Heartland Flyer's cost recovery grew 12 percentage points from 2014 to 2015.

Table 2-17: Two-Year Rolling Average, Percentage of Heartland Flyer Fully Allocated Operating Costs by Passenger Related Revenue

Fiscal Years	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Cost Recovery Including State Revenue	63%	59%	69%	81%	90%
Cost Recovery Excluding State Revenue	24%	25%	25%	24%	26%

Source: FRA Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations for September 2013 – 2016

Table 2-18 below details Amtrak's expenditures on goods and services in Oklahoma, including expenditures on salaries, as well as the number of Amtrak employees residing in Oklahoma from 2012 to 2016.

Table 2-18: Amtrak Expenditures of Goods and Services in Oklahoma

Fiscal Year	2012	2013	2014	2015	2016
Total Expenditures	$308,544	$460,623	$528,498	$491,951	$625,979
Employees Residing in Oklahoma	1	0	0	0	0
Wages Paid to Amtrak Employees Residing in Oklahoma	$86,543	0	0	0	0

Source: Amtrak Oklahoma Fact Sheets, 2012 – 2016

2.1.4.3 On-Time Performance and Customer Satisfaction

The ability for a train service to meet its published schedule is one of the most important aspects of service that travelers expect to be adhered to, if not the most important service aspect. 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. Amtrak records two different types of on-time measurements. "Endpoint OTP" measures the percentage of trains arriving at their endpoint terminal on time. "All Stations OTP" measures the percentage of trains arriving at all intermediate stations and the endpoint station on time. A train is considered on-time if it arrives at its final destination, or intermediate station in the case of All Stations OTP, within an allowed number of minutes, or tolerance, of its scheduled arrival time. Tolerances vary based on how far trains travel.

In 2009, Amtrak's Inspector General published results of a study on the revenue implications of on-time performance[17]. A positive correlation was found. Sensitivity of the *Heartland Flyer* was low, showing an expected negative impact on revenue of $7.11 for every minute of delay. In the short-distance or state-sponsored category, the average cost of delay was $31.00 per minute.

Annual On-Time Performance Results

The on-time performance of Amtrak's Heartland Flyer is shown in **Table 2-19** below, along with the OTP of all Amtrak state-supported trains and all Amtrak trains systemwide over a five-year period.

Table 2-19: On-Time Performance of the Heartland Flyer and of All Amtrak State Supported Trains, 2012-2016

Service	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Endpoint OTP					
Heartland Flyer	59.2%	52.1%	48.8%	53.9%	71.7%
All State Supported Trains	82.0%	82.0%	73.8%	71.4%	81.4%
All Amtrak Trains	83.0%	82.3%	72.4%	71.2%	79.1%
All Stations OTP					
Heartland Flyer	76.5%	73.3%	71.6%	70.0%	82.8%
All State Supported Trains	84.3%	84.1%	78.6%	77.8%	84.3%
All Amtrak Trains	80.1%	79.6%	72.1%	72.0%	78.5%

[17] Amtrak Office of Inspector General, *Financial Impact of Equipment Delays*, Evaluation Report E-09-02, March 25, 2009.

Source: Amtrak Monthly Performance Report, September 2012 – 2016

The on-time performance standard for long distance trains established by PRIIA was originally 80 percent for all state-supported and long-distance trains effective in Fiscal Year 2010, rising to 85 percent for long-distance trains and 90 percent for state-supported trains in Fiscal Year 2014 and beyond. (Northeast Corridor trains have more stringent on-time standards.)

Under PRIIA, a train with a trip of 250 miles or less, which would include the *Heartland Flyer*, is considered "late" if it arrives at its endpoint terminal more than 10 minutes after its scheduled arrival time, and if it arrives at any endpoint terminal more than 15 minutes after its scheduled time, regardless of trip length.

For much of the reporting period presented above, the Heartland Flyer's OTP performance has been significantly lower than the standard and other trains of its type. However, the reliability of the *Heartland Flyer* improved significantly in 2016. One contributing factor to this increase in reliability was the completion of a large-scale track improvement project in Fort Worth to alleviate the train congestion at Tower 55, just south of the Amtrak Fort Worth station, where two busy freight lines cross at-grade.

Causes of OTP Delays

Causes for Amtrak train delays can be attributed to a number of reasons. **Table 2-20** below shows the leading causes of delay, by percentage of delay minutes, for the Heartland Flyer in January 2017. The single largest cause for delay for the Heartland Flyer was Track and Signal delays.

Table 2-20: Causes of Delay to Heartland Flyer, January 2017

Cause of Delay	Percentage
Track and Signals	47.0%
Train Interference	26.6%
Passenger Operating Delays	12.4%

Source: www.amtrak.com

The following provides definitions of each type of cause of delay listed above, as well as other common types of causes.

- Track and Signal Delays are miscellaneous freight railroad delays and delays related to the railroad infrastructure and/or maintenance work being done on the tracks, bridges, or signaling systems.
- Train Interference Delays are related to other train movements in the service area. These can be delays from freight trains as well as other Amtrak trains.
- Passenger Operating Delays are related to equipment turning and servicing, engine failures, passenger train holds for connecting trains and buses, crewing, and detours.
- Slow Orders are delays from reduced speeds to allow safe operation, generally due to track or bridge issues on routes over which the passenger trains operate.
- All Other Delays could include delays caused by the weather and non-railroad third-party factors such as customs and immigration, a bridge opening for waterway traffic, police activity, grade crossing accidents, or loss of power due to a utility company failure.

Customer Satisfaction Indicator

Amtrak's Customer Service Indicator (CSI) scores measure the satisfaction by passengers, on an 11-point scale, of particular aspects of their trip. For example, a CSI score of 80 means 80 percent of respondents rated the aspect of their trip in the top three of the 11 steps of the scale. After completing a trip on Amtrak, customers will be sent a survey asking them to rate their satisfaction with the following aspects of service experienced during their journey:

- Overall Service is the measure for the respondents rating for their overall trip experience.
- Amtrak Personnel is the measure for the respondents rating Amtrak reservations personnel, station personnel, train crew members, and on-board service crew members.
- Information Given is the measure for the respondents rating all information they received pertaining to their trip.
- On-Board Comfort is the measure for the respondents rating seat or sleeping compartment comfort, air temperature, and ride quality.
- On-Board Cleanliness is the measure for the respondents rating the cleanliness of the train and on-board restroom facilities.
- On-Board Food Service is the measure for the respondents rating the quality of the food and snacks purchased on-board the train.

Table 2-21 below shows the CSI averaged scores for the Heartland Flyer during the fourth quarter of Fiscal Years 2011 through 2015. Because of the stewardship by ODOT to the operations of the *Heartland Flyer*, the service has received numerous awards and consistently scores high on customer satisfaction surveys conducted by Amtrak. In 2010, the *Heartland Flyer* was awarded Amtrak's highest honor, the President's Award for Safety and Service, following on the heels of Amtrak's designation of the train as a "Champion of the Rails" in 2008.

As can be seen, the *Heartland Flyer* has been consistently rated high in overall customer satisfaction, frequently exceeding the Amtrak standard. Categories where *Heartland Flyer* service falls below the Amtrak standard include on-board food service, cleanliness, and information given.

Table 2-21: Heartland Flyer CSI Scores, Fourth Quarter of Each Fiscal Year

Service	2012	2013	2014	2015	2016
Overall Service					
Heartland Flyer	90	91	92	93	88
Amtrak Standard	82	82	90	90	90
Amtrak Personnel					
Heartland Flyer	92	94	92	92	92
Amtrak Standard	80	80	90	90	90
Information Given					
Heartland Flyer	86	86	89	85	83
Amtrak Standard	80	80	90	90	90
On-Board Comfort					
Heartland Flyer	91	92	92	83	80
Amtrak Standard	80	80	90	90	90
On-Board Cleanliness					
Heartland Flyer	82	81	84	92	88
Amtrak Standard	80	80	90	90	90

On-Board Food Service					
Heartland Flyer	78	78	78	80	75
Amtrak Standard	80	80	90	90	90

Source: FRA Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations for September 2012 – 2016

Table 2-22 presents the summarized responses from recent customer surveys that identify specific benefits of the service, as well as specific areas for improvement.

Table 2-22: Heartland Flyer Customer Satisfaction Survey Response Summary

Top Reasons for Choosing the Flyer	Percent Respondents	Top Recommended Improvements	Percent Respondents
Comfort, relaxation, or enjoyment	30%	Poor reliability/service; inconvenient schedule	35%
Uniqueness of train experience	23%	Stations	11%
Price	19%	Food and beverages	8%
Convenient station location	6%	Train equipment	7%

Source: Amtrak

2.1.4.4 Present and Possible Improvements for Amtrak Services

Over the years, several capital projects were undertaken along the *Heartland Flyer*'s route and around its stations to upgrade station facilities, enhance operational performance of the service, and improve the connections to local transportation at the destination stations. These include the following:[18]

- Station and platform upgrades in Oklahoma City, Norman, Purcell, Pauls Valley, and Ardmore – a total of $5.7 million in 1999/2000
- Improvements in signal timing and grade crossings to increase maximum passenger train speed to 79 mph in Texas – $3.75 million in 2009
- Construction of new track, signals, and switches to enhance rail operations in Oklahoma, improving speed and safety – $0.54 million in 2010
- Construction of a track extension and switch improvements at the AT&SF Depot in Oklahoma City to eliminate a reverse move for the *Heartland Flyer* – $2.21 million in 2011
- Grade crossing improvements in Ardmore, Oklahoma - $1.45 million in 2011;
- Track improvements along the route (BNSF Red Rock Sub improvements) – $11.8 million in 2011
- AT&SF Depot and track improvements in Oklahoma City – $18.95 million; currently under construction.

In addition, the Texas Department of Transportation completed a $91 million project to improve the flow of train traffic in Fort Worth through Tower 55, an at-grade crossing of two major freight rail lines just south of the Fort Worth Intermodal Transportation Center used by Amtrak. By adding an additional north-south track, installing new signals, and increasing speeds through the interlocking from 10 mph to 30 mph, the project alleviated train delays in the area that had averaged 30 minutes for passenger

[18] Oklahoma Department of Transportation, Heartland Flyer PowerPoint Presentation.

and commuter trains and up to 90 minutes for freight trains. A $34 million TIGER grant helped pay for the project.

In Oklahoma, the City of Ardmore is in the process of spending approximately $8 million to rehabilitate its train depot, refurbish the area leading to the facility, and improve the streetscape and park area near the station.

Oklahoma City is also in the process of making station and platform improvements at the historic AT&SF Depot used by the Heartland Flyer. A $28 million project, funded in part with a $13.6 million TIGER grant, will renovate the station interior, adding facilities for ticket offices and checked baggage, and improve bicycle and pedestrian access to and around the station, while also adding a multimodal connection for the Oklahoma City streetcar line currently under construction. In addition, Oklahoma City is continuing efforts to construct a light rail line, while advancing planning and implementation work for additional commuter and passenger rail corridors and services that would provide connectivity to the Heartland Flyer at Oklahoma City. Potential future passenger rail services include development of commuter rail service on the Sooner Subdivision between Midwest City (in suburban Oklahoma City) and Sapulpa (in suburban Tulsa).

The potential addition of an Amtrak intercity station on the *Heartland Flyer* corridor at Thackerville, Oklahoma, is also under consideration. The station, near the Texas border, would serve the largest casino and resort in Oklahoma.

2.1.5 Public Financing for Rail Projects and Services

Oklahoma DOT, as well as a number of local public agencies in the state, has utilized federal and state transportation funding programs for rail infrastructure improvements where they were eligible. The following is a short summary of state and federal rail funding resources utilized for railroad improvements in Oklahoma in the recent past.

Of note is the prohibition of direct private investment in public projects. Prohibited by state law, the exclusion of private funding precludes the state from participating in an increasingly popular form of funding, public-private partnerships (P3s). A P3 seeks to link a mix of public and private funding to the benefits that accrue to each sector. Rail investments benefit both the private rail carrier and the public through improved mobility, reduced energy consumption and reduced emissions, or by stimulating economic development. Currently, Oklahoma is studying and investigating the best way to implement this form of project development.

2.1.5.1 State-Sponsored Rail Investment Programs and Funding

State-sponsored rail investment in Oklahoma has been provided through the Oklahoma DOT since the late-1970s. DOT's Rail Programs Division oversees the rail assistance programs described below. Funds for each program are provided by the Railroad Maintenance Revolving Fund (RMRF).

Funding sources for the RMRF include an annual 4 percent tax on freight rail car revenues, lease agreements with short line rail operators on state-owned trackage, and right-of-way sales.

2.1.5.1.1 ODOT Rail Safety Program

The Rail Programs Division Safety Section works with all railroads active in Oklahoma and the Oklahoma Corporation Commission, as well as the counties and communities in which the railroads operate, to actively pursue actions that lead to direct improvements for Oklahoma's citizens. The

ODOT Rail Safety Program is comprised of three primary focuses – single high-priority rail crossing locations, statewide minimum rail safety standards projects, and rail corridor safety improvements. These programs aim to either improve on-the-ground safety conditions or close and eliminate highly active railroad crossings that rise to the top of the annual ranking and inspection reports. Through a combination of annual OK.RAIL crossing database reporting results and the field-based diagnostic team inspections, the ODOT Rail Programs Safety Section can identify the crossings most in need of attention. This program has been modified to incorporate the $75 million initiative to improve safety at railroad crossings statewide.[19]

2.1.5.1.2 State-Owned Rail Construction and Maintenance Work Plan

The State-Owned Rail Construction and Maintenance Work Plan is funded through the RMRF established through the passage of the Railroad Rehabilitation Act in 1978. Funding comes from both the Oklahoma Freight Car Tax and from the lease-purchase agreements with rail operators in the state. Annual contributions to the fund have been approximately $1.8 million per year, but due to recent state-owned rail line lease maturities and sales, this figure has dropped significantly.[20]

Projects are identified from applications submitted through the Railroad Rehabilitation Act Loan Program as well as those presented in the Oklahoma State Rail Plan. Projects are prioritized based on safety considerations and infrastructure deficiencies. Consideration is given to the following during project selection:

- Track condition
- Rail structure condition
- Annual freight tonnage transported
- Anticipated percentage of truck traffic reduction
- Capacity
- Rail highway safety
- National freight transportation trends

ODOT has employed an objective investment program intended to maximize the benefit from its scarce resources.

2.1.5.1.3 Rail Crossings Safety Initiative

This state funded program provides financial assistance to improve rail crossings over highways. Funding is set at $100 million over three years. Crossing improvements can typically cost up to $350,000 per site. Locations were chosen based on several factors including average daily traffic counts on the roadway and rail track, accident data, condition of the crossing and regional needs. Standard funding levels for this program were about $8 million per year, which improved about 25 crossings per year.[21]

2.1.5.1.4 ODOT Construction Work Plan

Some ODOT highway construction projects include a rail component. This can include new grade separations, reconstruction of existing grade separations, or relocation of an existing rail line to accommodate a highway expansion or relocation.

[19] http://www.okladot.state.ok.us/rail/pdfs/RailWeb.pdf
[20] http://www.okladot.state.ok.us/rail/pdfs/RailWeb.pdf
[21] https://www.ok.gov/odot/Railroad_Crossing_Safety.html; 2015-2018 STIP Book

2.1.5.2 Federal Rail-Related Programs and Funding

This section identifies and describes federal rail-related programs and funding.

2.1.5.2.1 PRIIA Capital Assistance Programs

In 2008, the Passenger Rail Investment and Improvement Act (PRIIA) and related appropriation bills provided funds directly to states for intercity rail passenger investments. In early 2009, the American Recovery and Reinvestment Act (ARRA) also provided flexible transportation funding to states for rail capital projects as well as funding for passenger rail development.

The following section provides a brief history of these programs and federal budget appropriations which were specifically available for rail assistance as well as other programs that have to be utilized or may be eligible for future rail-related applications.

Passenger Rail Investment and Improvement Act (PRIIA)

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 (HSIPR) for states. States were required to identify passenger rail corridor improvement projects in their state rail plans.

Federal funding authorized under PRIIA or other authorization programs were required to be appropriated in annual budget or other legislative bills. USDOT's last budget appropriation for the high-speed rail state grant programs was for Federal Fiscal Year (FFY) 2010 (October 1, 2009 through September 30, 2010) and provided $2.5 billion of funds authorized under PRIIA. These funds were provided to states, on a competitive basis, for up to 50 percent of the capital cost of improving intercity rail passenger service.

Previous USDOT appropriation acts also provided funding that could be utilized for intercity rail passenger improvements under similar terms. The FFY 2008 USDOT Appropriations Act provided $30 million to states. The FFY 2009 USDOT Appropriations Act provided $90 million to states. No appropriations for high-speed rail grants were included in subsequent federal budgets, and PRIIA authorizations expired on September 30, 2013.

American Recovery and Reinvestment Act (ARRA)

As a result of the economic recession of 2008, the federal government approved the ARRA (Public Law 111-5) in February 2009 to stimulate the economy partly through the funding of infrastructure projects that could be initiated in the short term.

A popular grant program established under ARRA is the Transportation Investment Generating Economic Recovery (TIGER) program, which provides grants for capital investment in rail, highway, bridge, public transportation, and port projects and is awarded by USDOT on a competitive basis. USDOT has held seven rounds of TIGER applications since 2010. Following the sunset of ARRA in 2013, subsequent TIGER programs were funded through annual appropriation acts.

Oklahoma DOT has received a number of grants from the above programs for projects in Oklahoma. One example rail project funded through an ARRA grant of $4.0 million allowed for bank stabilization of the Canadian River and along the AOK Railroad at multiple locations between Oklahoma City and Shawnee, Oklahoma.

2.1.5.2.2 Federal Surface Transportation Rail-Related Programs

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

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was passed into law in July 2012 and authorized funding from July through September 2012 and for FFY 2013 and 2014 (October 1, 2012 through September 30, 2014). The provisions and funding available through MAP-21 have continued through periodic extensions by Congress.

The following is a brief description of rail-eligible programs available through past and current Federal Surface Transportation Acts and Oklahoma's participation where applicable.

Highway Safety Improvement Program (HSIP)

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 can be set aside for 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 percent. Oklahoma receives approximately $8.0 million annually through this program which is described under the state-sponsored Railway-Highway Crossing Safety Fund.

Rail Line Relocation Program

This program provided grants to be awarded for construction projects that improve the route or structure of a rail line for either the purpose of mitigating the adverse effects of rail traffic on safety, motor vehicle traffic flow, community quality of life, economic development, or for the lateral or vertical relocation of any portion of the rail line. Funding for this program was last appropriated in FFY 2011.

One Oklahoma locality has received a grant through this program:

- A grant of $332,500 for an elevated railroad track project in Claremore, OK.

Railway-Highway Crossing Hazard Elimination

This program makes available funds for grade crossing safety improvements as a part of the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, as extended. Oklahoma received $3.9 million of grants under this program in 2011, a portion of which covered one rail project: installation of protections at three unprotected grade crossings in Ardmore.[22]

Rail Rehabilitation and Improvement Financing (RRIF)

This program provides loans and credit assistance to both public and private sponsors of rail and intermodal projects. Eligible projects include acquisition, development, improvement, or rehabilitation of intermodal or rail equipment and facilities. Direct loans can fund up to 100 percent of a capital project with repayment terms of up to 25 years and interest rates equal to the cost of borrowing to the government.

[22] FHWA: https://www.fhwa.dot.gov/pressroom/fhwa1137/fhwa1137ok.cfm

Eligible borrowers include railroads, state and local governments, government sponsored authorities, corporations, and joint ventures that include at least one railroad.

Railroads operating in Oklahoma which have received RRIF funding include the Kansas City Southern (KCS) and Stillwater Central (SLWC)[23].

2.1.5.2.3 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 percent.

Congestion Mitigation and Air Quality Improvement Program

This program funds transportation projects and programs that improve air quality by reducing transportation-related emissions in non-attainment and maintenance areas for ozone, carbon monoxide, and particulate matter. Examples of 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 funds are disbursed to and within a state based on levels of pollution within an area, with the state or the region utilizing the funds to implement projects that reduce congestion or improve air quality. Projects must be included in MPO transportation plans and transportation improvement programs (TIPs) or the current state transportation improvement program (STIP) in areas without an MPO. The federal matching share for these funds is 80 percent.

Surface Transportation Block Grant Program

The FAST Act converts the long-standing Surface Transportation Program into the Surface Transportation Block Grant (STBG) Program acknowledging that this program has the most flexible eligibilities among all Federal-aid highway programs and aligning the program's name with how FHWA has historically administered it. [FAST Act § 1109(a)]. The STBG promotes flexibility in State and local transportation decisions and provides flexible funding to best address State and local transportation needs. The STBG Program 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 states with approval from the FHWA. As under MAP-21, the FAST Act directs FHWA to apportion funding as a lump sum for each State then divide that total among apportioned programs. Each State's STBG apportionment is calculated based on a percentage specified in law.

Transportation Infrastructure Finance and Innovation Act (TIFIA)

This program provides credit assistance to large-scale projects (over $50 million or one-third of a state's annual federal-aid funds) of regional or national significance that might otherwise be delayed or not constructed because of risk, complexity, or cost. A wide variety of intermodal and rail infrastructure

[23] FRA https://www.fra.dot.gov/Page/P0128

projects are eligible and can include equipment, facilities, track, bridges, yards, buildings, and shops. Eligible recipients for TIFIA funds include state and local governments, transit agencies, railroad companies, special authorities or districts, and private entities. The interest rate for TIFIA loans is the U.S. Treasury rate, and the debt must be repaid within 35 years.

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 12 eligible activities related to surface transportation. Eligible rail-related 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 percent.

Section 130 Highway-Rail Grade Crossing Program

This program provides federal support to projects in an effort to reduce the incidence of accidents, injuries, and fatalities at public rail-highway crossings. States may utilize funds to improve the safety of railroad crossings, including installing or upgrading warning devices, eliminating at-grade crossings through grade separation, or consolidating or closing at-grade crossings. The federal share for these funds is 90 percent, with the remaining 10 percent to be provided by local matching funds. Funding for FY 2016 is set at $350 million due to a one-time increase from the Consolidated Appropriations Act of 2016. Funding is set at $230 million for 2017, with a $5 million increase each year through 2020.[24]

Transportation Investment Generating Economic Recovery (TIGER) Grand Awards

This program competitively awards funds toward capital investments that demonstrate they will have a significant national or regional impact. Congress appropriated $500 million for the most recent round of awards in 2016.[25] Rail Programs Division worked with a number of partners to develop the following successful applications:[26]

- Great Plains Freight Rail TIGER II (co-op with KDOT-ODOT) (TOTAL PROJECT COST: $22,500,147.00). This project improved capacity on the South Kansas and Oklahoma Railroad Company (SK&O) rail line to the Port of Catoosa.
- Sayre to Clinton TIGER III project (TOTAL PROJECT COST: $8,456,580.00). This project greatly increased freight rail capacity for Farmrail Corporation (FMRC) in western Oklahoma.
- Eric to Sayre TIGER V project (TOTAL PROJECT COST: $2,621,700.00). This project has greatly increased freight rail capacity between Texas and western Oklahoma.

2.1.5.2.4 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. Eligible projects must be

[24] USDOT
[25] Ibid.
[26] http://www.okladot.state.ok.us/rail/pdfs/RailWeb.pdf

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 percent of the project, although EDA could provide up to 80 percent for projects in severely depressed areas.

Recent EDA rail-related grants provided to Oklahoma localities include:

- A $1 million grant to the city of Elk City to provide critical infrastructure needed to expand a city-owned industrial park to be served by the short line Farmrail.
- A $950,000 grant to the Delaware Nation of Anadarko to renovate the former mill to create the Green Technology Center. The EDA investment includes the installation of energy efficient technology and the rehabilitation of an adjoining rail spur to be served by the UP.
- A $1.2 million grant to the Potawatomi Nation will enable development of rail infrastructure, which is a critical next step on the development of the Iron Horse Industrial Park in Shawnee, which is served by both the BNSF and UP.

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 percent of the project cost. Eligible rail-related community facilities include transportation infrastructure for industrial parks and municipal docks.

The 45G Short Line Railroad Tax Credit

Originally enacted in 2004, the Railroad Track Maintenance Tax Credit, also known as the Section 45G Tax Credit, was a federal income tax credit for track maintenance performed by short lines and regional railroads (Class II and III railroads) in the U.S. Tax Code Section 45G leveraged private sector investment in rail infrastructure by providing a tax credit of 50 cents for every dollar spent on qualified track maintenance expenditures or other qualifying railroad infrastructure projects. The credit was capped based on a mileage-based formula; the maximum amount allowable was $3,500 per mile of track.

The credit created a strong incentive for short line and regional railroads to invest private sector dollars on freight railroad track rehabilitation before expiring at the end of 2016. Legislation pending before Congress as of early 2017, the Building Rail Access for Customers and the Economy Act (H.R.721) will make the tax credit permanent if passed.

Per Section 45G, qualifying railroad structures improvements include: grading; other right-of-way expenditures; tunnels and subways; bridges, trestles, and culverts; elevated structures; ties; rails and other track material; ballast; fences, snowsheds, and signs; signals and interlockers; public improvements and construction. Qualified railroad track maintenance expenditures are expenditures for maintaining the aforementioned qualifying railroad structures owned by short line and regional railroads.

FAST Act

The Fixing America's Surface Transportation (FAST) Act is a five-year legislation to improve the nation's transportation infrastructure, including roads, bridges, transit systems, and the rail transportation network. The legislation was signed by President Obama in December 2015. The bill provides for a total of $305 billion in funding over the period.

2.1.6 Ongoing Projects for Safety and Security Improvements

Rail safety is an important issue for both railroads and state departments of transportation. Rail safety affects the well-being of railway workers and the general public. It also has a major impact on the efficiency of railroad operations. Increased attention has also focused on the safe movement of hazardous materials by rail, especially the movement of crude oil.

Rail security has seen increased attention due to the potential for disruption of the transportation system or acts which could place large numbers of citizens at risk.

This section describes rail safety and security efforts in Oklahoma.

2.1.6.1 Rail Safety Programs in Oklahoma

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. FRA's rail safety regulations can generally be found in Title 49 Code of Federal Regulations Parts 100-299.

Oklahoma DOT's involvement in rail safety is located within the Rail Programs Division which is responsible for railroad coordination activities, track safety inspection, and the grade crossing safety program.

This office oversees the federal and state funded Railroad Grade Crossing Safety Programs by identifying safety enhancement projects at public highway-rail grade crossings. Projects receive final approval by the Oklahoma Transportation Commission.

Oklahoma Operation Lifesaver is a non-profit educational organization for highway-rail crossing safety and rail trespass prevention. Operation Lifesaver promotes safety through education of both drivers and pedestrians to make safe decisions at crossings and around tracks, promoting enforcement of traffic laws related to crossing signals and trespass, and by encouraging continued engineering research and innovation to improve the safety of railroad crossings.

Rail inspection activities fall under the jurisdiction of FRA's Office of Railroad Safety which promotes and regulates safety throughout the nation's railroad industry. The office executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts. Safety inspections are carried out to ensure compliance in five safety disciplines: Hazardous Materials; Motive Power and Equipment; Operating Practices; Signal and Train Control; and Track.

2.1.6.2 Oklahoma Rail Accident Statistics

The following is a statistical review of rail safety in Oklahoma over the past decade. It addresses the rail accident and incident trends and provides details as to the type of rail accidents, those affected, and causes.

Table 2-23 below shows statistics for the total number of rail accidents and incidents in Oklahoma over the past 10 calendar years. These totals include Train Accidents, Highway-Rail Incidents, and Other Incidents. These categories will be defined and discussed in greater detail below.

Table 2-23: Total Accidents and Incidents in Oklahoma (2006-2015)

Rail Injury Type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Incidents	199	207	180	138	162	155	163	167	122	110
Deaths	21	13	12	11	11	10	11	15	17	8
Injuries	100	114	88	64	94	82	74	79	77	54

Source: FRA Office of Safety Analysis.

The trend in total rail accidents and incidents in Oklahoma has decreased over the past decade. The first half of the decade saw an average of 177 total incidents, 13.6 fatalities, and 92 injuries, while the most recent five-year period saw averages of 143 total incidents, 12.2 fatalities, and 73 injuries.

The following sections discuss the various types of Oklahoma rail accidents and incidents in more detail.

2.1.6.2.1 Train Accidents in Oklahoma

Train accidents include train derailments, collisions, and other events involving on-track rail equipment that result in fatalities, injuries, or monetary damage above a threshold set by FRA. Train accident statistics in Oklahoma over the past decade are provided in **Table 2-24** below.

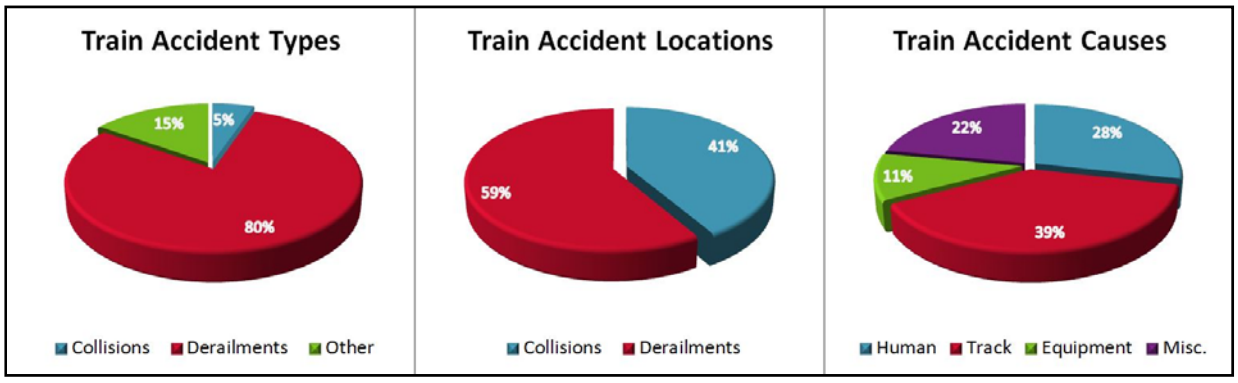
Table 2-24: Total Train Accidents in Oklahoma (2006-2015)

Train Accidents	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Accidents	63	71	63	41	50	43	47	54	30	32
Deaths	0	0	0	0	0	0	3	0	0	0
Injuries	0	2	2	0	2	1	1	1	0	2

Source: FRA Office of Safety Analysis.

Figure 2-5 below provides more detailed information regarding the type, location, and causes of the train accidents over the past decade.

Figure 2-5: Train Accident Type/Locations/Causes in Oklahoma (2006-2015)



Source: FRA and HDR

In the above illustration, rail derailments are shown to have been the dominant type of rail accidents in the state over of the past 10 years. Also, most rail accidents occurred on yard tracks as opposed to main line tracks. Lastly, track defects and human error were the leading causes of train accidents over the past decade, while equipment defects and miscellaneous causes comprised lesser shares of rail accidents in the state.

2.1.6.2.2 Other Rail Incidents

Other rail incidents include events other than train accidents or crossing incidents that caused a death or injury to any person. Most fatalities in this category are due to rail trespassers. Other events which generally lead to injuries in this category include such railroad-related activities as getting on or off equipment, doing maintenance work, throwing switches, setting handbrakes on railcars, falling, and so on. Rail passenger-related casualties can include boarding or alighting from standing trains or platforms. Statistics for this category of rail incidents are shown in **Table2-25** below.

Table 2-25: Other Rail Incidents 2006-2015

Other Rail Incidents	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Incidents	66	77	59	48	71	55	55	71	47	40
Deaths	5	4	4	7	6	4	3	7	5	7
Injuries	64	76	55	41	66	54	52	65	56	35

Source: FRA Office of Safety Analysis.

In recent years the trend has shown a decrease in the number of total incidents and injuries for this category of rail incidents.

2.1.6.3 Highway-Rail At-Grade Crossing Safety in Oklahoma

2.1.6.3.1 Crossing Protection in Oklahoma

According to FRA's inventory of at-grade crossings, there are a total of 3,713 FRA website public at-grade highway-rail crossings in Oklahoma. A substantial number of grade separated crossings also exist in the state, but their numbers are not considered in this section as it focuses on protection of at-grade crossings and their crash statistics. Public at-grade crossings in the state have various levels of grade crossing warning devices. **Table2-26** below shows the type of warning equipment and the number of crossings equipped with each. The warning devices are shown in a decreasing order of warning effectiveness.

Table 2-26: Types of Warning Devices at Oklahoma Public At-Grade Crossings

Warning Device Type	Gates	Flashing Lights	Bells	Special Warning	Stop Signs	Cross Bucks	None
Number of Crossings	964	450	17	37	199	1,997	49

Source: FRA Office of Safety Analysis.

These figures show that slightly less than half of all public at-grade crossings in the state have active warning devices such as gates, flashing lights, and bells or special warning arrangements (e.g., flagmen), while more than half of crossings have passive warning devices (e.g., crossbucks and / or stop

signs) or no warning systems. Many of these crossings with passive warning systems have low volumes of roadway traffic and are rural in nature.

The following section shows Oklahoma's accident history at highway-rail crossings over the past 10 years.

2.1.6.3.2 At-Grade Crossing Incidents in Oklahoma

Table2-27 below shows the number of highway-rail grade crossing incidents, fatalities, and injuries which have occurred at all public at-grade crossings over the past decade.

Table 2-27: Highway-Rail Incidents in Oklahoma (2006-2015)

Highway-Rail Incidents	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Incidents	70	59	58	49	41	57	61	42	45	38
Deaths	16	9	8	4	5	6	5	8	12	1
Injuries	36	39	31	23	26	27	21	13	21	17

Source: FRA Office of Safety Analysis.

These figures show a downward trend in all three categories over the course of the ten years examined. Total incidents have decreased consistently, with just over half as many occurring in 2015 as in 2006. The average number of incidents in the last five years was 12 percent lower than the first five years. Deaths dropped sharply from 2006-2009, then trended upward before showing a dramatic drop in 2015. Data from 2016 indicates 2015 may be an aberration, with 8 deaths recorded so far through November 30. Injuries follow a consistent downward trend for the entire decade. Importantly, these numbers are down from an average of 83 injuries per year in the 1980s.

In addition to state-led efforts, BNSF, UP, and KCS all actively try to close grade crossings where feasible. By reducing potential conflict points and consolidating traffic at fewer crossings, upgrade funds can be better leveraged to provide benefit to a greater percentage of travelers.

2.1.6.4 Hazardous Material Incidents in Oklahoma

2.1.6.4.1 Hazardous Materials Safety Programs

Hazardous materials regulations apply to all interstate, intrastate, and foreign carriers by rail, air, motor vehicle, and vessels. The Oklahoma DOT and Department of Public Safety (DPS) enforce the hazardous materials transportation regulations in Oklahoma.

Hazardous Materials Safety Programs are generally composed of four main components:

1. Inspection of railroad and shipping facilities to ensure compliance with Part 49 Code of Federal Regulations (CFR). USDOT received the authority to regulate the transportation of hazardous materials through the Hazardous Materials Transportation Act of 1975;
2. The provision of technical assistance, education, and outreach activities to shippers/consignees, rail carriers, emergency responders, and the general public;
3. Inspection and transport of nuclear materials; and,

4. Inspection of employee training records, security procedures, and quality assurance programs to ensure safety standards are met.

2.1.6.4.2 Rail Accidents Involving Hazardous Materials in Oklahoma

Tablebelow shows the history of accidents involving rail cars carrying hazardous materials in Oklahoma over the past decade.

Table 2-28: Rail Accidents Involving Hazardous Materials in Oklahoma (2006-2015)

Rail Incidents	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Cars Carrying Hazmat	224	248	184	115	109	227	177	163	56	110
Hazmat Cars Damaged or Derailed	22	19	30	4	16	21	20	25	11	6
Cars Releasing Hazmat	0	1	8	0	1	0	4	0	1	0

Source: FRA Office of Safety Analysis.

Rail accidents involving hazardous materials in Oklahoma have generally followed the overall trend of decreases in rail-related accidents and incidents. In the past decade, the number of cars carrying hazardous materials involved in rail accidents has generally decreased. The number of hazardous material cars damaged or derailed in accidents, however, has varied widely over the course of the same decade, but has generally declined overall.

2.1.6.5 Positive Train Control

Positive Train Control (PTC) refers to technologies designed to automatically stop or slow a train before certain accidents can occur. PTC is designed to prevent collisions between trains, 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, under the following circumstances:

- On all rail main lines over which regularly-scheduled commuter or intercity passenger trains operate; and
- On all Class I railroad main lines with over 5 million gross ton-miles per mile annually over which any amount of toxic/poison-by-inhalation hazardous materials is handled.

The mandate for PTC excludes all Class II (regional) and III (short line) railroads regardless of tonnage or number of toxic/poison cars handled as long as no passenger trains travel over the lines.

Under these conditions, all rail operators over the Amtrak corridors within Oklahoma as well as any Class I railroad main line routes would likely need to be equipped with PTC. Class I railroads are currently developing PTC systems for their networks, which would include implementation of the technology on principal lines in Oklahoma.

Congress has considered several bills that would extend the 2015 deadline of the Act. In October 2015, Congress passed H.R. 38 19 – Surface Transportation Extension Act of 2015, providing a three-year

extension of the original PTC deadline. Under the new law, U.S. freight railroads will have until December 31, 2018, to fully implement PTC[27].

2.1.6.6 Rail Security

In response to the increased focus on the security of the transportation system, new federal and state agencies have been established to oversee and provide assistance to ensure the security of transportation modes. The following addresses specific rail security issues and Oklahoma's involvement in rail security procedures.

The primary agencies responsible for security related to transportation modes in Oklahoma are the U.S. Department of Homeland Security and the Oklahoma Emergency Response Commission (OERC). These agencies, in coordination with federal and state transportation agencies, have addressed transportation security largely through identifying critical infrastructure assets, developing protection strategies for these assets, and developing emergency management plans.

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

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

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

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

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

OERC's mission is to assist in improving communities' preparedness for handling chemical accidents, promoting cooperation among state and local government and industry, increasing public awareness of chemicals in the community and building information databases. The OERC appoints members to Local Emergency Planning Committees which have broad-based representation, including state and local officials, law enforcement, emergency management, emergency medical services, firefighting, health,

[27] Association of American Railroads- Positive Train Control: https://www.aar.org/policy/positive-train-control

local environment, hospital, transportation, broadcast and print media, community groups, and owners and operators of facilities subject to the state's requirements.

2.1.7 Economic Impacts

Rail economic impacts to Oklahoma are estimated using IMPLAN economic impact modeling tool with input data and assumptions from freight movement data (derived from the STB Waybill Sample data of shipments originating in Oklahoma described in Section 2.2.2), values of commodity shipments (extracts from FAF data base for rail shipment originating in Oklahoma and converted to $/ton), passenger rail operations, and visitor expenditures.

Impacts of the rail industry in Oklahoma stem from firms providing freight and passenger transport services, industries using rail freight services to trade goods (shippers of goods/commodities), and expenditures from visitors who are coming to Oklahoma by rail. Of these activities, freight-users generate the most significant impact.

Impacts are calculated and presented by activity (service provision and rail users), type (direct, indirect, induced, and total), and measure (employment, income, value added, output, and tax revenue) for year 2016 to provide a comprehensive perspective on how rail in Oklahoma impacts the economy and are shown in Table 2-29A below:

- **Employment** – Economic impacts of the rail transportation industry extend beyond the 1,870 individuals directly employed in the provision of rail transport services (both passenger and freight). When the freight rail transportation and visitor impact activities and multiplier impacts are included, rail-related employment in Oklahoma amounts to 21,503 jobs, which represent 0.9% of the 2.3 million statewide employment.
- **Employment Income** – $1.4 billion earned by these total employees represent 1.2% of Oklahoma's total labor income. Labor income includes employee compensation and proprietary income. Employee compensation, in turn, consists of wage and salary payments as well as benefits (health, retirement, etc.) and employer paid payroll taxes (employer side of social security, unemployment taxes, etc.). Proprietary income consists of payments received by self-employed individuals and unincorporated business owners.
- **Value Added** – The combined value added impact of rail-related activity is over $3.1 billion and represents 1.7% of the state's Gross State Product (GSP).
- **Output** – In terms of total revenue, the rail-related industries generated about $6.5 billion in output, which represents 1.8% of Oklahoma's total output.
- **Tax Revenue** – Federal, state and local tax revenues generated by the rail industry totaled $590.8 million.

Table 2-29A: Rail Economic Impacts in Oklahoma

Impact Metric	Transportation Services			Transportation Users			Total Services		
	Total	Freight	Passenger	Total	Freight	Passenger	Total	Freight	Passenger
Employment, Jobs									
Direct	1,870	1,842	28	5,497	5,477	20	7,367	7,319	48
Total	5,244	5,165	79	16,260	16,234	26	21,503	21,399	104
Employment Income, $ Millions									

Direct	$207.4	$204.3	$3.1	$474.5	$474.1	$0.4	$681.9	$678.4	$3.5
Total	$379.2	$373.5	$5.7	$1,049.2	$1,048.6	$0.7	$1,428.4	$1,422.1	$6.3
Value Added, $ Millions									
Direct	$990.1	$975.3	$14.8	$903.7	$903.1	$0.6	$1,893.8	$1,878.4	$15.4
Total	$1,275.6	$1,256.5	$19.1	$1,870.4	$1,869.3	$1.1	$3,146.0	$3,125.8	$20.2
Output, $ Millions									
Direct	$1,347.1	$1,326.9	$20.2	$2,769.3	$2,768.2	$1.1	$4,116.4	$4,095.1	$21.3
Total	$1,899.2	$1,870.7	$28.4	$4,633.5	$4,631.5	$2.0	$6,532.6	$6,502.2	$30.4
Tax Revenues, $ Millions									
State and Local	$51.0	$50.2	$0.8	$151.5	$151.4	$0.1	$202.5	$201.6	$0.9
Federal	$140.4	$138.3	$2.1	$248.0	$247.8	$0.2	$388.3	$386.1	$2.3
Total	$191.3	$188.5	$2.9	$399.5	$399.2	$0.3	$590.8	$587.7	$3.1

The full description of the methodology and detailed economic impacts can be found in Appendix B of this State Rail Plan.

2.2 Trends and Forecasts

The purpose of this section is to describe trends that will affect rail needs for the state of Oklahoma in the future. Trends which impact both passenger and freight rail include factors such as demographic and economic growth, freight and passenger transportation changes, and the future land use outlook. The following discussions provide a base for determining future rail service needs in Oklahoma.

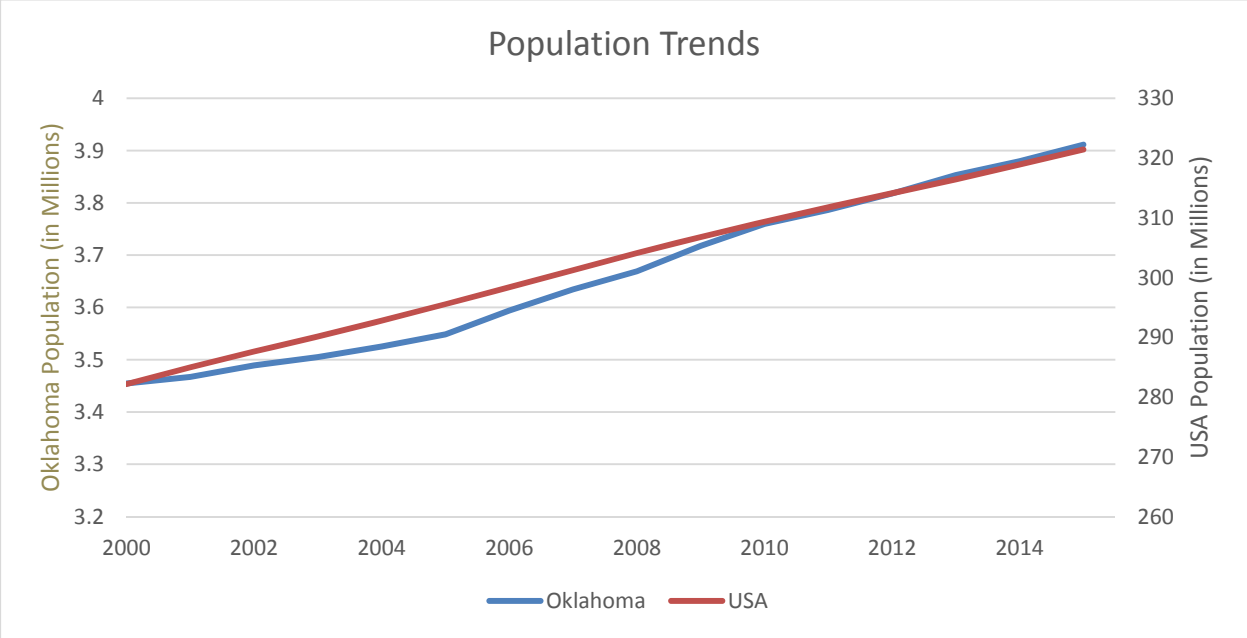
2.2.1 Demographic and Economic Growth Factors

2.2.1.1 Population

Figure 2-6 below shows the population trends of Oklahoma and the USA over time. The estimated population of Oklahoma in 2015 was 3.9 million and ranked 30th among all states. From 2000 to 2015, Oklahoma experienced a population increase of 13.2 percent and an average annual rate of population growth of 0.83 percent, which was only marginally lower than the growth in all of the USA (13.9 percent over the years 2000-2015, or 0.87 percent annually).[28]

[28] Bureau of Economic Analysis, SA1 Personal Income and Employment by Major Component.

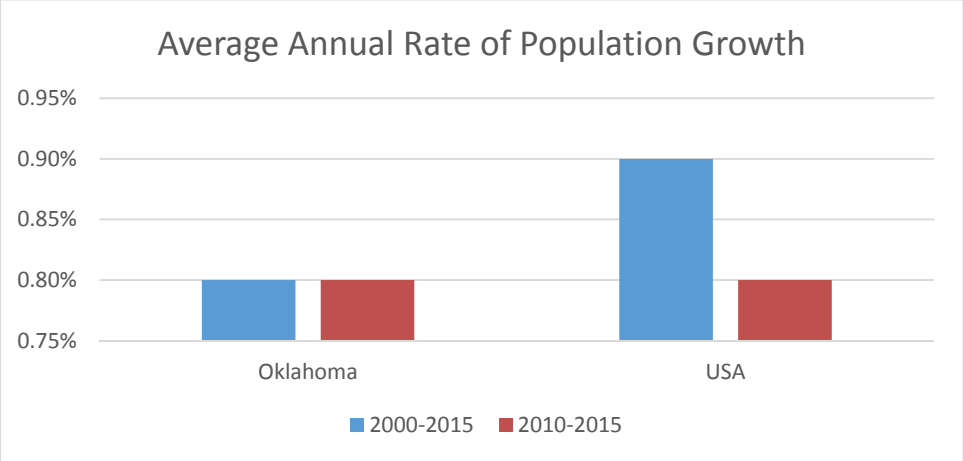
Figure 2-6: Population trends



Source: Bureau of Economic Analysis, Regional Economic Accounts, SA1 Personal Income and Employment by Major Component.

Figure 2-7 below shows the average annual rate of population growth for Oklahoma and US. As mentioned earlier, from 2000 to 2015 Oklahoma experienced an average annual rate of population growth equal to 0.83 percent while all of the USA had a rate of growth of nearly 0.9 percent. Over the years 2010 to 2015, both Oklahoma and all of the USA experienced an average annual population growth of 0.80 percent. In other words, population growth has stayed the same in the study area, while across all of US, it has slowed down over time.

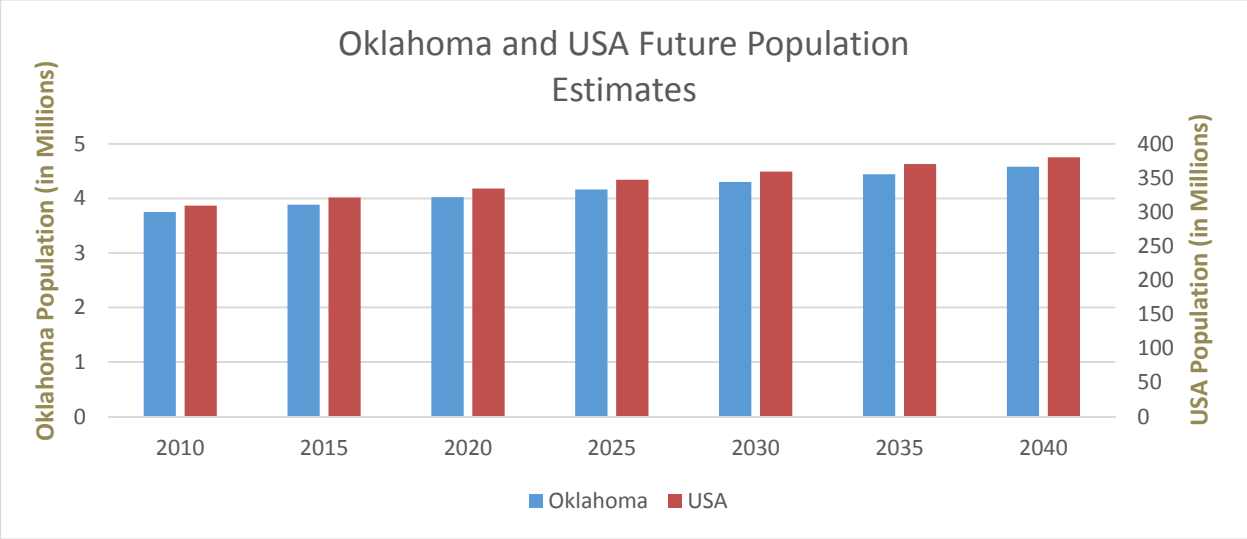
Figure 2-7: Average Annual Rate of Population Growth



Source: Bureau of Economic Analysis, Regional Economic Accounts, SA1 Personal Income and Employment by Major Component.

The Oklahoma Department of Commerce and the U.S. Census Bureau provide future population projections for Oklahoma and all of United States, respectively. The 2012 Demographic State of the State Report issued by the Oklahoma Department of Commerce provides the state population projections through 2075. The U.S. Census Bureau projects the US population through 2060. Population projections in five-year increments were used at the state and county level. Based on this information, between 2010 and 2040 the state's population is projected to increase by 22 percent, reaching a total of nearly 4.6 million. Compared to the estimated 23 percent growth for the entire USA, Oklahoma's projected growth indicates that the state will continue to keep up with most of the country in terms of the population growth. Figure 2-8 below shows the projected population estimates for both Oklahoma and the United States.

Figure 2-8: Oklahoma and USA Future Population Estimates



Source: Oklahoma Department of Commerce's 2012 Demographic State of the State Report and U.S Census Bureau population estimates.

In 2015, the median age in Oklahoma was 36.2 years which is slightly below the national median age of 37.8 years. People between 25 and 44 years of age were the biggest segment of Oklahoma's population representing 25.9 percent of the state population. At the national level people between 25 and 44 years of age also were the biggest segment of the population, representing 26.3 percent of the overall population. Among the state's population over 25 years of age 86.7 percent graduated from high school and 29.7 percent received a bachelor's degree or higher; the high school graduation rate is slightly lower than the national average of 87 percent, but the population that received a bachelor's degree or higher is above the 24.1 percent national average.

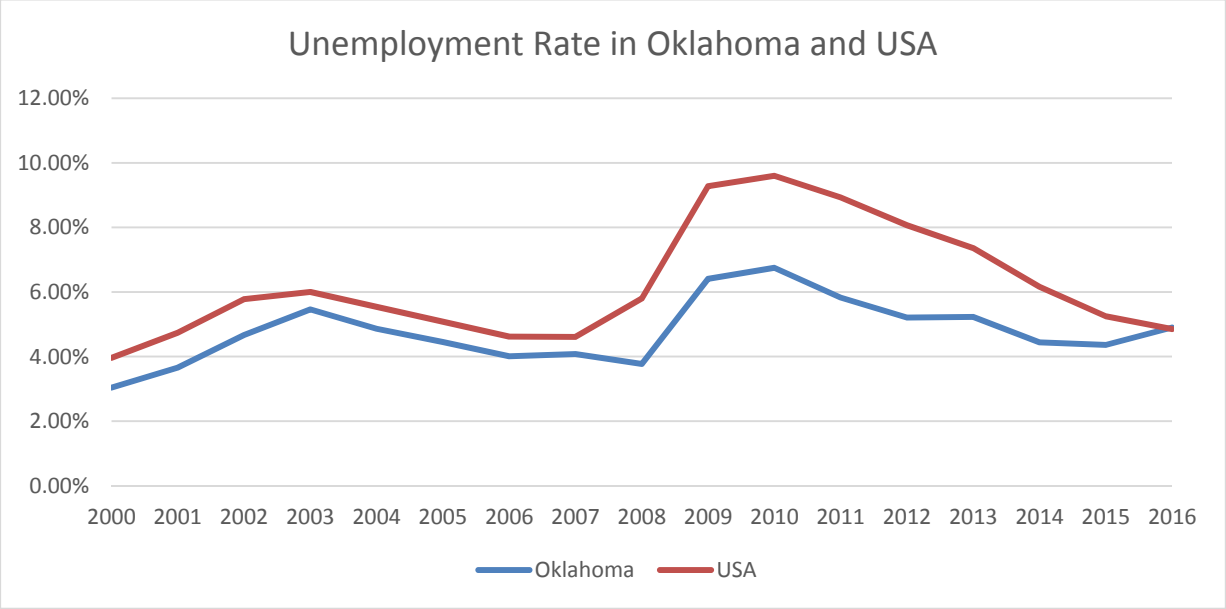
2.2.1.2 Employment

The most recent Labor Force Statistics published by the Bureau of Labor Statistics indicates that around 1.74 million people were employed in Oklahoma as of 2016. According to Oklahoma Long-Term Industry Employment Projection done by the Oklahoma Employment Security Commission, by 2024 base employment will increase to about 1.92 million, an 8.7 percent increase from the 2014 base employment projections.

In the past decade, unemployment rate in the study area ranged from as low as 3.7 percent in 2008 prior to the recent economic recession to as high as 6.75 percent in 2010[29]. These rates were below the national level which amounted to 5.80 percent in 2008 and 9.60 percent in 2010, respectively. Figure 2-9 below show the unemployment rate in Oklahoma and the U.S. over the years from 2000 to 2016.

[29] Bureau of Labor Statistics, Unemployment Rate, series ID: LASST400000000000003.

Figure 2-9: Unemployment Rate in Oklahoma and USA.



Sources: Bureau of Labor Statistics, Unemployment Rate, series ID: LASST400000000000003 and series ID: LNS14000000

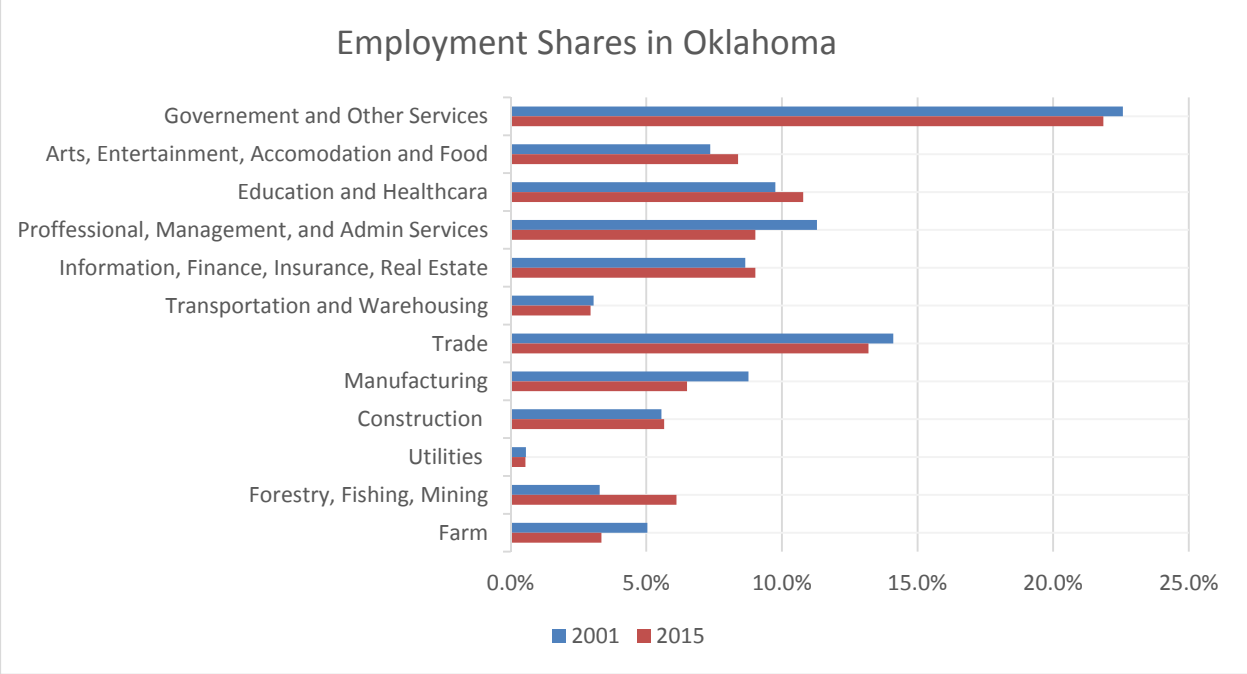
In 2014, the Gross Domestic Product (GDP) of Oklahoma amounted to $17,277,548 million which represents an increase of 29 percent from 2010[30]. Three industries generated over 47 percent of the state's GDP[31]:

- Government and Other Services: $31,809 million, or 18.4 percent;
- Information, Finances, Insurance, Real Estate: $28,463 million, or 16.5 percent, and
- Trade: $21,647 million, or 12.5 percent.

Figure 2-10 below shows the employment shares by industry in Oklahoma for 2001 and 2015. Government and Other Services is Oklahoma's largest employer with employment share of 21.5 percent. Trade is the second largest employer with an employment share of 13.9 percent[32]. During 2001 to 2015, the employment share of Professional, Management and Administration Services experienced a decrease of 2.1 percent, the biggest decline in employment shares in Oklahoma. During the same period, Forestry, Fishing, and Mining experienced an increase in employment share of 2.8 percent representing the biggest increase in employment share in Oklahoma.

[30] Bureau of Economic Analysis, Gross Domestic Product (GDP) by State (millions of current dollars).
[31] Calculated based on Bureau of Economic Analysis, Gross Domestic Product (GDP) by State (millions of current dollars).
[32] Calculated based on Bureau of Economic Analysis employment by industry data. CA25N Total Full-Time and Part-Time Employment by NAICS Industry.

Figure 2-10: Employment Shares in Oklahoma



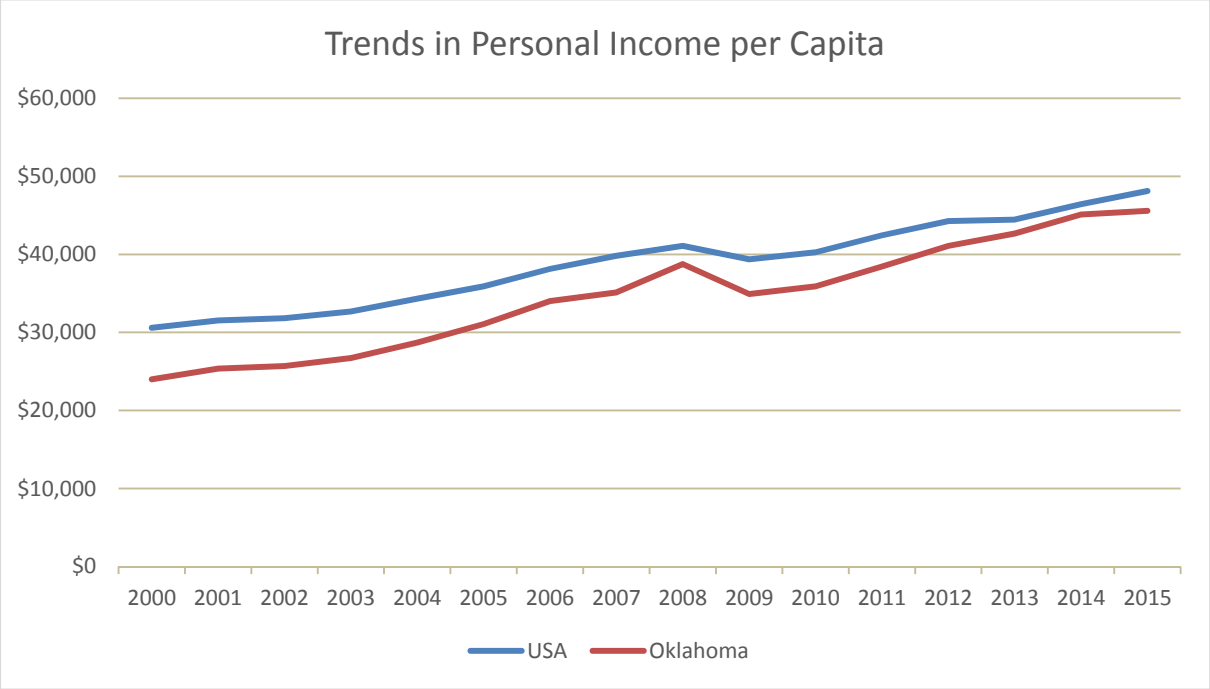
Source: Calculated based on Bureau of Economic Analysis employment by industry data. CA25N Total Full-Time and Part-Time Employment by NAICS Industry.

2.2.1.3 Personal Income

Figure 2-11 presents the trends in personal income per capita in Oklahoma and the U.S. In 2015, Oklahoma's per capita personal income was $45,573 which was below the national level of $48,112.[33] Over the years 2000-2015 period, personal income per capita in the study area was in general lower than on average across the U.S. However, this gap has been decreasing over time. Since 2000, Oklahoma's personal income per capita has almost doubled (90.2 percent increase from $23,983 to $45,573). At the same time, all of U.S. experienced an increase of 63.6 percent (from $30,602 to $48,112).[34] The income growth in the past decade in Oklahoma can be attributed to the strong economy, as shown by the recent state's GDP.

[33] Bureau of Economic Analysis; SA1 Personal Income Summary: Personal Income, Population, Per Capita Personal Income.
[34] Bureau of Economic Analysis; SA1 Personal Income Summary: Personal Income, Population, Per Capita Personal Income.

Figure 2-11: Trends in Personal Income per Capita

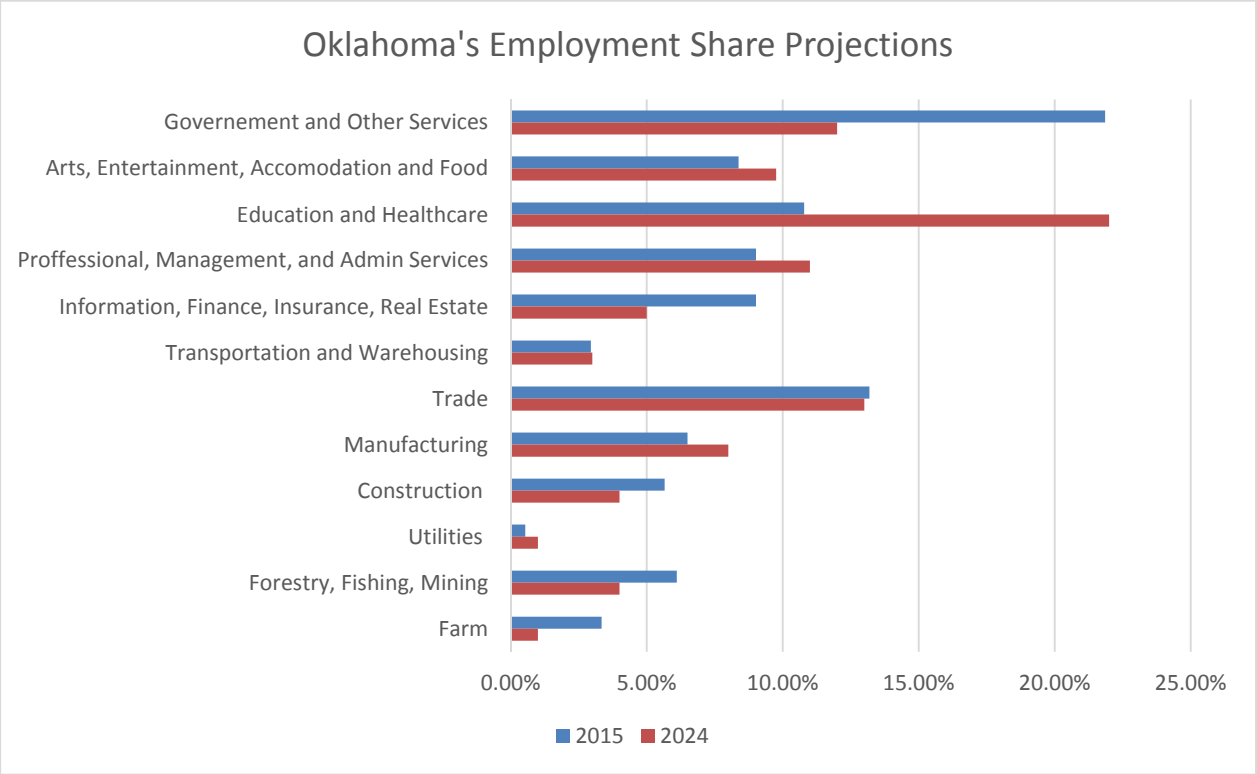


Source: Bureau of Economic Analysis, SA1 Personal Income Summary: Personal Income, Population, Per Capita Personal Income

2.2.1.4 Industrial Outlook by Sector

The Oklahoma Employment Security Commission provides future employment share projections to 2024. According to their Industry and Occupational Employment Projections, the Education and Healthcare Sectors are expected to have the highest increase of employment share, 10.8 percent in 2015 to 22 percent in 2024. Government and Other Services are expected to face the biggest reduction from 21.9 percent in 2015 to 12 percent in 2024. One possible explanation to the projected growth in the Education and Healthcare Industry employment share is the aging population which will place an increased demand on the healthcare system. Figure 2-12 below illustrates these projections.

Figure 2-12: Employment share projection



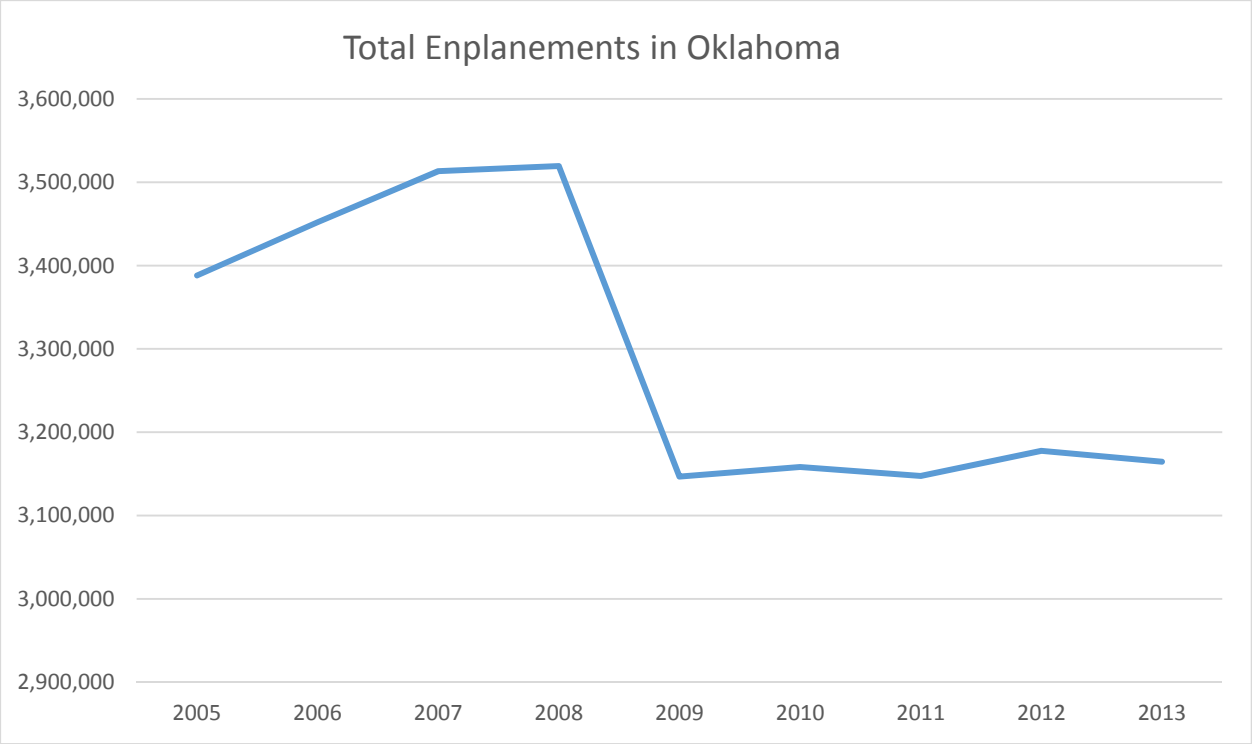
Sources: Calculated based on Bureau of Economic Analysis employment by industry data; CA25N Total Full-Time and Part-Time Employment by NAICS Industry and Oklahoma Employment Security Commission data; Industry and Occupational Employment Projections.

2.2.1.5 Passenger Trends

Figure 2-13 below shows the number of total enplanements in Oklahoma. In 2008 before the recent economic crisis, Oklahoma reached a peak of total enplaned passenger at 3.5 million[35]. Since the economic recession, the number of enplaned passengers increased somewhat but has not recovered the pre-recession level.[36] In 2013, total number of enplaned passengers was 3.2 million which represents a 10.1 percent decline from 2008.

[35] Bureau of Transportation Statistics, State Transportation Statistics, Table 1-12 Airports Enplanements by State and Air Carrier category.
[36] Calculated based on Bureau of Transportation Statistics, State Transportation Statistics, Table 1-12 Airports Enplanements by State and Air Carrier category.

Figure 2-13: Total Enplanements in Oklahoma

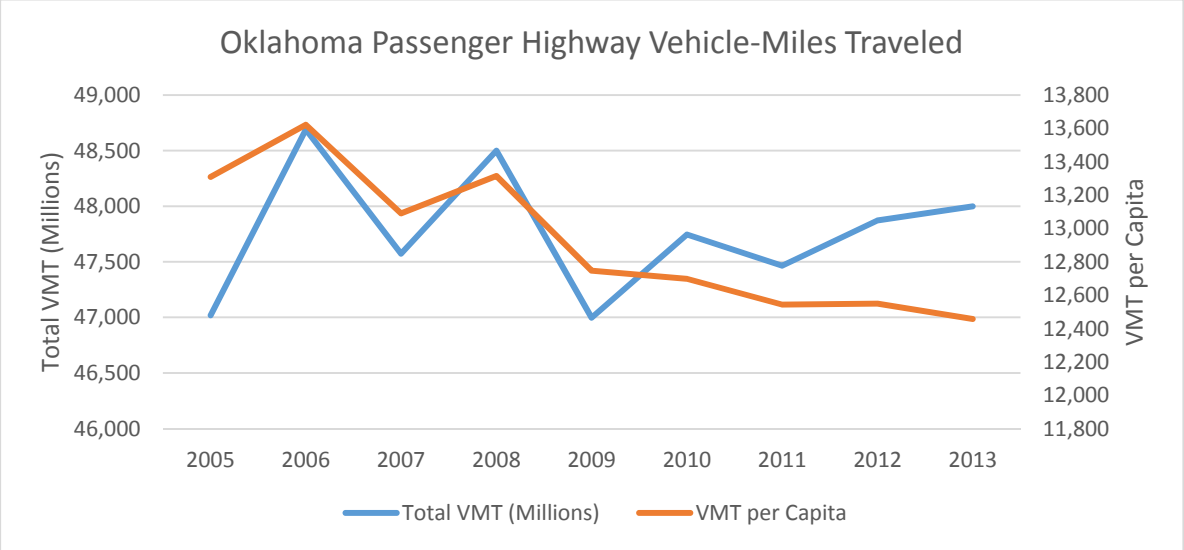


Sources: Bureau of Transportation Statistics, State Transportation Statistics, Table 1-12 Airports Enplanements by State and Air Carrier category.

In 2008, Oklahoma passenger highway vehicle-miles traveled (VMT) amounted to 48,499 million miles and the VMT per capita to 13,31537. After the economic recession, total VMT fell to 46,997 million miles in 2009 but has been increasing ever since. In 2013 the total VMT was 47,999 million miles, nearly back to the pre-recession level. On the other hand, the VMT per capita fell to 12,747 in 2009 and continue to fall.[38]

[37] Bureau of Transportation Statistics, State Transportation Statistics, and Table 5-3 Highway Vehicle-Miles Traveled (VMT).
[38] Bureau of Transportation Statistics, State Transportation Statistics, and Table 5-3 Highway Vehicle-Miles Traveled (VMT).

Figure 2-14: Oklahoma Passenger Highway Vehicle-Miles Traveled

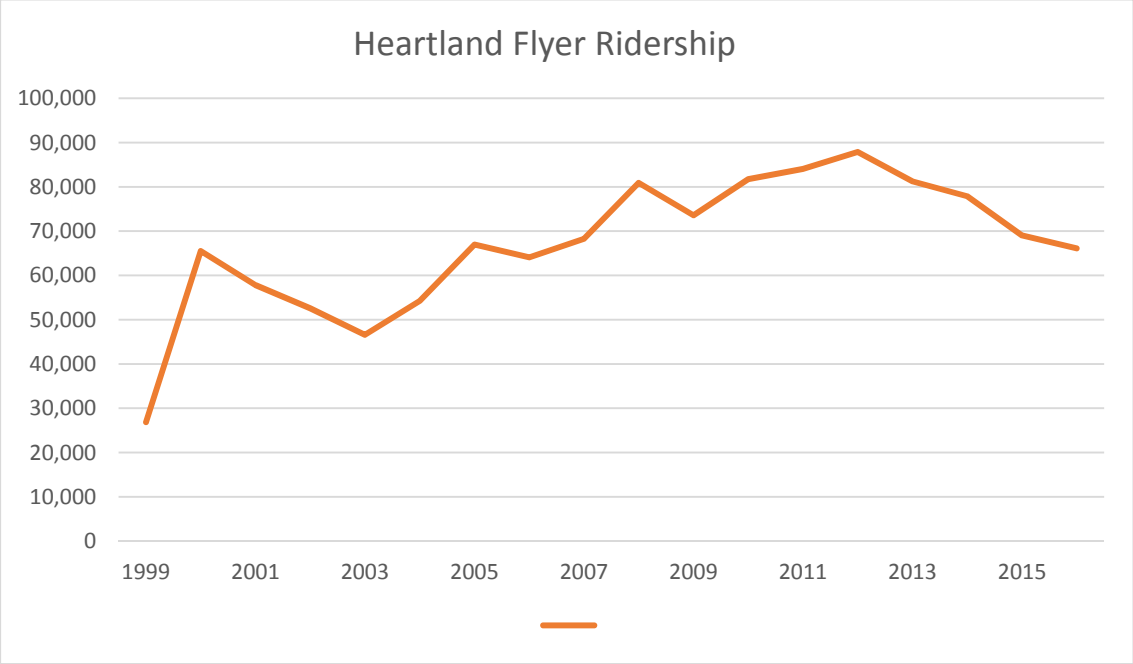


Source: Bureau of Transportation Statistics, State Transportation Statistics, and Table 5-3 Highway Vehicle-Miles Traveled (VMT).

The Heartland Flyer is a daily passenger train from Oklahoma City, Oklahoma, to Fort Worth, Texas. The Heartland Flyer had more or less a steady growth over the years 2003 to 2012, except of two drawbacks: one in 2005 and another in 2008. From 2012 to 2016, ridership was decreasing. In 2016 Heartland Flyer ridership was 66,105[39].

[39] Oklahoma Department of Transportation.

Figure2-15: Heartland Flyer Ridership



Source: Oklahoma Department of Transportation.

2.2.2 Freight Demand and Growth

2.2.2.1 Current Freight Rail

2014 rail movements in Oklahoma by direction (outbound, inbound, intrastate, and through), tons, and carload units were derived from the 2014 STB Waybill Sample data. The following sections summarize rail movements by direction and the top commodities associated with each. Supplemental graphics are shown for ease of identifying key commodity movements with the supporting data located in Appendix B.

2.2.2.1.1 Summary

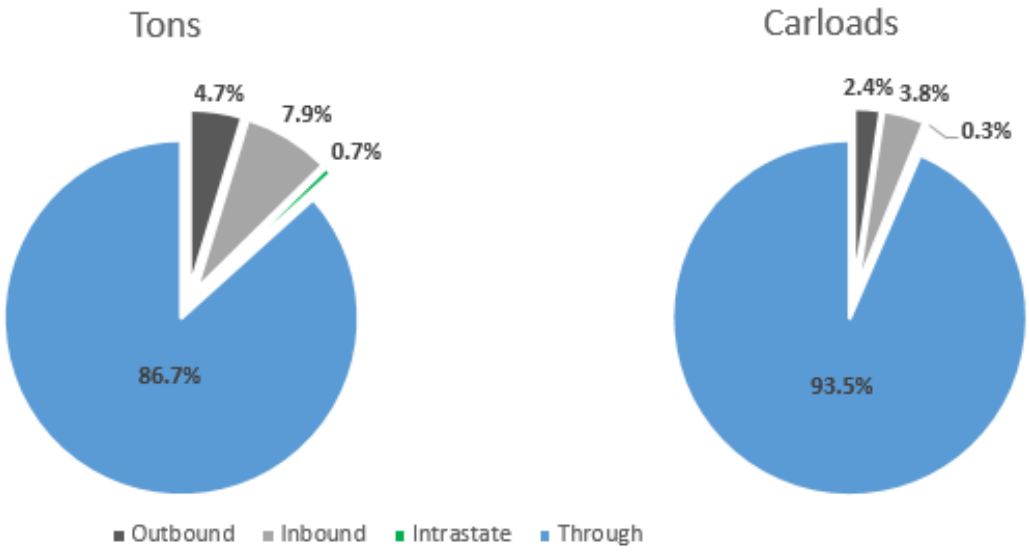
As shown in Table 2-29B below, 2014 Oklahoma rail movements totaled 365 million tons carried via 7.3 million carload units. Of all rail movements, those passing through Oklahoma are the dominant movement, comprising 86.7% of all directions by tonnage and 93.5% of all carload units, summarized by Figure 2-16. Both outbound and inbound movements are similar in magnitude (comprising 4.7% and 7.9% of all tonnage, and 2.4% and 3.8% of all carloads respectively). In comparison, intrastate movements are relatively small; encompassing 0.7% and 0.3% of all tonnage and carloads respectively.

Table 2-29B: Rail Movements by Direction, 2014

Direction	Tons		Carloads		Tons/Carload Utilization
	Amount	Percent	Amount	Percent	
Outbound	17,304,651	4.7%	173,888	2.4%	99.5
Inbound	28,878,657	7.9%	274,465	3.8%	105.2
Intrastate	2,478,619	0.7%	25,425	0.3%	97.5
Through	316,509,437	86.7%	6,817,642	93.5%	46.4
Total	**365,171,364**	**100%**	**7,291,420**	**100%**	**50.1**

Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

Figure 2-16: Rail Movements Share by Direction, 2014



Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

Major Commodity Movements: Appendix B includes detailed tables and supporting data for commodity movements by direction. The top 5 commodities by tonnage and carload units include:

By Tonnage:

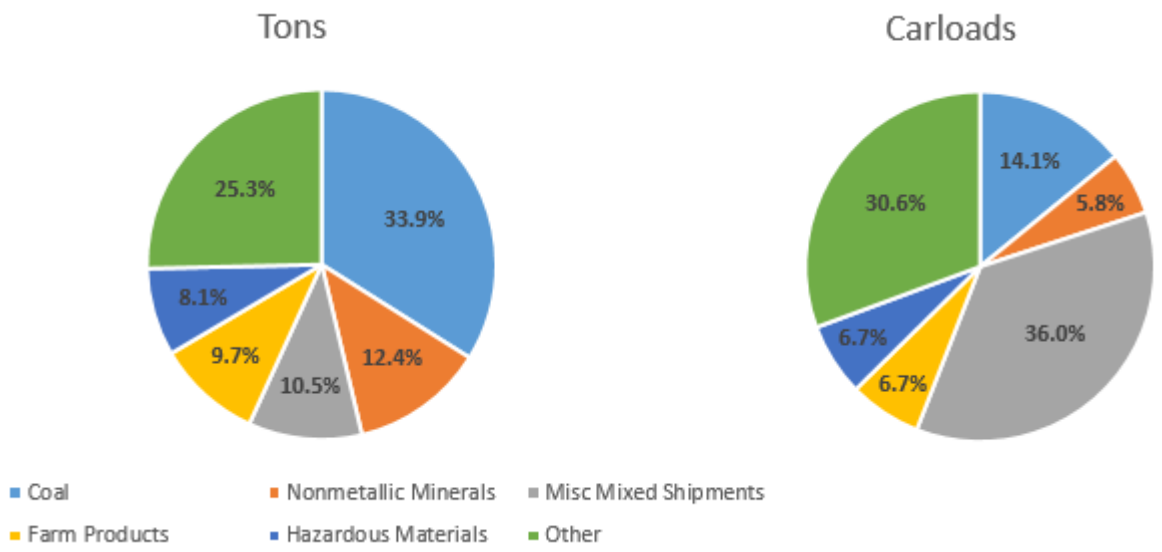
1. Coal (123 million tons, 33.9% of rail total)
2. Nonmetallic Minerals (45.1 million tons, 12.4% of rail total)
3. Miscellaneous Mixed Shipments (38.4 million tons, 10.5% of rail total)
4. Farm Products (35.5 million tons, 9.8% of rail total)
5. Hazardous Materials (29.7 million tons, 8.1% of rail total)

By Carload Units:

6. Miscellaneous Mixed Shipments (2.6 million carloads, 36.0% of rail total)
7. Coal (1.0 million carloads, 14.1% of rail total)

8. Hazardous Materials (490,967 carloads, 6.7% of rail total)
9. Farm Products (488,889 carloads, 6.7% of rail total)
10. Food or Kindred Products (483,052 carloads, 6.6% of rail total)

Figure 2-17: Rail Movements Top Commodities by Tonnage and Carload, 2014[40]

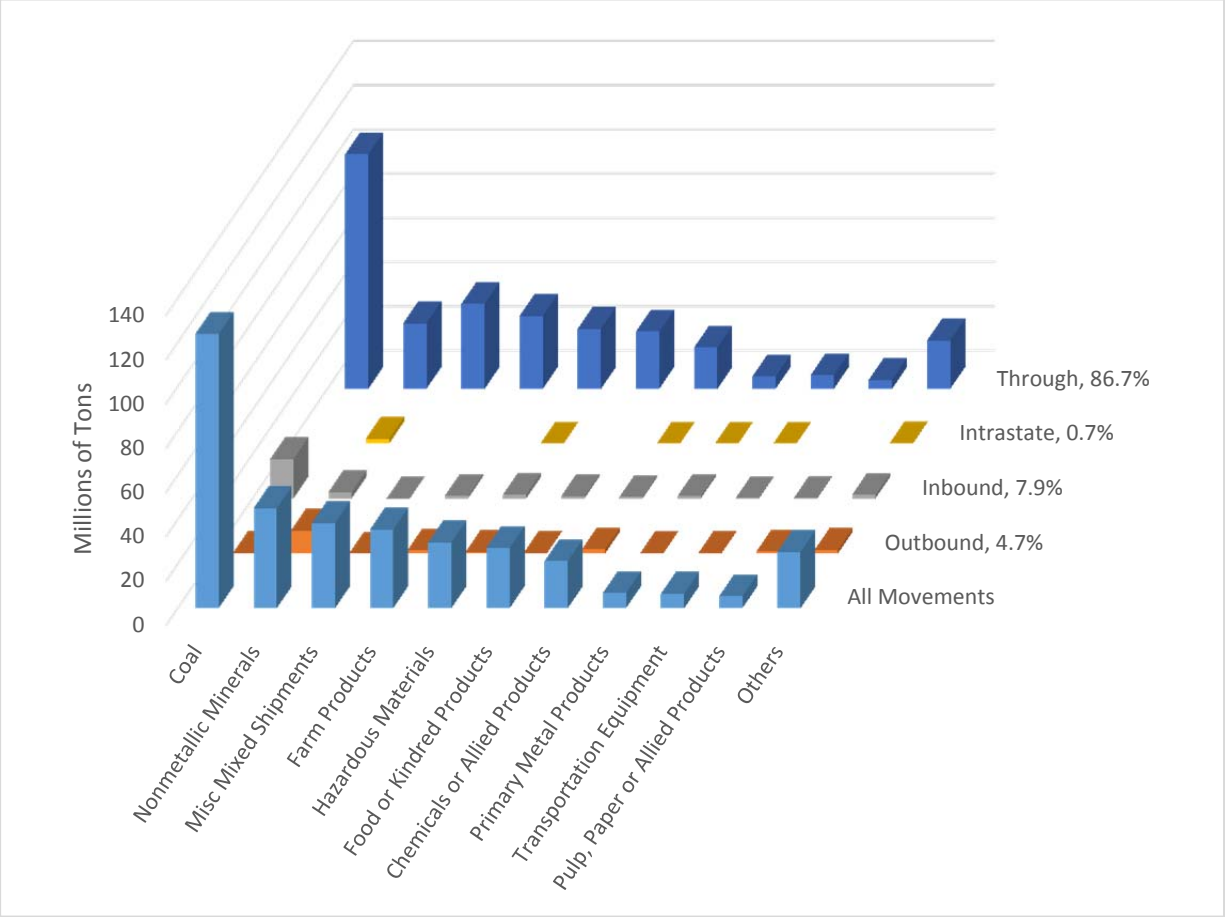


Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

Figure 2-18 and Figure 2-19 visually illustrate the top commodity movements by direction, in terms of both tonnage and carload units. Detailed data is provided in the following subsections with supplementary tables available in Appendix B.

[40] **'Others'** includes the following commodities: Forest Products, Fresh Fish or Marine Products, Petroleum Prod, Natural Gas, Ordnance or Accessories, Food or Kindred Products, Tobacco Products, Textile Mill Products, Apparel or Related Products, Logs, Lumber, Wood Prod., Furniture or Fixtures, Pulp, Paper or Allied Products, Printed Matter, Chemicals or Allied Products, Petroleum or Coal Products, Rubber or Misc Plastics, Leather or Leather Products, Clay, Concrete, Glass or Stone, Primary Metal Products, Fabricated Metal Products, Machinery, Electrical Equipment, Transportation Equipment, Instrum, Photo Equip, Optical Eq, Misc Manufacturing Products, Waste or Scrap Materials, Misc Freight Shipments, Shipping Containers, Mail or Contract Traffic, Small Pig Freight Shipments

Figure 2-18: Rail Commodity Direction by Tonnage, 2014[41]



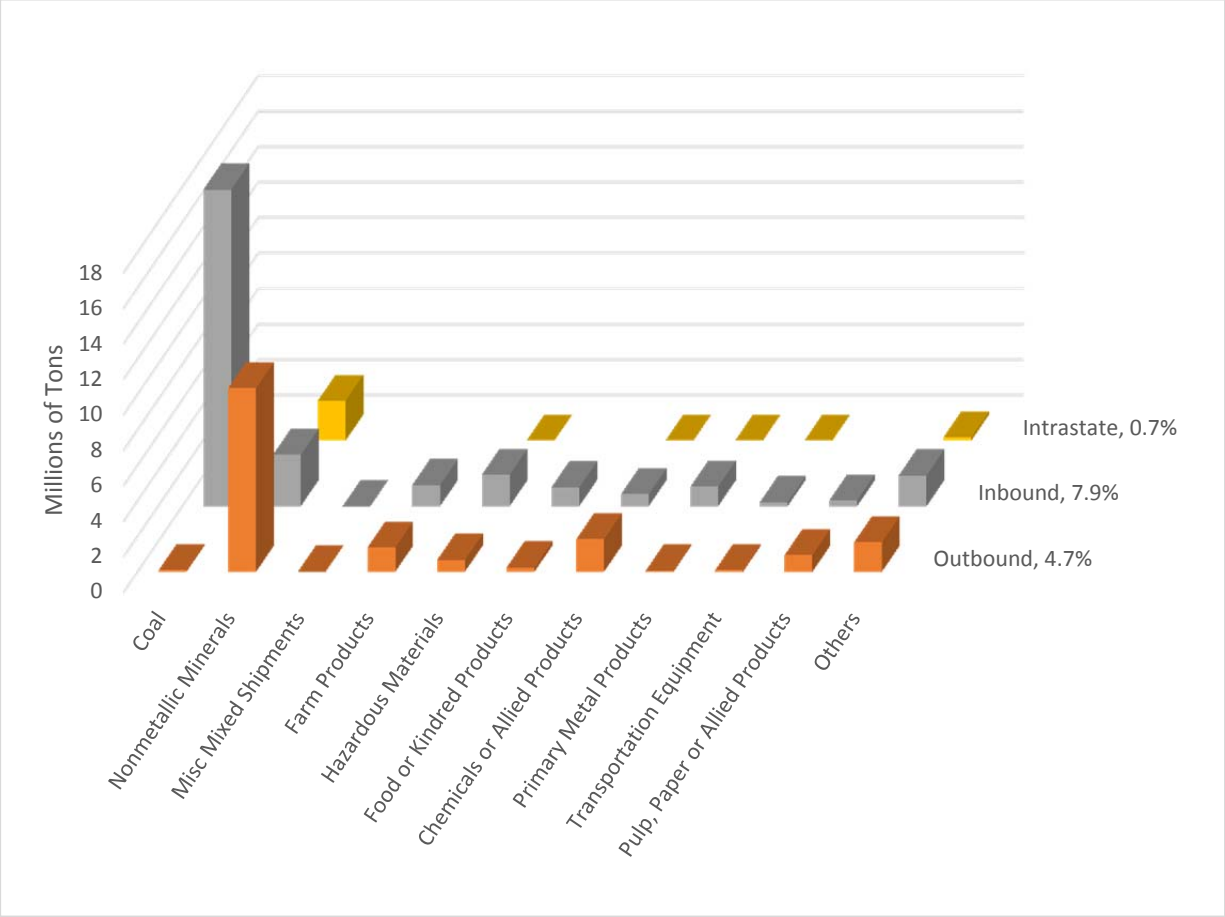
Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

As noticed above, through movements encompass a relatively large proportion (86.7%) of movements as opposed to inbound (7.9%), outbound (4.7%), and intrastate (0.7%). Due to this, and to show the unbiased magnitude of all other movements through Oklahoma,

[41] **'Others'** includes the following commodities: Clay, Concrete, Glass or Stone, Waste or Scrap Materials, Petroleum or Coal Products, Logs, Lumber, Wood Prod., Metallic Ores, Apparel or Related Products, Shipping Containers, Rubber or Misc Plastics, Small Pig Freight Shipments, Machinery, Furniture or Fixtures, Electrical Equipment, Misc Freight Shipments, Fabricated Metal Products, Misc Manufacturing Products, Printed Matter, Textile Mill Products, Petroleum Prod, Natural Gas, Instrum, Photo Equip, Optical Eq, Fresh Fish or Marine Products, Ordnance or Accessories, Forest Products, Leather or Leather Products, Mail or Contract Traffic, Tobacco Products

Figure 2-19 illustrates freight movements through Oklahoma excluding through, or interstate, movements.

Figure 2-19: Rail Commodity Direction by Tonnage Excluding Through, 2014[42]



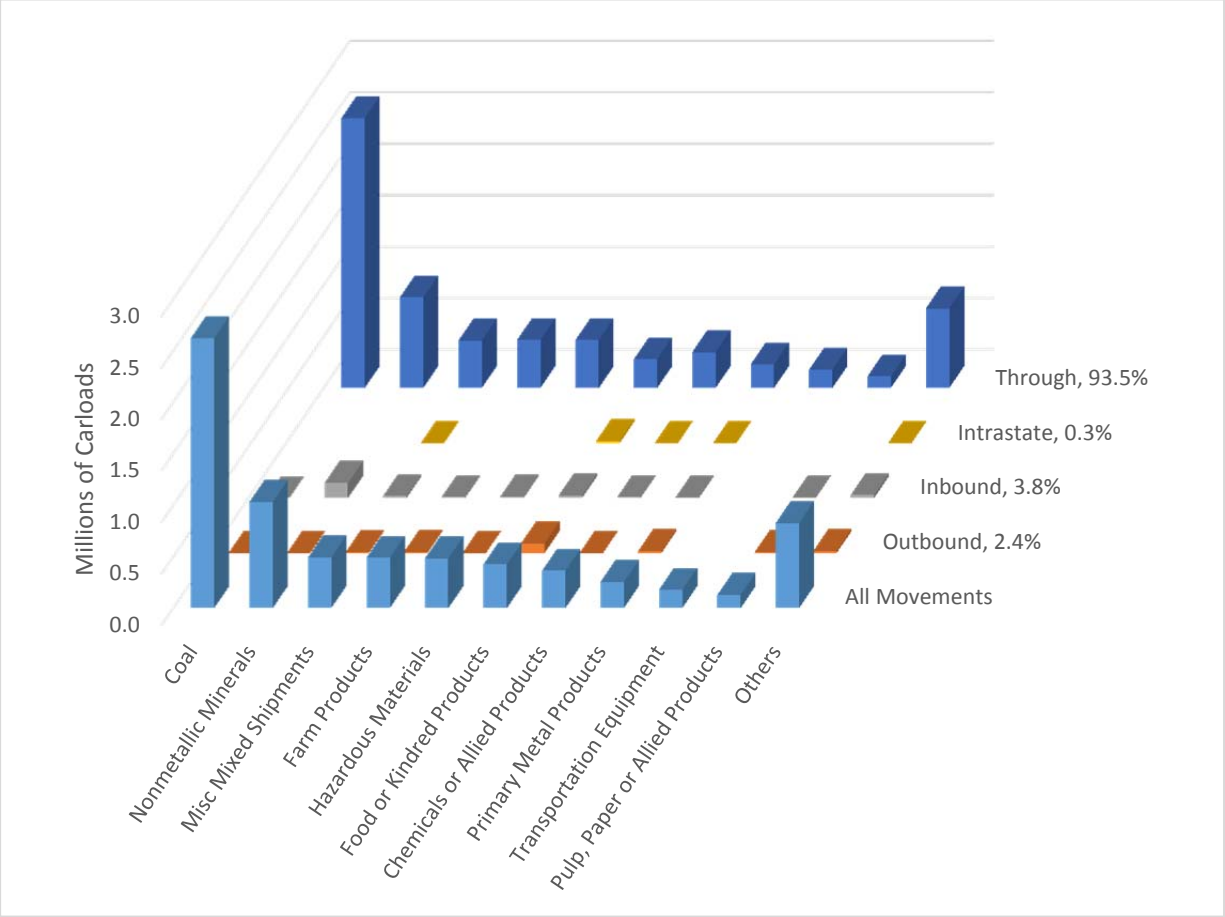
Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

Excluding through movements, the magnitude of other Oklahoma rail movements become clearer. Inbound movements in 2014 were predominantly coal, while nonmetallic minerals dominated both outbound and intrastate movements.

Similarly, Figure 2-20 and Figure 2-21 illustrate carload movements by direction with detailed supplementary tables provided in Appendix B.

[42] **'Others'** includes the following commodities: Clay, Concrete, Glass or Stone, Waste or Scrap Materials, Petroleum or Coal Products, Logs, Lumber, Wood Prod., Metallic Ores, Apparel or Related Products, Shipping Containers, Rubber or Misc Plastics, Small Pig Freight Shipments, Machinery, Furniture or Fixtures, Electrical Equipment, Misc Freight Shipments, Fabricated Metal Products, Misc Manufacturing Products, Printed Matter, Textile Mill Products, Petroleum Prod, Natural Gas, Instrum, Photo Equip, Optical Eq, Fresh Fish or Marine Products, Ordnance or Accessories, Forest Products, Leather or Leather Products, Mail or Contract Traffic, Tobacco Products

Figure 2-20: Rail Commodity Direction by Unit, 2014[43]



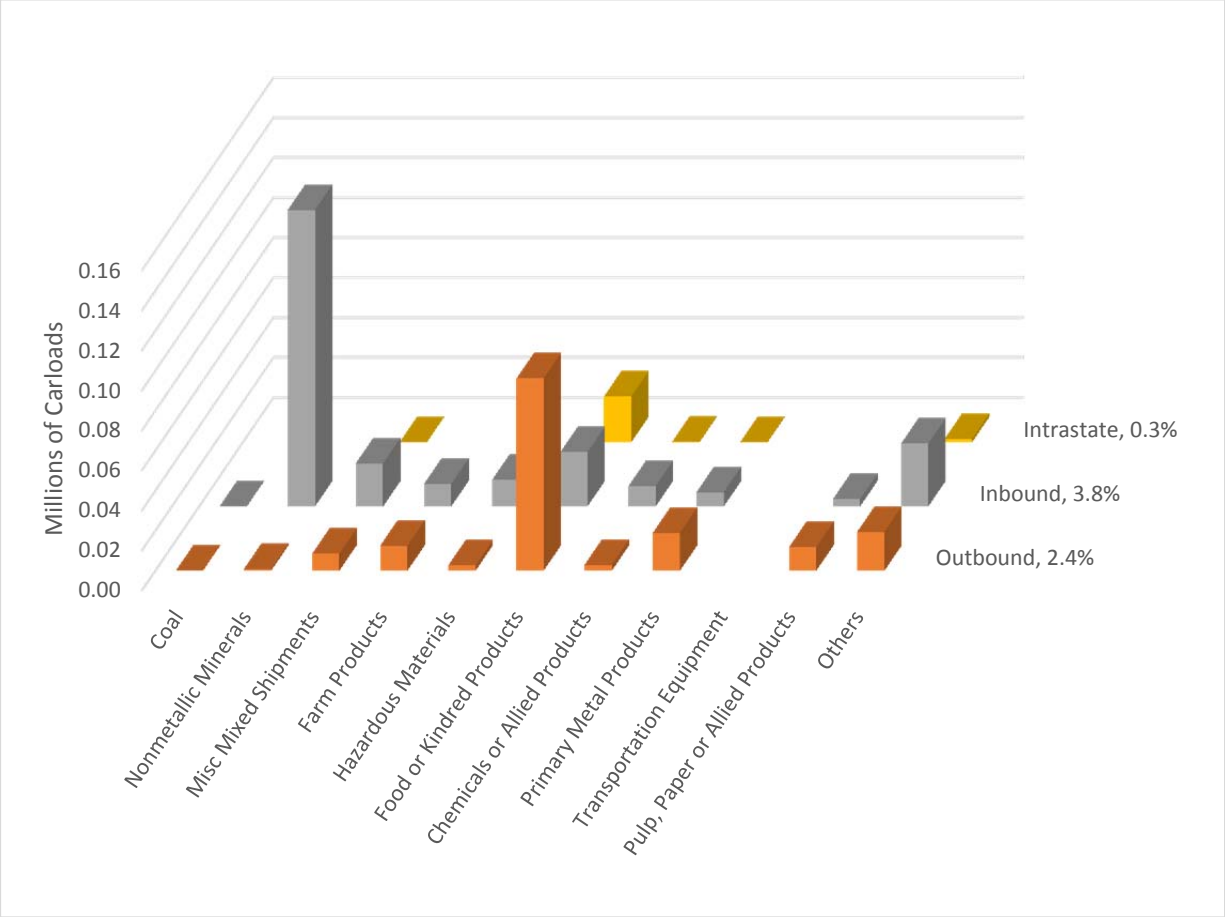
Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

Due to the relatively large share of through movements (93.5%), as opposed to inbound (3.8%), outbound (2.4%), and intrastate (0.3%),

[43] **'Others'** includes the following commodities: Primary Metal Products, Apparel or Related Products, Waste or Scrap Materials, Small Pig Freight Shipments, Misc Freight Shipments, Rubber or Misc Plastics, Clay, Concrete, Glass or Stone, Petroleum or Coal Products, Electrical Equipment, Furniture or Fixtures, Logs, Lumber, Wood Prod., Machinery, Misc Manufacturing Products, Fabricated Metal Products, Metallic Ores, Printed Matter, Textile Mill Products, Instrum, Photo Equip, Optical Eq, Fresh Fish or Marine Products, Leather or Leather Products, Forest Products, Petroleum Prod, Natural Gas, Ordnance or Accessories, Mail or Contract Traffic, Tobacco Products

Figure illustrates the magnitude of all other Oklahoma carload movements.

Figure 2-21: Rail Commodity Direction by Unit Excluding Through, 2014[44]



Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

When excluding through movements, the relative proportion and magnitude of inbound, outbound, and intrastate movements become more evident. The majority of Oklahoma inbound movements in 2014 were nonmetallic minerals, with food or kindred products encompassing the bulk of both inbound and intrastate movements.

[44] **'Others'** includes the following commodities: Clay, Concrete, Glass or Stone, Waste or Scrap Materials, Petroleum or Coal Products, Logs, Lumber, Wood Prod., Metallic Ores, Apparel or Related Products, Shipping Containers, Rubber or Misc Plastics, Small Pig Freight Shipments, Machinery, Furniture or Fixtures, Electrical Equipment, Misc Freight Shipments, Fabricated Metal Products, Misc Manufacturing Products, Printed Matter, Textile Mill Products, Petroleum Prod, Natural Gas, Instrum, Photo Equip, Optical Eq, Fresh Fish or Marine Products, Ordnance or Accessories, Forest Products, Leather or Leather Products, Mail or Contract Traffic, Tobacco Products

2.2.2.1.2 Rail Outbound

Outbound movements in 2014 accounted for 17.3 million tons (4.7% of total) and 173,888 (7.9% of total) carloads. **Error! Reference source not found.** provides detailed tables for Oklahoma rail outbound movements, however the top 5 commodities include:

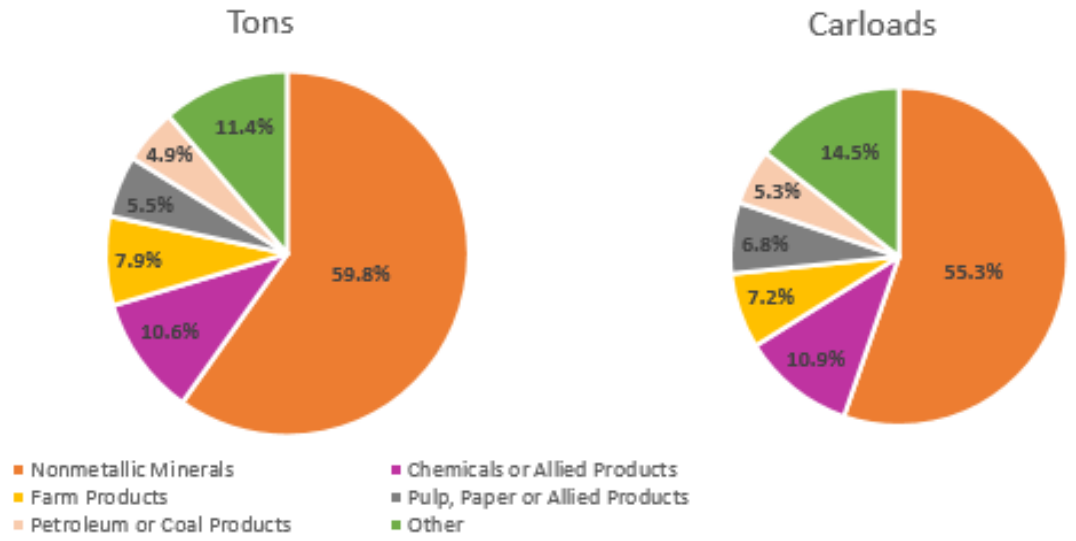
By Tonnage:

1. Nonmetallic Minerals (10.3 million tons, 59.8% of outbound rail total)
2. Chemicals or Allied Products (1.9 million tons, 10.6% of outbound rail total)
3. Farm Products (1.4 million tons, 7.9% of outbound rail total)
4. Pulp, Paper or Allied Products (944,520 tons, 5.5% of outbound rail total)
5. Petroleum or Coal Products (844,192 tons, 4.9% of outbound rail total)

By Carload Units:

1. Nonmetallic Minerals (96,162 carloads, 55.3% of outbound rail total)
2. Chemicals or Allied Products (18,907 carloads, 10.9% of outbound rail total)
3. Farm Products (12,531 carloads, 7.2% of outbound rail total)
4. Pulp, Paper or Allied Products (11,800 carloads, 6.8% of outbound rail total)
5. Petroleum or Coal Products (9,256 carloads, 5.3% of outbound rail total)

Figure 2-22: Rail Outbound Top Commodities by Tonnage and Carload, 2014[45]



Outbound Tonnage Origin – 2014 rail movements destined for out-of-state originated primarily from Johnston County (8.1 million tons, 46.9% of outbound rail total), Garfield County (1.8 million tons, 10.6% of outbound rail total), and Rogers County (1.5 million tons, 8.7% of outbound rail total). The top

[45] **'Others'** includes the following commodities: Coal, Food or Kindred Products, Logs, Lumber, Wood Prod., Clay, Concrete, Glass or Stone, Primary Metal Products, Machinery, Transportation Equipment, Waste or Scrap Materials, Misc Mixed Shipments, Hazardous Materials

3 origin counties, by tonnage, are presented along with the respective top 5 outbound commodities (if applicable):

Johnston County:

1. Nonmetallic Minerals (8.1 million tons, 100% of outbound county total)

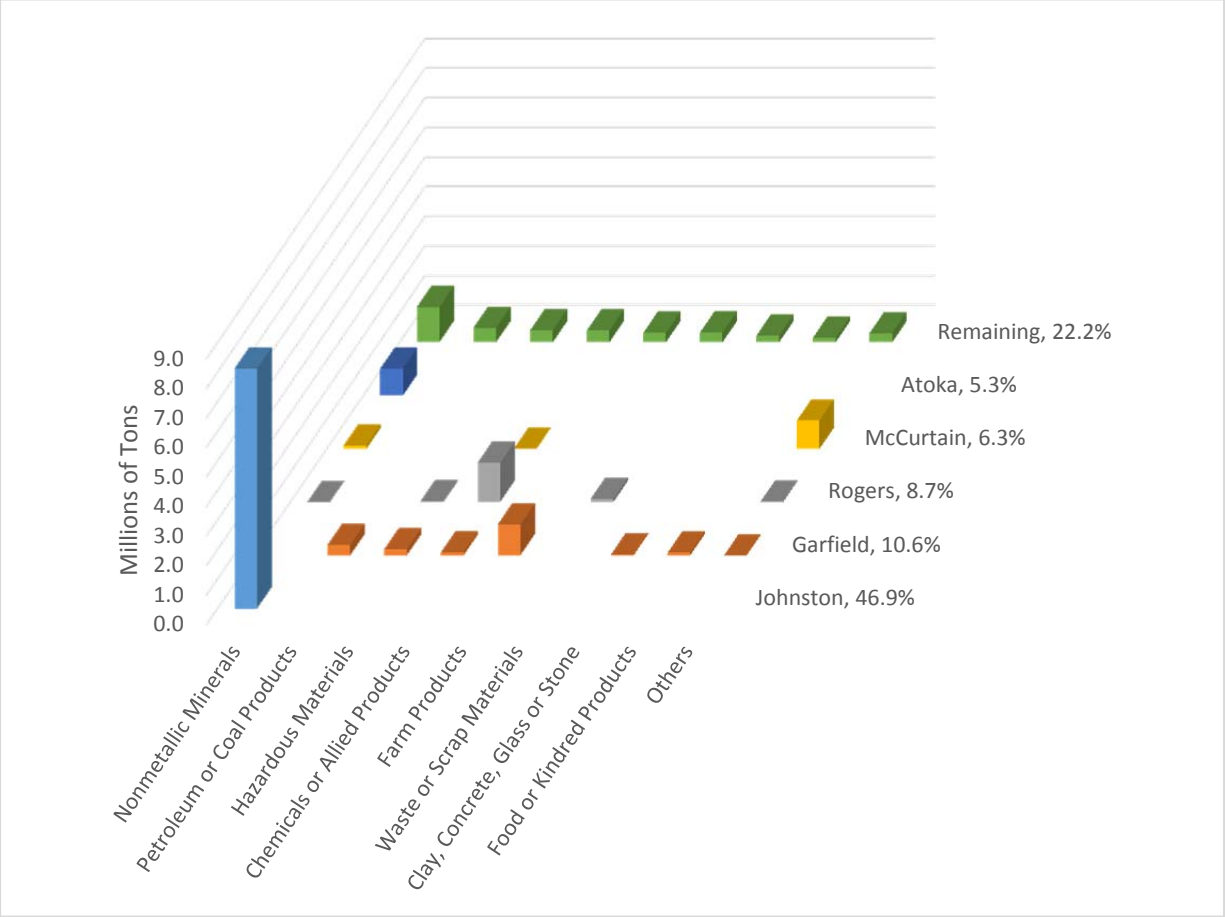
Garfield County:

1. Farm Products (1.0 million tons, 57.0% of outbound state total)
2. Petroleum or Coal Products (355,000 tons, 19.4% of outbound county total)
3. Hazardous Materials (209,960 tons, 11.5% of outbound county total)
4. Chemicals or Allied Products (104,864 tons, 5.7% of outbound county total)
5. Food or Kindred Products (85,600 tons, 4.7% of outbound county total)

Rogers County:

1. Chemicals or Allied Products (1.3 million tons, 87.8% of outbound county total)
2. Waste or Scrap Materials (120,088 tons, 7.9% of outbound county total)
3. Hazardous Materials (42,880 tons, 2.8% of outbound county total)
4. Primary Metal Products (16,680 tons, 1.1% of outbound county total)
5. Nonmetallic Minerals (3,984 tons, 0.3% of outbound county total)

Figure 2-23: Rail Outbound Commodity Tonnage by Oklahoma County Origin, 2014[46]



Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

Outbound Tonnage Destination – Rail movements in 2014 originating in Oklahoma were transported primarily to Texas (11.9 million tons, 69.1% of outbound rail total), Nebraska (789,166 tons, 4.6% of outbound rail total), and Missouri (439,566 tons, 2.5% of outbound rail total). The top 5 commodities, by destination state, include:

Texas

1. Nonmetallic Minerals (9.4 million tons, 78.6% of destination state total)
2. Farm Products (1.3 million tons, 11.0% of destination state total)
3. Petroleum or Coal Products (230,392 tons, 1.9% of destination state total)
4. Hazardous Materials (200,960 tons, 1.7% of destination state total)
5. Chemicals or Allied Products (188,880 tons, 1.6% of destination state total)

[46] **'Others'** includes the following commodities: Transportation Equipment, Coal, Pulp, Paper or Allied Products, Primary Metal Products, Logs, Lumber, Wood Prod., Machinery, Misc Mixed Shipments

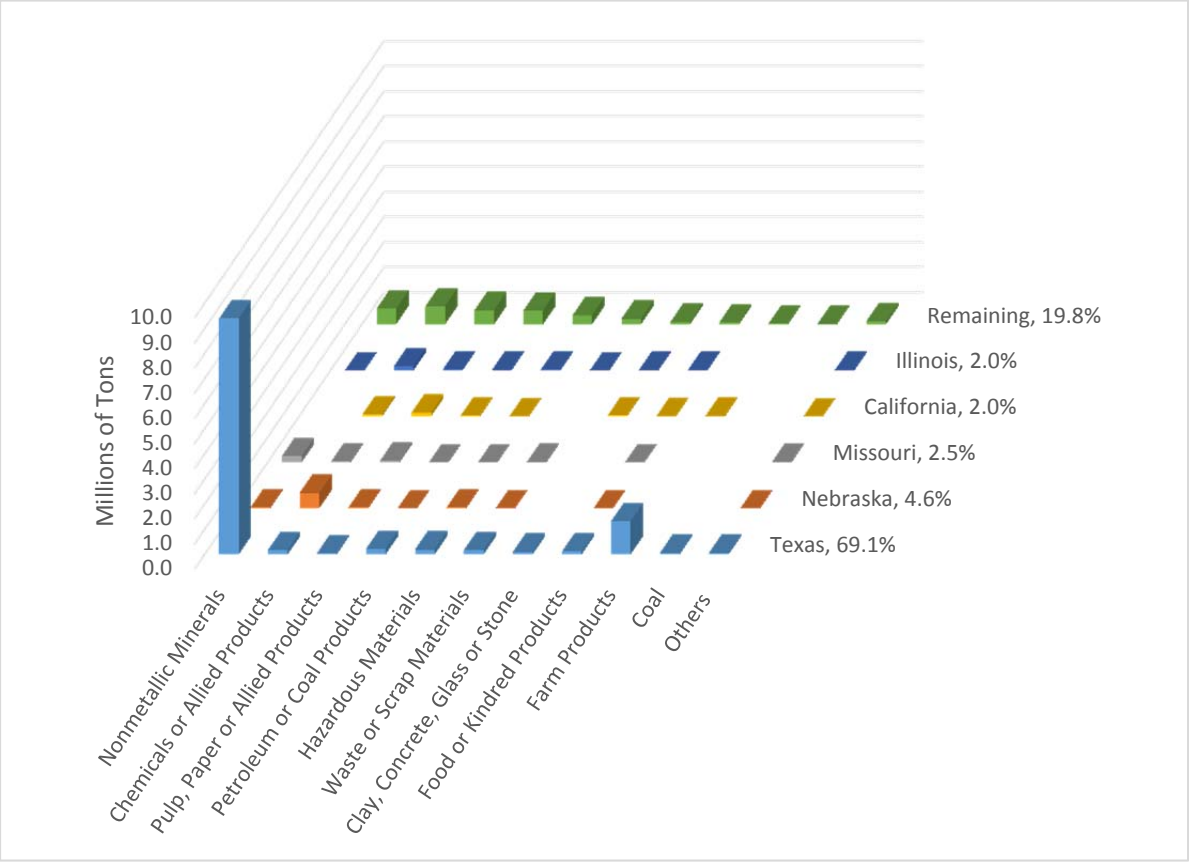
Nebraska

1. Chemicals or Allied Products (621,702 tons, 78.8% of destination state total)
2. Pulp, Paper or Allied Products (50,680 tons, 6.4% of destination state total)
3. Nonmetallic Minerals (49,704 tons, 6.3% of destination state total)
4. Hazardous Materials (38,000 tons, 4.8% of destination state total)
5. Transportation Equipment (11,720 tons, 1.5% of destination state total)

Missouri

1. Nonmetallic Minerals (268,410 tons, 61.1% of destination state total)
2. Pulp, Paper or Allied Products (70,680 tons, 16.1% of destination state total)
3. Chemicals or Allied Products (35,480 tons, 8.1% of destination state total)
4. Waste or Scrap Materials (25,120 tons, 5.7% of destination state total)
5. Petroleum or Coal Products (10,400 tons, 2.4% of destination state total)

Figure 2-24: Rail Outbound Commodity Tonnage by Destination State, 2014[47]



Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

[47] **'Others'** includes the following commodities: Logs, Lumber, Wood Prod., Primary Metal Products, Machinery, Transportation Equipment, Misc Mixed Shipments

2.2.2.1.3 Rail Inbound

Inbound movements in 2014 accounted for 28.9 million tons (7.9% of total) and 274,465 (3.8% of total) carloads. While Appendix B provides detailed tables for Oklahoma rail inbound movements, the top 5 commodities include:

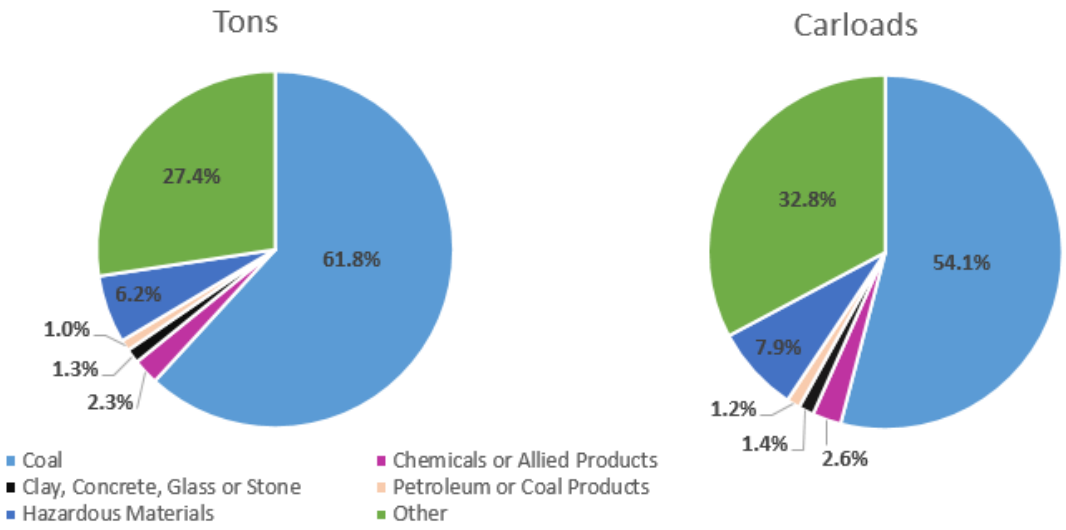
By Tonnage:

1. Coal (17.8 million tons, 61.8% of inbound rail total)
2. Nonmetallic Minerals (2.9 million tons, 10.1% of inbound rail total)
3. Hazardous Materials (1.8 million tons, 6.2% of inbound rail total)
4. Farm Products (1.2 million tons, 4.1% of inbound rail total)
5. Primary Metal Products (1.1 million tons, 3.8% of inbound rail total)

By Carload Units:

1. Coal (148,362 carloads, 54.1% of inbound rail total)
2. Nonmetallic Minerals (27,170 carloads, 9.9% of inbound rail total)
3. Hazardous Materials (21,655 carloads, 7.9% of inbound rail total)
4. Food or Kindred Products (13,384 carloads, 4.9% of inbound rail total)
5. Primary Metal Products (12,748 carloads, 4.6% of inbound rail total)

Figure 2-25: Rail Inbound Top Commodities by Tonnage and Carload, 2014[48]



Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

[48] **'Others'** includes the following commodities: Farm Products, Petroleum Prod, Natural Gas, Nonmetallic Minerals, Food or Kindred Products, Logs, Lumber, Wood Prod., Pulp, Paper or Allied Products, Primary Metal Products, Machinery, Transportation Equipment, Waste or Scrap Materials, Misc Freight Shipments, Misc Mixed Shipments

Inbound Tonnage Origin - 2014 rail movements destined for Oklahoma originated primarily from Wyoming (18.1 million tons, 62.6% of inbound rail total), Wisconsin (1.6 million tons, 5.4% of inbound rail total), and Illinois (1.5 million tons, 5.3% of inbound rail total).

Wyoming:

1. Coal (17.8 million tons, 98.8% of origin state total)
2. Chemicals or Allied Products (106,560 tons, 0.4% of origin state total)
3. Clay, Concrete, Glass or Stone (103,240 tons, 0.4% of origin state total)
4. Petroleum or Coal Products (6,880 tons, 0.02% of origin state total)
5. Hazardous Materials (3,400 tons, 0.01% of origin state total)

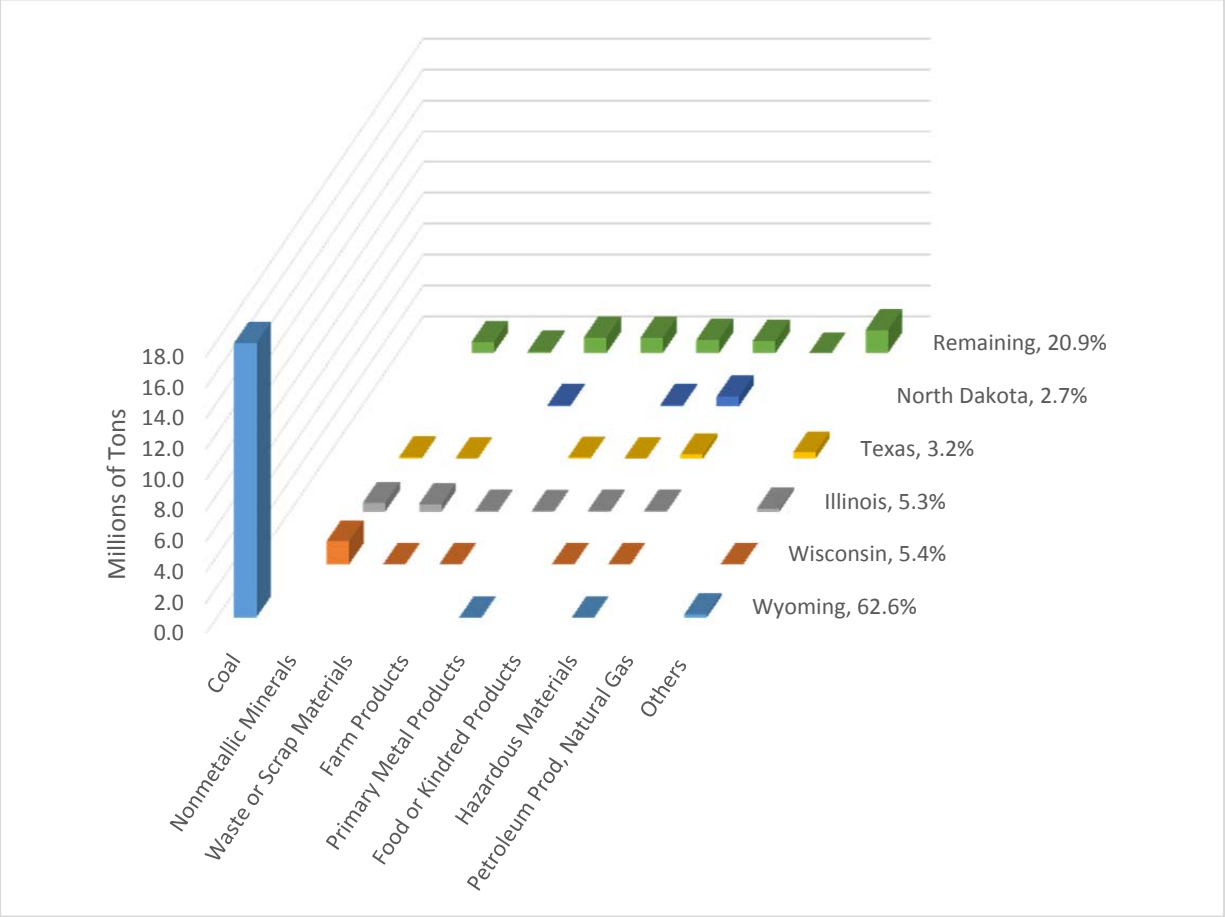
Wisconsin:

1. Nonmetallic Minerals (1.5 million tons, 97.1% of origin state total)
2. Clay, Concrete, Glass or Stone (15,600 tons, 1.0% of origin state total)
3. Hazardous Materials (12,720 tons, 0.8% of origin state total)
4. Food or Kindred Products (6,920 tons, 0.4% of origin state total)
5. Pulp, Paper or Allied Products (4,120 tons, 0.3% of origin state total)

Illinois:

1. Nonmetallic Minerals (577,260 tons, 37.9% of origin state total)
2. Waste or Scrap Materials (501,462 tons, 32.9% of origin state total)
3. Transportation Equipment (90,268 tons, 6.5% of origin state total)
4. Farm Products (70,651 tons, 4.6% of origin state total)
5. Food or Kindred Products (73,960 tons, 4.9% of origin state total)

Figure 2-26: Rail Inbound Commodity Tonnage by Origin State, 2014[49]



Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

Inbound Tonnage Destination - Rail movements in 2014 terminating in Oklahoma were transported to the following top 3 counties: Muskogee (5.9 million tons, 20.5% of inbound total), Rogers (4.7 million tons, 16.2% of inbound total), and Mayes (3.4 million tons, 11.9% of inbound total). The top 5 commodities, by inbound county, include:

Muskogee County

1. Coal (5.4 million tons, 91.9% of inbound county total)
2. Primary Metal Products (194,004 tons, 3.3% of inbound county total)
3. Pulp, Paper and Allied Products (86,744 tons, 1.5% of inbound county total)
4. Hazardous Materials (83,396 tons, 1.4% of inbound county total)
5. Food or Kindred Products (41,680 tons, 0.7% of inbound county total)

[49] **'Others'** includes the following commodities: Logs, Lumber, Wood Prod., Pulp, Paper or Allied Products, Chemicals or Allied Products, Petroleum or Coal Products, Clay, Concrete, Glass or Stone, Machinery, Transportation Equipment, Misc Freight Shipments, Misc Mixed Shipments

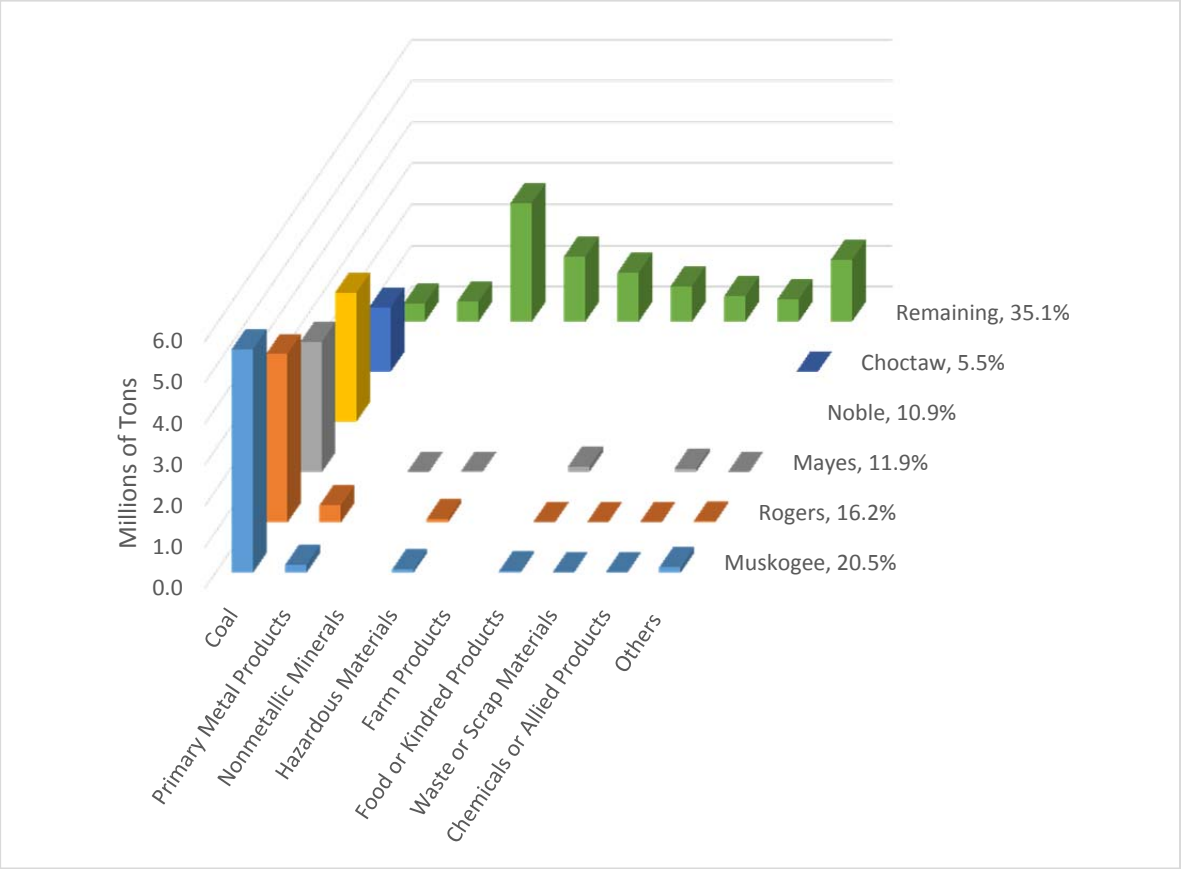
Rogers County

1. Coal (4.1 million tons, 87.6% of inbound county total)
2. Primary Metal Products (423,640 tons, 9.1% of inbound county total)
3. Hazardous Materials (86,000 tons, 1.8% of inbound county total)
4. Food or Kindred Products (21,400 tons, 0.5% of inbound county total)
5. Chemicals or Allied Products (17,548 tons, 0.4% of inbound county total)

Mayes County

1. Coal (3.2 million tons, 92.1% of inbound county total)
2. Food or Kindred Products (133,872 tons, 3.9% of inbound county total)
3. Chemicals or Allied Products (94,280 tons, 2.7% of inbound county total)
4. Hazardous Materials (23,640 tons, 0.7% of inbound county total)
5. Nonmetallic Minerals (17,840 tons, 0.5% of inbound county total)

Figure 1-27: Rail Inbound Commodity Tonnage by Oklahoma County Destination, 2014[50]



Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

[50] **'Others'** includes the following commodities: Logs, Lumber, Wood Prod., Petroleum or Coal Products, Pulp, Paper or Allied Products, Transportation Equipment, Clay, Concrete, Glass or Stone, Machinery, Petroleum Prod, Natural Gas, Misc Freight Shipments, Misc Mixed Shipments

2.2.2.1.4 Rail Intrastate

2014 Oklahoma intrastate movements accounted for 0.7% (2.5 million tons) and 0.3% (25,425 carloads) of total tonnage and carloads, respectively. While Appendix B provides detailed tables for Oklahoma intrastate movements, the top 5 commodity by tonnage and carloads include:

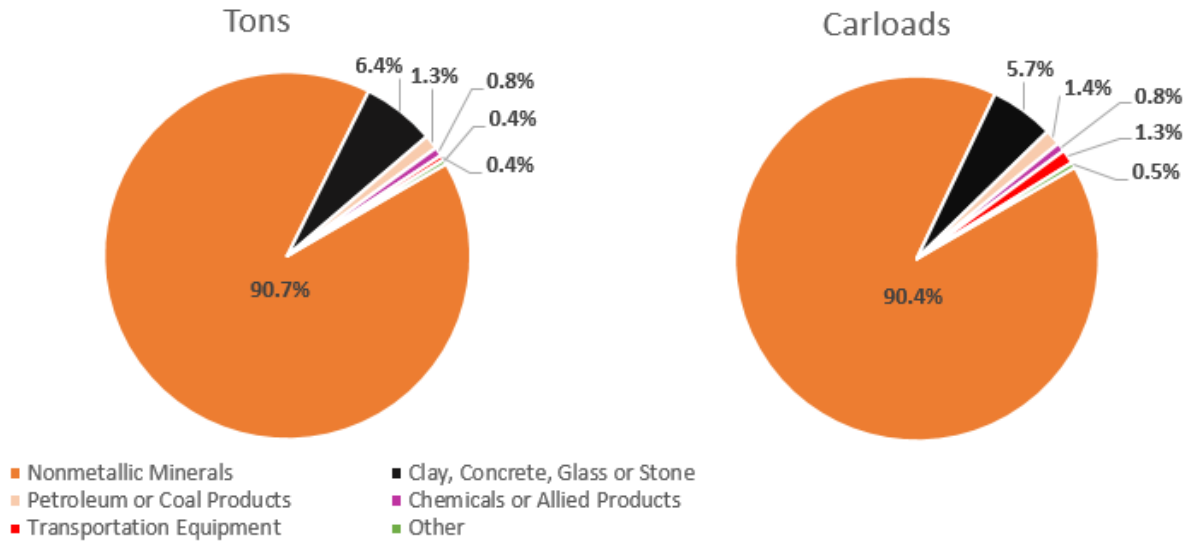
By Tonnage:

1. Nonmetallic Minerals (2.2 million tons, 90.7% of intrastate total)
2. Clay, Concrete, Glass or Stone (159,560 tons, 6.4% of intrastate total)
3. Petroleum or Coal Products (31,216 tons, 1.3% of intrastate total)
4. Chemicals or Allied Products (19,680 tons, 0.8% of intrastate total)
5. Transportation Equipment (10,832 tons, 0.4% of intrastate total)

By Carload Units:

1. Nonmetallic Minerals (22,985 carloads, 90.4% of intrastate total)
2. Clay, Concrete, Glass or Stone (1,440 carloads, 5.7% of intrastate total)
3. Petroleum or Coal Products (356 carloads, 1.4% of intrastate total)
4. Transportation Equipment (324 carloads, 1.3% of intrastate total)
5. Chemicals or Allied products (200 carloads, 0.8% of intrastate total)

Figure 2-28: Rail Intrastate Top Commodities by Tonnage and Carload, 2014[51]



Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

2.2.2.1.5 Rail Through

Rail movements passing through Oklahoma are the dominant directional movement in 2014, encompassing 86.7% (316 million tons) and 93.5% (6.8 million carloads) of total tonnage and carloads

[51] **'Others'** includes the following commodities: Primary Metal Products, Hazardous Materials

respectively. Appendix B provides additional detail, however the top 5 commodities by tonnage and carload unit includes:

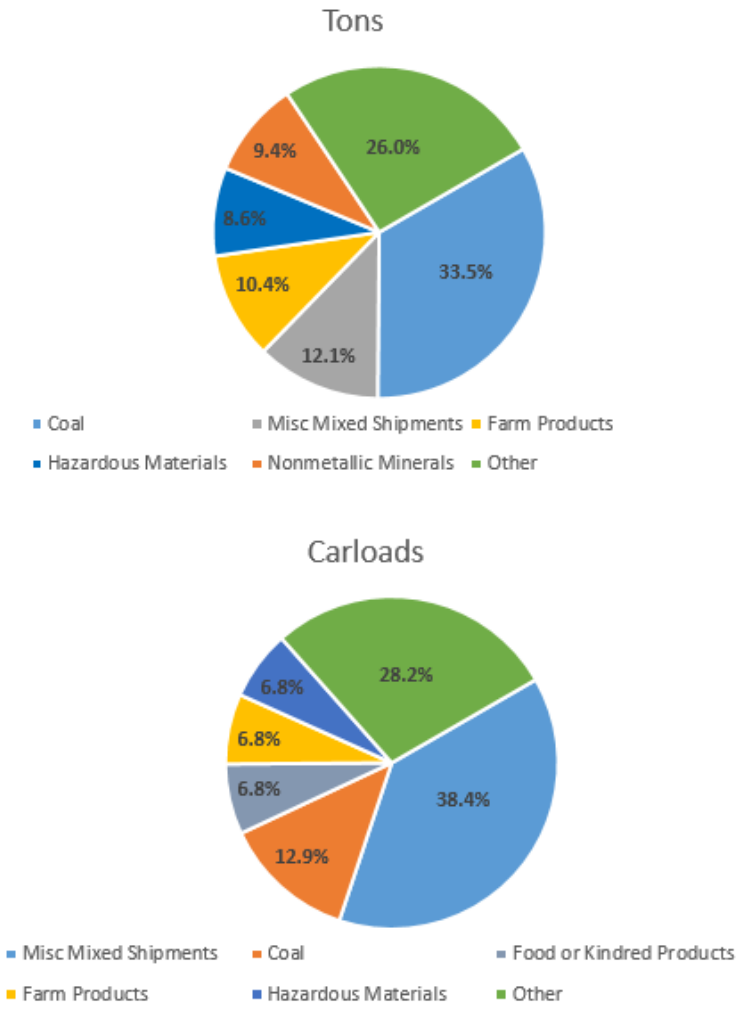
By Tonnage:

1. Coal (106.0 million tons, 33.5% of through total)
2. Miscellaneous Mixed Shipments (38.4 million tons, 12.1% of through total)
3. Farm Products (33.0 million tons, 10.4% of through total)
4. Nonmetallic Minerals (29.6 million tons, 9.4% of through total)
5. Hazardous Materials (27.2 million tons, 8.6% of through total)

By Carload Units:

1. Miscellaneous Mixed Shipments (2.6 million carloads, 38.4% of through total)
2. Coal (881,304 carloads, 12.9% of through total)
3. Food and Kindred Products (466,956 carloads, 6.8% of through total)
4. Farm Products (465,053 carloads, 6.8% of through total)
5. Hazardous Materials (460,796 carloads, 6.8% of through total)

Figure 2-29: Rail Through Top Commodities by Tonnage and Carload, 2014[52]



Source: Prepared by HDR, based on the 2014 STB Waybill Sample data

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2.2.2.2 Freight Forecasts

In order to assess potential future freight rail tonnage growth, forecasts were derived from the Freight Analysis Framework (FAF) database. FAF data provides a suitable means by which to assess future growth in tonnage, despite being less comprehensive than STB Waybill Sample data. Due to FAF data

[52] **'Others'** includes the following commodities : Forest Products, Fresh Fish or Marine Products, Metallic Ores, Petroleum Prod, Natural Gas, Ordnance or Accessories, Tobacco Products, Textile Mill Products, Apparel or Related Products, Logs, Lumber, Wood Prod., Furniture or Fixtures, Pulp, Paper or Allied Products, Printed Matter, Chemicals or Allied Products, Petroleum or Coal Products, Rubber or Misc Plastics, Leather or Leather Products, Clay, Concrete, Glass or Stone, Primary Metal Products, Fabricated Metal Products, Machinery, Electrical Equipment, Transportation Equipment, Instrum, Photo Equip, Optical Eq, Misc Manufacturing Products, Waste or Scrap Materials, Misc Freight Shipments, Shipping Containers, Mail or Contract Traffic, Small Pig Freight Shipments

being presented in Standard Classification of Transported Goods (SCTG) commodity terms, as opposed to Standard Transportation Commodity Code (STCC) terms used by the STB, the two databases are not directly comparable in terms of commodity classifications. Total tonnage by direction, however, are relatively comparable and presented below:

Table 2-30: Rail Tonnage Comparison by Source, 2014

Direction	STB Waybill		FHWA FAF v4		STB/FAF
	Amount	Percent	Amount	Percent	
Outbound	17,304,651	35.6%	19,391,621	40.1%	89.2%
Inbound	28,878,657	59.3%	23,098,382	47.8%	125%
Intrastate	2,478,619	5.1%	5,831,685	12.1%	42.5%
Through*	N/A	N/A	N/A	N/A	N/A
Total	**48,661,927**	**100%**	**48,321,688**	**100%**	**101%**

Source: 2014 STB Waybill Sample, FHWA FAF v4
**FAF does not capture interstate (through) movements*

As noticed in Table -30, FAF does not provide interstate (through) movements since specific routings of freight movements are not specified. As a result, only outbound, inbound, and intrastate movements may be directly compared. Excluding through movements, FAF data indicates approximately 48.3 million tons moved via the Oklahoma rail system in 2014, as compared to 48.6 million tons as reported by STB. The key difference between the two data sources is the breakdown of total movements by direction. While the totals are comparable, all movements (outbound, inbound, and intrastate) show differences in data collection methodology, reporting, and classification.

Summary Forecasts **-** Data is summarized by all directional movements (outbound, inbound, intrastate, and through) in 2040. As shown in Table -30 , FAF data does not capture intrastate (through) movements. To proxy, growth in total U.S. freight tonnage of 1.2% was used.[53] Due to the directional composition and reporting differences between FAF and STB databases, forecasts are based upon FAF compound average growth rates (CAGR) from 2014 to 2040. Summarized by Table 2-31, FAF growth rates were used to estimate outbound (1.4% CAGR), inbound (-1.2% CAGR), and intrastate (0.3% CAGR).

Table 2-31: FAF Growth Rates, 2014-2040

Direction	2014		2040		CAGR
	Amount	Percent	Amount	Percent	
Outbound	19,391,621	40.1%	27,594,235	54.3%	1.4%
Inbound	23,098,382	47.8%	16,962,524	33.4%	-1.2%
Intrastate	5,831,685	12.1%	6,272,036	12.3%	0.3%
Through*	N/A	N/A	N/A	N/A	N/A
Total	**48,321,688**	**100%**	**50,828,795**	**100%**	**0.2%**

[53] U.S. Department of Transportation. Federal Highway Administration: Freight Analysis Framework Inter-Regional Commodity Flow Forecast Study Final Forecast Results Report, May 2016. *https://ops.fhwa.dot.gov/publications/fhwahop16043/index.htm*

Source: 2014 STB Waybill Sample, FHWA FAF v4
**FAF does not capture interstate (through) movements*

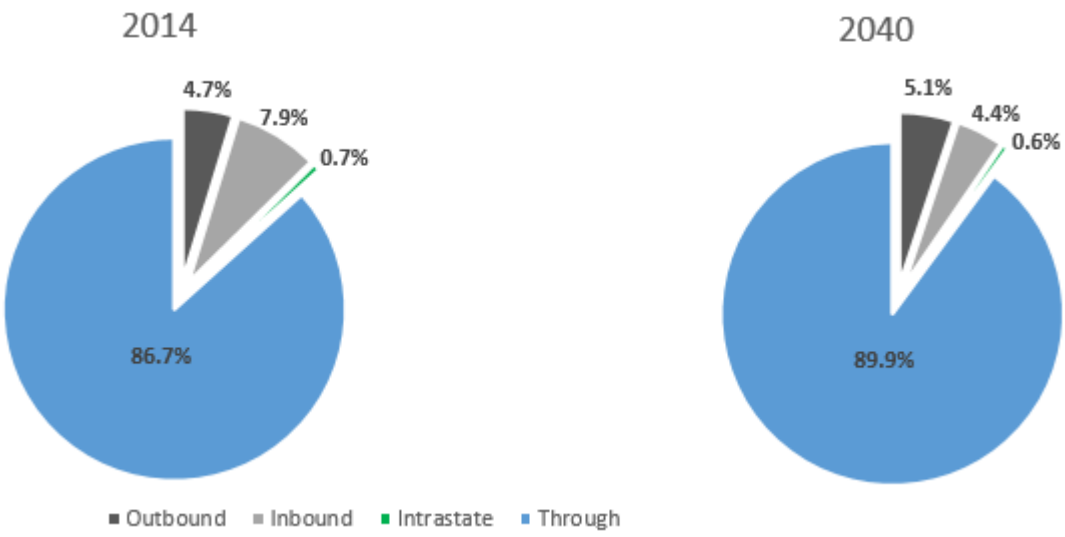
The growth rates summarized above (CAGR), as well as the proxy for through movements, were then applied to STB values in order to derive the forecast for year 2040.

Table 2-32: Rail Tonnage Forecast Summary, 2014-2040

Direction	2014		2040		Change		
	Amount	Percent	Amount	Percent	Amount	Percent	CAGR
Outbound	17,304,651	4.7%	24,624,482	5.1%	7,319,831	42.3%	1.4%
Inbound	28,878,657	7.9%	21,207,326	4.4%	(7,671,331)	-26.6%	-1.2%
Intrastate	2,478,619	0.7%	2,665,779	0.6%	187,160	7.6%	0.3%
Through	316,509,437	86.7%	431,598,561	89.9%	115,089,124	36.4%	1.2%
Total	**365,171,364**	**100%**	**480,096,149**	**100%**	**114,924,785**	**31.5%**	**1.1%**

Source: 2014 STB Waybill Sample, FHWA FAF v4

Figure 2-30: Rail Tonnage Percentages by Year, 2014 and 2040



Source: 2014 STB Waybill Sample, FHWA FAF v4

Total rail freight in Oklahoma is expected to grow from 365 million tons in 2014 to approximately 480 million tons in 2040, representing an absolute growth rate of 31.5%, or 1.1% per year on average. The overall directional composition of rail movements is expected to slightly change, with outbound freight encompassing a larger share in 2040 (5.1%) as opposed to 2014 (4.7%). More notably, inbound rail traffic is forecasted to decrease approximately 1.2% per year to 21.2 million tons in 2040.

Commodity Growth **–** Detailed tables by commodity for all FAF directional movements (outbound, inbound, and intrastate) are available in **Error! Reference source not found.** while summaries of top commodities are presented below.

The top STCG Commodities, by tonnage, from the FAF Database for year 2040 include:

Outbound

1. Coal and Petroleum Products (16.0 million tons, 57.9% of outbound total)
2. Fertilizers (5.1 million tons, 18.3% of outbound total)
3. Crude Petroleum (2.1 million tons, 7.6% of outbound total)
4. Natural Sands (872,936 tons, 3.2% of outbound total)
5. Newsprint/paper (863,249 tons, 3.1% of outbound total)

Inbound

1. Coal (8.6 million tons, 50.6% of inbound total)
2. Plastics/Rubber (1.8 million tons, 10.6% of inbound total)
3. Basic Chemicals (919,719 tons, 5.4% of inbound total)
4. Natural Sands (852,976 tons, 5.0% of inbound total)
5. Coal and Petroleum Products (427,111 tons, 2.5% of inbound total)

Intrastate

1. Gravel (4.1 million tons, 65.4% of intrastate total)
2. Natural Sands (762,165 tons, 12.2% of intrastate total)
3. Other Foodstuffs (516,988 tons, 8.2% of intrastate total)
4. Coal and Petroleum Products (466,731 tons, 7.4% of intrastate total)
5. Unknown (209,360 tons, 3.3% of intrastate total)

As will be discussed in the following section, *Agricultural and Manufacturing* sectors are both forecasted to increase by 2.0% CAGR from 2014 to 2040, largely driven by inbound Other Agricultural Products (5.0% CAGR) and outbound Precision Instruments (7.5% CAGR).

Industrial Outlook by Sector - For ease of comparison, the FAF data compiled was summarized within 4 key categories: *Agricultural*, *Mining/Extraction*, *Manufact*uring, and *Other*. A condensed summary of all groupings and directions available in FAF (outbound, inbound, and intrastate) is provided in Table2-33.

The data suggests that *Manufacturing* will remain the key sector for outbound movements, comprising 71.5% and 83.3% in 2014 and 2040 respectively. In terms of outbound movements, both *Agricultural* and *Manufacturing* are forecasted to grow at an average annual growth rate of 2.0%.

The *Mining/Extraction* sector is expected to continue to dominate inbound rail tonnage, representing 58.1% of all inbound movements in 2040. Note that the sector's share is forecasted to decrease from 83.3% in 2014, with *Manufacturing* comprising an increasing share (34.1% in 2040 as opposed to 12.6% in 2014). This is further reflected in a 2.7% CAGR from 2014-2020, while *Mining/Extraction* is expected to decrease 2.5% per year on average.

Similar to inbound movements, intrastate tonnage is expected to be dominated by the *Mining/Extraction* sector which is forecasted to comprise approximately 77.5% of all intrastate movements in 2040. This share, however, is a 5.7% decrease from 2014, with other sectors gradually increasing their share. The Agricultural sector is expected to grow approximately 1.5% on average per year, with *Other* and *Manufacturing* forecasted to increase 1.6% and 1.5% respectively.

Table 2-33: FHWA FAF Rail Tonnage by Industrial Sector, 2014 and 2040

Outbound and Inbound

Industrial Sector	Outbound			Inbound		
	2014	2040	CAGR	2014	2040	CAGR
Agricultural	590,567	985,979	2.0%	809,529	1,069,872	1.1%
Mining/Extraction	4,827,130	3,461,694	-1.3%	19,233,576	9,856,269	2.5%
Manufacturing	13,869,621	22,997,622	2.0%	2,906,504	5,780,285	2.7%
Other	104,302	148,940	1.4%	148,773	256,098	2.1%
Total	**19,391,621**	**27,594,235**	**1.4%**	**23,098,382**	**16,962,524**	**1.2%**
Percent of Total						
Agricultural	3.0%	3.6%	N/A	3.5%	6.3%	N/A
Mining/Extraction	24.9%	12.5%	N/A	83.3%	58.1%	N/A
Manufacturing	71.5%	83.3%	N/A	12.6%	34.1%	N/A
Other	0.5%	0.5%	N/A	0.6%	1.5%	N/A

Source: Prepared by HDR, based on the FHWA FAF Database v4

Intrastate

Industrial Sector	Intrastate		
	2014	2040	CAGR
Agricultural	356,593	523,686	1.5%
Mining/Extraction	4,850,439	4,860,978	0.0%
Manufacturing	484,449	678,012	1.3%
Other	140,204	209,360	1.6%
Total	**5,831,685**	**6,272,036**	**0.3%**
Percent of Total			
Agricultural	6.1%	8.3%	N/A
Mining/Extraction	83.2%	77.5%	N/A
Manufacturing	8.3%	10.8%	N/A
Other	2.4%	3.3%	N/A

Source: Prepared by HDR, based on the FHWA FAF Database v4

2.2.2.3 Conclusions

Oklahoma freight movements include outbound, inbound, intrastate, and interstate (through) across a wide range of commodities, destinations, and measures such as tonnage and carloads. A condensed summary of the analysis is provided below:

Total Movements **-** A total of 365 million tons within 7.3 million carloads were moved throughout Oklahoma in 2014, with a tons/carload utilization of 50.1.

Outbound **-** Accounted for 4.7% (17.3 million tons) and 2.4% (173,888 carloads) of all tonnage and carloads in 2014, respectively. Nonmetallic Minerals comprised the largest share of outbound movements with 59.8% of tonnage and 55.3% of carloads, moved primarily from Johnston County.

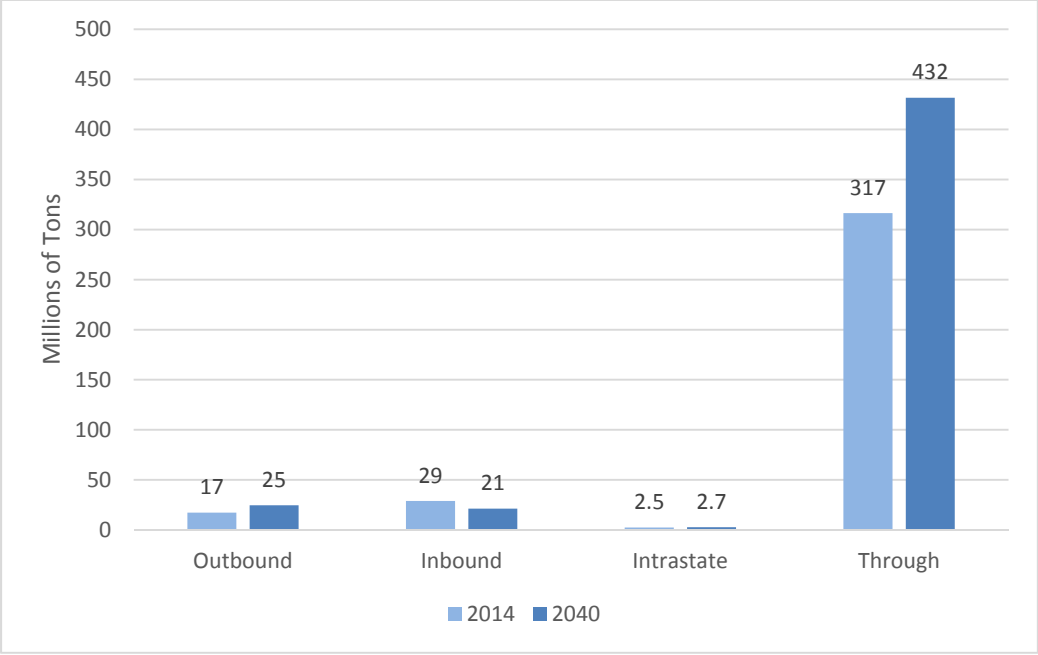
Inbound - Inbound movements are somewhat similar in composition to outbound movements, comprising 29.9 million tons (7.9% of total tonnage) and 274,465 carloads (3.8% of total carloads) in 2014. Coal was the dominant commodity moved, originating primarily in Wyoming and accounting for 61.8% of all inbound movements.

Intrastate – As compared to the other directional movements, intrastate represents the smallest share of all tonnage and carloads in 2014 with 2.5 million tons (0.7% of total tonnage) and 25,425 carloads (0.3% of total carloads) respectively. Similar to outbound movements, Nonmetallic Minerals are the dominant commodity moved with 2.3 million tons (90.7% of total tonnage) and 22,985 carloads (90.4% of total carloads).

Through - Accounted for the majority of all Oklahoma rail movements both in terms of tonnage and carloads. In 2014, through movements accounted for 316 million tons (86.7% of total tonnage) and 6.8 million carloads (93.5% of total carloads).

Forecasted Movements **-** Oklahoma rail movements – outbound, inbound, intrastate, and through – are forecasted to grow 42.3% (1.4% CAGR), -26.6% (-1.2% CAGR), 7.6% (0.3% CAGR), and 36.4% (1.2% CAGR), respectively from 2014 to 2040. Total rail tonnage is expected to grow 1.1% on average, per year, reaching 480 million tons in 2040. The most notable observation is the decrease in inbound movements, largely offsetted by outbound increases.

Figure 2-31: Rail Tonnage Forecast Summary



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2.2.3 Passenger Travel Demand and Growth

2.2.3.1 Travel Demand – Highways

Travel demand within and to/from Oklahoma will continue to grow in the future. The growth in vehicular travel demand for Oklahoma, exhibited in Annual Vehicle Miles Traveled (VMT), is shown in Table 2-34 below. VMT describes the level of travel demand on a roadway system, and growth in VMT is a strong indicator of 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. Thus, an increase could be correlated to either increases in vehicles or trip lengths, both of which are growth-related.

In the table, VMT is shown for years 2005 and 2015 by National Highway Functional Classification (NHFC). These classifications are used to define roadway types and their primary uses for roadway users.

Table 2-34: Annual VMT on ODOT Roadways by Classification, 2005 and 2015

Functional Class	Existing Miles of Roadway[54]	2005 Average Annual VMT (in Thousands) [55]	2015 Average Annual VMT (in Thousands)[56]	% Growth
Interstates, Freeways, & Expressways	1,130	12,068	13,746	13.9%
Other Principal Arterials	3,420	10,499	10,761	2.5%
Minor Arterials	4,870	8,856	7,694	-13.1%
Major Collectors	22,620	7,089	6,879	-3.0%
Minor Collectors	3,103	215	285	32.6%
Local Roads	77,567	8,292	8,348	0.7%
Total	**234,257**	**47,019**	**47,713**	**1.5%**

Overall vehicle travel has grown by around 1.5 percent from around 47.0 million annual VMT to around 47.7 million annual VMT in the state, with the large majority of growth occurring along interstate freeways and expressways controlled by Oklahoma DOT (around 77 percent of the VMT growth would occur in this functional class). In terms of a general trend, it can be expected that travel, particularly on state and federal highways, will increase as the population grows and overall economy expands.

2.2.3.2 Travel Demand – Air Travel

The state of Oklahoma has three primary commercial service airports: Lawton-Fort Sill Regional Airport in Lawton, Will Rogers World Airport in Oklahoma City, and Tulsa International Airport in Tulsa. The Bureau of Transportation Statistics projected 2016 passenger enplanements at 3.2 million, which is

[54] FHWA Functional System Lane-Length 2015, Lane-Miles (HM-60)
[55] FHWA Functional System Travel 2005, Annual Vehicle-Miles (VM-2)

[56] FHWA Functional System Travel 2015, Annual Vehicle-Miles (VM-2)

consistent with the past eight years. It is expected that the passenger enplanements will remain consistent in the near future. With more activity measured in enplanements and based aircraft expected at Oklahoma airports, airport planners need to ensure sufficient capacity to serve airport users and thus avoid congested conditions. More detail on air travel is included in Section 2.2.6.2 of the Oklahoma State Rail Plan.

2.2.3.3 Travel Demand – Intercity Rail

The specific future ridership forecast for the Amtrak Heartland Flyer between Oklahoma City, Oklahoma, and Fort Worth, Texas, was not available during development of the Oklahoma State Rail Plan. HDR developed a high-level conceptual estimate of future ridership for the Oklahoma SRP based on a number of assumptions listed in the *Analysis of Public Benefits of the Heartland Flyer Intercity Passenger Rail Service* report dated February 17, 2017. The assumptions included that ridership would level off and then start to recover back to the 2012 ridership volumes and then continue to grow at the rate of population growth in the state of Oklahoma.

It is important to note that actual future ridership performance will be based not only on population growth, but also by changes in income growth, changes in the number of train frequencies and train schedule times at the station (day vs. night), changes in Amtrak fares versus other modes, and changes in the quality of Amtrak service (ie., on-time performance, amenities, etc.).

Table 2-35 below shows FY2016 boardings and alightings at Oklahoma's five intercity passenger rail stations as well as Oklahoma station usage conceptual forecast for 2036.

Table 2-35: Amtrak Oklahoma Boardings and Alightings for 2016 and Conceptual Ridership Forecast for 2036

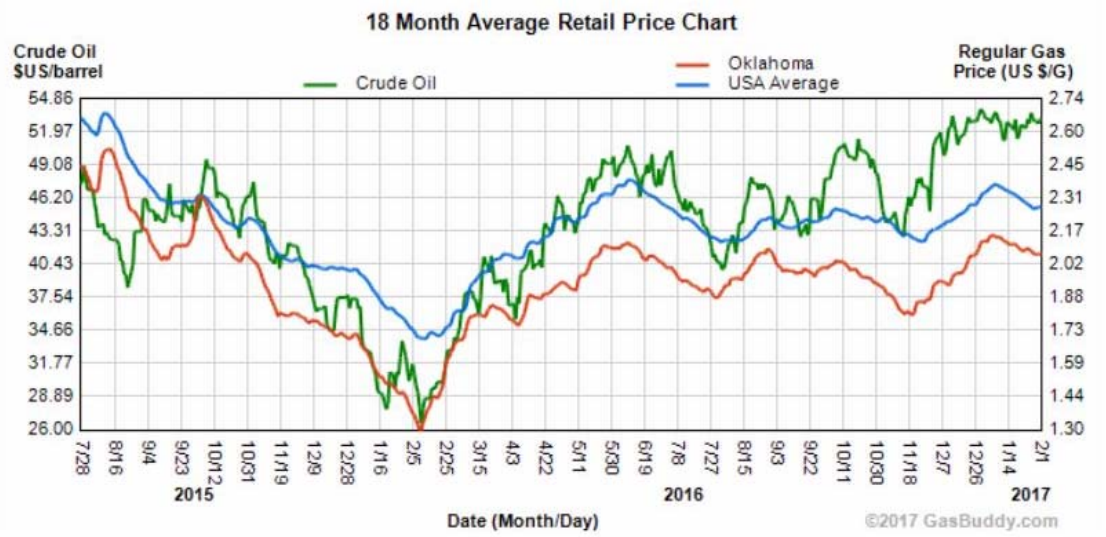
City	2016	2036	Change over Period	Annual Change
Ardmore	7,967	N/A	N/A	N/A
Norman	11,781	N/A	N/A	N/A
Oklahoma City	44,872	N/A	N/A	N/A
Pauls Valley	4,535	N/A	N/A	N/A
Purcell	1,960	N/A	N/A	N/A
Total Oklahoma Station Usage	**68,257**	**93,924**	**37.6%**	**1.9%**

Source: Amtrak and HDR

2.2.4 Fuel Cost Trends

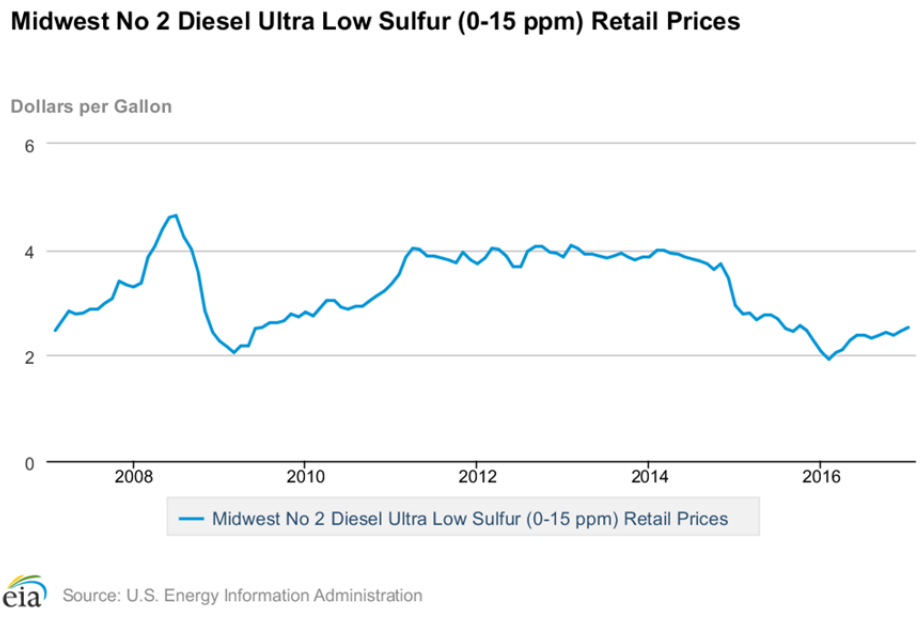
Trends in fuel costs (crude oil and regular gasoline) over the last 10 years are shown in Error! Reference source not found. below. The average retail gas price in the state of Oklahoma typically trends lower than the U.S. average.

Figure 2-32: Gasoline Price Trends from 2007 to 2017



Source: GasBuddy.com

Figure 2-33: Diesel Fuel Price Trends from 2007 to 2017



Source: U.S. Energy Information Administration

Ultra low diesel fuel costs over the past 7 years for Midwest region have also not varied substantially from the nationwide average, according to the U.S. Energy Information Administration (EIA). The price of diesel fuel in February 2007 in the Midwest was $2.46, climbing to $4.64 per gallon in July 2008. With the onset of the Great Recession diesel began to drop, bottoming out at $2.04 per gallon in March 2009. Diesel prices recovered to almost pre-recessionary highs between 2011 and 2014, but have since dropped again, with the most recent low of $1.93 per gallon in February 2016. The cost of diesel averaged $2.41 per gallon from August through January 2017 in the Midwest region.

2.2.5 Rail Congestion Trends

Rail congestion typically occurs at rail terminals and junctions. Congestion can also occur when the estimated train volumes per day exceeds the maximum trains per day that can be accommodated on the line. The capacity or the maximum trains per day is determined by the existing method of operations and associated control systems on the line and the existing track configuration.

A planning level evaluation to assess existing rail capacity and the potential level of congestion of rail lines in Oklahoma was not conducted during the development of the Oklahoma State Rail Plan. Projects that address existing bottlenecks and rail capacity issues are described in Chapters 4 and 5 of the State Rail Plan.

2.2.6 Highway and Airport Trends

2.2.6.1 Highway Congestion

Oklahoma contains 77 counties and is home to four cities with populations greater than 100,000, including the state capital and largest city, Oklahoma City. Linking these cities and counties within the state are various types of highways and roadways. According to the Federal Highway Administration, as of 2015, the state has approximately 112,700 miles of public roadway. Of these, around 11 percent are state or federal highways (comprising interstate highways, US highways, and Oklahoma state highways), 69 percent of the State's roadways are county roads, while 20 percent are city, institution, or locally maintained streets. There are approximately 932 miles of federal interstate highways in Oklahoma. Primary roadways in the state include Interstate 35, Interstate 40, and Interstate 44. Other interstate highways in Oklahoma include Interstate 235, Interstate 240, and Interstate 244.

Oklahoma features ten tolled turnpikes, totaling 606 miles across the state. Portions of Interstate 44 are tolled, along with a number of US and Oklahoma state highways. All turnpikes are built, operated, and maintained by the Oklahoma Turnpike Authority (https://www.pikepass.com/about/FAQs.aspx).

Every highway within the state is classified as one of six state traffic data definitions, as shown in **Table 2-36** below. Rural locations refer to unincorporated places within the state, while municipal areas are located within city or town limits. Secondary roads and streets refer to nonfederal or state highways that range from local streets to larger multilane roadways. Primary roads are federal and state highways that usually provide high speed travel over middle-to-long distances. The interstate highway class of road is the highest classification of arterial roadway and is designed and constructed with mobility and long-distance travel in mind, primarily providing limited-access intercity travel connections.

Most traffic counts are reported in terms of annual average daily traffic (AADT) and represent an estimate of the number of vehicles traveling along a given point on a highway on an average day in the year. Vehicle-miles-traveled (VMT) estimates, while based on AADT estimates, include the distance traveled element and thus provide a measure of highway vehicle travel usage over a geographic area, such as a county, state, or highway system.

Table 2-36 below provides a breakdown of the lane-mileage and VMT of each type of roadway type and location (i.e. rural vs. urban). The data indicate that for year 2015 the Oklahoma state roadway network carried about 47.7 million vehicle-miles a day, for an estimated 17.4 billion vehicle-miles a year.

Table 2-36: Oklahoma 2015 Lane-Mileage and VMT by Facility Type (in thousands)

Functional Class	Lane-Miles[57]	% of Total Miles	VMT (in 1000s)[58]	% of Total VMT
Rural Interstates, Freeways, & Expressways	2,596	1.1%	5,124	10.7%
Rural Arterials	12,531	5.3%	7,880	16.5%
Rural Collectors & Local Roads	178,719	76.3%	8,165	17.1%
Urban Interstate, Freeways, & Expressways	1,386	1.0%	8,622	18.1%
Urban Arterials	9,705	4.1%	10,575	22.2%
Urban Collectors & Local Roads	28,373	12.1%	7,346	15.4%
Total	**234,257**	**100.0%**	**47,713**	**100.0%**

Interstate, freeways, and expressways (including turnpikes) account for only 2.1 percent of the state's roadway lane-mileage, they carry a disproportionate percentage (29 percent) of the recorded vehicle-miles traveled. Rural secondary roads such as collectors and local roadways, which inherently connect low-traveled and populated areas, comprise around 76 percent of the state's roadway system, but only carry around 17 percent of the state's traveled vehicle mileage.

2.2.6.2 Airport Congestion

There are three commercial service airports in Oklahoma. According to the *Aviation System Plan*, "These airports support some level of scheduled commercial airline service and have the infrastructure and service available to support a full range of general aviation activity. These facilities meet most needs of the aviation system and serve as essential transportation and economic centers of the state."

Oklahoma's three commercial airports appear in **Table 2-39** below, along with their passengers and pounds of cargo enplaned and deplaned. As can be seen, Oklahoma City and Tulsa dominate the air traffic profile in the state.

[57] FHWA Functional System Lane-Length 2015, Lane-Miles (HM-60)
[58] FHWA Functional System Travel 2015, Annual Vehicle-Miles (VM-2)

Table 2-39: Oklahoma Commercial Airport Activity

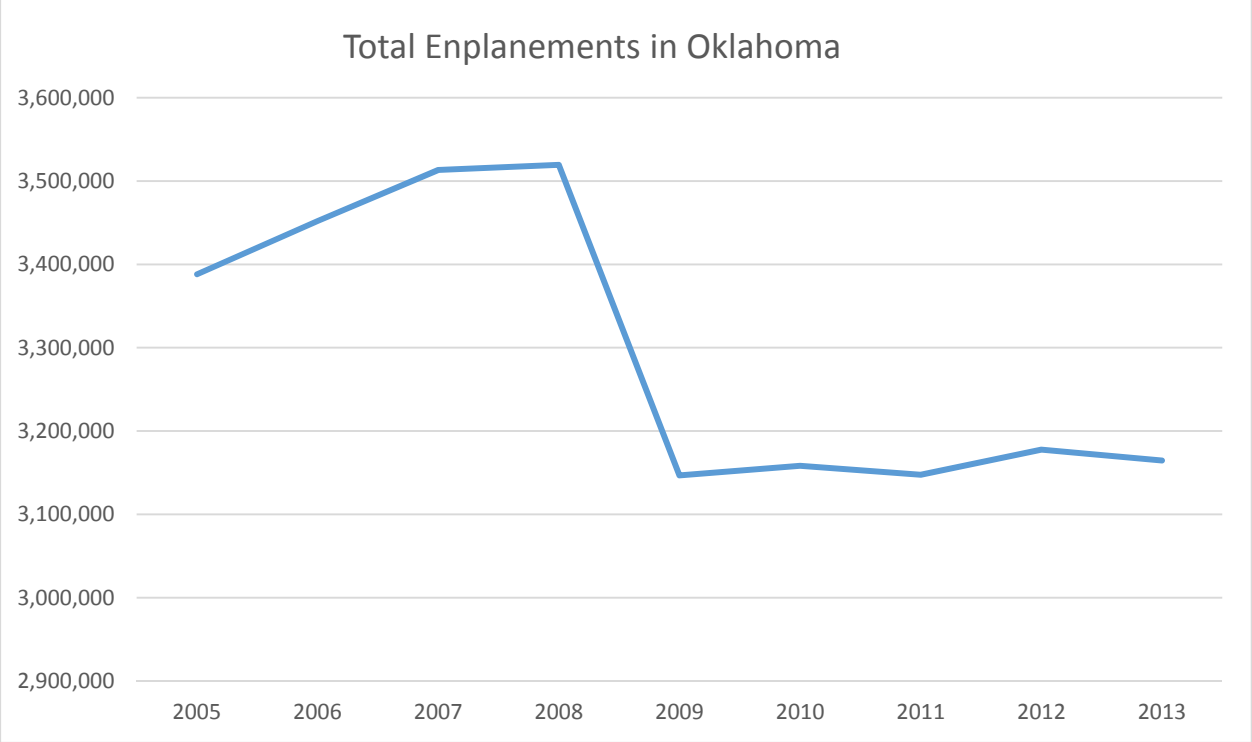
Airport	2016	
	Passengers	Cargo (Pounds)
Lawton	Unknown	Unknown
Oklahoma City	3,715,374	60,819,745
Tulsa	2,810,537	53,612
Total	6,525,911	60,873,357

Source: Will Rogers World Airport, Tulsa Airports,

Of the 6.5 million passengers, almost exactly half (3.21 million) were enplaned and half (3.23 million) deplaned. Of the 60.8 million pounds of cargo at Oklahoma City, 23.9 million, or about 39 percent, were enplaned and 36.9 million, or 61 percent, were deplaned. Tulsa represents less than one percent of total cargo and did not provide separate enplanement/deplanement numbers for cargo.

A 10-year summary of the passenger and freight activity at these airports is seen in **Figure 2-34** below. Both passenger activity declined with the onset of the Great Recession in 2008. Passenger traffic has remained essentially flat since that time.

Figure 2-34 Total Enplanements in Oklahoma



Sources: Bureau of Transportation Statistics, State Transportation Statistics, Table 1-12 Airports Enplanements by State and Air Carrier category.

Oklahomans also make use of commercial airports in nearby states. These airports include Dallas, Texas; Wichita, Kansas; Little Rock, Arkansas; and Amarillo, Texas. While passenger activity is recovering, the long-term trend in cargo activity has been more or less flat since 2009.

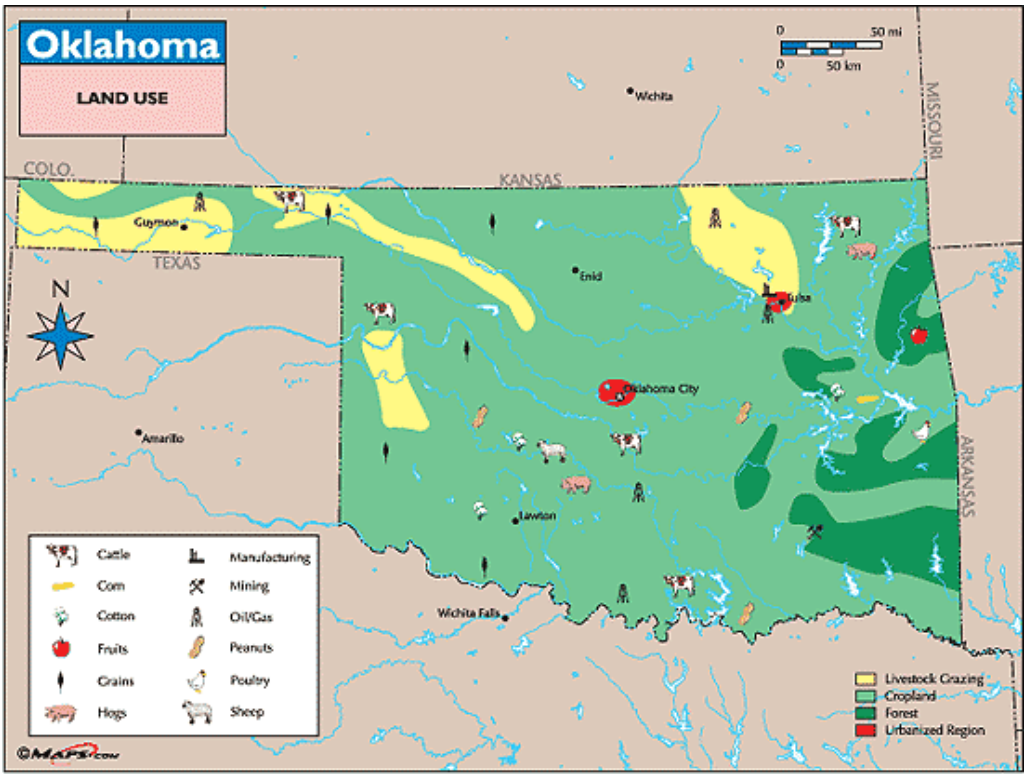
2.2.7 Land Use Trends

Oklahoma's statewide land uses are presented in **Figure 2-35** below. The majority of the state's land is rural with the balance of that land in the state used for cropland, rangeland, and pastureland. Agriculture continues to be a large land use in the state as Oklahoma remains a large producer of hay, wheat, and other products.

In all, 40.3 million acres of Oklahoma's total land acreage of 44.7 million, or 90.0 percent, is rural farm land, while 2.2 million acres, or 4.9 percent, are developed. Of farm uses, cropland accounts for 8.8 million acres, or 21.8 percent, pastureland accounts for 8.8 million acres, or 21.7 percent, and rangeland accounts for 13.7 million acres, or 34.0 percent.

From 1982 to 2012, developed land in Oklahoma increased by 0.7 million acres, or 46.5 percent. Rural farm land has decreased by 0.9 million acres, or 2.2 percent[59]. Crop land has decreased by 2.8 million acres, or 24.3 percent; rangeland has decreased by 1.1 million acres, or 7.2 percent; pasture land has increased by 1.5 million acres, or 21.3 percent.

Figure 2-35: Land Use in Oklahoma



Source: Maps.com

[59] http://www.nrcs.usda.gov/technical/nri/12summary. U.S. Department of Agriculture. 2015. *Summary Report: 2012 Natural Resources Inventory*.

2.3 Rail Service Needs and Opportunities

This section identifies the needs and opportunities for freight and passenger rail in Oklahoma. Specific projects relative to these needs and opportunities are summarized in subsequent chapters.

2.3.1 Freight Rail Needs and Opportunities

2.3.1.1 Class I Rail Corridor Development

As owners and operators of large transportation networks, BNSF, KCS, and UP manage their businesses across state lines, considering the entire market potential and competition they face in their midwestern and western U.S. operating territory. The portions of the railroads' networks connecting key regional markets are considered rail freight corridors, most all of which span multiple states. In Oklahoma, BNSF names these corridors for business planning, investment, and marketing reasons. Oklahoma's location in the Midwest and its close proximity to major rail hubs in neighboring states – including Kansas City, Missouri; Memphis, Tennessee; and Dallas/Fort Worth, Texas – means that many of the rail corridors in the regional and national rail network either connect to or pass through Oklahoma.

Class I freight railroads typically provide the capital necessary for their own network corridor infrastructure improvements. Yet in recent years, some Class I railroads have made corridor improvement investments that have involved public financial assistance, typically justified on the basis of the public benefits from reducing truck traffic and truck emissions on parallel portions of highway network. A primary interest of the State of Oklahoma is in the impacts on the connecting short line railroads, enhanced access to the state's rail network, and potential connections to river ports.

The remainder of this section discusses Class I freight railroad corridors in Oklahoma and elsewhere in the Midwestern United States that affect Oklahoma in some way. While the focus is on freight rail corridors, some or portions of these routes may have potential to expand existing or add new passenger rail service in coordination with the ongoing operations of the freight railroads in Oklahoma.

2.3.1.1.1 BNSF Corridors of Commerce

BNSF has designated Corridors of Commerce within its network of routes in the U.S. and Canada to create jobs; deliver rail transportation, safety, and environmental benefits; and promote U.S. economic growth and competitiveness.

Two of the three BNSF Corridors of Commerce intersect with Oklahoma – the MidCon Corridor and the Transcon Corridor.

BNSF MidCon Corridor

The BNSF MidCon Corridor extends from Canada and Duluth, Minnesota, through the U.S. Heartland to southern ports in Texas and to connections with other railroads at the Mexican border. Of the 3,216 miles comprising the MidCon Corridor reaching 10 U.S. states and the Canadian province of Manitoba, approximately 550 of those miles include BNSF lines in Oklahoma. Principal BNSF terminals in Oklahoma, including Oklahoma City and Tulsa are located on the MidCon Corridor[60].

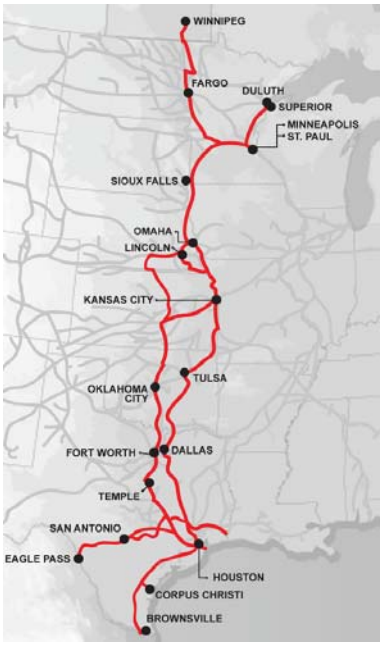
[60] BNSF MidCon Corridor Fact Sheet, 2015

The MidCon Corridor is a primary conduit for the U.S. energy supply, include coal movements to utilities for power generation and unrefined petroleum products from the Bakken in North Dakota and refined petroleum products from the U.S. South. The MidCon also handles substantial volumes of agricultural products for export. In 2009, BNSF transported 192 million tons of freight, removing 7.6 million trucks from U.S. highways[61]. BNSF has invested over $220 million in the MidCon Corridor to increase capacity by double tracking key segments, siding extensions, and yard improvements. BNSF has spent over $1.4 billion in the last decade to maintain its infrastructure and to ensure the safe movement of goods.

The MidCon Corridor is identified in **Figure 2-36** below and connects with BNSF's other two Corridors of Commerce as identified below:

- Great Northern Corridor between Chicago, Illinois and Seattle, Washington/Portland, Oregon – at Fargo, North Dakota
- Transcon Corridor between Chicago , Illinois/St. Louis, Missouri/Atlanta, Georgia/Fort Worth, Texas and Los Angeles/San Diego/Oakland, California – at Kansas City, Missouri, and Ellinor, Kansas.

Figure 2-36 – BNSF MidCon Corridor



Source: BNSF

BNSF TransCon Corridor

The BNSF TransCon Corridor extends from Chicago, Illinois; St. Louis, Missouri; and Atlanta, Georgia, through the U.S. Heartland and U.S. South to West Coast ports and major metropolitan areas in the U.S. Southwest and West including Fort Worth and El Paso, Texas; Albuquerque, New Mexico; Phoenix,

[61] Ibid.

Arizona; San Diego, Los Angeles, Stockton, Sacramento, and Oakland, California. Of the over 4,647 miles comprising the TransCon Corridor reaching 13 U.S. states, nearly 400 of those miles include a BNSF line in Oklahoma[62]. The principal BNSF terminal at Tulsa, Oklahoma, is located on the TransCon Corridor.

The TransCon Corridor is a major import and export gateway for U.S. businesses and consumers and is a primary conduit for high volumes of consumer goods. The TransCon also handles substantial volumes of agricultural products and other bulk products. BNSF has invested over $1.8 billion in the TransCon Corridor in the last decade to ensure the safe movement of goods, increase capacity by double and triple tracking key segments; expanding and rebuilding an intermodal facility at Memphis, Tennessee; and undertaking several maintenance projects[63].

The TransCon Corridor is identified in **Figure 2-37** below and connects with BNSF's other two Corridors of Commerce as identified below:

- MidCon Corridor identified earlier in this section – at Kansas City, Missouri, and Ellinor, Kansas.
- Great Northern Corridor between Chicago, Illinois and Seattle, Washington/Portland, Oregon – at Chicago, Illinois

Figure 2-37 – BNSF TransCon Corridor

Source: BNSF

2.3.1.1.2 Union Pacific Corridors

Union Pacific has multiple main lines that traverse Oklahoma in a north-south orientation. These are not organized into corridors for marketing purposes, but the system map (**Figure 2-38**) below shows how these fit into its Midwestern network.

Serving the eastern third of this state are the former Missouri-Kansas-Texas (MKT) Railroad route connecting Kansas City with Dallas/Fort Worth and the former Missouri Pacific route connecting Kansas City, Missouri to Little Rock, Arkansas, and New Orleans, Louisiana. UP accesses Tulsa via a branch line off the former MKT main line at Muskogee, Oklahoma.

Serving the central third of the state is the OKT Line, which is a former CRI&P main line, purchased by the state of Oklahoma following the CRI&P's bankruptcy. Union Pacific fully acquired the line from the

[62] BNSF TransCon Corridor Fact Sheet, 2015
[63] Ibid.

state of Oklahoma in 2012 after the conclusion of a 30-year-lease purchase agreement signed November 1, 1982 by the Oklahoma-Kansas-Texas Railroad Company (a subsidiary the MKT). UP also operates via trackage rights over the BNSF to Oklahoma City from the north and the south and through the Oklahoma Panhandle to Lubbock, Texas.

In the west, the former CRI&P Golden State Route cuts across the panhandle before connecting with the former SP at Tucumcari, New Mexico. UP also has trackage rights over the BNSF line running from southeastern Colorado to Amarillo, Texas.

Figure 2-38 – Union Pacific Network

Source: Union Pacific

2.3.1.1.3 Kansas City Southern Corridors

KCS operations in Oklahoma are primarily overhead shipments of intermodal, coal, and feed products traveling between the Kansas City area and destinations in Texas and Mexico. The route is the north/south mainline of KCS through Arkansas, which enters into Oklahoma near Watts and exits the state near Page. The KCS branch line to Fort Smith, Arkansas departs the main line at Poteau, Oklahoma and travels northeast towards the Oklahoma / Arkansas state line near Fort Smith. A second branch line, to Waldron, Arkansas, is operated by the Arkansas Southern Railroad, a Watco subsidiary.

Figure 2-39 – Kansas City Southern Network

Source: Kansas City Southern

2.3.1.2 Driving Factors in Rail Corridor Development

Many external factors are generally affecting the demand for use of rail corridors as well as influencing Class I railroads' business and network investment strategies. Some of the key factors influencing rail corridor development generally are identified in this section.

Expansion of the Panama Canal

The Panama Canal was opened in 1914 as a major international trade artery that cuts through the Isthmus of Panama and connects Pacific Ocean and Atlantic Ocean trade routes. In 2016, the Panama Canal Authority officially opened a larger, third set of locks on the canal. This project significantly increased the throughput capacity of the canal. It allows for much larger vessels to transit the locks, potentially providing savings from greater economies of scale for shippers on Panama Canal trade routes. The canal capacity for container vessels, previously limited to 4,500 Twenty-foot Equivalent Units (TEU) ships, are increasing to container vessels of 12,500 TEU capacity. The greater capacity of the locks will permit larger dry bulk and tanker vessels to also use the canal.

This expansion project creates an opportunity for the ports in the eastern and southern U.S. to capture additional ocean trade with Asia and West Coast of South American countries – traffic that, until now, has bypassed Atlantic ports and traveled instead to ports on the West Coast before traveling to or from the eastern and southern U.S. by rail or truck. Additional international trade could be carried to and from Atlantic ports by rail, if port market shares increase. International trade commodities traveling cross-country by rail through Oklahoma to or from Atlantic and Pacific Coast ports may see a decrease in share.

Increases in Domestic Intermodal Transportation

The Class I railroads are increasingly focused on growing their intermodal container business and facilities. The intermodal business has been part of the railroads' services since the 1960s, and it grew substantially between 1980 and 2000. Intermodal transportation may include a truck trailer on a flat car (TOFC) or a shipping container stacked one or two high on specialized container well railcars or other flatcar (COFC). COFC was first initiated to serve international ocean container traffic at container ports, but within the last decade, railroads have grown their domestic intermodal container businesses nationwide. The railroads have accomplished this generally by offering speed and pricing of service and intermodal container yards located where they are useful to truckers, thus replacing the need for truck drivers to drive long-haul distances far from home and to better address the present and surging shortage of truck drivers in the U.S. The domestic intermodal service uses larger size containers than used in ocean shipping, matched instead to standard highway trailer sizes that are 53 feet long and taller and wider than a standard 40-foot long international ocean container.

Oklahoma has not had any active intermodal facilities since BNSF closed its terminal in Flynn (adjacent to Oklahoma City) due to lack of demand. However, it is located in proximity to other intermodal facilities in the Dallas/Fort Worth area; the Memphis area; and the Kansas City area. Oklahoma's central location in the Midwest could potentially make it a hub for the development of an additional facility on various domestic intermodal rail corridor services extending to the southern, eastern, and western U.S. and various international ports, thus enhancing access to the rail network in Oklahoma and the reach of Oklahoma's shippers and receivers in the national and global marketplace.

The need for intermodal facilities within Oklahoma was identified in the *2005-2030 Oklahoma Statewide Intermodal Transportation Plan*. Stakeholders would need to identify locations, funding sources, and levels of service, among other issues. Partnerships with railroads, specifically the short line railroads in which the state is already in partnership will be critical to the success of any plan.[64]

Changes in Energy Production: Oil, Gas, and Coal

There has been growth in U.S. domestic production of oil and gas through the application of hydraulic fracking and directional drilling in the last five years. Rail has played a significant part in supplying drilling equipment and materials such as frac sand to these operations. Rail service has made production possible in areas without or with inadequate pipeline capacity.

Oklahoma has oil and gas fields and oil refineries affected by the growth of fracking. Frac sand and drilling supplies shipped by rail are also transported through Oklahoma, both to sites within the state and in neighboring states. This increased traffic may have impacts that are significant to the national and Oklahoma railroad networks.

Combined with the cost of complying with emissions regulations, coal-fired electric generating plants are increasingly becoming uncompetitive with natural gas fired plants. Retirements of coal-fired plants nationwide are increasing and accelerating – a trend which has implications for coal transport by rail and would be traditionally significant for Oklahoma, as large volumes of coal produced in the Powder River Basin of Wyoming travels over the state's rail network en route to markets in the U.S. South or terminate in Oklahoma. Less direct effects on Oklahoma's economy and rail network may be relatively greater manufacturing and related shipping activity, as lower electricity prices may make Oklahoma even more competitive as a manufacturing location, including products for export.

[64] *2005-2030 Oklahoma Statewide Intermodal Transportation Plan*

2.3.1.3 Other Needs and Opportunities for Oklahoma's Railroads

This section identifies and describes generally some needs and opportunities for Oklahoma's freight railroads. Proposed freight rail improvements and potential investments aimed at targeting freight rail needs and opportunities and a recommended approach for finding potential solutions will be discussed in Chapters 4 and 5 of the Oklahoma State Rail Plan.

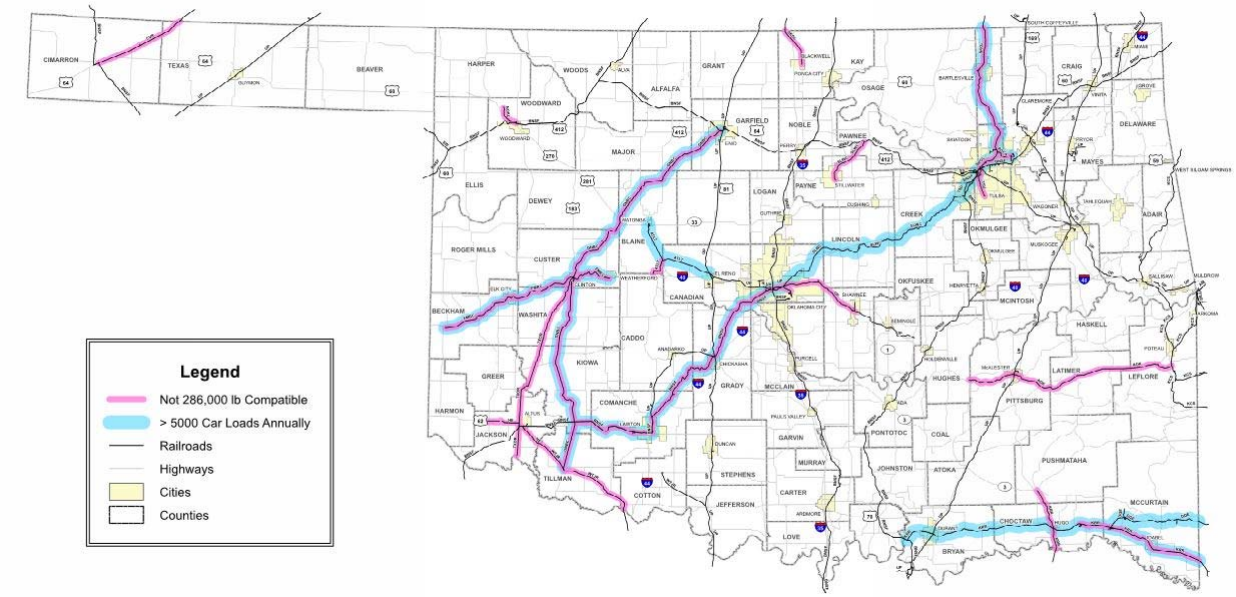
Upgrades to Accommodate Heavier Railcars

Oklahoma's railroads have made considerable progress in the last two decades to upgrade track and bridges to accommodate heavier railcars with maximum allowable gross weights of 286,000 lbs. Railcars with a maximum gross weight of 286,000 lbs. are becoming an industry standard for railroad transportation. During the coordination for the State Rail Plan, some of Oklahoma's Class III railroads identified the need to upgrade track and bridges to increase capacity and, in some instances, also to accommodate 286,000 pound railcar loadings on some or all segments of their Oklahoma networks. The ability to handle maximum carloads of 286,000 pounds is of importance to railroads to increase operational efficiencies and to railroad shippers to maintain local rail access and the ability to compete in the marketplace. Railroad shippers on short lines that can only accommodate railcars with a maximum allowable gross weight of 263,000 lbs. or 268,000 lbs. must compete with firms served by Class I railroads whose lines have the capacity for 286,000 lb. cars. These railroad-served shippers can load more cargo per car and thus realize a transportation cost savings relative to short line railroad shippers whose serving railroad cannot handle the heavier car weights.

Some segments of the Class I and networks in Oklahoma with lighter traffic densities are also unable to accommodate 286,000 lb. cars at present. These segments are identified in Appendix A.

Figure 2-40 below identifies Class III rail line segments in Oklahoma that are incapable of handling maximum loaded car weights of 286,000 pounds as of early 2017. This includes route segments and designated industrial leads of the state's Class I and III railroads.

Figure 2-40: Oklahoma Short Line Rail Line Segments Incapable of Handling 286,000 Lb. Railcar Weights

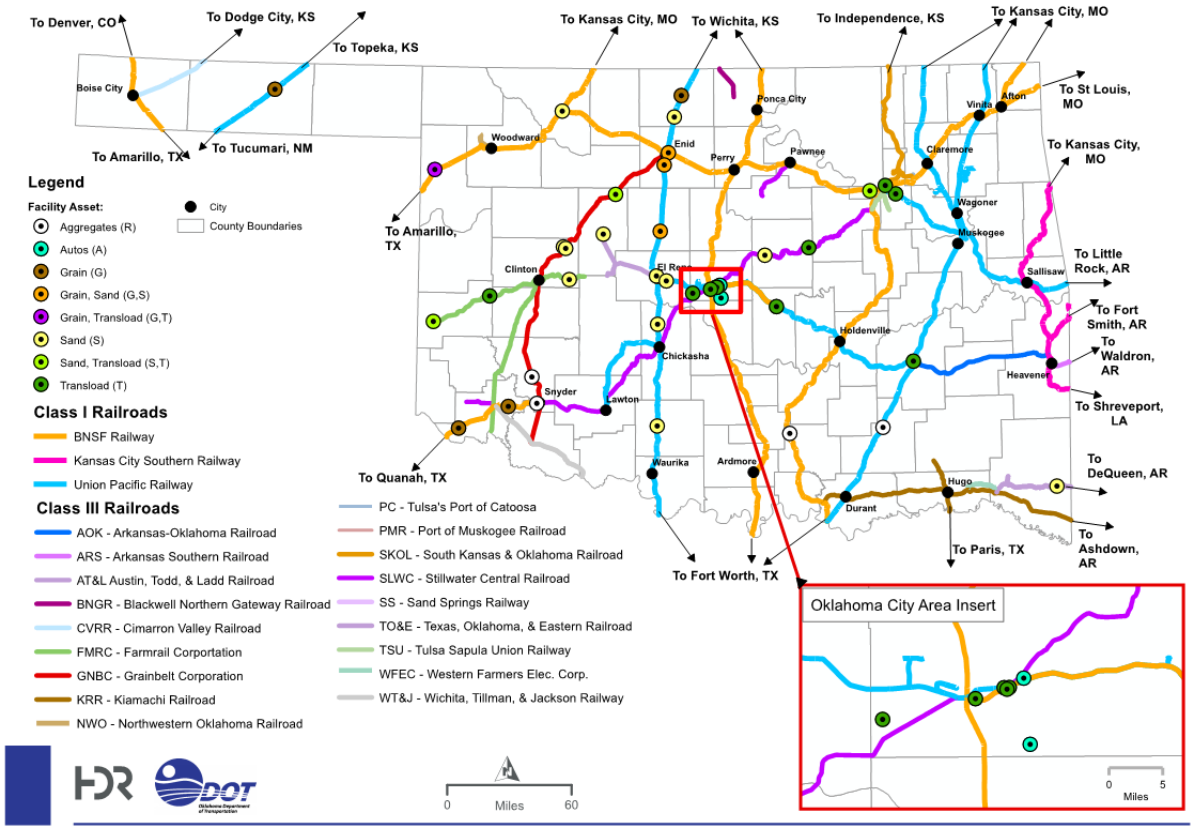


Source: Oklahoma DOT

Enhanced Railroad Access

One potential solution for Oklahoma's shippers to remain competitive in the regional, domestic, and global marketplaces and to spur economic development, employment, and income in the state, is enhanced access to the Oklahoma railroad network. Enhanced railroad access could be provided, for example, through the rehabilitation of existing railroad branchlines; development of improved or new industrial spurs; and optimization of existing access to transload facilities (see Figure 2-41 below) in Oklahoma and construction of additional such transload facilities and an intermodal facility to meet demand for multimodal transportation and to address numerous transportation challenges.

Figure 2-41: Rail Asset and Network Map in Oklahoma[65]



Source: Oklahoma DOT and HDR

Reduction of Bottlenecks

Bottlenecks exist throughout Oklahoma's railroad network, which constrain railroad operating capacity, efficiency, velocity, and safety, as well as freight mobility. Typical bottlenecks in the state include insufficient capacity on main tracks and in terminals and rail yards to accommodate present and future train volumes, interchange of traffic between railroads, and provision of rail switching; operating delays at railroad junctions and at movable bridge spans over principal navigable waterways; bridges that constrain vertical and horizontal clearances and restrict the types of rail car equipment that can be accommodated; and potential effects on infrastructure and service for rail lines located in a major floodplain.

[65] A full table of transload facility locations and other facilities depicted here can be found in Appendix A.

Table 2-40 below presents Oklahoma rail network bottlenecks.

Additional bottlenecks identified by the state's Class III railroads during the 2017 railroad coordination conducted for the State Rail Plan are identified in Appendix A of this chapter.

Table 2-40: Oklahoma Rail Network Bottlenecks Inventory, 2017

ID	Railroad	Location	Freight Mobility Issue
1	BNSF	Moore	Grade crossing congestion at 4th Street
2	BNSF	Oklahoma City	Red Rock Sub needs to be double-tracked
3	BNSF	Perry	South leg of wye where Avard Sub meets Red Rock Sub
4	BNSF	Tulsa	Single bridge over Arkansas River; congestion in Cherokee Yard
5	BNSF, FMRC, SLWC, WTJR	Altus	Four railroads converge and create congestion; presently paper barriers prevent interchange.
6	BNSF/UP	Claremore	Busy BNSF and UP lines cross at-grade
7	BNSF, UP, GNBC	Enid	Multiple railroads converge and create congestion.
8	BNSF, UP	Port of Muskogee	Existing track geometry prevents unit train operation
9	UP, AOK	Between Shawnee and McAlester	Line is presently out of service
10	AOK	Systemwide	AOK cannot presently accommodate 286,000 lb. cars
11	AT&L	Between Hydro and Bridgeport	Washout near Bridgeport prevents direct access to UP
12	AT&L	Systemwide	AT&L cannot presently accommodate 286,000 lb. cars
13	BNGR	Systemwide	BNGR cannot presently accommodate 286,000 lb. cars
14	FMRC	Thomas	High amounts of truck and train traffic at the SH-47 crossing
15	KRR	Valiant to AR State Line	Cannot presently accommodate 286,000 lb. cars
16	SKOL	Owasso Yard	Grade crossing congestion at 76th Street
17	SKOL	Near Tulsa Airport	Grade crossing congestion at 56th Street
18	SKOL, SLWC	Tulsa	Paper barrier presently limits interchange to one train per day each way

19	**SLWC**	Lawton	Lawton Sub cannot presently accommodate 286,000 lb. cars
20	**SLWC**	Oklahoma City	Operates over BNSF trackage rights to cross Oklahoma River; second bridge would relieve congestion
21	**SLWC**	Altus	Allow interchange with FMRC, GNBC, and WTJR
22	**TSU**	Tulsa	Cannot presently accommodate 286,000 lb. cars
23	**WTJR**	Systemwide	Cannot presently accommodate 286,000 lb. cars

Source: ODOT

2.3.1.4 Port-Rail Needs and Opportunities

Oklahoma does not have any seaports, but its two river ports on the McClellan-Kerr Arkansas River Navigation System have a physical connection to the Oklahoma rail network. The opportunity for enhanced multimodal transportation opportunities could potentially be met through investments targeted to promote interconnectivity and capacity. Such investment could include the construction or rehabilitation of existing rail connections between principal railroad lines and river port properties and additional sidings, spurs, or yard tracks for switching, staging, and storing railcars at or near port facilities.

2.3.2 Passenger Rail Needs and Opportunities

This section identifies and describes potential passenger rail needs and opportunities in Oklahoma. Proposed passenger rail improvements and potential investments aimed at targeting passenger rail needs and opportunities will be discussed in Chapter 3 of the Oklahoma State Rail Plan.

ODOT has developed several overall rail network initiatives, drawn from recommendations by stakeholders, that are intended to redirect the agency's focus from a position of preserving rail service to one of promoting rail industry growth in the state. As with many states, Oklahoma is facing several strategic challenges:

1. The need to support and promote rational growth of the short line industry and passenger rail service in the state
2. The need to find new sources of funds to replace lease revenues lost as rail lines owned by the state revert to the rail operators as part of the lease-purchase program
3. The need to exploit the economic and public benefits of rail transportation
4. The need to inform the public of the benefits of rail transportation

Specific needs and opportunities related to passenger rail service have come out of ODOT's efforts to identify strategic activities, and are identified below. These needs and opportunities fall under several broad categories.

Communication and Education

- **Use the State Rail Plan as a platform for the continuation of a rail information program:** as ODOT continues to be active in rail planning and other related programs, the need to educate the public on the benefits of rail transportation will increase. General public education information campaigns should build off the plan.

- **Better Inform the Public on Rail Policies and Requirements:** The public would benefit from a better understanding of ODOT activities and programs such as the rail line acquisition program and its ongoing passenger rail service development.

- **Incorporate Passenger Rail Stations into the Oklahoma Official State Travel Map:** Add notations for passenger rail station locations to the state's travel map that is distributed to motorists and other travelers.

- **Initiate a State Rail Workshop:** Convene a workshop on a recurring basis with relevant State agencies such as the Departments of Transportation, Agriculture, and Commerce along with representatives of the MPOs, the rail industry, and major shippers to discuss current rail issues affecting Oklahoma.

- **Continue Partnering with Adjacent States Regarding Rail Passenger Service:** Continue to meet on a regular basis with Kansas, Texas and Missouri DOTs, a practice started with the preparation of the Fort Worth-Oklahoma City-Kansas City passenger rail service development plan, to create a regional base of support to enhance existing rail passenger services and create a regional passenger rail vision for the future which includes regional extensions of existing rail passenger services.

Economic Development

- **Integrate Rail into Oklahoma's Economic Development Process:** ODOT should coordinate with the Governor's Task Force on Economic Development and Job Creation in regard to implementing the rail related recommendations in that Task Force's report entitled "Bold Ideas for Oklahoma".

- **Integrate Land Use and Transportation Planning:** ODOT should provide leadership in the integration of freight and passenger transportation and land use planning at local, regional, and state levels with both governments and businesses.

Funding

- **Explore and Analyze Innovative Funding and Financing Alternatives, Including Public-Private-Partnerships:** The transfer of state-owned rail properties to rail operators as part of the state's sale-leaseback program will reduce revenues for rail improvements. ODOT will need to assess current approaches to infrastructure funding to compensate for reduced availability of resources.

- **Continue to Pursue Regional Approaches to Secure Federal Rail Related Funding:** ODOT should explore multi-state regional initiatives for obtaining federal funding for both freight and passenger rail related projects.

- **Explore Development of Innovative Local Funding Mechanisms Such as the Port Authority Concept:** Oklahoma should explore what is required for the creation of local authorities such as Kansas Port Authorities that can issue bonds for rail development.

- **Educate Stakeholders on Existing Rail Funding Programs and Processes:** Educate rail stakeholders on the processes for applying for rail related grants/loans, including TIGER, Community Development Block Grants (CDBG) and Section 108 loans.

Legislative

- **Continue to Promote Legislative Action to enable Public Private Partnership (P_3) Opportunities:** Current state law in Oklahoma does not permit public funding in private corporations or businesses. Legislative changes need to continue to be pursued and implemented to provide other funding alternatives.

Passenger Rail Service

- **Continue Supporting Oklahoma City as a Multi-modal Hub:** Facilitate institutional arrangements that would enable Oklahoma City to become a multi-modal passenger rail hub: Heartland Flyer, additional proposed intercity rail services, new proposed commuter rail services, proposed high-speed rail, intercity bus service, as well as local transit services serving the Oklahoma City metropolitan area.

- **Develop Strategies with the Oklahoma City Area MPO to Enhance the Connectivity of Passenger Rail Options:** Strategies should address the development of selected commuter rail lines which would include linking the downtown area to the Will Rogers World Airport.

- **Evaluate Potential Enhancements to Existing Passenger Rail Services on an Ongoing Basis:** Evaluate the potential for other rail passenger operators other than Amtrak for the Heartland Flyer and other new proposed rail passenger services. Also, evaluate potential state ownership of rail passenger equipment.

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Chapter 3: Proposed Passenger Rail Improvements and Investments

3.1 Introduction

This chapter describes ongoing or proposed passenger rail initiatives, as well as new passenger rail service initiatives, that have the potential to enhance mobility and expand transportation options for Oklahoma. Figure 3-1 summarizes the short-term and long-term improvement plans for passenger rail and commuter rail service identified by ODOT for future investment. (These plans will delineated in Chapter 5.) This chapter provides information about these initiatives, and the planning work performed to date by ODOT and other agencies to expand passenger and commuter rail services in Oklahoma.

Figure 3-1: Proposed Passenger and Commuter Rail Projects in Oklahoma

Passenger rail service is broadly categorized as conventional intercity passenger rail service, high-speed intercity passenger rail service, and commuter rail service. Some of the primary characteristics of each service are:

- **Conventional intercity rail service**: Conventional intercity services operate over lines owned by the freight railroads. The service consists of regional and long-distance trains that operate between towns and cities across the country, in most cases with maximum train speeds of 79 miles per hour. Regional intercity rail passenger services generally serve routes at least 100 miles or more in length up to a maximum of 749 miles, operate with limited frequencies seven days a week, and require state funding and support. Long-distance trains serve routes of 750 miles or more in length, and are funded by Amtrak as part of its national network (see Figure 3-2).
- **High-speed intercity rail service**: Although prevalent in Europe and Asia where some trains operate in excess of 220 miles per hour, currently the only high-speed rail service in the U.S. is on the Northeast Corridor (NEC) between Washington and Boston. Much of the NEC is rated at 125 miles per hour, although Acela Express trainsets have a maximum authorized speed of 150 miles per hour over selected segments between New Haven, Connecticut and Boston, Massachusetts. High-speed rail services generally require tracks that are separate from the slower freight operations to prevent interference.
- **Commuter rail**: Commuter rail service is a mass transit option that links relatively high-density employment centers with outlying residential areas, operates service concentrated on weekdays during the morning and evening commute periods when travel is the highest, and can be managed by local or state agencies with funding from local, state, and federal sources.

Figure 3-2: Amtrak Route System

Source: Passenger Rail Oklahoma

3.2 Improvements to Existing Service

3.2.1 Increase the Efficiency of the Heartland Flyer Route and Expand Service

As discussed in Chapter 2, ODOT funds the operation of the state's sole existing intercity passenger service, the *Heartland Flyer*. The *Heartland Flyer* makes a single daily round trip, departing Oklahoma City in the morning southward to Fort Worth, Texas, and returning northbound from Fort Worth to Oklahoma City in the evening. The train makes intermediate station stops in Norman, Purcell, Pauls Valley, and Ardmore, Oklahoma, as well as Gainesville, Texas. Connections can be made in Fort Worth to Amtrak's *Texas Eagle*, which operates between Chicago and Los Angeles via San Antonio, Texas. Connections via Thruway Bus from Oklahoma City can be made at Newton, Kansas, to Amtrak's *Southwest Chief*, which operates between Chicago and Los Angeles. The combined population of cities served by the *Heartland Flyer* route totaled nearly 7.8 million in 2010.[1]

The *Heartland Flyer* service is operated by Amtrak under contract to Oklahoma and Texas, with funding providing by the both states under a cost allocation formula for capital and operating expenses paid for the provision of passenger rail service as mandated in the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). Although Oklahoma had been funding the service since the *Heartland Flyer*'s inception in 1999, the annual payments made by Oklahoma and Texas to Amtrak to support the operation of the *Heartland Flyer* jumped 40 percent between 2013 and 2014, when the PRIIA-mandated revised cost allocation formula was applied to state charges.

As a result, Oklahoma and Texas took some initials steps to explore other possible ways of providing passenger rail service, and potentially improving the service, at a lower cost. This culminated in the issuance by ODOT on June 1, 2016, of a Request for Qualifications (RFQ) for "Heartland Flyer Intercity Passenger Rail Service Opportunities"[2]. Texas Department of Transportation (TXDOT) issued a concurrent Request for Information for Intercity Passenger Transit Service Opportunities. The purpose of the RFQ was to gather qualifications from providers of passenger rail services about service delivery options to provide for more convenient, rapid, and reliable intercity passenger rail service in the *Heartland Flyer* corridor between Oklahoma City and Fort Worth. The RFQ noted that both states were seeking opportunities for cost reduction and developing priorities based on creating the best value relative to the resources required in a manner that would:

- Provide an efficient, safe, and cost-effective alternative to highway, bus, and air travel
- Support future growth of intercity passenger rail service on the *Heartland Flyer*
- Enhance the rail corridor between Oklahoma City and Fort Worth/Dallas by increasing the frequency of service from two to a minimum of four trains per day
- Operate an efficient, high-quality intercity passenger rail service that helps minimize the need for state subsidies
- Provide flexibility for ODOT and TXDOT to manage service amenities and business costs
- Be sensitive to community and environmental impacts
- Integrate with local roadway, transit, bicycle, and pedestrian transportation networks

ODOT received seven responses to the RFQ from interested operators. Since then, ODOT has not formally taken additional steps that advance discussions with potential rail operators.

Meanwhile, ODOT has continued to work with Amtrak on ways to improve the cost-efficiency of the *Heartland Flyer* service, as well as ways to enhance the service offering. Some of the initiatives identified by Amtrak as part of this effort include:

[1] https://ftp.dot.state.tx.us/pub/txdot-info/rail/high_speed/system-summaries/texas-south-central.pdf
[2] https://ok.gov/odot/Programs_and_Projects/Rail_Programs/index.html

1. **Implementing a Second Round Trip at Minimal Cost**: Amtrak is studying the feasibility of providing a second round trip between Fort Worth and Oklahoma City by creating a section of the long-distance *Texas Eagle* train linking Chicago and San Antonio that could be combined and separated at Fort Worth. The *Heartland Flyer* train would then be rescheduled to provide an opposite-direction morning and evening trip with the new *Texas Eagle* section, thus allowing for daily morning and evening departures from each end of the corridor.
2. **Lower Cost Equipment Options**: Among the options being studied is the possibility of furnishing lower-cost equipment for the *Heartland Flyer* service than the current bilevel Superliner equipment in use. Other possibilities include the elimination of the cab-baggage car at the opposite end of the trainset from the locomotive, although this would require that the trainset be turned around between trips at both Fort Worth and Oklahoma City.
3. **Wi-Fi installation**: The installation of wireless internet access onboard passenger rail cars has proven to be a popular and widely used customer service feature on Amtrak's routes in the northeast United States. Wi-Fi provides many passengers, not just business passengers, with the ability to be productive or just to be "connected." Installing Wi-Fi on board the *Heartland Flyer* could help enhance onboard amenities and improve the customer experience for travelers.

3.2.2 Passenger Rail Investment and Improvement Act Considerations

The passage of PRIIA in 2008 has had multiple effects on the expansion of Oklahoma's passenger rail system. Section 209 mandated changes to Amtrak's cost accounting and how costs are shared with the states for their state-sponsored trains. States have raised concerns since state costs have increased under Section 209. While direct expenses assessed to a state-sponsored service are, to a degree, controllable by the state, the allocation of shared expenses is not. Shared expenses are those which are averaged over all Amtrak passenger operations and cannot be assigned to any specific train or route. For example, if a state adds a second train daily, its allocation of the shared expenses will almost double although the second train will have little effect in increasing the total shared costs across the system. If states start dropping services because of the cost, the shared costs will then be spread over a fewer number of trains and costs will further increase.

PRIIA, which was enacted into law on October 16, 2008, required that the new cost sharing agreement be finalized by October 16, 2010, and to take effect 5 years following enactment.[3] Amtrak and the various states, through a state working group, came to an agreement on the allocation of costs with the lone dissent from the State of Indiana. Since unanimous consent was required, the methodology was placed before the STB for final decision. On March 13, 2012, the STB ruled that the allocation methodology formulated by Amtrak and the state working group was reasonable. As discussed above, payments made by ODOT and TXDOT to Amtrak to support the operation of the *Heartland Flyer* jumped 40 percent between 2013 and 2014, when the PRIIA-mandated revised cost allocation formula was applied to state charges.

Under Section 305 of the Act, Amtrak was directed to establish a committee to define requirements for the next generation of train equipment, the Next Generation Corridor Equipment Pool Committee. The committee is charged with the design of the next generation equipment; the development of technical specifications; preparation of procurement and contracting plans; preparation of funding and financing plans; and development of contract and service specifications. The committee was formed on January

[3] https://www.congress.gov/bill/110th-congress/house-bill/6003/text

13, 2010. Membership is made up of representatives of Amtrak, FRA, host railroads, equipment manufacturers, interested states, and other passenger train operators.

Initial specifications issued have been for (1) double-deck passenger cars, (2) single-level passenger cars, (3) diesel-electric locomotives, (4) trainsets, and (5) self-propelled Diesel Multiple Unit vehicles. The issued specifications are for equipment capable of up to 125 mph operations. Future procurement of passenger train equipment using federal funds will be required to comply with the Section 305 specifications and process.

In general, the specifications leave adequate flexibility for adaptation to a particular use. For Oklahoma, where serious consideration will be given to passenger trains powered by compressed natural gas (CNG), the locomotive specification explicitly provides for associated technologies, indicating CNG would be potentially acceptable as a substitute for diesel fuel.

3.2.3 Oklahoma Passenger Rail Station Improvements

In addition to cost-efficiency and service upgrades, some stations along the *Heartland Flyer* route are also being upgraded as part of state and community initiatives. Major station initiatives are discussed below. Initiatives involving Oklahoma City's Santa Fe Depot are discussed in Section 3.3.

Ardmore. The City of Ardmore, the Main Street Authority, and the Ardmore Chamber of Commerce are advancing plans to restore the city's historic (built in 1916) Santa Fe Depot. Santa Fe assembled the Mercy Train in 1915 to rush medical personnel and supplies from North Texas to Ardmore after a downtown explosion. The restoration work is being carried out in conjunction with an initiative to develop Depot Park, a planned downtown greenspace to be used for recreation and city events on land adjacent to the train station. In addition to the restored train station, other features of this $2.7 million City plan, funded by grants and donations, include expanded sidewalks and improved pedestrian access, landscaping, the introduction of sidewalk dining and off-street parking, and a renovation and relocation of the historic Mercy Train steam locomotive from the city coliseum to the depot area.[4]

Thackerville. ODOT has approved a new station stop for the *Heartland Flyer* at Thackerville, Oklahoma, just north of the Oklahoma/Texas state line. Thackerville is home to the WinStar World Casino and Resort, the largest casino in Oklahoma. The resort is owned and operated by the Chickasaw Nation, which is expected to construct the station platform and an adjacent parking lot. Amtrak is currently working with ODOT, BNSF Railway, and the Chickasaw Nation to evaluate the addition of a station at Thackerville. Early projections from the Chickasaw Nation indicated that the stop could potentially increase *Heartland Flyer* ridership by 12 percent, however, no specific date has been set for the establishment of the station stop.

3.2.4 Amtrak Long-Distance Train Performance Improvement Plans

PRIIA Section 210 required Amtrak to develop performance improvement plans for each long-distance service. The plans identified potential concepts and ideas for improving financial performance, reliability, service, and customer satisfaction. The plans discussing Amtrak long-distance services that connect with the *Heartland Flyer* are discussed below.

[4] http://www.kxii.com/content/news/Historic-train-restoration-nears-completion-402798326.html

Texas Eagle

Amtrak's September 2010 report, "PRIIA Section 210 FY10 Performance Improvements Plan, *Sunset Limited/Texas Eagle*[5] identified several possible improvements for the *Texas Eagle* operating daily between Chicago and San Antonio, and its connecting train at San Antonio, the *Sunset Limited*, operating three days per week in each direction between New Orleans and Los Angeles.

The potential improvements that could improve connectivity and service for *Heartland Flyer* passenger included:

- New daily service between Los Angeles and Chicago
- New daily service between San Antonio and New Orleans
- Reduction of layover time in San Antonio
- Daylight schedule in major cities
- Connection to Coast Starlight (Los Angeles-Seattle)
- Reduced equipment requirements: Released sleeping cars would ease capacity constraints on other trains

The two major changes underpinning Amtrak's proposal for service changes were:

1. Establishing a new daily Los Angeles – Fort Worth – Chicago service, which would combines the Los Angeles - San Antonio portion of the *Sunset Limited* with the San Antonio - Chicago *Texas Eagle*.
2. Establishing a new daily San Antonio - New Orleans service with cross-platform transfer of passengers at San Antonio.

The combined *Sunset Limited/Texas Eagle* would provide daily service over the entire route of the *Sunset Limited* by extending the *Texas Eagle* west from San Antonio to Los Angeles and providing daytime service between New Orleans and San Antonio with a new connecting train that had a guaranteed connection to the *Sunset Limited/Texas Eagle* in San Antonio.

Amtrak's Market Research & Analysis Group and Finance Department estimated that the new service would add 124,100 additional riders annually and generate more than $10 million in additional revenue across the Amtrak system. Nearly 80% of the revenue and ridership increases would be generated on the new combined *Sunset/Eagle* route. Connecting trains at Los Angeles (the *Coast Starlight* to Seattle) and Chicago (the *Capitol Limited* to Washington, D.C.) would also benefit from this change.

The new service also would vastly improve San Antonio layovers for through-passengers. The most significant reduction would be for passengers traveling between Los Angeles and Chicago, with trip times falling by 9 and 5 hours for eastbound and westbound travelers, respectively.

Although Amtrak received approval from its Board of Directors to proceed with this plan, no funding source has been identified to pay for the projected capital costs of infrastructure upgrades required to support a daily passenger train between Los Angeles and New Orleans.

Southwest Chief

[5] https://www.amtrak.com/ccurl/970/304/PRIIA-210-SunsetLtd-TexasEagle-PIP,0.pdf

Amtrak's September 2012 report, *PRIIA Section 210 FY12 Performance Improvements Plan, Auto Train, City of New Orleans, Coast Starlight, Empire Builder, Southwest Chief*[6], identified the following possible improvements for the *Southwest Chief*:

- **Oklahoma City-Wichita-Newton Thruway Bus**: This concept would provide a link between the *Southwest Chief* in Newton, Kansas, and the *Heartland Flyer* in Oklahoma City, Oklahoma.
- **Premium Express Contracted Pallet Service between Chicago and Los Angeles**: This concept would provide for a small-scale shipment of six pallets per trip loaded into the train's existing baggage car between Los Angeles and Chicago. No incremental labor or capital costs were anticipated. Incremental revenue would amount to an estimated $284,000 per year.
- **Food Service Adjustments**: Given that trains often arrive in Los Angeles an hour earlier than scheduled (8:15 a.m.), passengers' time for breakfast is compressed, as it is for dining car crews preparing, serving, and clearing meals. The concept of the adjustments was to switch from a conventional sit-down breakfast to a continental breakfast, which would minimize food preparation as well as free up seating, as passengers would not have to wait for their meals to be cooked and brought to them and thus remain in their table seats for longer periods.
- **Schedule Improvements**: Minor schedule adjustments were contemplated to help improve on-time performance.

Other initiatives, common to all of the long-distance services reviewed, were:

- **Modify the Seat Pitch on Superliner Coaches**: The concept would reduce seat pitch from 50-52 inches to 46-48 inches, allowing for 4 or 6 additional seats, and thus generating more revenue.
- **Modify the Current Superliner Transition Sleeping Car**: This concept would add 11 additional sleeping rooms for sale. Most would be on the lower level where a largely unused lounge space could be converted into four roomettes, one Family Room, and one ADA Accessible room. Also five rooms for sale would be added on the upper level: four from the Business Travel group and one from the conversion of the Conductor Room. The Conductor's Room would be relocated to the former Chief's Room, thereby maintaining an Amtrak crew work area.
- **Customer Service Performance Metrics Integrator Program**: This program is a business intelligence system that tracks information on an individual crew and train level, with monthly reports that compare a route's performance by crew and crew member. The goal would be to encourage positive competition between crew couplets, build teamwork, and identify crew couplets needing additional management coaching. The ultimate goal would be to improve personnel-related CSI scores.

Following the release of this report, Amtrak did implement one of the suggestions in this plan, which was the establishment of an Oklahoma City-Wichita-Newton Thruway Bus connecting the *Heartland Flyer* and *Southwest Chief*. That service was launched in April 2016.

3.2.5 Improving Connectivity with Other Modes at Passenger Rail Stations

For numerous reasons, passenger rail services have not been blended into the overall fabric of the transportation system in the United States except in the older, densely populated Northeast United States. The newer urbanized areas grew in the two-mode era of commercial aviation and private automobiles. While the speed of the airplane and the convenience of the private automobile have

[6] https://www.amtrak.com/ccurl/676/676/PRIIA-section-210-FY-12-performance-improvement-plan-amtrak,0.pdf

significant mobility benefits, neither of these modes are energy efficient, and have rendered land use patterns that further exaggerate energy demand and consume vast tracts of land.

A stand-alone intercity passenger rail system does not make for convenient transportation. Its ability to attract patronage from the competing modes is greatly diminished without convenient connections. Consequently, the presence of "last mile" alternatives is critical to the success of intercity passenger rail services (just as they are to commercial air service). Intercity passenger trains themselves can assume the role of a feeder service for extended journeys. Newark Liberty International Airport in Newark, New Jersey and Baltimore-Washington International Airport are prime examples of where Amtrak trains and local commuter trains feed passengers from an entire region to the airport.

Amtrak has had success with its Thruway Bus services as a means of linking to a broader market, including the Oklahoma City-Wichita-Newton bus service inaugurated in 2016. Thruway buses are used at many locations on Amtrak's system to connect passengers to popular destinations.

ODOT conducted a "Transit Gap" analysis, surveying where there is a lack of mobility in the state. This investigation found "information obtained during public outreach efforts associated with the update of the Oklahoma's Statewide Intermodal Plan found that, in general, adequate urban and regional transit is available for users. However, a need exists to improve statewide mobility and provide modal connections that will permit transit users to travel beyond urban and regional boundaries." While the analysis found that transit can be used for general mobility, it did not particularly address the convenience issues that make public transportation options attractive to the segment of the public that have other travel options. Capturing those riders is key to growing ridership and further expanding available transportation options.

Fort Worth Amtrak and Commuter Rail Connections

Amtrak: The *Heartland Flyer*'s current schedule, which provides southbound morning service from Oklahoma City to Fort Worth and a northbound evening return trip to Oklahoma City, requires the train to stay in Fort Worth for 5 hours during the middle of the day. It also permits travelers from Oklahoma City to make connections at Fort Worth with Amtrak's long-distance *Texas Eagle*. The *Texas Eagle* makes an early afternoon stop in Fort Worth in each direction on its journey between Chicago and San Antonio.

While the approximate 90-minute connection with the southbound *Heartland Flyer* is reasonable, the return to Oklahoma requires a wait of several hours throughout the afternoon. An earlier northbound *Heartland Flyer* departure from Fort Worth to Oklahoma could reduce this wait but would hamper the trip purposes of other types of travelers, who need time in Fort Worth. Fort Worth is home to world-class art museums and historical sites. The *Texas Eagle* connection accounts for less than 10 percent of the *Heartland Flyer* passengers. Leisure passengers account for a much higher percentage and an earlier departure from Fort Worth might discourage day-trippers.

Trinity Railway Express: Trinity Railway Express (TRE) is a regional commuter train service that operates between the Fort Worth ITC and Dallas Union Station. Current wait times between the southbound *Heartland Flyer* and the next available TRE departure to Dallas range from 58 minutes on weekdays to 28 minutes on Saturday. (There is no Sunday TRE service.) Minimum wait times at Fort Worth from TRE trains arriving from Dallas with the northbound *Heartland Flyer* range from 29 minutes

on weekdays to 59 minutes on Saturday. Midday and afternoon TRE trains between Fort Worth and Dallas operate once an hour in each direction Monday through Saturday.

Tightened connections between the *Heartland Flyer* and TRE might encourage more connecting trips to Dallas as well as the TRE station stop serving Dallas-Fort Worth International Airport. However, if the connection is too tight, any minor operating delay might cause passengers to miss their connecting train at Fort Worth. Further improvement would be to time the airport shuttle buses to the TRE trains. Under the current operation, shuttles run every 15 minutes, regardless of arrivals or departures of TRE trains.

Other Passenger Rail Multimodal Improvement Considerations

Additional opportunities exist to enhance the multimodal role of the *Heartland Flyer* with agencies at both the Oklahoma City and Fort Worth terminals. Discussion with rural transit districts to coordinate at intermediate stops in Oklahoma may also be worthwhile. Ridership improvements could be anticipated if multimodal connections were improved and publicized. Most of these connections would require extraordinary cooperation between companies or agencies with diverse goals and objectives.

In Texas, the *Heartland Flyer* serves the Fort Worth Intermodal Transportation Center, where rail passenger, commuter rail, local transit, and intercity bus services come together, although the services are not coordinated.

In Oklahoma City, recent emphasis on integrating various modes of public transportation into the city's overall transportation matrix has led to several studies and initiatives, further described below in Section 3.3. The Association of Central Oklahoma Governments completed the "Intermodal Transportation Hub Master Plan,"[7] which created a foundation for the current expansion and development of the existing Santa Fe Depot discussed further in Section 3.3, while the Central Oklahoma Transit and Parking Authority completed "The Greater Downtown Circulator AA,"[8] which formed the first step in the region's process for implementing enhanced rail transportation options such as commuter and light rail. Subsequent efforts included conducting a commuter/rail transit feasibility study for the region, which is discussed in Section 3.5. Oklahoma City is also constructing a modern streetcar line that will serve the central business district (CBD). All of these efforts work in conjunction to point toward a greatly enhanced transportation network in the coming years.

Tulsa, Oklahoma, is making a similar effort to prepare the way for expanded public transportation needs. Prior studies carried out by the City of Tulsa and the Indian Nations Council of governments (INCOG) are preparing the way for the introduction of an enhanced transportation network.

Multimodal plans previously completed within the State that address multimodal transportation options include:

- The "2030 Fixed Guideway Plan" identifies transit improvements for Oklahoma City by the Central Oklahoma Transit and Parking Authority (COTPA). This 2005 plan includes the modern streetcar downtown circulator, bus rapid transit, and commuter rail: http://www.gometro.org/fgp

[7] http://www.acogok.org/wp-content/uploads/2015/09/hubreport.pdf
[8] http://embarkok.com/about/planning

- In coordination with the COTPA studies on fixed guideway transit in the Oklahoma City region, the Association of Central Oklahoma Governments (ACOG) in 2011 published a comprehensive study for creating a multimodal hub to connect the wide variety of planned transportation options in Oklahoma City.
- ACOG also developed a framework for creating a Regional Transit Authority (RTA) and regional transit district. Subsequent legislation, HB 2480 signed in law in 2014, authorized creation of a regional transportation authority under a framework presented in the legislation. Following passage of the law, cities in the Oklahoma City metropolitan area authorized the formation of a Regional Transit Authority Task Force to develop an implementation plan for establishing an RTA.
- In the Tulsa region, the City of Tulsa and the Indian Nations Council of Governments released its comprehensive transit development plan in October 2011, entitled "FastForward".

3.3 Support for Oklahoma City as a Multimodal Hub

Both ODOT and the City of Oklahoma City have been advancing initiatives and institutional arrangements that would facilitate Oklahoma City to become a multi-modal passenger rail hub, serving the existing *Heartland Flyer* service, additional proposed intercity rail services, new proposed commuter rail services, proposed high-speed rail, intercity bus service, as well as local transit services serving the Oklahoma City metropolitan area.

Locating a multimodal transportation hub at the Santa Fe Depot in Oklahoma City will help improve the market reach for all modes. ACOG completed the "Intermodal Transportation Hub Master Plan,"[9] which created a foundation for expanding and redeveloping the existing Santa Fe Depot (discussed further below) as a transportation center and gateway for Oklahoma City. The hub study also laid the groundwork for merging pedestrian, bicycle, bus, light rail, commuter rail, and intercity passenger rail at the preferred location of the Santa Fe Depot. The hub plan includes the capacity necessary to accommodate an expansion of service on the *Heartland Flyer* route, as well as the introduction of passenger rail service between Oklahoma City and Tulsa, and also space for the introduction of commuter rail service on lines serving central Oklahoma. Expanded taxi service and parking will also be located at the planned hub to assure this location is capable of meeting transportation needs for decades to come. Specific initiatives currently underway are discussed below.

3.3.1 Santa Fe Depot Restoration and Multimodal Improvement Project

The U.S. Department of Transportation awarded Oklahoma City a $13.6 million Transportation Investments Generating Economic Recovery (TIGER) grant in 2013 to help fund a $28.4 million restoration and reconstruction project that will convert the historic Santa Fe Depot (built in 1934) into an intermodal transportation hub, improving passenger waiting facilities, adding space for Amtrak ticketing and checked baggage services, expanding accessibility and neighborhood connectivity for bicycles and pedestrians, and providing a multimodal transit connection to the Oklahoma City streetcar, currently under construction.[10] The improved connectivity includes construction of a new tunnel beneath the BNSF Railway tracks that will connect the Santa Fe Depot to the west end of the city's Bricktown neighborhood. Other funding sources for the station restoration project include ODOT,

[9] http://www.acogok.org/wp-content/uploads/2015/09/hubreport.pdf
[10] https://www.okc.gov/Home/Components/News/News/1382/18?arch=1&npage=13

ACOG, and a City capital program called MAPS 3 (discussed further below). The station renovations are expected to be completed in 2017.

In an unrelated project, in 2017, FRA approved the establishment of a quiet zone on the BNSF tracks through downtown Oklahoma City also used by the *Heartland Flyer*. Within the quiet zone, which extends nearly three miles through the city center, trains do not have to sound their horns at grade crossings as part of routine operation. (Emergency situations will require sounding the horn.) As part of the quiet zone establishment process, eleven grade crossings were improved to maintain safe operation for motorists and trains in the absence of the train horn.

3.3.2 Oklahoma City Streetcar

Heartland Flyer passengers at Oklahoma City will benefit from the improved transit connectivity that will occur with the opening of the Oklahoma City Streetcar[11], projected to begin operations in December 2018. The streetcar will operate on two separate loops within city streets, linking commercial and residential districts in and around downtown Oklahoma City. The $131 million streetcar line is one of eight projects that are part of MAPS 3 (Metropolitan Area Projects), a seven-year, $777 million capital program funded with a 1-cent municipal sales tax that voters approved in 2009.

Service will be provided with seven streetcars built by the Brookville Equipment Corporation that will be capable of drawing power from overhead wires or onboard lithium-ion batteries in areas where overhead wires will not exist.[12] Oklahoma City's Santa Fe Depot is one of the 22 planned stops on the streetcar line, and will be served by both the 2-mile east-west loop serving Bricktown, the convention center, and the botanical gardens, and the 4.9-mile north-south loop connecting Bricktown with Midtown.

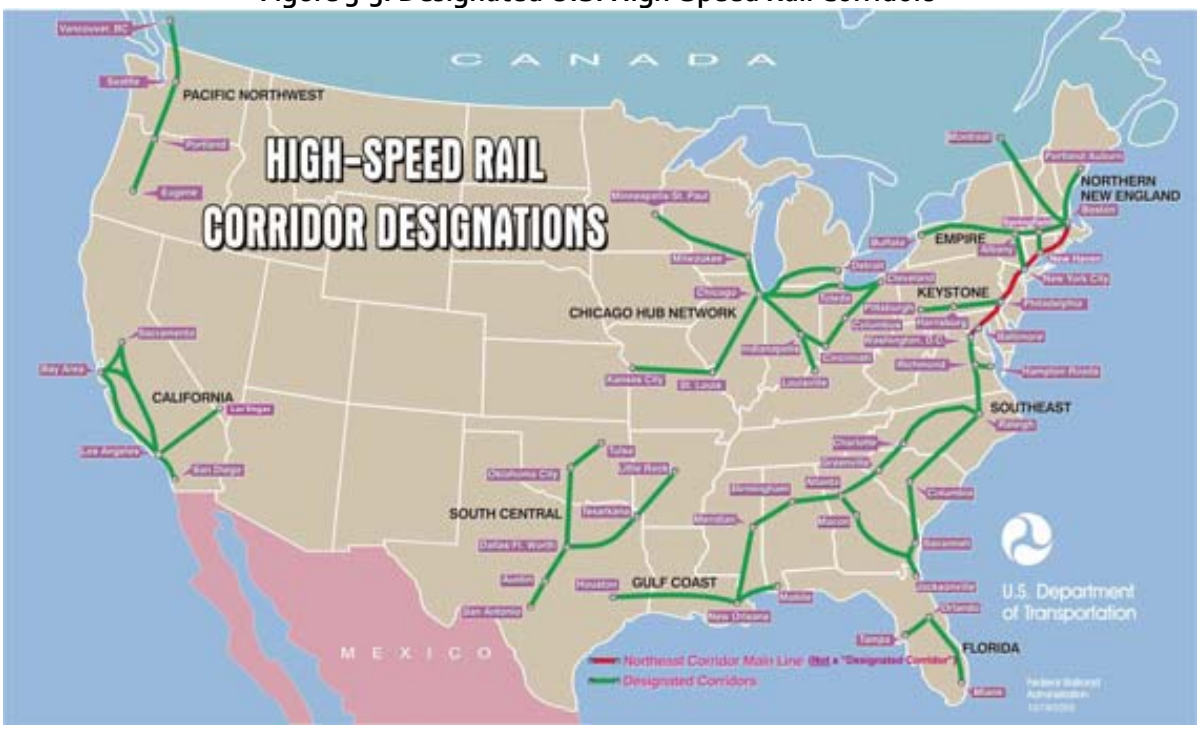
3.4 Proposed New Intercity Services

3.4.1 New Intercity Service Development Under FRA's High Speed Rail Program

The U.S. Department of Transportation, through the Federal Railroad Administration (FRA), has been working with states to plan, fund, and develop high-speed rail services, which includes new or enhanced conventional intercity passenger rail services that use existing freight lines and travel at existing passenger rail speeds. Since 1991, the FRA has identified 11 high-speed rail corridors (see Figure 3-3), positioning them for future Federal passenger rail funding. The Tulsa-Oklahoma City-Dallas/Fort Worth-San Antonio corridor was officially designated as a high-speed rail corridor in 2000[13], as shown in Figure 3-4. It is known as the South Central High Speed Corridor.

[11] http://embarkok.com/learn/services/okcstreetcar
[12] http://www.brookvillecorp.com/OKC-Selects-Brookville-Liberty-Streetcars.asp?news=news-streetcar.asp
[13] Federal Railroad Administration, "High Speed Rail Timeline", https://www.fra.dot.gov/Page/P0140, retrieved April 29, 2017

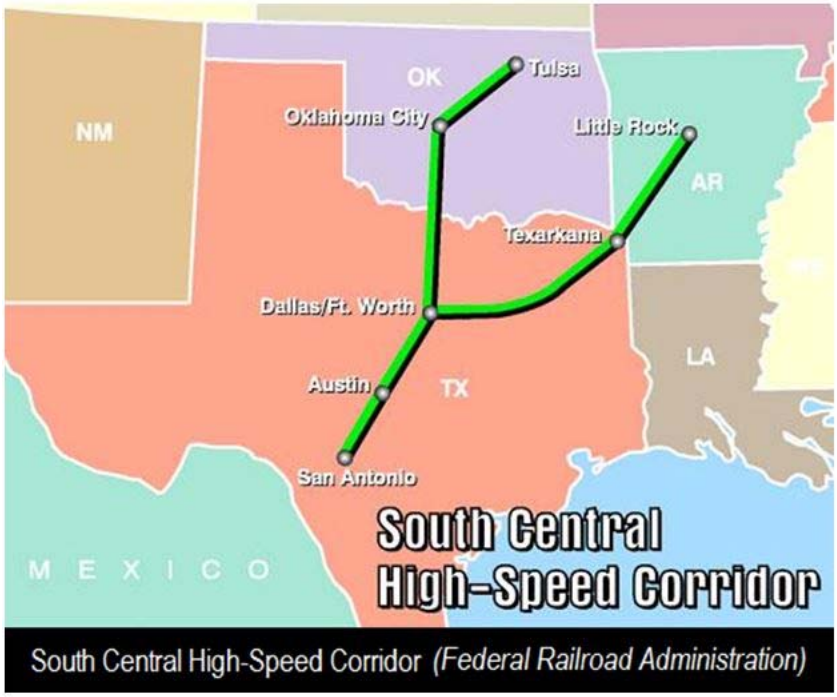
Figure 3-3: Designated U.S. High-Speed Rail Corridors



Source: US DOT

ODOT began studying the development of high speed rail in 1999, and subsequently released a "High Speed Passenger Rail Feasibility Study" in 2001, followed by the "Oklahoma High Speed Rail Initiative" in 2002. This South Central High Speed Rail Corridor has three segments, centered on Dallas-Fort Worth: a southern segment that extends 288 miles to Austin and San Antonio, a northeast segment that extends 388 miles to Texarkana and Little Rock, and a northern segment that extends 311 miles to Oklahoma City and Tulsa.

Figure 3-4: South Central High Speed Rail Corridor



Source: Passenger Rail Oklahoma

The Oklahoma City to Tulsa segment of the South Central High-Speed Corridor has been identified as an extremely important component for establishing sustainable high-speed passenger rail service in this region of the United States because of the potential for extensions to provide through service to Kansas City and St. Louis, and make connections there with the Midwest Regional Rail System.

In 2009, ODOT completed a Service Development Plan (SDP) for the Oklahoma portion of the South Central High Speed Rail Corridor.[14] This plan recommended a phased approach that would:

- Upgrade the BNSF-owned *Heartland Flyer* route between Oklahoma City and Fort Worth to improve existing service and subsequently accommodate a second passenger train roundtrip
- Upgrade track infrastructure at and around the Oklahoma City train station to improve rail access to the station platforms, eliminate delays caused by passenger-freight train congestion, and accommodate additional passenger trains at the station facility
- Acquire land and construct a high-speed (90 mph) passenger rail line between Oklahoma City and Tulsa following the Turner Turnpike (I-44) corridor

The SDP estimated that a high-speed rail service between Oklahoma City and Tulsa with auto-competitive trip times could generate a ridership of 6,000 daily commutes between the two cities, which the study considered necessary to support the service. Many of the infrastructure improvements to the *Heartland Flyer* route identified and recommended by the SDP were subsequently completed, with partial funding provided by federal high-speed rail and TIGER grants.

As a result of PRIIA, the federal government established a mechanism for creating federal-state funding partnerships dedicated to developing passenger rail corridors, using federal grants as well as three new

[14] http://www.okladot.state.ok.us/recovery/hs_rail/fra-final-app/support/service.pdf

federal intercity rail capital assistance programs. Examples of these new funding sources include the Federal high-speed rail grant program, discussed below, and the establishment of funds such as the Intercity Passenger Rail Service Corridor Capital Assistance Program, which provides funding to states, groups of states, public agencies, and interstate compacts. To allocate this funding, FRA established the "High Speed Intercity Passenger Rail Program" (HSIPR) in 2009. The program was designed to make strategic investments that would create or enhance an efficient network of passenger rail corridors to connect communities across the country. FRA established three objectives for the program[15]:

1. Build new high-speed rail corridors that expand and fundamentally improve passenger transportation in the geographic regions they serve
2. Upgrade existing intercity passenger rail corridors to improve reliability, speed, and frequency of existing services
3. Lay the groundwork for future high-speed rail services through corridor and state planning efforts

Also in 2009, the Obama Administration announced plans to develop high-speed intercity passenger rail, with the goal of serving 80 percent of the American population within 25 years. An initial funding package of $8 billion was made available through the American Recovery and Reinvestment Act (ARRA), plus an additional $2.5 billion through transportation appropriations.

With new funding sources available, ODOT renewed its efforts to examine the expansion of passenger rail in the state. It submitted a series of funding applications for every one of the HSIPR Program's funding notices beginning in 2009. Through the HSIPR Program, ODOT secured three separate grants to aid Oklahoma's passenger rail efforts. Grants were awarded to:

- Help the state complete its long-term rail plan, published in 2012
- Prepare a Service Development Plan and the Environmental Impact Statement for the rail corridor from Oklahoma City to Tulsa (discussed below)
- Fund track, signal, and switch improvements at the Oklahoma City Santa Fe Depot for safer and more efficient operation of the *Heartland Flyer*, completed in 2012

ODOT also received a "Rail-Highway Crossing Hazard Elimination Grant" in 2011 to upgrade three at-grade rail crossings in Ardmore, Oklahoma, to improve safety and operations for the existing *Heartland Flyer* passenger rail service.

Largely resulting from budgetary restraints following the 2008 recession, further high-speed rail funding has not been forthcoming. However, various states, including Oklahoma, have continued to plan commuter, intercity, and high-speed rail improvements assuming that funding will resume as the economy improves.

FRA's HSIPR is being developed under a three-tiered passenger rail strategy, defined as follows[16]:

1. **Core Express services**: These trains connect major population centers, typically 200 to 600 miles apart, in the nation's densest and most populous regions. Top speeds are between 125 and 250+ mph, primarily on completely grade-separated and dedicated rights-of-way. Some exception to grade-separated and dedicated track requirements may be acceptable in terminal areas.

[15] https://www.fra.dot.gov/Page/P0060
[16] https://www.fra.dot.gov/Page/P0134

2. **Regional services**: These trains provide relatively frequent service between large and mid-sized cities, 100 to 500 miles apart, with some intermediate stops. Top speeds range between 90 and 125 mph, with some dedicated and some freight-shared tracks. Tracks are grade-separated with terminal area exceptions.
3. **Feeder services**: These trains connect communities to the passenger rail network in corridors 100 to 500 miles long, and provide a foundation for future higher-speed corridor development. Top speeds range from 79 to 90 mph, generally on shared track with advanced grade-crossing protection or grade separations. This stage is intended to provide travel options and develop a market for rail service. The Oklahoma City-Fort Worth corridor is currently identified as a Feeder Service by FRA.

FRA has established that, to be eligible for federal implementation or construction funding of new intercity passenger rail services, the sponsoring entity must complete a Passenger Rail Corridor Investment Plan (PRCIP). This plan provides the foundation for the project's development and consists of two main components, an environmental impact statement (EIS) or some other type of environmental review document, and a service development plan (SDP). The SDP analyzes the transportation needs and the purposes to be met by the proposed service. The plan also presents the results from testing various alternatives for performance, ability to attract riders, and generate revenue. Financing of the system as well as the benefits accrued to both users and non-users are also examined. The requirements for preparing the SDP are defined by FRA. An EIS examines the impact of the proposed system development on the natural, built, and cultural environments. The EIS is also required to examine the resulting effects if the system is not built. Requirements for preparing an EIS are defined under the National Environmental Policy Act (NEPA).

Three passenger rail corridors in Oklahoma are currently under evaluation as candidates for new or expanded service:

- Oklahoma City to Fort Worth, previously discussed in Section 3.2
- Oklahoma City to Tulsa
- Oklahoma City to Kansas City

3.4.2 Oklahoma City to Tulsa

Travel between Oklahoma's two largest metropolitan areas, Oklahoma City and Tulsa, provide an attractive market for intercity rail transport. The 110-mile distance separating Oklahoma City and Tulsa, and population of 2.2 million within the corridor as of 2010, forms a corridor where the economics of rail technology are very favorable.[17] Both cities also have plans to develop commuter or rail transit services that would provide connectivity to surrounding population centers. Regularly scheduled passenger rail service between the two cities ended in 1967. A provision in the Oklahoma Tourism and Passenger Rail Act of 1996 jumpstarted the current effort to restore passenger service between Oklahoma City and Tulsa[18]. The state law enabled Oklahoma to secure $23 million of funding from the federal Taxpayer Relief Act of 1997, which was used to establish the *Heartland Flyer* service between Oklahoma City and Fort Worth and develop service to Tulsa.[19]

[17] https://ftp.dot.state.tx.us/pub/txdot-info/rail/high_speed/system-summaries/texas-south-central.pdf
[18] Oklahoma Statutes, §66-Railroads: §66-321, Oklahoma Tourism and Passenger Rail Act, Added by Laws 1996, c. 255, § 1, eff. July 1, 1996
[19] Taxpayer Relief Act of 1997, Section 977 Elective Carryback of Existing Carryovers of National Railroad Passenger Corporation, 26 USC 172 note

Sooner Subdivision Ownership and Passenger Service Obligations

In 1998, ODOT purchased 97.5-mile former St. Louis-San Francisco Railway main line between Midwest City (in suburban Oklahoma City) and Sapulpa (suburban Tulsa) from successor BNSF Railway, to preserve the corridor for future passenger service. That same year, ODOT leased the line to the Stillwater Central Railroad, a shortline freight railroad owned by Watco Companies, to maintain freight service to rail shippers on the line and initiate a program of track upgrade and renewal.[20] With the lease planned to expire in 2017, ODOT in 2014 announced its intent to sell the line through a bidding process. Stillwater Central Railroad was the successful bidder and purchased the 97.5-mile line, known as the Sooner Subdivision, on August 4, 2014, for $75 million.[21]

The sale agreement obligates the buyer to permit passenger rail operations on the line. Specific provisions in the sale agreement relating to passenger include:

- Within seven years of the purchase date, the buyer must upgrade and improve the mainline track to FRA Class 3 conditions, which would support 60-mph passenger train operations and 40-mph freight train operation.
- Within five years of the purchase date, the buyer must arrange for a pilot demonstration program of regular passenger service to be provided between Oklahoma City and Tulsa, or between Del City and Sapulpa, if direct passenger rail access to Oklahoma City and Tulsa is not available. The demonstration service must operate at least two trips per day, seven days per week, for a period of at least six months.
- Depending on the results of the program, the buyer must either provide, or arrange for a designated operator or agency to provide, continuous daily passenger service within ten years of the purchase date, if the demand, capacity of the line, and costs will support profitable passenger operations.
- Within ten years of the purchase date, the buyer must make $2.185 million in capital improvements to support passenger rail service on the line.
- The buyer will not be obligated to operate or host passenger services on the line beyond the pilot program, if the results of the demonstration service indicate that the passenger service will not provide a profitable return to the buyer (and the third party passenger operator) equal to or greater than the buyer's existing cost of capital, or that providing the passenger service will have a negative effect on the buyer's freight operations and/or profitability.

In the first quarter of 2016, Stillwater Central indicated to ODOT that it had made good progress on the Class 3 track upgrade, and would be ready to have track inspectors certify the line for Class 3 track operation in the first half of 2016.[22] Stillwater Central said that it was continuing to work toward launching a demonstration passenger rail service before the August 2019 deadline.

Iowa Pacific Trial Service

During the bid evaluation period for the Sooner Subdivision sale, Stillwater Central Railroad arranged for the passenger rail service provider Iowa Pacific Holdings to operate a trial demonstration passenger

[20] Track Lease and Operating Agreement Oklahoma City – Sapulpa Rail Line June 19, 1998, Stillwater Central Railroad, Inc.
[21] http://www.odot.org/SoonerSub/16-FINAL%20Sale%20Agreement%20(2014).pdf
[22] http://passengerrailok.org/memberfiles/2016-04-13-124844290-Wato-ODOT.pdf

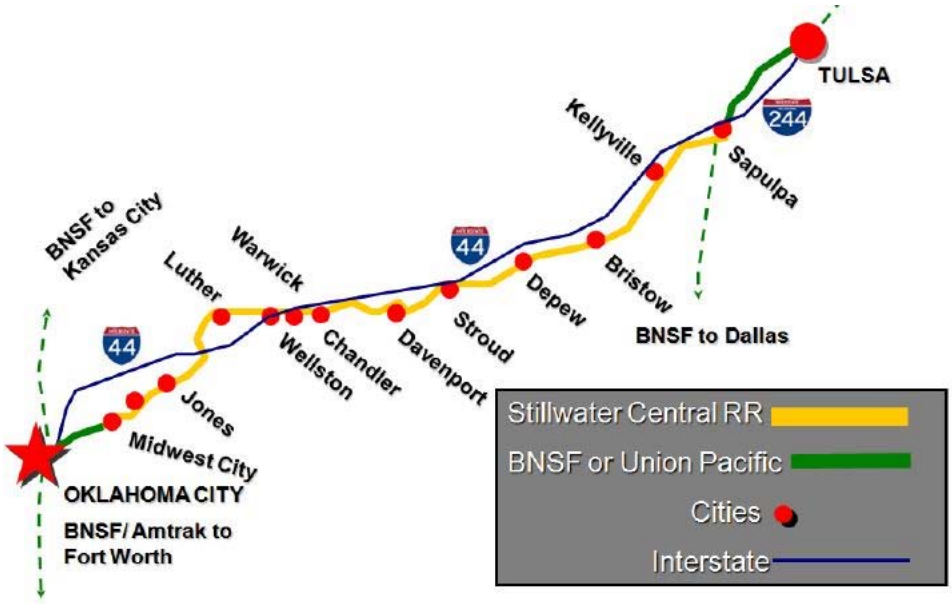
rail service between Midwest City and Sapulpa. On three consecutive weekends in February 2014, Iowa Pacific's "Eastern Flyer" made a daily round trip, departing Sapulpa at 8 a.m. and returning to Sapulpa at 6:30 p.m. The one-way trip between Sapulpa and Midwest City took approximately 3 hours. Bus connections at Midwest City were available to and from Oklahoma City. The train consisted of two coaches, a dining car, a dome car, and a club car. The trips were popular, and most departures were completely sold out.

After the pilot service concluded, Iowa Pacific maintained a presence in Oklahoma, operating seasonal Polar Express trains, first from Bristow on the Sooner Subdivision, then in 2016 from Stillwater. Yet as of this time, neither Stillwater Central nor ODOT have named Iowa Pacific or any other company to be the designated operator of the pilot demonstration service required under the Sooner Subdivision sale agreement.

Rail Access Considerations in Tulsa and Oklahoma City

Although Stillwater Central owns the rail corridor between Midwest City and Sapulpa, passenger rail access to downtown Oklahoma City and downtown Tulsa would have to be provided using tracks owned by two Class I freight railroads serving the state, Union Pacific and BNSF Railway (see Figure 3-5).

Figure 3-5: Track Ownership of the Oklahoma City-Tulsa Corridor



Source: Passenger Rail Oklahoma

The western 4.3 miles of the corridor, between Midwest City and Oklahoma City, are owned by Union Pacific Railroad. The Oklahoma City Council in September 2015 passed a resolution approving the expenditure of up to $50,000 on an evaluation study with UP to determine the infrastructure requirements needed to upgrade this 20-mph freight branch line for regular passenger rail service.

The eastern 17 miles of the corridor, between Tulsa and Sapulpa, are owned by BNSF Railway. The purchase agreement governing ODOT's acquisition of the Sooner Subdivision from BNSF Railway in

1998 included a 99-Year "Buyer's Passenger Service Rights Agreement," which contractually obligates BNSF to provide access for a passenger carrier to be named by the State of Oklahoma to use its tracks for 16.9 miles between the Stillwater Central connection in Sapulpa and a location in downtown Tulsa near the former Union Depot.[23] The agreement set a fee per train-mile to be paid to BNSF for use of the trackage, and allows for up to four passenger train trips per day to use this segment of track without investments in track capacity to support additional frequencies. To date, neither ODOT nor Stillwater Central have named or identified a passenger operator for this segment of trackage. Subsequent changes to railroad operations, infrastructure, and property development in the Tulsa area that have occurred since the passenger service rights agreement was signed will require additional local efforts to develop a passenger rail route into downtown Tulsa. Some recent local efforts are described below.

Passenger rail access to Tulsa will benefit from the I-244 Downtown Tulsa Double-Decker Bridge that opened in 2012. The bridge's unique design provided a way to replace an aging Interstate highway bridge across the Arkansas River west of downtown with a multimodal, double-deck structure that carries westbound Interstate automobile and truck traffic on its upper level, and one railroad track for future intercity and commuter rail service on its lower level along with a dedicated pathway for pedestrians and bicyclists. ODOT was awarded a $49.5 million TIGER grant in 2010 to help fund the $78 million structure.[24] This project was one of the first granted in round one of U.S. DOT's innovative "Transportation Infrastructure Generating Economic Recovery" grant program.

The passenger rail river crossing built into the new bridge is key to establishing frequent, reliable passenger rail service connecting Oklahoma's two largest cities, because it provides a rail link to downtown Tulsa that does not require passenger trains to use BNSF's freight rail bridge across the Arkansas River or occupy freight tracks at the entrance to BNSF's Cherokee Yard west of downtown, the largest freight rail yard in Oklahoma.

The Indian Nations Council of Government has provided assistance with the planning and identification of the proposed passenger rail route into downtown Tulsa. The plan calls for the use of existing railroad infrastructure, which will require significant upgrades for passenger service and also likely require property acquisition to accommodate additional track capacity in certain locations. The proposed route is considered to be a reasonable alternative for reinstating passenger rail service to downtown Tulsa while minimizing interruption to existing freight rail capacity. The proposed route also identifies the location for a downtown Tulsa passenger rail station, using the former Tulsa depot building, which is owned by Tulsa County. (The county currently leases the building.)

A new connection in Sapulpa would also be required between the existing shortline railroad that operates the rail line from Oklahoma City and the connecting Class I railroad that owns the route leading to downtown Tulsa. Additional property would likely be purchased to construct the connection in Sapulpa. Property acquisitions are also anticipated at certain locations adjacent to the Class I rail line between Sapulpa and Tulsa to provide additional track capacity to accommodate any passenger service. New connections would also be required to link the future passenger railroad right-of-way built into the new I-244 Arkansas River bridge in Tulsa with existing Class I infrastructure on either side of the river.

[23] Purchase of Oklahoma City – Sapulpa and Pawnee Junction – Stillwater Rail Lines, February 26, 1998, Closing Documents

[24] http://www.odot.org/recovery/tiger/tulsa_i244/index.htm

State Planning Efforts to Establish Regularly Scheduled Service

In 2001-2002, ODOT identified a preferred high-speed rail alignment for the 100-mile segment of the South Central High Speed Rail Corridor between Oklahoma City and Tulsa. The alignment selected followed the Turner Turnpike (I-44). Earlier feasibility studies conducted by Amtrak in the 1990s for establishing passenger rail service on the Sooner Subdivision between Oklahoma City and Tulsa determined that a significant capital investment would be needed in order to upgrade the rail line to support auto-competitive trip times. Since then, efforts to establish regularly scheduled passenger rail service have progressed incrementally, as funding has allowed, including an incomplete Tier 1 Environmental Assessment in 2009. Almost all of ODOT's previous work will materially contribute to current and future efforts.

In 2011, the Oklahoma Legislature enacted HB 1686, later signed into law by Governor Mary Fallin, which formed the Eastern Flyer Passenger Rail Development Task Force. The task force, comprised of 17 members, was charged with examining the development of conventional and high-speed passenger rail transportation between Tulsa and Oklahoma via the use of public-private partnership (P3) formulas. The task force issued a final report in 2012 that discussed policy issues and identified potential alternatives. Currently, the use of P3s is not legally authorized in Oklahoma. If a P3 is to finance a Tulsa-Oklahoma City system, further legislative action would be required.

With funding received from an FY 2010 FRA HSIPR planning grant, ODOT began developing a federally mandated Passenger Rail Corridor Investment Plan for new service between Tulsa and Oklahoma City. The corridor investment plan was to include an updated service development plan and environmental documentation required to comply with NEPA requirements, leading to a conclusion that would enable the project to enter the design phase. However, the study was ended in late 2014, because there was no future funding source identified.

As part of this effort, ODOT released a Preliminary Alternatives Analysis in July 2014. This alternatives analysis screened ten possible alignments for high-speed rail between Oklahoma City and Tulsa. The study identified two feasible routes, one following Turner Turnpike and one following Stillwater Central's Sooner Subdivision. The study assessed the feasibility of providing service with conventional passenger rail equipment, European/Asian-style high-speed rail equipment, or Emerging Technology equipment (Diesel Multiple Unit vehicles), but did not recommend a preferred train technology.

3.4.3 Recent Efforts to Develop Interstate Passenger Corridors

Regionally since 2009, ODOT, TXDOT, and Kansas Department of Transportation (KDOT) have been working together on HSIPR efforts related to the expansion of passenger rail service. ODOT and KDOT mutually funded and completed the "Passenger Rail Service Development Plan"[25] in 2011 that examined options for adding passenger rail lines between Kansas and Oklahoma. TXDOT, with input from KDOT and ODOT, has begun a similar study for the corridor from Oklahoma City to South Texas. This study will also perform an environmental analysis of the corridor. While HSIPR has served as a vital tool to boost the State's passenger rail efforts, other federal programs have led to beneficial rail projects as well for both existing and proposed services.

[25] http://www.ksdot.org/PDF_Files/PDF-Passenger-Rail-SDP.pdf

In terms of additional intercity and high speed passenger rail planning efforts, the Oklahoma City Intermodal Hub, discussed earlier and later in this chapter, included significant research to assure that the hub was capable of supporting added passenger rail capacity should any of the projects being examined by ODOT, KDOT and TXDOT move forward into construction. Additionally, ODOT and the Oklahoma Turnpike Authority have been examining upcoming large-scale highway projects to ensure they include necessary right-of-way to allow for the inclusion of passenger rail structures should they be needed in the future.

3.4.4 Oklahoma to Kansas City

As mentioned above, ODOT and KDOT completed a Service Development Plan in 2011 that looked at extending the *Heartland Flyer* from Oklahoma City to Newton, Kansas, as well as introducing a new standalone daytime service between Kansas City and Fort Worth via Oklahoma City, either in place of, or in conjunction with, the *Heartland Flyer* extension. This SDP built off of a previous feasibility study conducted by Amtrak in 2010,[26] and was jointly paid for by ODOT and KDOT, using a $250,000 Federal FY2009 high-speed rail grant that provided half the funding for the study.

The SDP studied three alternatives:

- **Extending the *Heartland Flyer* from Oklahoma City to Newton, Kansas**: The study projected the service, which would operate overnight north of Oklahoma City to connect with Amtrak's *Southwest Chief* in Newton, would generate an incremental ridership increase on the *Heartland Flyer* of 111,300 annual passengers, and require approximately $136.5 million in capital startup costs
- **Introducing a new daytime Kansas City-Oklahoma City-Fort Worth passenger train**: The study projected this service would generate an annual ridership of 256,700, and require approximately $436.2 million in capital startup costs
- **Extending the *Heartland Flyer* to Newton, and introducing a new daytime Kansas City-Fort Worth passenger train**: The study projected this combination of services would generate a combined annual ridership of 368,000, and require approximately $475.0 million in capital startup costs

The study estimated that extending passenger service to Newton (*Heartland Flyer* extension) could be projected to require six years to implement, including environmental reviews, preliminary engineering, construction and commissioning. Developing a new daytime Kansas City-Oklahoma City-Fort Worth, either separately or in conjunction with a *Heartland Flyer* extension to Newton is estimated to require seven years from the start of the environmental studies.

To further these efforts, Amtrak operated an inspection train from Oklahoma City to Kansas City on Friday June 9, 2017, during which officials discussed the feasibility of reinstating regularly scheduled passenger rail service between the two cities. (Amtrak had provided passenger rail service between Kansas City, Oklahoma City, and Fort Worth until 1979.) The inspection train operated on tracks owned by BNSF Railway, and made brief stops along the route at Guthrie, Perry, and Ponca City, Oklahoma, as well as Arkansas City, Wichita, Newton, Emporia, Topeka, and Lawrence, Kansas. The inspection train was a preliminary step in a feasibility assessment process to evaluate service options and costs for

[26] Feasibility Report of Proposed Amtrak Service, Kansas City, Missouri – Oklahoma City, Oklahoma to Fort Worth, Texas, March 9, 2010

reinstating passenger rail service. Potential service options could include extending the *Heartland Flyer* north from Oklahoma City to Newton, Kansas, where passengers would make a cross-platform connection to Amtrak's Chicago-Kansas City-Newton-Los Angeles *Southwest Chief* train, or establishing a through-car operation at Newton, where passenger cars are uncoupled from the *Southwest Chief* and onto an extension of the *Heartland Flyer*.

3.4.5 Oklahoma to Texas

Texas Department of Transportation, in coordination with ODOT, completed a study of the South Central High Speed Rail Corridor between Oklahoma City to southern Texas that included an examination of expanding the *Heartland Flyer* with a second frequency as well as performance improvements. In October 2010, TXDOT was awarded a $5.6 million high-speed rail planning grant to help fund an Oklahoma City-South Texas Corridor Investment Plan. This $14 million project, called the "Texas-Oklahoma Passenger Rail Study" and completed in 2016, included preparation of a service-level (Tier 1) EIS and SDP for an 850-mile segment of the South Central High Speed Rail Corridor between Edmond, Oklahoma, and a southern terminus of either Corpus Christi, Brownsville, or Laredo, serving Oklahoma City, Dallas-Fort Worth, San Antonio, and Austin.[27]

Based on projected ridership and capital costs, the study recommended carrying forward a conventional rail alternative for the corridor segment between Oklahoma City and Fort Worth. This alternative would use conventional diesel-powered trainsets operating on shared-use passenger and freight tracks at top speeds of 79 or 90 mph. The study recommended increasing the number of daily round trips along the route, and extending the route north to Edmond on BNSF trackage and east from Fort Worth to Dallas using the Trinity Railway Express commuter line (see Figure 3-6), in order to provide travelers in Oklahoma with a one-seat ride to both Fort Worth and Dallas.

[27] http://www.txdot.gov/inside-txdot/projects/studies/statewide/texas-oklahoma-rail.html

Figure 3-6: Northern Segment of Texas-Oklahoma Passenger Rail Study EIS

Source: TXDOT

In addition, the study recommended improvements to existing station facilities, and new train equipment with more onboard amenities, including business class available for a premium price. The study proposed that service be provided by diesel-locomotive hauled equipment with frequencies of up to six daily round trips. Two or three of the round trips would operate on an accelerated schedule, making roughly seven stops, with the remaining "local" trains making as many as 12 stops. The study projected a substantial increase in rail ridership of more than 700,000 passengers per year by 2035, which would be a 500 percent increase in mode share over the 2035 "No Build" alternative.

3.5 Proposed Commuter Rail Service to Enhance Passenger Rail Options in the Oklahoma City Region

As part of the long-range plans to develop a multimodal hub in Oklahoma City (discussed in Section 3.3), ACOG released a "Central Oklahoma Commuter Corridors Study" in 2015. The study proposes to develop a network of commuter rail and streetcar routes serving Oklahoma City, in order to provide new and expanded transportation options in a metropolitan region where the population and employment demand is projected to grow nearly 40 percent between 2010 and 2040.[28] The study's proposed transit recommendations were branded as CentralOK!go, and were developed by ACOG in

[28] http://www.acogok.org/wp-content/uploads/2015/09/ACOG_CentralOKgo_FinalReport_12-03-2015.pdf

conjunction with input from local communities and stakeholders. The study analyzed the feasibility of developing rail transit on three corridors that were first identified in ACOG's 2005 Regional Fixed Guideway Study as those having the most potential for high-capacity regional transit (see Figure 3-7).

Figure 3-7: Proposed Oklahoma City Commuter Rail Corridors

Source: ACOG

The results of the feasibility study produced a Locally Preferred Alternative (LPA) for each route. The LPAs were approved by the ACOG Intermodal Transportation Policy Committee in October 2014. All three routes would hub at the downtown Oklahoma City Santa Fe Depot. Specific recommendations for each route are summarized below.

North Corridor LPA. The study recommended developing commuter rail service on the North Corridor, a 14-mile route between Oklahoma City and West 2nd Street in Edmond, using the existing BNSF right-of-way wherever possible. The service would provide an alternative to highway travel on I-35 between Edmond and Oklahoma City. Five intermediate stations were proposed between the Oklahoma City Santa Fe Depot and Edmond, one of which is a proposed station near the Chesapeake Energy campus. The study also recommended establishing a connection with the Oklahoma City Streetcar at the Chesapeake Energy station near Nichols Hills, which would entail constructing a 5-mile extension of the streetcar line along Classen Boulevard to reach the proposed station site. Capital cost estimates for construction of the North Corridor commuter rail line ranged from $260 million to $360 million. The study estimated the streetcar line extension to cost between $270 million and $370 million. Operating and maintenance costs were estimated to be $5 million per year for the commuter rail service, and $2.5 million per year for the streetcar extension.

South Corridor LPA. The study also recommended developing commuter rail service on the South Corridor, a 17-mile route from Oklahoma City through Moore and Norman terminating at State Highway 9 south of downtown Norman, using the existing BNSF right-of-way wherever possible. The service would provide an alternative to highway travel on I-35 between Norman and Oklahoma City. Seven intermediate stations are proposed between Norman and the Oklahoma City Santa Fe Depot. Capital cost estimates for construction of the South Corridor commuter rail line ranged from $310 million to $410 million. Operating and maintenance costs were estimated to be $4.5 million per year.

The study recommended that commuter trains operate through Oklahoma City, making one-way trips that serve both the North and South corridors, which would provide travelers with opportunities for a one-seat ride on a 31-mile corridor between Edmond and Norman. The study projected a service with trains operating on 15-minute headways during peak commuting periods and 30-minute headways during midday.

East Corridor LPA. The study recommended developing a streetcar service on the East Corridor, a 9-mile route between Oklahoma City, Midwest City, and Tinker Air Force Base. The service would provide an alternative to highway travel on I-40 between Midwest City and Oklahoma City. The alignment would use an abandoned railroad line between Midwest City and Reno Avenue in Del City. Capital cost estimates for construction of the East Corridor streetcar rail line ranged from $320 million to $440 million. Operating and maintenance costs were estimated to be $2.5 million per year. Ridership was projected to be 2,300 per day.

No funding sources have been established or developed for the system, and the study recommends establishing a regional transit district to pursue funding and a Regional Transit Authority to provide ongoing management and funding.

3.6 Proposed Commuter Rail Service to Enhance Passenger Rail Options in the Tulsa Region

In 2011, the Indian Nations Council of Governments (INCOG) published "Fast Forward," the 2035 INCOG Regional Transit System Plan for the Tulsa Transportation Management Area. The plan developed a prioritized list of transportation improvements and new services to meet anticipated travel demand in the region based on future population and employment projections through the year 2035. Among the improvements identified in the plan were commuter rail and rail transit corridors, which were divided into two tiers, "Foundation Network Corridors," where high travel demand already exists and rail transit could provide a high-capacity transportation solution, and "Enhanced Corridors," serving smaller communities where significant population increases and residential development were expected to occur. Foundation Network Corridors are considered to be those with the highest probability of success. To lower implementation costs, the plan suggests the use of existing freight rail infrastructure wherever possible for the proposed rail transit services.

As part of the planning process to develop and deploy a regional commuter system, the Regional Transit System recommended establishment of a regional transportation authority to ensure that proper discussions and negotiations would be carried out with railroad operators and/or owners to address system needs without the unnecessary interruption of freight rail service. All of the commuter rail routes proposed in the plan would hub at a location in downtown Tulsa. The plan encourages community leaders to work with Tulsa County to develop alternatives that consider a commuter hub at

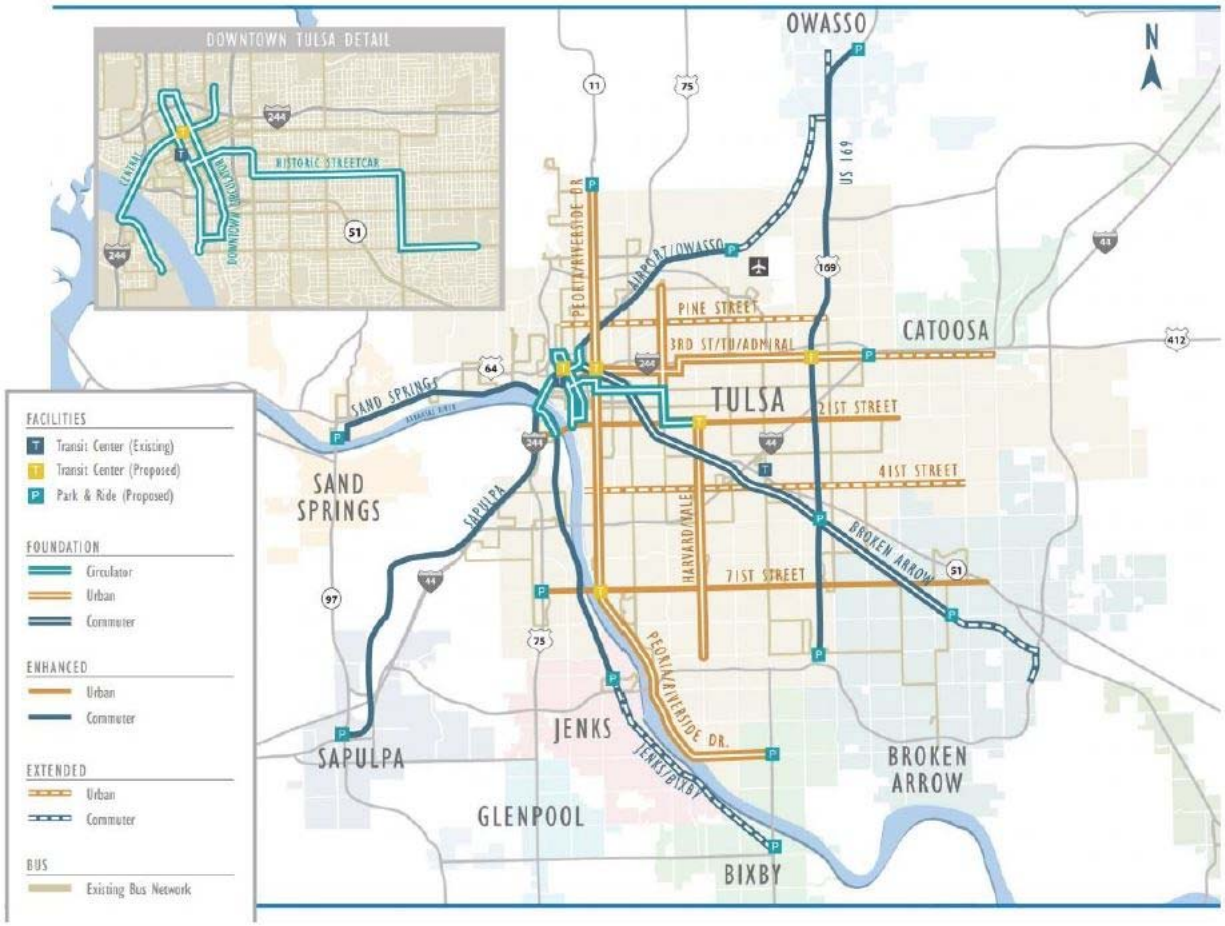
the former Tulsa train station, now home to the Jazz Hall of Fame, by way of joint use agreement. Planning efforts are underway to better understand the estimated costs for upgrading existing rail assets to initiate a commuter rail system along the prioritized routes in the Regional Transit System Plan. Once estimates are understood, funding sources will be identified and/or established to help support and operate these systems.

As shown in Figure 3-8 below, the corridors proposed for commuter rail or rail transit include:

- Tulsa-Broken Arrow (Foundation), with a subsequent extension to Northeastern State University's Broken Arrow campus
- Tula-Jenks (Enhanced), with a potential extension to Bixby
- Tulsa-Sand Springs (Enhanced)
- Tulsa-Owasso via Tulsa Airport (Enhanced)

These corridors are the prioritized corridors for the Tulsa metropolitan region where the demand for alternative transit systems, such as commuter rail, is supported by projected increases in population and employment, and where resulting roadway congestion is expected to be high. Commuter train frequencies would be agreed upon during negotiations with the Class I and shortline railroad owners of the rail lines.

Figure 3-8: Proposed Tulsa Commuter Rail Corridors



Source: INCOG

The potential commuter rail routes identified in the Regional Transit System Plan are discussed in detail below.

Broken Arrow – Tulsa. This proposed Tulsa commuter rail line would transport passengers 15 miles westbound into downtown Tulsa, with station stops between Broken Arrow and Sheridan. The line would use existing railroad infrastructure to the greatest extent possible. Infrastructure constraints prohibit station stops between Sheridan and downtown Tulsa, because the railroad track is located inside the median of the Broken Arrow Expressway between Sheridan and Lewis Avenue near 11th Street in Tulsa. Alternative planning for this proposed commuter rail route would focus on terminal construction at a location on Main Street in downtown Broken Arrow, rail track and safety improvements, and strategic right-of-way acquisition. This route parallels US64/SH51 (Broken Arrow Expressway), which has a significant amount of inbound and outbound traffic during most hours of the day. There are numerous business districts along this corridor where employees could benefit from stations located within walking distance to their place of employment. Projected capital costs for infrastructure upgrades have not yet been determined, but track and safety upgrades to the line could range from $100,000 to $150,000 per mile of railroad. Operating costs will be based on the number of commuter rail frequencies and the final number of station stops along the proposed route. The plan contemplates the addition of a subsequent corridor extension from the Broken Arrow terminal eastward to a location near the Northeastern State University–Broken Arrow campus.

Jenks – Tulsa. This proposed commuter rail line would transport passengers an estimated 12 miles north from Jenks into downtown Tulsa, utilizing existing railroad infrastructure to the greatest extent possible. The route parallels U.S. 75, which has heavy inbound and outbound commuter traffic during peak hours. Alternatives planning for the proposed service would focus on terminal construction at a location in Jenks that is in the vicinity of Main Street and the Creek Turnpike, in an economic development area along a Class I owned railroad, along with rail track and safety improvements, and strategic right-of-way acquisition. Potential stops along this route include the location where a new pedestrian bridge is being constructed across the Arkansas River to the newly developed "A Gathering Place" park on the east side of the river. The proposed route through the city of Jenks requires the construction of railroad track from a point at Southwest Boulevard in Tulsa to and across the lower deck of the I-244 Arkansas River Multimodal Bridge, and within Class I Railroad right-of-way on the east side of the bridge to connect to a one-mile segment of mainline Class I Railroad track to bring commuters into downtown Tulsa. Expected capital costs to install trackage, upgrade railroad infrastructure, and perform safety improvements to the existing railroad track are estimated at $20 million, or $100,000 to $150,000 per mile of railroad. Operating costs will be based on the number of commuter rail frequencies and constructed costs along the proposed route.

Sand Springs – Tulsa. This proposed commuter rail line would transport passengers an estimated 10 miles from Sand Springs, eastbound, into downtown Tulsa, using existing shortline and Class I railroad infrastructure to the greatest extent possible. The proposed route follows a corridor lined with residential neighborhoods, business districts, and technical trade educational centers in Sand Springs and west Tulsa. The route parallels U.S. 64/U.S. 412, which has heavy amounts of inbound and outbound traffic during peak hours. Alternatives planning would focus on terminal construction in Sand Springs at a location to the southeast of the U.S. 64/U.S. 412 and Adams Road intersection along a rail line owned by a shortline railroad company, rail track and safety improvements, and strategic right-of-way acquisition. Capital costs to implement the service have not yet been determined, but track and

safety upgrades to the line could range from $100,000 to $150,000 per mile of railroad. Operating costs will be based on the number of commuter rail frequencies and constructed stops along the proposed route.

Owasso – Tulsa. This proposed commuter rail line would transport passengers an estimated 13 miles into Tulsa along a shortline railroad route that bypasses U.S. 169 and SH11, both of which have heavy amounts of inbound and outbound traffic during peak hours. The proposed commuter rail line passes adjacent to the Tulsa International Airport, and planning efforts could include the development of an airport rail station. Alternatives planning for this proposed commuter rail route would focus on terminal construction (an endpoint terminal location has yet to be determined), along with rail track and safety improvements, and strategic right-of-way acquisition. Capital costs for upgrades have not yet been determined, but track and safety upgrades to the line could range from $100,000 to $150,000 per mile or railroad. Operating costs will be based on the number of commuter rail frequencies and constructed stops along the proposed route.

3.7 Concepts from Stakeholder Outreach

Various passenger rail improvement and expansion concepts were suggested by participants during public and stakeholder outreach opportunities conducted for the Oklahoma State Rail Plan. The first of these opportunities consisted of a High Leverage Stakeholder Committee meeting held in Oklahoma City on March 22, 2017. Other methods used to solicit public feedback and participation in the State Rail Plan development process included arranging interviews and coordination opportunities with representatives from passenger rail service providers and passenger rail special interest groups, and encouraging public comment via an online survey posted to the Oklahoma State Rail Plan webpage on ODOT's website. Outreach efforts conducted as part of the State Rail Plan development process will be described in detail in Chapter 6. Specific passenger rail projects and initiatives identified during public outreach are summarized below.

Ideas related to improving and expanding service on the *Heartland Flyer* route included:

- Continue efforts to establish a station at Thackerville to capture leisure travelers to the WinStar Casino
- Establish funding metrics for the Chickasaw Nation to operate and maintain a new station stop in Thackerville
- Invest in track capacity improvements on the *Heartland Flyer* route to reduce passenger train delays caused by freight rail traffic
- Continue the exploration of lower-cost service solutions for Oklahoma's state-supported passenger trains
- Explore the feasibility of acquiring passenger rail equipment for use on state-supported passenger trains to manage service delivery costs and service quality
- Extend the *Heartland Flyer* north of Oklahoma City to Newton, Kansas, to connect with Amtrak's Chicago-Los Angeles *Southwest Chief*
- Add a second roundtrip passenger train between Oklahoma City and Fort Worth
- Continue to fund studies examining the economic impact of the *Heartland Flyer* service to Oklahoma

Ideas related to establishing passenger rail service on other corridors included:

- Establish passenger rail service between Oklahoma City and Tulsa, including completion of any necessary track and signal upgrades and contracting with a passenger rail service operator
- Complete Class I railroad track improvements and access agreements to ensure Oklahoma City-Tulsa passenger trains have access to downtown multimodal centers
- Establish commuter rail and/or rail transit service in Oklahoma City and Tulsa
- Establish a Regional Economic Transportation Authority to generate and pursue national, state, and local funding streams and manage state-supported passenger rail services on behalf of Oklahoma
- Create a baseline study in conjunction with KDOT and TxDOT that can be easily modified as grant requirements, capital requirements, and other projections change
- Develop partnerships between ODOT and local regions, along with neighboring states, that will encourage the implementation of new passenger rail passenger corridors, in particular:
    - Fort Worth-Oklahoma City-Wichita-Kansas City
    - Oklahoma City-Tulsa-Kansas City
    - Oklahoma City-Tulsa-St. Louis
    - Oklahoma City-Altus
    - Oklahoma City-McAlester

Chapter 5 of this plan (The Rail Service and Investment Program) includes specific projects identified through the survey and stakeholder outreach process.

Chapter 4: Proposed Freight Rail Improvements & Investments

4.1 Introduction

The purpose of Chapter 4 of the Oklahoma State Rail Plan is to identify improvements and investments made to the Oklahoma railroad network by the state's railroads during the last five years and recent capital investment trends by the state's railroads, to the extent known through coordination with the railroads and publically available data, and also to describe possible future railroad improvements and investments that could address the freight rail and rail safety needs of Oklahoma. Many of these projects focus on the opportunity for enhanced access to the state's rail network for shippers; fixing rail service gaps; options for improvements to infrastructure and the capacity, safety, and efficiency of rail service and operations; climate change adaptation and environmental sustainability; and economic development. Capital projects that may provide opportunities for improved coordination, integration, and operations of passenger rail services in the state will also be identified.

In this chapter are capital projects identified by Oklahoma railroads in the outreach activities conducted during development of the Oklahoma State Rail Plan and described in Chapter 6. Selected projects are included in Oklahoma DOT's Rail Service and Investment Program, which is the subject of Chapter 5.

4.2 Class I Railroad Improvements

As private entities, Class I railroad companies in Oklahoma must use private financing to cover the cost of equipment acquisition (that is, locomotives and railcars) and infrastructure improvements aimed at renewing, upgrading, or expanding the state rail network (that is, rail, ties, bridges, signal systems). Railroads rely on a regulatory framework that provides sufficient return on investment as a means to accommodate these capital expenditures. Funding levels for capital programs can vary from year to year owing to fluctuations in traffic volumes, overall economic trends, and other considerations. Some programs administered by the state of Oklahoma or the federal government are available to Class I railroads to help fund rail network improvement projects, targeted job creation projects, and more. The potential for this funding and its applicability to Class I railroad improvement projects in Oklahoma is identified in Chapter 5.

Capital investment in rail infrastructure in the state of Oklahoma by the Class I railroads has been generally robust and continuous since the 1980s. Historically, most projects were aimed at developing the capacity necessary to efficiently handle traffic originating and terminating in Oklahoma and the rail traffic traveling through Oklahoma (notably the surge of coal shipments out of Wyoming's Powder River Basin that began in the 1970s, and an intermodal traffic increase that began in the 1980s), to upgrade track structure and bridges to accommodate railcars with a maximum allowable gross weight of 286,000 lbs., and to expand and create new terminal facilities. Mergers and acquisitions beginning in the 1980s were also a driver for improvements, as newly combined systems updated infrastructure to transform formerly regional rail networks into a national network. More recently, projects have been

carried out to serve the energy sector, which has begun using the technique of hydraulic fracturing ("fracking") to extract oil and gas from Oklahoma. These investments have included line upgrades to handle 286,000 lb. cars, reactivating idle segments of the state's rail network, and the development of facilities to load and unload drilling equipment, frac sand, and other associated materials.

Funds are budgeted by the Class I railroads each year to facilitate ongoing capital investment in the state's rail network. System-wide capital expenditure budgets are reported by the Class I railroad annually, and may or may not identify specific rail projects by state or their estimated capital cost. Where information was available, state-level investments by Class I railroads have been listed below.

The Class I railroads have continued to invest heavily in their networks during the last five years in order to solve ongoing factors constraining the capacity, efficiency, and velocity of the high volumes of through traffic in Oklahoma; to eliminate or mitigate operational chokepoints; to handle various upgrades associated with maintenance and safety (including implementation of federally mandated Positive Train Control [PTC] systems, which reduce the likelihood of train over-speed incidents and collisions between trains); to implement various other technologies that improve the safety, economic efficiency, and environmental sustainability of railroad operations generally; and to accommodate routine infrastructure renewal. Oklahoma's Class I railroads will also continue to upgrade bridges and other infrastructure on branch lines in the state in order to be able to accommodate railcars with a maximum allowable gross weight of 286,000 lbs. (the heavier cars are supplanting the lighter cars and are becoming the industry standard; Class I railroad segments of the Oklahoma rail network incapable of handling these heavier loads, to the extent known through coordination with the state's railroads during the development of the Oklahoma State Rail Plan, are identified in Chapter 2 of the Oklahoma State Rail Plan). Some of these projects have been publicized as examples of the railroads' investments in the state and are listed below. Class I needs were discussed with each of the carriers during the stakeholder outreach process conducted for the Oklahoma State Rail Plan.

4.2.1 Class I Main Line Bottlenecks

Oklahoma's Class I railroads were asked to identify any bottlenecks in their respective networks in the state during development of the Oklahoma State Rail Plan.

BNSF Railway (BNSF) indicated that it is presently experiencing capacity challenges in the greater Dallas/Fort Worth, Texas, terminal area, which can have an effect on its Creek Subdivision in southern Oklahoma where some BNSF trains may be staged until they can be accommodated in Texas.

Kansas City Southern Railway (KCS) listed one bottleneck: the segment of its Heavener Subdivision between Shady Point and Heavener, Oklahoma, over which capacity is constrained to 17 trains per day.

Union Pacific Railroad (UP) did not list any bottlenecks in their response to the outreach.

ODOT, through their own research and analysis has noted several Class I bottlenecks in the state. BNSF's Cherokee Yard in Tulsa, Oklahoma, continues to be a bottleneck, which is evidenced by the

improvements planned by BNSF and noted below. ODOT also noted that the BNSF bridge over the Arkansas River in Tulsa is the only rail crossing of the river in the city.

In Oklahoma City, ODOT sees the BNSF Red Rock Sub between Edmond, a northern suburb and BNSF's Flynn Yard south of the city as a potentially congested corridor. Adding a second main track through this area and building a second bridge over the Oklahoma River to accommodate Stillwater Central Railroad traffic may potentially be necessary in the future. Investigating the closure of at-grade crossings and constructing grade separated crossings would provide safety benefits to this corridor.

The at-grade crossing of BNSF and UP in Claremore, Oklahoma, was also noted as a present bottleneck by ODOT. Grade separation of this crossing was listed as a proposed Class I railroad improvement project in the previous (2012) Oklahoma State Rail Plan, but is yet to be developed. Both Enid and Oklahoma City, Oklahoma, have the potential to become bottlenecks in the future if freight traffic growth continues.

4.2.2 Past and Planned Improvements

BNSF Railway

Capital investment undertaken by BNSF on its total network during 2016 was $4.3 Billion and generally included maintenance and upgrading of existing track and bridges, adding new track capacity, and improvements to network and facility efficiency[1]. BNSF did not indicate how much of this investment was made in Oklahoma for 2016, but past capital investment totals for Oklahoma in other recent years are as follows[2]:

- $118 Million in 2015
- Investment in 2014 is unconfirmed
- $125 Million in 2013
- $92 Million in 2012

Table 4-1 below identifies some specific projects completed by BNSF in Oklahoma during 2012-2016. These projects were intended by BNSF to address main line and yard capacity constraints and operating efficiency issues within its Oklahoma network and to implement a PTC system to comply with a federal safety mandate.

[1] *BNSF http://www.bnsf.com/news-media/go/doc/7090/2779730/BNSF-Announces-2016-Capital-Plan.html*
[2] BNSF

Table 4-1 – BNSF Capital Projects in Oklahoma, 2012-2016

Project	Type of Improvement	Location	Estimated Capital Cost
New Receiving/Departure Tracks at Cherokee Yard[3]	Capacity	Tulsa, Oklahoma	Unknown (Constructed 2016)
Panhandle Subdivision Double-Tracking[4]	Capacity	Portions between KS/OK state line and Avard, Oklahoma	Unknown (Constructed 2015)
Avard Connection Track	Capacity	Avard, Oklahoma	Unknown (Constructed 2013)
Positive Train Control (PTC) Implementation[5]	Safety	Statewide	BNSF was expected to invest an additional $100 million on PTC implementation on its total network (including on lines in Oklahoma) in 2017.

Source: BNSF

BNSF reported that it planned to invest approximately $3.4 Billion in capital expansion and maintenance on its total network in 2017[6]. Projects will generally include maintenance of its core network and infrastructure, PTC implementation, and locomotives and equipment.

Specific future capital investment projects for its network in Oklahoma were not identified by BNSF during development of the Oklahoma State Rail Plan.

Kansas City Southern Railway

This section identifies the KCS infrastructure projects in Oklahoma funded by capital expenditure and completed during the last five years. KCS's 2016 capital investment in Oklahoma included:

- Replacement of 10.7 track miles of rail
- Installation of 135,000 cross ties
- Rehabilitation of 110 roadway/railroad grade crossings
- PTC installation[7] (first PTC-operable train on Heavener Subdivision expected August 2017)

[3] https://m.bnsf.com/news-media/news-releases/oklahoma-capital-plan-2015.html
[4] IBID
[5] Note: Installation of PTC hardware and software, wayside PTC infrastructure, and PTC technology on locomotives is ongoing. The U.S. Congress passed the Surface Transportation Extension Act of 2015, under which U.S. railroads will have until December 31, 2018, to fully implement PTC.
[6] *BNSF Announces Plan for 2017 Capital Investments*: https://bnsf.com/news-media/news-releases/capital-investments-2017.html

KCS plans to invest $550 Million to $560 Million in its network in 2017. Of that, 10 percent or between $5 Million and $6 Million will be invested on PTC implementation.[8]

KCS identified one capacity constraint on its system in Oklahoma. Presently, maximum fluid capacity on its Heavener Subdivision between Shady Point and Heavener, Oklahoma, is limited to 17 trains per day.[9]

Union Pacific Railroad

This section identifies the UP infrastructure projects in Oklahoma funded by capital expenditure and completed during the last five years. UP plans to invest $41.0 Million in Oklahoma in 2017. Recently, UP's capital investment totals in Oklahoma were $90.1 Million in 2016 and $27.0 Million in 2015, part of a total investment of $236 Million since 2012.[10]

For 2017, UP reported that it planned to invest approximately $3.1 Billion on its total network[11]. Of that $3.1 Billion, $300 Million will go towards PTC. In Oklahoma, UP plans for PTC implementation beginning in the third quarter of 2017 with completion by the end of 2018[12].

UP did not identify any specific capital projects completed in Oklahoma during the period between 2012 and 2016. Current bottlenecks and specific future capital investment projects for its network in Oklahoma were not identified by UP during development of the Oklahoma State Rail Plan. UP continues to evaluate and invest in the addition of wayside signals, sidings, terminal capacity, and double track at locations across its network to support increases in traffic, enhance network capacity, and to enhance rail service to customers.

4.3 Class III Railroads Past and Planned Improvements

Class III (or short line) railroads generally face a different set of challenges meeting their needs than the Class I railroads do, since they do not often possess the capital and technical resources, operating capacity and flexibility, or modern infrastructure of the larger Class I railroads. Oklahoma does not currently have any Class II (or regional) railroads, so this section will focus solely on the state's Class III railroads.

Class III railroads typically rely upon private funding, public funding, or some combination of these sources to cover the capital cost of equipment acquisition and general infrastructure improvements.

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[7] Note: Installation of PTC hardware and software, wayside PTC infrastructure, and PTC technology on locomotives is ongoing. The U.S. Congress passed the Surface Transportation Extension Act of 2015, under which U.S. railroads will have until December 31, 2018, to fully implement PTC.
[8] *KCS Sets 2017 Capex Program* http://www.railwayage.com/index.php/m_and_w/kcs-sets-2017-capex-program.html
[9] KCS
[10] http://www.up.com/media/releases/170512-oklahoma-investment.htm
[11] http://www.up.com/media/releases/170202-2017-capital-plan.htm
[12] https://www.up.com/media/releases/170531-ptc-progress.htm

Some programs administered by the state of Oklahoma are available to Class III railroads to help fund rail network improvement projects and more. The potential for this funding and its applicability to and Class III railroad improvement projects in Oklahoma are discussed in **Chapter 5**.

Many Class III railroad lines in Oklahoma were originally owned by the state as Class I railroads began to shed unprofitable branch lines following the passage of the federal Staggers Rail Act in 1980. Also, the Chicago, Rock Island & Pacific Railroad (CRI&P) succumbed to bankruptcy and ceased train operations in 1980, leaving behind a sizable network of main lines and branch lines in the state of Oklahoma to either be acquired by other parties for ongoing railroad operations or to be abandoned. As detailed in Section 2.1.1.4 of Chapter 2, Oklahoma purchased some of these lines to save them from abandonment and preserve them for future transportation use. These state-owned lines were rehabilitated and upgraded in the ensuing decades and most mileage was ultimately sold to private railroads. A portion of this mileage remains state-owned and maintenance funding is provided in part by Oklahoma's State-Owned Rail Construction and Maintenance Work Plan.

Typically, the largest constraints on Class III railroads in the U.S. involve accommodating railcars with a maximum allowable gross weight of 286,000 lbs. (the heavier cars are supplanting the lighter cars and are becoming the industry standard) and operational chokepoints caused by insufficient operating capacity on main lines, in rail yards, and locations where railroads interchange with each other.

Railcars with larger loading capacity provide greater operating efficiency by reducing labor, fuel, and maintenance costs while increasing capacity and synergy for rail operations and rail shippers. Most Class III railroads have a legacy infrastructure suited to low-density operations and railcars of lighter weight (268,000 lbs. or less). In order to accommodate the 286,000 lb. cars, Class III railroads must make upgrades to the track structure and substructure (that is, rail, switches, ties, and ballast) and bridges to handle the additional stress caused by transporting the heavier cars. Class III railroads that are unable to make the appropriate upgrades may be at a competitive disadvantage and lose business to transportation competitors, namely to trucks or nearby Class I railroads that are capable of handling the 286,000 lb. cars. Segments of the Oklahoma rail network known to be incapable of handling these heavier loads are identified in **Chapter 2** of the Oklahoma State Rail Plan.

Class III railroad chokepoints are often attributed to legacy infrastructure tailored to historical railroad practice, which can limit capacity and hamper the efficiency and flexibility of modern operations. Such factors include yard capacity that is insufficient for building trains; switching; and staging cars and sidings that are of inadequate number, length, or location to accommodate the demands of present-day train operations, meet-pass events, and schedules.

Some Class III railroads are further constrained by delays that stem from interchanging railcars with another carrier or in the use of trackage rights to access an isolated segment of their network. Further complicating interchanges between carriers are "paper barriers"; instances where for regulatory or other contractual reasons a Class III is unable to interchange with a railroad it physically connects to, or is limited in the volume of traffic it can interchange. These deficiencies not only compromise rail transit times and operational safety and cause main line and yard congestion, they have the unintended

consequence of affecting the quality of life for adjacent communities. Among other things, chokepoints and their resultant operational impacts can lead to protracted delays for motorists and emergency vehicles at blocked highway-rail grade crossings, and also affect air quality due to increased emissions from idling vehicles and trains.

Of the 15 Oklahoma short line railroads, 14 completed the surveys. **Appendix A in Chapter 2** presents the information provided by these railroads. Oklahoma's Class III railroads were further queried during the stakeholder outreach process undertaken for the Oklahoma State Rail Plan about the specific challenges they face now and for the future in terms of capacity constraints, infrastructure needs and upgrades, railroad regulation, capital funding needs, and strategies for mitigating climate change adaptation. As previously mentioned, Class I railroads typically have the capital resources to make investments in improvements, while Class III railroads typically do not. Select projects of the Class III railroads identified through the survey and the stakeholder outreach process are covered in **Chapter 5**.

4.3.1 Class III Bottlenecks

ODOT has identified some specific chokepoints in its Class III network, as identified below.

- A paper barrier exists at Tulsa between the South Kansas and Oklahoma Railroad (SKOL) and the Stillwater Central Railroad (SLWC) to one train each way between the railroads each day.
- Altus, in the southwestern corner of the state is a potential interchange spot for several Class III railroads that are not presently allowed to due to paper barriers.
- Conflicts with traffic at an at-grade crossing create a bottleneck at a SKOL transloading site in Tulsa.

As noted elsewhere, infrastructure upgrades to handle 286,000 lb. cars would benefit multiple Class III railroads in Oklahoma. Restoration of the UP line between Shawnee and McAlester and its leasing to Arkansas-Oklahoma Railroad (AOK) would provide another east-west connection in the southeastern portion of the state and allow AOK to operate on a continuous route between Oklahoma City and Howe.

4.4 Improvements to Intermodal Connections

Oklahoma's rail system is a component of a comprehensive multimodal transportation network, which includes linkages to highway, river, and air modes. The opportunity for enhanced multimodal transportation opportunities could be met through investments targeted to promote interconnectivity, capacity, and environmental sustainability. Such investments could include construction or rehabilitation of existing rail connections between principal railroad lines and river port properties[13] and

[13] Owing to its inland position, Oklahoma does not have any seaports; however, the state is located on one major inland waterway navigable for trade or commercial transportation purposes. This waterway, the McClellan-Kerr Arkansas River Navigation System, provides a 445-mile navigable waterway connecting Oklahoma to the Mississippi River and the Gulf of Mexico (*http://www.swt.usace.army.mil/Missions/Navigation.aspx)*

additional sidings, spurs, or yard tracks for switching, staging, and storing railcars at or near port or transload facilities, or construction of intermodal facilities.

4.5 Highway-Rail Crossing and Safety Improvements

ODOT spends approximately $8 million per year through the Oklahoma Rail Crossings Safety Initiative on highway-rail crossing improvements to enhance safety. Additional funding comes from the ODOT Rail Safety Program (a $75 million initiative), the ODOT Construction Work Plan (see Appendix D), and a variety of Federal sources. Oklahoma DOT strives to consolidate projects were possible (e.g., a combination of closures and warning device installation as one project). Refer to **Section 2.1.5 of Chapter 2** for further details about these federal and state funding sources and **Section 2.1.6.3 in Chapter 2** for a rail crossing inventory and safety data for Oklahoma.

Oklahoma currently has 231 active at-grade crossing rail safety improvement projects.

ODOT's Rail Division has 13 active construction projects in 2017. Numbers from past years typically ranged from six to fifteen. These projects include new grade separations of at-grade crossings, replacement of bridges over railroad tracks, modification of existing grade crossings, and track infrastructure upgrades or modifications to improve connections between railroads. A full list of projects from 2012 to 2017 is included in Appendix D.

4.6 State-Owned Rail Construction and Maintenance Work Plan

ODOT supports the State-Owned Rail Construction and Maintenance Work Plan. Annual contributions to the fund have been approximately $1.8 million per year, but due to recent state-owned rail line lease maturities and sales, this figure has decreased.[14]

Projects are identified from applications submitted through the Railroad Rehabilitation Act Loan Program as well as those presented in the Oklahoma State Rail Plan. Projects are prioritized based on safety considerations and infrastructure deficiencies. Consideration is given to the following during project selection:

- Track condition
- Rail structure condition
- Annual freight tonnage transported
- Anticipated percentage of truck traffic reduction
- Capacity
- Rail highway safety
- National freight transportation trends

ODOT has employed an objective investment program intended to maximize the benefit from its available resources.

[14] http://www.okladot.state.ok.us/rail/pdfs/RailWeb.pdf

4.7 Concepts from Stakeholder Outreach

Various project concepts were suggested by the participants of public and stakeholder outreach conducted for the Oklahoma State Rail Plan. This outreach was facilitated through a High Leverage Stakeholder Committee meeting on March 22, 2017, and June 27, 2017; interviews and coordination with representatives of the states Class I and Class III railroads; interviews with railroad freight shippers; and the on-line survey provided on the Oklahoma State Rail Plan webpage on the ODOT website. Outreach conducted as part of the Oklahoma State Rail Plan will be described in detail in **Chapter 6**.

The project categories/specific projects identified during the outreach included the following, which will be described in the Oklahoma Rail Service and Investment Plan featured in **Chapter 5** of the Oklahoma State Rail Plan.

4.7.1 Proposed Freight Projects

Stakeholders generally identified the potential for rail-related projects or initiatives to address:

- Upgrades to connections in Enid to allow for interchanges of unit trains between the local Class III railroads and the Class I railroads.
- Bottlenecks associated with capacity on rail lines, in rail yards, and at railroad interchange locations
- Improve track geometry and enhance infrastructure at the Port of Muskogee; grade separate the State Highway 16 crossing.
- Construction of a wind turbine distribution center
- Congestion on the state's railroad network in urban and rural areas
- Improved network efficiency
- Development of a major multimodal hub and additional transload facilities, industrial parks, and TEAM tracks to enhance railroad access and multimodal connectivity
- Maintenance and/or replacement of aging rail infrastructure (including upgrades to track and bridges on the state's short lines to accommodate railcars with a maximum allowable gross weight of 286,000 lbs.)
- Opportunities for economic development and maintaining Oklahoma's competitiveness in the global marketplace
- Improvement of the state of good repair of the state's freight transportation network
- Availability of additional state funding for railroad improvement projects
- A grade separation program emphasizing and providing funding for public private partnership projects that benefit the public as well as the railroads

Select specific projects identified through the survey and the stakeholder outreach process, and any opportunities for improved coordination or integration with current and potential future passenger rail services in the state, are included in Oklahoma DOT's Rail Service and Investment Program, which is the subject of **Chapter 5**.

Appendix D: ODOT Rail Division Construction Projects 2012-2017

Chapter 5: Rail Service and Investment Program

5.1 Introduction

This chapter describes Oklahoma's Rail Service and Investment Program (RSIP), developed concurrently with the Oklahoma State Rail Plan. The RSIP consists of three major parts. First is Oklahoma's long-term State Rail Vision for rail service, supported by Goals and Objectives, and ultimately by the state's program of rail projects. Second, the RSIP explains how the State Rail Vision is integrated with other state, regional, and national rail planning initiatives; and it describes the related financial and physical impacts of the proposed program of projects. Lastly, the state's potential future rail projects, including studies, are identified. The projects are organized as short-range (2017 to 2020) and long-range (2021 to 2040).

5.2 Oklahoma's State Rail Vision, Goals and Objectives

5.2.1 State Rail Vision

The development of Oklahoma's State Rail Vision was informed by an extensive public and stakeholder outreach process (described in Chapter 6 of the State Rail Plan) and by a review of rail plan vision statements of other states. These efforts identified common themes relevant for setting a direction for rail planning in Oklahoma. Based on a consensus of the Oklahoma State Rail Plan High Leverage Stakeholder Committee members, the State Rail Vision statement is as follows.

"A safe, secure, and efficient rail system that ensures Oklahoma's economic competitiveness and development by maintaining the rail infrastructure and providing rail access and multimodal connectivity for people and goods in an environmentally sustainable manner."

5.2.2 Supporting Goals and Objectives

The following Goals are aligned with the State Rail Vision, consistent with comments received from public outreach activities, and based on consensus of the Oklahoma State Rail Plan High Leverage Stakeholder Committee members. To more clearly define the Goals listed below, each Goal includes multiple Objectives.

Table 5-1: State Rail Goals and Objectives	
Goals	**Objectives**
Safety and Security	• Reduce accidents and fatalities • Ensure the state rail network is secure • Ensure effective response to emergencies on the state rail network
Reliability and Efficiency	• Improve on-time performance of rail transportation in the state • Eliminate rail network bottlenecks and chokepoints in the state, where possible
Preservation and Improved Access and Connectivity	• Preserve, maintain, and modernize the state rail network when public benefit can be demonstrated • Improve rail network access and multimodal connections for passengers and freight in the state
Quality of Life and Environmental Stewardship	• Support responsible land use strategies • Support responsible environmental stewardship
Mobility and Economic Competitiveness and Development	• Invest in rail network capacity improvements to enhance the intrastate and interstate movement of passengers and freight when public benefit can be demonstrated • Ensure rail network investments to catalyze and support desired economic growth

Ultimately, the specific improvement projects in Section 5.8 will underlie and support the State Rail Plan Vision, Goals and Objectives.

5.3 Program Coordination

5.3.1 Integration with other State Planning Efforts

This State Rail Plan is intended to integrate with and expand upon other Oklahoma transportation plans including:

- Oklahoma's 2017 State Freight Plan developed concurrently with the 2017 Oklahoma State Rail Plan;
- Recent studies and continuing work on:
    - Support for the current Amtrak Heartland Flyer passenger rail route between Fort Worth, Texas, and Oklahoma City and the potential for a service extension to Wichita and Newton, Kansas, and Kansas City, Missouri.
    - Oklahoma City streetcar and commuter rail planning studies
    - Tulsa commuter rail planning studies

5.3.2 National and Regional Rail Planning Integration

As Oklahoma shares rail corridors and services with other states, it is essential to coordinate with other states through both direct interaction and through comprehensive review and analysis of state or

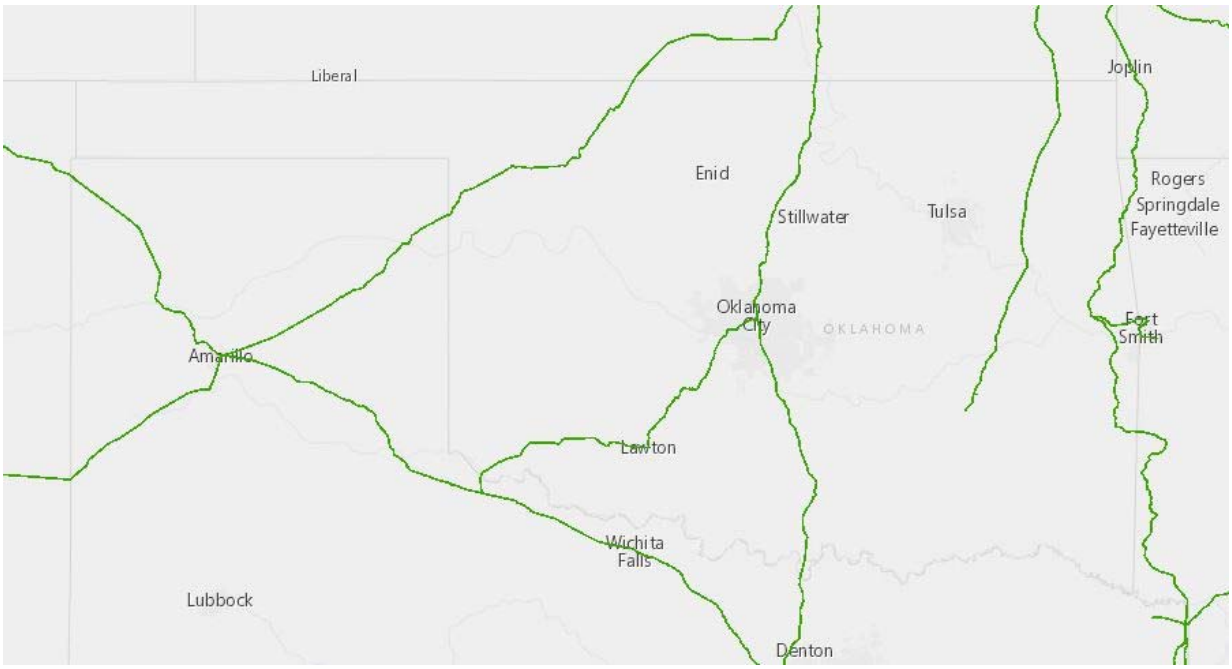
regional rail plans prepared by or in cooperation with other states in the region. Oklahoma has received information from neighboring states that has been incorporated into this plan.

The 2008 Passenger Rail Investment and Improvement Act directed the Federal Railroad Administration (FRA) to develop a Preliminary National Rail Plan to address the rail needs of the U.S. The preliminary plan, published in October 2009, provided objectives for rail as a means of improving the performance of the nation's transportation system, which included:

- Increased passenger and freight rail performance;
- Integration of all transportation modes to form a more complementary transportation system;
- Identification of projects of national significance; and,
- Providing for increased public awareness

Since 2009, the concept of developing a National Rail Plan has evolved toward capturing state rail planning findings, and reflecting the issues and priorities addressed in various state rail plans. An outgrowth of this process is expected to be development of regional rail plans and multi-state corridor plans inclusive of solutions for freight and passenger service issues on a regional rather than state-by-state basis. ODOT will work with FRA and other states in the region to ensure that the region's rail perspectives and issues are adequately addressed within the national rail planning process.

In addition to the need to coordinate Oklahoma's State Rail Plan with a National Rail Plan process and the existing freight rail network, Oklahoma 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). The STRACNET is comprised of an approximately 32,000-mile national, interconnected network of rail corridors and associated connector lines most important to national defense. **Figure 5-1** depicts the STRACNET system within Oklahoma. The lines shown provide main line corridor throughput capability as well as access to major defense contractors, logistics sites, and military facilities critical to national defense.



Source: FRA

Figure 5-1: Oklahoma's Strategic Rail Corridor Network

5.4 Rail Agencies

As noted in Chapter 1 of the State Rail Plan, ODOT's Rail Programs Division is responsible for acquiring and administering federal and state funds used to support operation of the Amtrak Heartland Flyer passenger service, highway construction projects that have an intersection with railroad property, railroad crossing safety improvements, and maintaining the state-owned rail lines. The division comprises five sections: State-Owned Rail Line Management, Safety, Rail Passenger, Construction, and Federal Programs. This State Rail Plan does not recommend any changes to the Rail Programs Division, nor does it recommend the creation or abolition of any other agencies or authorities.

5.5 Intended Program Effects

Appearing in Section 5.8 is ODOT's proposed program of capital projects, i.e. its Rail Service and Investment Program, for the short-range (4 years from 2017 to 2020) and for the long-range (21 years from 2021 to 2041). Class I railroad projects are generally not included, as these railroads are considered sufficiently capable of funding their own improvements and many of their projects. However, some Class I projects are included based on ODOT's global view of freight rail network needs and bottlenecks for the state.

Not all of the Class I railroads are in agreement to the public benefit of improving bottlenecks. BNSF Railway considers all the referenced bottlenecks to be private network constraints not adversely affecting the public. Therefore they believe these projects should not be considered in this plan. ODOT believes all bottlenecks impact the public therefore they have been left in the plan.

The projects proposed are based on those activities that best protect the short line railroads operating in the state, the reduction or elimination of major freight bottlenecks, rail safety, and rail passenger improvements that are based on preservation and improvement of existing service, the safety of passengers, and potential rail passenger service expansion. These projects offer substantial potential benefits.

As the majority of intercity rail passengers are diverted from the automobile, service improvements and expansion will result in a more extensive and diverse intercity transportation network, enhanced mobility, increased tourism and access to job opportunities, and increased energy efficiency.

For rail freight improvements, the benefits involve increased transportation competition resulting in lower cost to shippers, less highway congestion and damage, and reduced environmental and energy impacts. By their nature, grade crossing improvement projects, as well as other rail-related improvements, also increase transportation safety.

5.6 Rail Project Impact and Financing Analysis

FRA's 2013 State Rail Plan Guidance requires states to describe how capital projects were analyzed, with regard to their impacts on passenger rail ridership, potential diversion from highway and air to rail, passenger rail revenues and costs, freight rail project benefits, etc. States are also required to describe their 4- and 20-year (or more) financing plans for passenger rail capital and operating costs. Discussion of these analytical areas for both passenger and freight rail projects included in the RSIP are presented below.

5.6.1 Passenger Rail

5.6.1.1 Passenger Rail Project Impact Analysis

The passenger rail projects identified for the short- and long-range Rail Service and Investment Program pertain to improvements to the existing state-supported intercity passenger rail service, potential expansions of state-supported intercity passenger rail service, the implementation of commuter rail service centered on hubs at Oklahoma City and Tulsa, and the development of new passenger rail stations and multimodal hubs.

Oklahoma currently has a limited amount of control over the rail passenger operations within the state. ODOT, in partnership with TXDOT, funds the operation of Oklahoma's Heartland Flyer service between Oklahoma City and Fort Worth, as required under PRIIA for intercity passenger rail corridors less than 750 miles. The states share the cost of this service. These limitations also reduce the state's ability to significantly affect positive impacts on other modes or influence major modal diversion.

As noted in Chapter 3, ODOT is working with Amtrak as well as other state and local agencies to conduct studies of possible new intercity and commuter passenger rail services, which will allow it to evaluate the estimated ridership, revenues, and costs for new services or service extensions. These studies provide the benchmark information necessary to determine whether further analysis and potential investment in the proposed services are merited.

5.6.1.2 Passenger Rail Project Financing Plan

Oklahoma is limited in the means available to increase the frequency and level of service of its state-supported services or possible new long-distance passenger services. Any capital investments related to the overall corridors must be made at the regional level with concurrence by Amtrak, other states served by the route, and the rail line owners.

Many states, including Oklahoma, have opted to provide support to their passenger and commuter rail initiatives with state and federal funding mechanisms such as the state's dedicated public transit revolving fund and the Federal Transportation Investment Generating Economic Recovery (TIGER) program. Such investments help agencies implement passenger rail projects that provide new transportation and mobility options. Most significant rail intercity and commuter rail projects have a positive impact on overall rail passenger ridership, rail passenger miles traveled, modal diversion from highway and air, and increased rail passenger revenues and/or reduced costs. The benefits generated by the state's current Heartland Flyer passenger service are discussed below in Section 5.6.1.4.

ODOT will continue to work with Amtrak, other states' departments of transportation, and regional agencies on projects to expand intercity passenger rail service, introduce commuter rail service, and create multimodal hubs such as the Santa Fe Depot in Oklahoma City. Federal, state, and local funding sources will continue to be assessed for future capital projects.

Capital projects should be carefully evaluated to assess how they would affect ridership, both in positive terms (developing a service that is attractive and reliable to encourage ridership) as well as in negative terms (discouraging travel due to construction-related disruptions).

5.6.1.3 Passenger Rail Operations Financing Plan

The Heartland Flyer passenger rail operation is funded through two sources:

- The General Revenue Fund (GRF) currently appropriates $2 million per year for Oklahoma's portion of Heartland Flyer operating costs (OS-68-2352, OS 1521)
- The Oklahoma Tourism and Passenger Rail Revolving Fund (OTPRR), which was established for the purpose of funding passenger rail service (OS 68-500.6), provides an additional $850,000 annually (OS-66-325, OS 68-500.6)

As noted in Chapter 2, since the enactment of PRIIA, ODOT has experienced a significant increase in the operating costs payable to Amtrak for providing the Heartland Flyer service. A strategy to control and manage ongoing operations and management costs in the future is essential for the continued viability of the service.

In light of rising costs for state-supported passenger rail services and uncertainties with regard to prospective federal rail funding of long-distance passenger rail services, decisions to move ahead with an expanded passenger rail program should be supported by a comprehensive planning effort. The

more detailed studies of expanded commuter and intercity rail will include a comprehensive examination of all potential funding sources and alternatives.

5.6.1.4 Passenger Rail Economic Benefits

ODOT conducted an analysis in 2017 that examined the benefits and costs of the Heartland Flyer intercity passenger rail service between Oklahoma City and Fort Worth in a benefit-cost analysis framework. Benefits measured included highway congestion cost relief, highway accident cost savings, benefits from passengers who switched to rail from other modes (road, air, and bus), induced travel demand, passenger productivity, environmental benefits from reduced emissions, benefits in the form of agency revenues, and other public benefits such as the reduction in highway noise and highway pavement maintenance. To provide a comprehensive assessment of the service that could inform policy decisions regarding this service, the study examined recent performance as measured by benefits and costs over the last five years, in addition to a benefit-cost analysis going forward for a hypothetical target ridership and service costs scenario. Among the key findings in the study were:

- Over the last five years (the period from 2012 to 2016), total benefits of the Heartland Flyer service were larger than total costs (discounted or undiscounted). Net benefits amounted to almost $3.0 million and the benefit-cost ratio amounted to about 1.11, discounted at 7 percent.
- Going forward, over the period 2017-2036, assuming a return to historic peak-levels of ridership and moderate growth as well as costs at the most recent levels, the Heartland Flyer service is expected to produce net benefits of $31.5 million undiscounted. Benefit-cost ratio is estimated in the range of 1.15 to 1.26 (depending on the discount factor).
- The Heartland Flyer also generates other socio-economic benefits, which are more difficult to quantify and include in a formal benefit-cost analysis. In particular, the train service provides an affordable alternative travel option to individuals who do not drive, or who do not want to drive, including seniors, persons with disabilities, low-income individuals without access to a car, or students. Expenditures that stem in some way from this service, including capital and operating expenditures, and passengers' trip expenditures generate local economic activity and jobs. The service and funding for station improvements and revitalization that was available through it became a catalyst for local economic development in communities on the route.

The results of the analysis showed that the Heartland Flyer is currently delivering benefits that exceed the costs of service provision and that this performance is likely to continue. Over the last five years, the service produced benefits that are well in excess of its costs. However, ridership has declined since its peak in 2012, while at the same time operating costs have increased. Declining ridership translates into declining benefits which, when combined with increasing costs, lowers net benefits. The benefit-cost analysis for the period 2017-2036 also produces fairly good evaluation metrics (positive net benefits, and a benefit-cost ratio greater than 1), but rests on the assumptions of continuing ridership growth combined with operating costs controls and no new capital expenditures.

5.6.2 Freight Rail

5.6.2.1 Freight Rail Project Impacts and Financing

The Rail Service and Investment Program contains freight rail projects identified for the short- and long-range horizons pertain to improvements to the infrastructure of Oklahoma's railroads and grade crossing safety. Class I railroads are generally considered capable of funding their own capital projects, so a limited number of their projects are included; however, potential future investments to be made to the state's rail network that were identified through coordination with the state's Class I railroads and identified by ODOT are shown in the list of potential future passenger and freight rail projects and studies in the RSIP later in this chapter.

Such self-funding is more challenging for Class III railroads, which have smaller physical plants and fewer shippers, severely limiting opportunities to generate revenue. Class III railroads typically earn a fee for picking up and delivering rail carloads from/to the Class Is. Some Class III railroads in Oklahoma such as the Austin, Todd & Ladd Railroad or Wichita, Tillman and Jackson Railway have only one connecting Class I railroad. Accordingly, the internal cash flow for a Class III is often insufficient to enhance yard and line capacity to accommodate safer and more efficient train operations; provide improved rail access via enhanced or new transload facilities or industrial trackage; or upgrade legacy track and bridges to handle heavier loaded car weights of 286,000 pounds, which has become the standard for the national rail system. Many states, including Oklahoma, have opted to provide support to their Class III railroads to upgrade their lines via state and federal funding mechanisms such as the State-Owned Rail Construction and Maintenance Work Plan and the Federal Transportation Investment Generating Economic Recovery (TIGER) program. Such investments ensure that these railroads can continue to serve their shippers, thus helping to retain shipper employment and prevent the diversion of traffic from rail to truck and the consequent maintenance impacts to the state highway system.

Another key area for state investment is in at-grade crossing safety. Improvements include upgrades to warning devices and crossing surfaces, as well as appropriate crossing closures and grade separations. The impacts of such investments are reductions in accidental deaths and injuries at highway-rail crossings.

5.6.2.2 Freight Rail Financing Approach

The main financing mechanisms for state investments in rail lines and in crossing safety were identified in Chapter 2 of the State Rail Plan. These include:

- ODOT Rail Safety Program
- State-Owned Rail Construction and Maintenance Work Plan
- Rail Crossings Safety Initiative
- ODOT Construction Work Plan

All of these mechanisms, as well as various federal programs and local contributions, can potentially support the planned investments in the state rail network noted in Section 5.8 of this chapter.

5.6.2.3 Freight Rail Economic Benefits

The state of Oklahoma has long recognized the public value of a viable short line network. In the late 1970's and early 1980's, the state legislature had the foresight to pass legislation authorizing ODOT to purchase several former Class I branch lines and secondary main lines in the state that were slated for abandonment. Through a process detailed in Section 2.1.1.4 of Chapter 2, these lines were preserved for future use. The public benefits of state investment in the Oklahoma short line network include the transportation-related economic and socio-environmental benefits involved in providing competitive rail service itself, as well as the preservation and protection of irreplaceable rail assets. These rail lines have also steadily produced increased traffic levels which have resulted in former and new shippers receiving cost-efficient service.

Through this State Rail Plan process, ODOT has also developed a better understanding of the rail industry's plans for growth within the state and the projects deemed necessary to facilitate this growth. Therefore, private sector rail projects, if deemed to provide sufficient public benefits in the future, may receive increased public financial assistance in the future should additional funding become available.

As most proposed long-range projects have yet to be analyzed with regard to their economic feasibility, it is premature to identify any correlation between the level of public investment and benefits.

5.6.3 Rail Program Impacts Summary

As noted in Chapter 2 of the State Rail Plan, the impacts of freight and passenger rail services in Oklahoma provide sizable impacts in terms of cost savings and employment. Palpable benefits of rail improvements include lower transportation costs and enhanced mobility and multimodal connectivity. Oklahoma's proposed short- and long-range rail investment plans are intended to have a high correlation between the public funding provided and their intended benefits.

The state's proposed short- and long-range projects are generally based on preserving and increasing the efficiency and capacity of rail operations of Oklahoma's short line railroads and improving and expanding intercity passenger rail services. Typical benefits from upgrading short line railroads are increased operating efficiency, enhanced capacity, and expanded access. Both have positive impacts on the financial health of both the railroad and the shippers being served. New or improved passenger rail operations provide more cost-effective travel alternatives for travelers.

In general, any improvements in operating efficiency and access to rail service for either rail passengers or freight users achieved through continued investment in the rail network would enhance the existing economic and socio-environmental impacts of the state's freight and passenger services.

5.7 Rail Studies and Reports

Analysis of Oklahoma's rail network and comments provided at the State Rail Plan's outreach meetings resulted in a number of recommendations for studies to determine the feasibility of future projects or state-sponsored services to improve rail operations in Oklahoma.

Potential rail studies which will be considered in the future, pending the available staff and/or financial assets required, center on the following areas:

- Expansion of new regional intercity rail corridor services and improvements to existing services;

- Commuter rail services for Oklahoma City and Tulsa;
- Other rail freight service efficiency, safety enhancement, and tourist railroad marketing studies;
- Transload and intermodal facility feasibility, and identification of potential locations and potential partners
- Research into governance and financing models for new rail services; and,
- Safety enhancements at highway-rail crossings

These are discussed in more detail below. Section 5.8 identifies these proposed studies and their estimated costs.

5.7.1 Intercity Passenger Rail Studies

ODOT will continue working with Amtrak, local communities and agencies, its state partners in Kansas and Texas, and host freight railroads on studies and initiatives to expand intercity passenger rail service in the region and continue efforts to develop the South Central High Speed Rail Corridor. These initiatives are discussed in Chapter 3 of the State Rail Plan. Specific initiatives are identified in the short-range and long-range program of projects presented below.

5.7.2 Commuter Rail Studies

Commuter rail concepts have been studied in two areas of the state: Oklahoma City and Tulsa. The findings of these studies were detailed in Chapter 3 of the State Rail Plan. Work on advancing commuter rail service in Oklahoma City is ongoing, concurrent with the development of a multimodal rail hub at the downtown Santa Fe Depot. Efforts to develop commuter rail service in Tulsa have a longer planning horizon.

5.7.3 Financing and Governance Models Studies

To support all of the state's rail-related goals, an important area of study is to determine the financial sources and partnership arrangements necessary to implement the needs identified and additional services desired. This may involve identifying legislative changes and funding sources that can establish a reliable and transparent source of funds that enable both the investments required and provide the public with proof that the funds are being utilized to produce visible public services and benefits.

Partnership arrangements, between the state and localities and with other states, must be carefully structured and coordinated to ensure the efficiency of project implementation and a fair division of both the level of investment and potential benefits.

5.7.4 Safety Enhancements at Crossings Study

Lastly, the potential for implementation of additional safety enhancements at highway-rail crossings is another important topic for further study in the short- and long-term planning horizon. ODOT has a robust rail safety program, the details of which are outlined in Section 2.1.6.1 of Chapter 2.

5.8 Passenger and Freight Rail Capital Program

This section identifies the short-range and long-range program of studies and projects, consistent with PRIIA requirements, with specific project detail appearing in the RSIP. The short-range studies and projects have been limited to those for which funding will be available based on past legislative budget allocations for rail projects. Long-range studies and projects include specific projects or prospective projects which could arise from various studies for which funding has not been committed, but have been deemed important as part of a multi-year program that exceed the four-year short-range period. The projects, anticipated public benefits, and cost estimates are listed in the RSIP. The projects are prioritized in terms of short-range studies and projects, that is, those which will occur in the first four years (2018 to 2021); and long-range studies and projects, that is, those which that will be considered between Years 5 to 25 (2022 to 2042).

Tables 5-2 and 5-3 provides a summarization of Oklahoma's Rail Service and Investment Program. It includes short and long-range projects and estimated costs for each. The projects are listed by category (passenger and freight rail studies and projects) and time frame for potential implementation (short-range and long-range). The projects are discussed in the narrative that follows. The total cost identified in the RSIP to implement passenger rail service by corridor, if known, is a conceptual planning estimate only. Further study and consultation with host freight railroads would be required to better understand these costs.

Table 5-2 Short-Range Studies and Projects (Years 1-4; 2018-2021)

Studies and Projects	Description	General Project Benefits	Estimated Capital Cost, if Known (In 2017 Dollars)	Potential Funding Source
SHORT-RANGE PASSENGER RAIL PROJECTS AND STUDIES				
Add a second round-trip passenger frequency between Oklahoma City and Fort Worth, Texas	Provide a second daily round-trip passenger train between Oklahoma City and Fort Worth, supplementing the existing Heartland Flyer service and doubling frequencies in the corridor.	Enhance passenger transportation and mobility options.	TBD	Federal, State, and Local Sources
Thackerville Passenger Rail Station	Add a new intercity passenger rail station on the Heartland Flyer route to serve tourism and regional travel markets in South Central Oklahoma.	Enhance passenger transportation and mobility options.	TBD	Federal, State, and Local Sources
Extend Heartland Flyer to Newton, Kansas	Provide new passenger service to North Central Oklahoma and to	Enhance passenger transportation and mobility	$147,500,000	Federal and State Sources

	Wichita, Kansas. Connections at Newton, Kansas, to Amtrak's Southwest Chief.	options.		
New daytime service from Kansas City, Missouri, to Oklahoma City to Fort Worth, Texas	Provide new daytime passenger service between Kansas City, Wichita, Oklahoma City, and Fort Worth.	Enhance passenger transportation and mobility options.	$471,100,000	Federal and State Sources
Continue funding state-supported Heartland Flyer	Continue funding of state-supported Heartland Flyer intercity passenger rail service between Oklahoma City and Fort Worth, Texas, as required under PRIIA.	Enhance passenger transportation and mobility options.	$30,180,000	State Sources
Subtotal:			$648,780,000	
SHORT-RANGE FREIGHT RAIL STUDIES				
None Identified	N/A	N/A	N/A	N/A
Subtotal:			$0	
SHORT-RANGE FREIGHT RAIL PROJECTS				
AOK Shawnee Subdivision Upgrade	Perform tie replacement, ballast placement, and surfacing to improve 35 miles AOK of track in Oklahoma and Pottawatomie Counties.	Enhance operating capacity, efficiency, and safety and improves rail service for shippers.	$1,500,000	State and Local Sources
BNSF rail bridges over Interstate240 north of Flynn Yard (Oklahoma City)	Replace BNSF bridges over Interstate 240 to improve horizontal and vertical clearances and allow for potential capacity expansions of both interstate and railroad.	Enhanced rail capacity and a public benefit highway improvement.	TBD	Federal, State, and Local Sources
Replace GNBC bridge over North Canadian River between Southard and Eagle City	Replace 756-foot timber trestle over North Canadian River.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced labor costs and lower operations and maintenance	$3,300,000	Federal, State, and Local Sources

		costs.		
GNBC Okeene Passing Siding	Construct a passing siding at Okeene to allow for meets of opposing trains.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced crew costs and lower maintenance costs	$1,050,000	Federal, State, and Local Sources
Track rehab on KRR Paris Subdivision (Hugo, Oklahoma to Paris, Texas)	Perform tie replacement, ballast placement, and surfacing to increase operating speeds.	Public benefits include reduced transit times and greater reliability for shippers; private benefits include reduced labor costs and lower operations and maintenance costs.	$1,500,000	Local Sources
Track rehab on KRR Lake Subdivision - Hugo to Lake	Perform tie replacement, ballast placement, and surfacing to increase operating speeds.	Public benefits include reduced transit times and greater reliability for shippers; private benefits include reduced labor costs and lower operations and maintenance costs.	$3,600,000	Local Sources
SKOL Bridge Upgrades at MP 60.6	Rehabilitate and/or replace structural components of Bridge 60.7.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced crew costs and lower operations and maintenance costs.	$14,713	Local Sources
SKOL Owasso Yard Switch Upgrade	Upgrade existing switches in Owasso Yard.	Public benefits include reduced transit times and operational efficiencies; private benefits include lower operations and	$176,213	Local Sources

		maintenance costs.		
Tie improvement/Surfacing on SLWC Lawton Subdivision (Milepost 563-Milepost 580)	Perform tie replacement, ballast placement, and surfacing to increase operating speeds.	Public benefits include reduced transit times and greater reliability for shippers; private benefits include reduced crew costs and lower operations and maintenance costs.	$497,306	Local Sources
Various SLWC Bridge Repairs (Milepost 438.9- Milepost 668.7)	Rehabilitate and/or replace structural components of bridges.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced crew costs and lower operations and maintenance costs.	$581,760	Local Sources
Rail repair and crossing renewals on SS in Tulsa area	Perform tie replacement, ballast placement, and surfacing to improve track condition and quality of driving surface.	Public benefits include reduced transit times and greater reliability for shippers; private benefits include reduced crew costs and lower operations and maintenance costs.	$400,000	Local Sources
Perform bridge and track maintenance on TSU system wide	Perform tie replacement, ballast placement, and surfacing to increase operating speeds. Upgrade bridges to accommodate 286,000 lb. rail cars.	Public benefits include reduced transit times and greater reliability for shippers; private benefits include reduced crew costs and lower operations and maintenance costs.	$2,000,000	Local Sources
Add Storage Track Capacity on TSU Systemwide	Expand storage yard capacity to provide greater flexibility to rail customers.	Added capacity benefits shippers and improves efficiency.	TBD	Local Sources
Subtotal:			$16,580,000	
Short Range Studies and Projects:			$665,360,000	

Table 5-3 Long-Range Studies and Projects (Years 5-21; 2021-2041)

Studies and Projects	Description	General Project Benefits	Estimated Capital Cost, if Known (In 2017 Dollars)	Potential Funding Source
LONG-RANGE PASSENGER RAIL PROJECTS AND STUDIES				
Add commuter rail service from Oklahoma City north to Edmond (20 miles)	Add BNSF main line track, station facilities at Edmond, and various crossing improvements.	Enhance commuter transportation and mobility options.	$360,000,000	Federal, State, and Local Sources
Add commuter rail service from Oklahoma City south to Norman (20 miles)	Add BNSF main line track, station facilities at Norman, and various crossing improvements.	Enhance commuter transportation and mobility options.	$410,000,000	Federal, State, and Local Sources
Add commuter rail service from Oklahoma City west to El Reno (30 miles)	Add UP main line track, station facilities in El Reno and Yukon, various crossing improvements, and possible Park & Ride in West Oklahoma City	Enhance commuter transportation and mobility options.	TBD	Federal, State, and Local Sources
Add commuter rail service from Oklahoma City 30 miles East to Shawnee	Add main line track or rehabilitate existing track; station facilities in Shawnee; other possible station facilities in McLeod, Harrah, Choctaw, and Spencer; various crossing improvements; possible second bridge over Oklahoma River.	Enhance commuter transportation and mobility options.	TBD	Federal, State, and Local Sources
Add commuter rail service from Oklahoma City east to Midwest City (10 miles)	Track rehabilitation, Station facilities in Midwest City and Del City, and various crossing improvements.	Enhance commuter transportation and mobility options	$440,000,000	Federal, State, and Local Sources
Tulsa Commuter Rail to Jenks	Add UP and TSU main line track, station facilities, and various crossing improvements.	Enhance commuter transportation and mobility options.	TBD	Federal, State, and Local Sources
Tulsa Commuter Rail to Broken Arrow	Add UP main line track, station facilities, and grade crossing improvements.	Enhance commuter transportation and mobility options.	TBD	Federal, State, and Local Sources
Tulsa Commuter Rail to Sand Springs	Add shortline and Class I main line tack, station facilities, and grade crossing improvements.	Enhance commuter transportation and mobility options.	TBD	Federal, State, and Local Sources
Tulsa Commuter Rail to Owasso	Add SKOL main line track, station facilities, and grade crossing improvements.	Enhance commuter transportation and mobility options.	TBD	Federal, State, and Local Sources
Sealed rail corridor	Add main line track and	Enhance intercity	TBD	Federal, State,

through downtown Tulsa linking UP and BNSF main lines	roadway and pedestrian grade separations through downtown Tulsa between UP and BNSF main lines to accommodate passenger rail service.	passenger and commuter rail transportation and mobility options.		and Local Sources
Implement intercity passenger rail service between Oklahoma City and Tulsa (110 miles)	Oklahoma City station and platform improvements, construct wye connection from elevated BNSF tracks to UP tracks in former CRI&P freight yard, rehabilitate track from BNSF connection to NE 50th Street, address crossing and grade separation improvements, construct new trackage NE 50th Street to Sapulpa, new Park & Rides near Arcadia and Sapulpa, new main line track from Tulsa to Sapulpa, station facilities in Tulsa, and new trackage around Cherokee Yard.	Enhance passenger transportation and mobility options.	TBD	Federal, State, and Local Sources
New passenger rail equipment	Acquire passenger rail equipment.	Enhance service and passenger rail investments.	TBD	Federal, State, and Local Sources
Continue funding state-supported Heartland Flyer	Continue funding of state-supported Heartland Flyer intercity passenger rail service between Oklahoma City and Fort Worth, as required under PRIIA	Enhance passenger transportation and mobility options	TBD	State Sources
Subtotal:			$1,210,000,000	
LONG -RANGE FREIGHT RAIL PROJECTS AND STUDIES				
Oklahoma Intermodal Facility	Develop a new intermodal facility in the state of Oklahoma at a location to be determined.	Enhance multimodal capacity, availability of transloading and intermodal service, and rail system access.	TBD	Federal, State, and Local Sources
New Customer on AOK at Panola	Develop a siding track on the AOK for a new customer in Panola.	Enhance rail capacity and access.	$90,000	Federal, State, and Local Sources
AOK Bridge Upgrades	Rehabilitate and/or replace structural components of two bridges AOK bridges in Wilburton.	Preserves state investment in the state rail network and improves	$250,000	State and Local Sources

		freight service for shippers.		
New Customer on AOK at Wister	Develop a siding track on the AOK for a new customer in Wister.	Enhance rail capacity and access.	$350,000	Federal, State, and Local Sources
New Customer on AOK at Alderson	Develop a siding track on the AOK for a new customer in Alderson.	Enhance rail capacity and access.	$480,000	Federal, State, and Local Sources
BNGR Rail Improvements	Upgrade main line track to include 115 lb. rail, tie replacement, ballast placement, and surfacing to increase operating speeds on 17 miles of track from Blackwell to OK/KS state line.	Preserves state investment in the state rail network and improves freight service for shippers.	$27,000,000	State and Local Sources
Improve BNSF Cherokee Yard in Tulsa	Improve capacity in BNSF Cherokee Yard in Tulsa.	Added capacity benefits for shippers and improves operating efficiency and safety.	TBD	Federal, State, and Local Sources
Add a Second BNSF Railroad Bridge over Arkansas River in Tulsa	Presently there is only one rail crossing of the Arkansas River in Tulsa.	Added capacity benefits shippers and improves efficiency.	TBD	Federal, State, and Local Sources
Add a second main track on BNSF between Edmond and BNSF Flynn Yard, south of Oklahoma City	Add a second main track on BNSF between Edmond and BNSF Flynn Yard, south of Oklahoma City.	Added capacity benefits shippers and improves efficiency; improves reliability of Heartland Flyer passenger rail service.	TBD	Federal, State, and Local Sources
Improve Capacity on BNSF through Dallas/Fort Worth, Texas, Area	Improve system capacity in the Dallas/Fort Worth, Texas, area. Presently, capacity limitations create traffic backups that result in trains being staged as far north as Oklahoma on the BNSF network. This absorbs system capacity that would otherwise be available to Oklahoma shippers.	Increasing the capacity in the Dallas/Fort Worth, Texas, area would free up this capacity to improve service to Oklahoma shippers.	TBD	Federal, State, and Local Sources
BNSF Grade Separation of US 64/77 in Perry	Presently, no grade-separated crossings of the BNSF exist in Perry.	Public benefit - highway and safety improvement.	TBD	Federal, State, and Local Sources
Add Leg to BNSF Wye at Perry	Add missing leg to wye connecting BNSF Avard and Red Rock Subdivisions at Perry.	Added capacity benefits shippers and improves efficiency.	TBD	State and Local Sources

Siding extensions along BNSF Cherokee Subdivision	Extend sidings to accommodate longer trains and enhance capacity for meet-pass events between trains.	Added capacity benefits shippers and improves efficiency.	TBD	Federal, state, and local sources
BNSF Red Rock Subdivision Double-Tracking	Add second main track to BNSF Red Rock Subdivision to alleviate rail traffic and grade crossing congestion.	Public benefits include reduced crossing delays and safety; private benefits include reduced train delays and lower cost of operations.	TBD	Federal, State, and Local Sources
State Highway 37 Grade Separation with BNSF in Moore	Construct a roadway overpass for State Highway 37 over the BNSF in Moore.	Public benefit - highway and safety improvement.	TBD	Federal, State, and Local Sources
Grade Separate State Highway 64 / BNSF Crossing in Enid	Construct a roadway overpass for State Highway 64 over the BNSF in Enid.	Public benefit - highway and safety improvement.	TBD	Federal, State, and Local Sources
Improve overall capacity on BNSF, UP, AOK, and SLWC in Oklahoma City	Improve overall capacity on all railroads in Oklahoma City.	Added capacity benefits shippers and improves operating efficiency; improves reliability of Heartland Flyer passenger rail service.	TBD	Federal, State, and Local Sources
Improve overall capacity on BNSF, UP, and GNBC in Enid.	Improve overall capacity on all railroads in Enid; lengthen or add tracks to accommodate unit trains (typically 100 to 120 cars; up to 8,000 feet clear for each track). This will allow for the efficient interchange of unit trains between Grainbelt and its Class I partners.	Added capacity benefits shippers and improves efficiency.	TBD	State and Local Sources
FMRC Tie Replacement and Bridge Upgrades - Sayre to Weatherford	Perform tie replacement, ballast placement, and surfacing to increase operating speeds. Upgrade bridges to accommodate 286,000 lb. rail cars.	Improves track capacity for larger freight cars and increased operating speeds—public and private benefits.	TBD	State and Local Sources
FMRC Track Upgrade - Foley to Thomas	Perform tie replacement, ballast placement, and surfacing to increase operating speeds. Upgrade bridges to accommodate 286,000 lb. rail cars.	Improves track capacity for larger freight cars and increased operating speeds—public and private benefits	$3,900,000	Federal, State, and Local Sources

FMRC Bridge Upgrade - Foley to Thomas	Rehabilitate and/or replace structural components of bridges to accommodate 286,000 lb. rail cars.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced crew costs and lower maintenance costs	$357,000	Federal, State, and Local Sources
FMRC Bridge Upgrade - Clinton to Elk City	Rehabilitate and/or replace structural components of bridges to accommodate 286,000 lb. rail cars.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced crew costs and lower maintenance costs	$445,000	Federal, State, and Local Sources
GNBC Mainline Rail Upgrade – Okeene to Southard	Replace 9 miles of 90/40 rail between Okeene and Southard	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced crew costs and lower maintenance costs	$3,900,000	Federal, State, and Local Sources
GNBC Track Upgrade - Enid to Clinton	Perform tie replacement, ballast placement, and surfacing to increase operating speeds. Upgrade bridges to accommodate 286,000 lb. rail cars.	Improves track capacity for larger freight cars and increased operating speeds—public and private benefits	$2,250,000	Federal, State, and Local Sources
GNBC Bridge Upgrade - Enid to Clinton	Rehabilitate and/or replace structural components of bridges to accommodate 286,000 lb. rail cars.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced crew costs and lower maintenance costs	$374,000	Federal, State, and Local Sources
Improve main line capacity on KCS between Shady Point and Heavener	Improve main line capacity on KCS between Shady Point and Heavener by constructing passing siding(s) or a second main track.	Added capacity benefits shippers and improves efficiency.	TBD	State and Local Sources
Upgrade rail for new customer in Durant on KRR	Upgrade track to include 115 lb. rail, tie replacement, ballast placement, and surfacing to increase operating	Public benefits include reduced transit times and capacity for larger freight cars; private	$5,100,000	State and Local Sources

	speeds.	benefits include reduced labor costs and lower operations and maintenance costs.		
Upgrade structures on KRR to 286,000 lbs. capacity	Rehabilitate and/or replace structural components of bridges to accommodate 286,000 lb. rail cars.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced labor costs and lower operations and maintenance costs.	$7,200,000	State and Local Sources
Upgrade rail on Ashdown Subdivision – Hugo, Oklahoma, to Ashdown, Arkansas	Upgrade main line track to include 115 lb. rail, tie replacement, ballast placement, and surfacing to increase operating speeds.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced labor costs and lower operations and maintenance costs.	$15,000,000	State and Local Sources
Bridge Upgrades on NOKL in Woodward	Rehabilitate and/or replace structural components of bridges to accommodate 286,000 lb. rail cars.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced labor costs and lower operations and maintenance costs.	$1,000,000	State and Local Sources
Upgrade 0.4 miles of track on NOKL in Woodward	Perform tie replacement, ballast placement, and surfacing to increase operating speeds.	Public benefits include reduced transit times and capacity for larger freight cars; private benefits include reduced crew costs and lower operations and maintenance costs.	TBD	State and Local Sources
Build wye to add north access from Port of Muskogee to Union Pacific Railroad	Construct new wye track to allow service to Port from the north.	Improved rail access for competitive shipping rates and more efficient operations.	$1,100,000	Federal, State, and Local Sources
Construct a connection between UP and BNSF at Port	Construct a new track between UP and BNSF to facilitate improved rail	Improved rail access for competitive shipping rates and	$5,000,000	Federal, State, and Local Sources

of Muskogee	access for Port.	more efficient operations.		
Capacity Upgrades at Port of Muskogee	Expand storage yard capacity and construct a third track to provide greater flexibility to rail customers at the Port.	Added capacity benefits shippers and improves efficiency.	TBD	Federal, State, and Local Sources
Grade Separate State Highway 16 Crossing at Port of Muskogee	Construct a roadway overpass for State Highway 16 over the lead tracks at the Port of Muskogee	Public benefit - highway and safety improvement.	TBD	Federal, State, and Local Sources
Tie replacement on SKOL	Perform tie replacement, ballast placement, and surfacing to increase operating speeds.	Public benefits include reduced transit times and greater reliability for shippers; private benefits include reduced labor costs and lower operations and maintenance costs.	$9,800,000	State and Local Sources
Expand SKOL Owasso Yard	Expand yard to accommodate greater volumes of traffic.	Added capacity benefits shippers and improves efficiency.	TBD	State and Local Sources
SLWC River Bridge in Oklahoma City	Add second bridge over river in Oklahoma City to provide SWLC with its own river crossing.	Added capacity benefits shippers and improves efficiency.	TBD	Federal, State, and Local Sources
Add track capacity on SLWC in Oklahoma City area	Expand number and length of tracks available in Oklahoma City area to accommodate greater volumes of traffic.	Added capacity benefits shippers and improves efficiency.	TBD	Federal, State, and Local Sources
Redevelop Former Gerdau Mill Site in Sand Springs	Redevelop brownfield site for potential new customers.	Enhance rail capacity and access.	$1,000,000	Federal, State, and Local Sources
Construct customer-funded transload facility on TSU in Tulsa area	Develop a new transload facility in Oklahoma.	Enhance rail capacity and access.	TBD	Local Sources
Construct UP Washita/Chickasha Run-Through Terminal	Construct terminal upgrades on UP at Chickasha.	Terminal improvements benefit shippers by reducing total time; private benefits include improved safety and reduced costs.	$43,000,000	Federal, State, and Local Sources
Grade Separate State Route 66 / UP Crossing	Grade separate State Route 66 and UP crossing	Public benefits include reduced	TBD	Federal, State, and Local

in Claremore	in Claremore.	crossing delays and safety; private benefits include reduced train delays.		Sources
Restore out of service UP track from Shawnee to McAlester	Clear vegetation, repair washouts, replace ties, and upgrade rail and bridges as necessary to return track to service	Public benefits through new east-west service and enhanced rail access and capacity.	$39,500,000	Federal, State, and Local Sources
Grade Separate BNSF and UP Crossing in Claremore	Construct a rail overpass to grade separate the UP and BNSF main lines in Claremore.	Public benefits include reduced crossing delays and safety; private benefits include reduced train delays and enhanced capacity.	$63,700,000	Federal, State, and Local Sources
Subtotal:			$230,796,000	
Long Range Studies and Projects:		$1,440,796,000		
Rail Program Total:		$2,106,156,000		

5.8.1 Short-Range Rail Investment Program

Proposed short-range projects and studies for which estimated capital costs are known at this time, totaling approximately $665.4 million, have been evaluated largely on the basis of their respective potential sources of funding eligibility and evaluation of benefits to be realized from the completion of the projects.

Projects identified for potential funding have been selected largely on the basis of preserving the state's past investments and improving the levels of service and financial performance of the state's railroads as well as the estimated benefits expected for projects in terms of freight and passenger system capacity, efficiency, and safety; rail network access; economic development and competitiveness; job creation and retention; transportation savings; energy and environmental benefits; and other program-specific benefits. The state's short-range grade crossing improvement program projects' primary intent is to provide or upgrade active warning devices and to make surface and safety improvements at grade crossing locations throughout Oklahoma.

5.8.1.1 Proposed Short-Range Passenger Rail Projects and Studies

Oklahoma DOT's proposed short-range passenger rail projects and studies (Year 1 through Year 4) are aimed at improving existing intercity passenger rail services, identifying the potential for implementation of additional passenger rail services, and continuing the development of a multimodal rail hub in Oklahoma City.

Proposed passenger rail projects include:

- Maintaining continued funding of the existing state-supported Heartland Flyer service.

- Addition of a second roundtrip passenger rail frequency between Oklahoma City and Fort Worth.
- Establishment of a new station stop at Thackerville in South Central Oklahoma on the Heartland Flyer route.
- Extension of intercity passenger rail service north of Oklahoma City to Kansas.
- Redevelopment of the Santa Fe Depot in Oklahoma City into a multimodal hub, capable of enabling convenient multimodal connections among existing and planned future services, including the Heartland Flyer, the Oklahoma City Streetcar, and proposed new commuter and passenger rail services.

The Short-Range – Passenger Rail Projects and Studies category in the RSIP above includes details of the proposed projects.

5.8.1.2 Proposed Short-Range Freight Rail Projects and Studies

During the four-year short-range program period, the proposed freight rail projects mostly entail making improvements to capacity and rail access on the state's railroads.

By category, proposed short-range freight rail projects include:

- Infrastructure upgrades to accommodate 286,000 lb. rail cars – 1 project
- Infrastructure upgrades to improve operating speeds and safety – 8 projects
- Grade crossing improvements – 1 project
- Replace existing rail bridges to allow for improved capacity on public highways – 1 projects
- Enhancements to the capacity of the state's rail network – 3 projects

Estimated capital costs of short-range projects, to the extent known during development of the Oklahoma State Rail Plan, total approximately $16.6 million.

The Short-Range – Freight Rail Projects table in the RSIP above describes the above projects and studies in more detail.

5.8.2 Long-Range Rail Investment Program

Oklahoma's long-range RSIP is comprised of projects identified by ODOT and other rail stakeholders to address rail passenger and freight needs, rail system access, infrastructure enhancement or replacement, and grade crossing safety. These projects, however, are not expected to be implemented within the next four years.

The long-range program includes prospective freight and passenger rail projects receiving support during the public outreach process, regardless of funding availability of analysis at this time, and other technical analysis. These projects are subject to additional feasibility analysis and evaluation of potential public and private benefits. Upon completion of these analyses, long-range program updates will reflect more current and accurate information, including capital cost estimates for implementation. Upon the availability of state or federal funding resources, projects selected for implementation may move to the short-range RSIP in the future.

5.8.2.1 Proposed Long-Range Passenger Rail Projects and Studies

For the long-range program (Year 5 through Year 21), projects previously identified in the short-range program will be further advanced toward implementation pending confirmation of construction and economic feasibility. Chief among these activities would be the continued funding of the state-supported Heartland Flyer service, and continued advancement of additional intercity passenger rail frequencies south of Oklahoma City to Texas and north of Oklahoma City to Kansas.

Additional proposed projects include:

- Implementation of intercity passenger rail service between Oklahoma City and Tulsa, either on the existing Sooner Subdivision or a new alignment roughly paralleling the Turner Turnpike (Interstate 44). This implementation may require additional feasibility studies prior to construction.
- Implementation of commuter rail service centered around Oklahoma City on routes extending north to Edmond; south to Norman; east to Midwest City and Shawnee; and west to El Reno.
- Implementation of commuter rail service centered around Tulsa on routes extending northeast to Owasso, southeast to Broken Arrow, south to Jenks, and west to Sand Springs.
- Construction of a sealed rail corridor through downtown Tulsa linking UP and BNSF main lines.

The long-range program will also be directed at advancing passenger- or commuter-related studies required to implement the projects identified above, as well as study potential for intercity passenger rail services on new corridors.

Estimated capital costs for many of the long-range rail passenger rail projects and studies are not known at this time. The projects are described in more detail in the Long-Range – Passenger Projects and Studies table in the RSIP above.

5.8.2.2 Proposed Long-Range Freight Rail Projects and Studies

Projects proposed for public funding beyond the four-year short-range program period will be subject to funding availability as well as further analysis as to their viability and relative benefits to costs.

Similar to the short-range program, the objective of most long-range projects will be to improve the capacity, efficiency, and safety of the state's railroads, and particularly in yards and congested terminal areas; enhance rail access by expanding or constructing transload and intermodal facilities for handling freight more economically and efficiently; and upgrade or replace legacy rail bridges.

By category, proposed long-range freight rail projects include:

- Enhancement to the capacity of the state's rail network – 16 projects
- Development of a new intermodal facility – 1 project
- Enhancement of existing transload facilities or construction of new transload facilities – 1 projects
- Improvements to bridge infrastructure – 6 projects
- Improvements to track infrastructure – 8 projects

- Enhancement of existing rail access or development of new rail access for shippers/receivers – 5 projects
- Grade separation of highway/rail grade crossings – 5 projects
- Grade separation of two Class I main lines – 1 project

Estimated capital costs for the long-range rail passenger rail projects and studies are not known at this time. To the extent that ODOT makes investments in support of these long-range projects identified, these investments will be included in future iterations of the RSIP. These projects are described in further detail in the Long-Range – Freight Rail Projects category in the RSIP above.

5.9 Rail Funding Shortfall

Through the planning process conducted for the State Rail Plan, ODOT has facilitated a comprehensive stakeholder and public outreach to determine needs in the state, which are identified in the RSIP. Benefits of these projects and studies to Oklahoma and the region include:

- Improved rail access and service
- Preservation of the state's rail network
- Improved reliability of the state's rail network
- Grade separation of busy highway-rail crossings
- Improved rail safety
- Improved mobility
- Enhanced rail network capacity
- Reduced weight restrictions
- Savings in transportation costs to shippers and receivers
- Enhanced multimodal connectivity
- Diversion of freight from truck to rail
- Enhanced economic development

Present and anticipated short-term federal and state funding availability is presently insufficient to support implementation of the studies and projects identified and described for Oklahoma in the RSIP. Additional federal and state funding to realize these benefits to Oklahoma will be essential for the implementation of these projects and studies.

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Chapter 6: Public Involvement and Coordination

6.0 Introduction

This chapter describes how the Oklahoma Department of Transportation (ODOT) involved stakeholders in the coordination necessary to develop the Oklahoma State Rail Plan.

ODOT actively engaged stakeholders at the earliest stages of the project. Stakeholders are individuals, organizations, and groups either affected or have an interest in particular projects or actions. For the Rail Plan, stakeholders include shippers, modal operators, transportation academics, logistics organizations and service providers, current and potential rail passenger users, various industrial and manufacturing sectors, state, regional, county and city government agencies, elected and appointed public officials, economic development and business interests, special interest and advocacy groups, and the general public. Stakeholder involvement included participation in freight and rail planning activities, identifying the rail and freight priorities and goals for Oklahoma, identifying issues, needs and potential investments for freight and rail, and helping to define policies and performance metrics for freight and rail to ensure improved freight and rail service into the future.

ODOT facilitated specific, targeted outreach efforts including participation from key rail and freight stakeholder groups. Stakeholders received email invitations, email updates and phone calls that corresponded with each outreach activity. Those who participated in the shipper interviews received notification through phone calls and emails.

6.1 Stakeholder Engagement

Stakeholder engagement activities were important in order for the team to understand current rail and freight movements throughout Oklahoma and to gain an understanding of critical issues affecting those who have a vested interest in freight and passenger rail.

Outreach efforts included the creation of a High Leverage Stakeholder Committee, facilitating shipper interviews and hosting an online meeting.

6.1.1 High Leverage Stakeholder Committee

The High Leverage Stakeholder Committee was formed early on in the project through invitation by ODOT. The committee was organized to help in the identification of rail and freight goals and objectives, strategies for improvements, and location-specific improvement projects relative to each goal, once defined.

Committee members included representatives from ODOT, industries related to freight and rail transportation, metropolitan planning organization/transportation planning organization and special interest groups. The High Leverage Stakeholder Committee meeting summaries and invitee list can be found in Appendix A.

The first committee meeting was held on Wednesday, March 22, 2017, in Oklahoma City, Oklahoma. The March meeting focused on three interactive exercises, which included:

- Identifying bottlenecks, chokepoints, and economic development areas in Oklahoma

- Prioritizing the types of rail and freight rail projects needed in Oklahoma
- Determining the level of effort and impact of the Statewide Rail Plan strategies

The second meeting was held on Tuesday, June 27, 2017, in Oklahoma City, Oklahoma, and consisted of two interactive exercises that focused on reviewing and identifying both freight rail and passenger rail projects.

6.1.2 Oklahoma Statewide Rail Plan Web Page

A project webpage, located at www.ok2017railplan.com, was established to serve as an online information center for all potential stakeholders providing ongoing information about the plan. The page provided general information regarding the plan and included meeting summaries, meeting materials and an online meeting. Website statistics and analytics can be found in Appendix B.

6.1.3 Passenger Rail Shipper Interviews

One interview of passenger rail user groups in Oklahoma was conducted by phone during April 2017. The interview subject was a passenger rail advocacy group based in Oklahoma.

ODOT reviewed and approved interview questions and recommended the group targeted for the interview. The Rail Plan consultant arranged and conducted the interview. The participant received an initial contact email with Oklahoma State Rail Plan background information, the role of passenger rail user interviews in the state rail plan development process, how the interview process would be conducted, and an invitation to participate and a request to establish an interview time. One participant participated in the confidential interview which lasted one hour.

After the interview, the participant received a thank you email with an attachment of the interview notes allowing them with the opportunity to clarify or correct information that had been noted. The revised notes that were returned to the consultant team were used as the basis for this summary report located in Appendix C.

6.1.4 Freight Railroad Interviews

ODOT reviewed and approved interview questions as well as an initial list of candidate shippers for the interviews. The Rail Plan consultant arranged and conducted the interviews. The candidate shippers received an initial contact email or phone call with a brief background on the Oklahoma State Rail Plan, how the interview process would be conducted, and an invitation to participate, and a request to establish an interview time. Nine, one pending shippers participated in the confidential interviews, which lasted between 15 and 30 minutes.

After the interview, the participant received a thank you email with an attachment of the interview notes allowing them to with the opportunity to clarify or correct information that had been noted.

Nine freight rail shipper interviews were completed for the Oklahoma State Rail Plan between June and August 2017. These interviews included a port, an agricultural processor, an aggregate shipper, transloaders, and an energy utility.

Shippers interviewed used Class I and Class III railroads, trucks, and barges to transport their freight. They were asked 13 questions, falling into the following general categories:

- Type of Business
- Reasons for Shipping by Rail
- Access to Rail Service Competition
- Rail Service Satisfaction
- Potential Rail Service Improvement Projects
- State Programs and Regulations
- Future Outlook on Freight Rail

Executive Summary

While the majority of freight in Oklahoma moves by truck, rail still plays a critical part in shippers' business. Access to rail service allows for cost-effective long hauls between Oklahoma, the U.S. East, West, and Gulf coasts; Mexico; and Canada. Multimodal access is absolutely essential to the Oklahoma freight network to provide shippers with transportation options and competitive rates to move their goods. State programs offer an opportunity to enhance competitive rail access and service for shippers, reduce delays due to conflicts with vehicular traffic at grade crossings, and upgrade rail line infrastructure and facilities to meet today's rail shipping demands. The outlook on future rail freight volumes was mixed, but generally positive among shippers.

6.1.5 Coordination with Neighboring States

ODOT routinely interacts with the neighboring states through involvement in national and regional transportation organizations and to address specific transportation service and facility issues and planning initiatives. ODOT representatives participated in meetings and conference calls with Kansas, Arkansas, and Texas in the past year to discuss rail opportunities and issues. Neighboring states' transportation organizations had the opportunity to participate in the online meeting hosted on the plan website.

6.1.6 Public Meetings

See 6.1.7 Online Public Meeting.

6.1.7 Online Public Meeting

In place of an in-person public meeting, ODOT hosted an online public meeting between July 28, 2017 and August 18, 2017 at http://www.ok2017railplan.com/. The online meeting included a video introduction, meeting boards and maps. The online meeting outline, statistics and comments are located in Appendix D.

6.1.8 Public and Stakeholder Written Comments

ODOT received several comments by e-mail and web comment forms during the course of the plan's development.

Comments were received from members of the public, railroads and public transportation planners, among others. The comments received appear in Appendix E.

6.2 Input Received from the Stakeholder Engagement Process

Information gathered from stakeholder engagement was used to develop a number of the State Rail Plan components including the plan's vision, goals and objectives.

The following sections include summaries of the themes raised during the outreach process regarding existing rail issues at the local, regional, and/or state levels. Suggestions and/or actions possible in the future are also included. Input received was organized into the following themes:

- General benefits, opportunities, and threats
- Passenger rail service
- Freight rail service
- Safety and security
- Economic development
- Financing
- The role of public agencies

6.2.1 General Benefits, Opportunities, and Threats

The stakeholder committee convened twice throughout the planning process. From the stakeholder meetings, participants offered feedback on the following five main project categories for capital investments:

1. Economic development
2. Efficiency, velocity, capacity, and safety
3. Bottlenecks and chokepoints
4. Environmental
5. Passenger rail service

Comments received during the outreach process acknowledged the importance of rail transportation in Oklahoma, specifically passenger rail.

During the first stakeholder workshop, participants were asked to identify bottlenecks, chokepoints, and economic development opportunities in Oklahoma.

Participants had the opportunity to identify their responses by drawing on a map with markers.

For passenger rail to be viable in Oklahoma, there are two primary chokepoints:

1. Midwest City – Santa Fe Depot in Oklahoma City
2. Sapulpa to Tulsa Union Depot.

The participants indicated the following chokepoints:

- 76th Street in Owasso near the Watco yard
- Transload facility in Thomas
- 4th Street in Moore
- Downtown Claremore
- Port of Muskogee
- Enid
- Altus
- SKOL line, Tulsa-Owasso
- Washout at Bridgeport

Participants indicated opportunities for economic development highlighted in section 6.2.5 Economic Development.

Participants were also asked to discuss what improvements should be prioritized that would have a high or low impact and high or low level of effort on rail in Oklahoma. The data collected pointed that last mile connections and increased frequency on existing lines would have the biggest impact long-term. Improved reliability on existing lines, alleviation of chokepoints and infrastructure improvements are lower priority but would have long-term impacts.

Participants helped in the development of the draft vision and goals of the Rail Plan, strategies for improvements, and location-specific improvement projects relative to each goal. Table 6-1 lists the goals and objectives identified for the Rail Plan.

Table 6-1: State Rail Goals and Objectives

Goals	Objectives
Safety and Security	• Reduce accidents and fatalities • Ensure the state rail network is secure • Ensure effective response to emergencies on the state rail network
Reliability and Efficiency	• Improve on-time performance of rail transportation in the state • Eliminate rail network bottlenecks and chokepoints in the state, where possible
Preservation and Improved Access and Connectivity	• Preserve, maintain, and modernize the state rail network when public benefit can be demonstrated • Improve rail network access and multimodal connections for passengers and freight in the state
Quality of Life and Environmental Stewardship	• Support responsible land use strategies • Support responsible environmental stewardship
Mobility and Economic Competitiveness and Development	• Invest in rail network capacity improvements to enhance the intrastate and interstate movement of passengers and freight when public benefit can be demonstrated • Ensure rail network investments to catalyze and support desired economic growth

6.2.2 Passenger Rail Service

Issues identified for passenger rail in the state include the opportunity for short trips, intra-state, inter-state and relieve traffic congestion. Participants concluded that Oklahoma should prioritize opportunities for passenger rail in Oklahoma City, Tulsa and other cities to connect throughout the state and to neighboring states such as Missouri and Texas.

Further details about needs identified during the outreach conducted for the Oklahoma State Rail Plan can be found in Chapter 3 of the State Rail Plan.

6.2.3 Freight Rail Service

Issues identified for freight in the state include alleviating the network bottlenecks.

Further details about needs identified during the outreach conducted for the Oklahoma State Rail Plan can be found in Chapter 4 of the State Rail Plan.

6.2.4 Safety and Security

Stakeholders indicated that safety was not reflected as a prominent theme in the plan's goals and objectives. A goal specific to safety and security was added after stakeholders' feedback.

Further details about needs identified during the outreach conducted for the Oklahoma State Rail Plan can be found in Chapter 5.

6.2.5 Economic Development

At the first stakeholder workshop, participants were asked to identify and categorize issues.

Participants were given the opportunity to discuss and identify opportunities for economic development. A number of these opportunities are described as follows:

- The current connection between the BNSF Railway, Union Pacific Railroad, and the local Class III (short line) railroads in Enid, Oklahoma, limits the train size to 50 rail cars. If this connection was improved to allow complete unit trains it would provide opportunities for shipment of bulk materials in this area. The bulk materials would include grain, sand and aggregates. Opportunities have been lost due to the limited train size.
- The rail industry has moved towards shipping bulk materials in rail cars able to carry 286K cars. Many of the Class III (short line) railroads have infrastructure limitations that prevent them from having trains with 286K rail cars. In order to accommodate 286K rail cars, a number of bridges need to be rehabilitated or reconstructed. The limitation of the rail car capacity has hindered economic development.
- The Port of Muskogee has a number of infrastructure improvements which would promote economic development at the Port. The Port currently has substandard track geometry which limits rail traffic to the Port. This is due to track geometry that prevents six-axle locomotives and long blocks of 286K rail cars from utilizing the track. If the track was improved, grain unit trains would be able to utilize the Port. There is also limited access to the Port through one rail line. Union Pacific Railroad and BNSF Railway utilize the same track. A reciprocal switching agreement needs to be established.
- Tulsa, Oklahoma, has an opportunity for a multimodal facility utilizing air, rail, and water modes of transportation. This facility would facilitate the movement of freight.
- Oklahoma City, Oklahoma, has a shortage of multimodal and intermodal capabilities. Stakeholders recommended the development of an intermodal hub in Oklahoma City, Oklahoma.
- The topic of constructing TEAM tracks in rural areas was discussed as an economic development opportunity. The TEAM track would serve multiple shippers and customers who don't have the volume

for a build-in to their specific facility. However, the TEAM track would be an opportunity to share the rail access with others within a 50 to 100 mile radius.
- Elgin, Oklahoma, has underutilized tracks.
- Another recommendation was to develop a wind distribution center north and west of Oklahoma City, Oklahoma, as most of this business is going to Kansas.
- The further development of rail spurs at the industrial park north of Atoka, Oklahoma, was also discussed.

Heartland Flyer

- A proposed Amtrak passenger rail station near WinStar Casino was discussed.
- Attendees mentioned an expansion of the Heartland Flyer Amtrak service between Fort Worth, Texas, and Oklahoma City, Oklahoma, to Newton, Kansas. This expansion would provide a link between an Amtrak route in Fort Worth, Texas, and an Amtrak route in Newton, Kansas. This would increase passenger ridership with more connection opportunities.
- If the rail line which the Heartland Flyer travels on increased its capacity, it could reduce the delays caused by freight and passenger rail service. The reduction in delays for the passenger trains would increase ridership.
- Another recommendation was to establish commuter rail service between Tulsa and Oklahoma City, Oklahoma.

Further details about needs identified during the outreach conducted for the Oklahoma State Rail Plan can be found in Chapter 5.

6.2.6 Environmental Protection

Projects that address bottlenecks and the fluidity of the rail network assist with promoting freight and passenger rail transportation. The movement of goods and people by rail is beneficial for the environment by reducing air and noise pollution and fuel consumption.

Further details about needs identified during the outreach conducted for the Oklahoma State Rail Plan can be found in Chapter 5.

6.2.7 Financing

Priorities identified during outreach included emphasizing safety and providing funding for public-private-partnership projects that benefit the public as well as the railroads. Stakeholders also discussed whether private capacity improvement projects should be included in the rail plan for potential public funding.

Stakeholders discussed which projects were important and would add economic value to Oklahoma and their organization. The full response from the stakeholder group is included in Appendix F.

Further details about existing funding options for rail projects in the state can be found in Chapter 2 of the Oklahoma State Rail Plan.

6.2.8 The Role of Public Agencies

The role of public agencies in Oklahoma surfaced in stakeholder group discussions when discussing economic development, as many state agencies support economic development through various policies, programs and initiatives.

Further details about the existing role of public agencies in Oklahoma can be found in Chapter 1 of the Oklahoma State Rail Plan.

6.3 Consideration of Recommendations Identified During the Rail Plan Process

The comments and recommendations received through all aspects of the public outreach process conducted during development of the State Rail Plan have been consolidated into recommended actions for ODOT. Input from the stakeholder groups and comments obtained through the outreach process identified several actions that ODOT could take to address rail-related issues in the state. These comments and responses are located in Appendix E.

6.3.1 State Rail Planning Coordination

While the ODOT Rail Programs Division has the primary responsibility for rail planning and policy within ODOT and administers various federal and state rail-related programs, some aspects of rail planning occurs within a number of offices within the ODOT.

- Capital Programs
- Policy and Legislation
- Research and Implementation
- Strategic Asset and Performance Management
- Project Management
- Facilities Management
- Tribal Liaison
- Local Government
- Waterways Program

Effective and continued coordination between these offices is necessary to maximize efficiency and eliminate redundancies.

Oklahoma coordinates its state transportation planning and associated processes with other transportation planning programs and activities of the state and metropolitan areas in accordance with the federal law concerning coordinated planning1. These codes generally require coordination of transportation planning and processes between state departments of transportation, metropolitan planning organizations, and public transit operators; encourage economic development and environmental sustainability for transportation; promote integration of the management and operation of transportation systems and facilities to ensure an

[1] Title 23 of U.S. Code Sections 134 and 135; Title 49 of U.S. Code Sections 5303 and 5304

intermodal transportation system for the United States and the states; and establish requirements for long-range transportation planning.

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Appendix A: High Leverage Stakeholder Committee Meeting Summaries and Invitee List

Meeting 1

OKLAHOMA STATE RAIL PLAN

HIGH LEVERAGE STAKEHOLDER COMMITTEE MEETING SUMMARY

Prepared by HDR

April 2017

DRAFT

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Meeting Summary

The Oklahoma Department of Transportation hosted the first High Leverage Stakeholder Committee meeting to engage a specific group of stakeholders in the development of the Statewide Rail Plan. The meeting was held on Wednesday, March 22, 2017, in Oklahoma City, Oklahoma, and consisted of three interactive exercises that focused on the following:

- Identifying bottlenecks, chokepoints, and economic development areas in Oklahoma;
- Prioritizing the types of rail and freight rail projects needed in Oklahoma; and
- Determining the level of effort and impact of the Statewide Rail Plan strategies.

Outreach

Email invitations were distributed to 38 recipients. Thirteen phone calls were also made to invitees. Table 1 summarizes the invitation outreach efforts for this meeting. See Appendix A: Meeting Invitation.

Table 1

Outreach	Date	Number of Emails Distributed
Mark Your Calendars! The Oklahoma Department of Transportation Invites You to the First High Leverage Stakeholder Meeting for the Oklahoma State Rail Plan!	March 6, 2017	31
Reminder! Don't forget to RSVP for the first High Leverage Stakeholder Committee Meeting for the Oklahoma State Rail Plan!	March 14, 2017	32
The first High Leverage Stakeholder Meeting for the Oklahoma State Rail Plan is in two days!	March 20, 2017	38

Attendees

A total of 25 stakeholders attended the meeting including representatives from ODOT, industries related to freight and rail transportation, and special interest groups. Two of the 25 attendees participated by phone. See Appendix B: Invitation Mailing and Attendee List.

Meeting Roles and Responsibilities

Table 2 summarizes the roles and responsibilities of each stakeholder workshop team member.

Table 2

Name	Responsibility
Kevin Keller (HDR)	Facilitator
Eric Frostestad (HDR)	Facilitator

OKLAHOMA STATE RAIL PLAN

Name	Responsibility
Jara Sturdivant-Wilson (HDR)	Floater/Scribe
Kirsten McCullough (Garver)	Floater/Scribe

Meeting Agenda and Outcomes

The meeting was held Wednesday, March 22, 2017, at the Metro Tech Conference Center, Rooms F/G, located at 1900 Springlake Drive in Oklahoma City. Registration began at 8:30 a.m. Each attendee received a handout, a rail map of Oklahoma and a survey device. See Appendix C: Attendee Handout Packet.

Agenda

Time	Item
8:30 – 9:00 a.m.	Registration Opens
9:00 – 9:15 a.m.	Safety Briefing, Meeting Purpose and Welcome
9:15 – 9:30 a.m.	Introductions
9:30 – 9:45 a.m.	Ice Breaker
9:45 – 10:15 a.m.	Statewide Rail Map Activity
10:15 – 10:45 a.m.	Project Identification TurningPoint Activity
10:45 – 11:00 a.m.	Break and Ice Breaker
11:00 – 11:05 a.m.	Oklahoma Statewide Rail Plan Schedule
11:05 - 11:20 a.m.	Draft Goals/Priorities TurningPoint Activity
11:20 - 11:30 a.m.	Next Steps and Wrap-up

Safety Briefing, Meeting Purpose and Welcome

The workshop included a brief introduction from Oklahoma Department of Transportation's Transportation Manager John Rosacker. Participants, ODOT representatives, and consultants introduced themselves before Kevin Keller of HDR went into further details regarding the meeting purpose. Keller then explained the history of the Statewide Rail Plan and the approach for updating it.

Activity 1: Statewide Rail Map

Participants were separated into two groups to review the rail map of Oklahoma to identify bottlenecks, chokepoints, and economic development opportunities in the state. Keller introduced the different components each group would discuss. Maps were placed at each group and attendees identified their responses with markers and/or stickers. Scribes captured notes and after the session presented each group's findings.

See Appendix D: Statewide Rail Map Activity Results.

Activity 2: TurningPoint- Project Identification

To provide ODOT information regarding what projects are important to stakeholders, participants used TurningPoint devices to identify project(s) that he/she would fund/build if they had the opportunity within the following categories:

- Congestion relief
- Economic development
- Safety
- Environment
- Reliability

See Appendix E: Project Identification Activity Results.

Break and Schedule Review

After a short break, Keller reviewed the delivery schedule for the Statewide Rail Plan while ODOT representatives and consultant members developed the priorities for the final survey activity.

Keller mentioned the second meeting for summer and brought the group's attention to the Rail Plan website that was under construction at the time of the meeting. See Appendix F: Schedule.

Activity 3: Draft Goals/Priorities TurningPoint Activity

Consultants and ODOT representatives developed a draft list of priorities based on the morning's discussion. Once the priorities were developed, attendees were able to determine the level of effort and level of impact that each priority would have on optimizing rail operations in the state. See Appendix G: Draft Goals/Priorities Results.

Next Steps and Wrap-up

Keller and Rosacker closed the meeting with a description of the next steps in the plan development.

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Appendix A: Meeting Invitation

Email #1

Deployed: March 6, 2017

Cc: McCullough, Kirsten J.
Subject: Mark Your Calendars! The Oklahoma Department of Transportation Invites You to the First High Leverage Stakeholder Meeting for the Oklahoma State Rail Plan!
Date: Monday, March 06, 2017 1:17:19 PM

Dear Stakeholder,
The Oklahoma Department of Transportation invites you to become a member of the Oklahoma State Rail Plan High Leverage Stakeholder Committee for the Oklahoma State Rail Plan update. Your expertise and participation with the planning process will provide us with important insight and guidance in the development of the Oklahoma State Rail Plan, which is a multi-modal freight and passenger rail plan. As we develop this plan, we know it is important to rely on those who work with rail every day. **We need your input.**
The purpose of this workshop is to introduce you to some of the details of the State Rail Plan and your role in the development process. As a stakeholder, we hope you will be actively involved in all of the planning stages and will also attend a conclusive HLSC workshop in late spring or summer 2017 in which State Rail Plan details will be refined and finalized. We are committed to actively engaging both public and private partners throughout the planning process; this workshop marks the beginning of our public and stakeholder engagement efforts. By attending this workshop, you will have the opportunity to thoroughly share your concerns, needs and benefits with other experts from across the state.

If you cannot attend in person, you still have the opportunity to submit comments and be regularly updated on the State Rail Plan process. Your contact information will be included in our email database and you'll receive electronic updates as the plan progresses.

-
Meeting Details:
Date: March 22, 2017
Time: 9:00 – 11:30 a.m.
Location: Metro Tech Conference Center, Rooms F/G
1900 Springlake Drive
Oklahoma City, OK 73111

Please R.S.V.P. by to KJMcCullough@GarverUSA.com by Friday, March 10, 2017. If you have questions about the State Rail Plan update, please contact Eric Frostestad at eric.frostestad@hdrinc.com. Stay tuned for an email with an agenda. Thank you!

Sincerely,

Kirsten McCullough, AICP, RPA
Environmental Project Manager
Transportation Team
Office: 918-250-5922
Mobile: 918-852-0752

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Email #2

Deployed: March 14, 2017

Cc: McCullough, Kirsten J.
Subject: Reminder! Don't forget to RSVP for the first High Leverage Stakeholder Committee Meeting for the Oklahoma State Rail Plan!
Date: Tuesday, March 14, 2017 9:21:26 AM

Dear Stakeholder,
We have extended the RSVP date for the High Leverage Stakeholder Committee meeting to Friday, March 17. This first meeting will be instrumental in the development of the State Rail Plan.

We have some exciting activities for you next week. We understand you have busy schedules and if for some reason you are unable to make the meeting, we do ask that you send a representative from your organization so that we can collect input from all stakeholders.

An email with an agenda and other meeting information will be distributed shortly.

Following the first meeting you will receive an email containing all meeting materials and instructions on ways to provide input as the project moves forward.

Please R.S.V.P. by **Friday, March 17, 2017** by clicking on the link or replying to this email. If you have already responded there is no need to respond again. We thank you for your participation.

We look forward to seeing you!

Sincerely,

GARVER

Kirsten McCullough, AICP, RPA
Environmental Project Manager
Transportation Team
Office: 918-250-5922
Mobile: 918-852-0752

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Email #3:

Deployed: March 20, 2017

Cc: Frostestad, Eric; Sturdivant-Wilson, Jara; Keller, Kevin
Subject: The first High Leverage Stakeholder Meeting for the Oklahoma State Rail Plan is in two days!
Date: Monday, March 20, 2017 3:23:18 PM

Dear Stakeholder,
The first stakeholder meeting for the Oklahoma State Rail Plan is this Wednesday. As you know, your expertise and guidance in this process is crucial and we are looking forward to hearing from you. The meeting details including the time, date and location are below. If you have any questions please reach out and we will assist in any way we can.
If you are unable to attend, please send a representative from your organization. **We need your input.** After this meeting, you will receive an email with all meeting materials and directions on ways to provide input on the plan moving forward. If you have already RSVP'd, thank you for your response. No need to RSVP again.

-
Meeting Details:
Date: Wednesday, March 22, 2017
Time: 9:00 – 11:30 a.m.
Location: Metro Tech Conference Center, Rooms F/G
1900 Springlake Drive
Oklahoma City, OK 73111

We have included the agenda for your reference. We look forward to seeing you this week!
Agenda

9:00 – 9:15 A.M.	Safety Briefing, Meeting Purpose and Welcome
9:15 – 9:30 A.M.	Introductions
9:30 – 9:45 A.M.	Ice Breaker
9:45 – 10:15 A.M.	Statewide Rail Map Activity
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Sincerely,

GARVER

Kirsten McCullough, AICP, RPA
Environmental Project Manager
Transportation Team
Office: 918-250-5922
Mobile: 918-852-0752

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Appendix B: Invitation Mailing and Attendee List

Name	Organization	Attended
John Johnson	Association of Central OK Government (ACOG)	
Paul Cristina	BNSF Railway	
Kevin McIntosh	KCS	
Pat Cedeno	Watco (SLWC, SKO, AS)	
Jeff VanSchaick	G&W (Kiamichi)	
Heather Williams	AOK	
Scott Traylor	WT&J	
Kermit Frank	Dolese	
David Arganbright	Omnitrax (Sand Springs)	
Judy Petry	Farmrail System, Inc.	✓
Evan Stair	Passenger Rail Oklahoma	✓
Joe Shacter	Amtrak	
Jay McArthur	Amtrak	
Viplav Putta	Indian Nations Council of Governments (INCOG)	✓
DeDe Smith	ODOT Waterways	✓
Jim Rodriguez	Oklahoma Aggregates Association (OKAA)	✓
Patricia Franz	Oklahoma Corporation Commission	
Betty Thompson	Oklahoma Department of Agriculture	
Jim Reese	Oklahoma Department of Agriculture, Food and Forestry	✓
Jon Chiappe	Oklahoma Department of Commerce	✓

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Joe Neal Hampton	Oklahoma Grain & Feed Association	
Michael Teague	Oklahoma Office of Energy & Environment	
Lori Peterson	Oklahoma Railroad Association	✓
Jim Newport	Oklahoma Trucking Association	
David Yarbrough	Port of Catoosa – Tulsa	
Joe Goodwin	Seaboard Foods	
Brandon Morris	Union Pacific	
Huy Nguyen	FHWA	✓
Joe Gurskis	Parsons Brinckerhoff	✓ (by phone)
Linda Koenig	ODOT SAPM	✓
Jack Webb	ODOT Rail Programs	✓
John Rosacker	ODOT Rail Programs	✓
Chris Williams	Port of Muskogee	✓
Scott Robinson	Port of Muskogee	✓
Dillon Price	ACG Materials	
Matt Ritchie	Sherwood Construction	✓
Dave Donoly	AOK	✓
Paul Swigert	Oklahoma Corporate Commission	✓
Carla Ewing	Watco	✓
Jim Hatt	ODOT Rail Division	✓
Chad Higgason	Hanson Aggregates	✓
Brian Bigbie	INCOG	✓
Craig Moody	ODOT Rail Division	✓
Nimish Dharmadhiti	INCOG	✓
Shelby Templin	ACOG	✓
John Sharp	ACOG	✓
Rebecca Chappell	OK Trucking Association	✓ (by phone)

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Appendix C: Attendee Handout Packet

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High Leverage Stakeholder Committee
Meeting Handout

High Leverage Stakeholder Committee

Wednesday, March 22

9:00 – 11:30 a.m.

Metro Tech Conference Center
1900 Springlake Drive
Rooms F/G
Oklahoma City, OK 73111

Welcome!
The purpose of today's meeting is to introduce you to the details of Oklahoma Statewide Rail Plan, capture your input and comments on the current and future roles of and opportunities for rail in Oklahoma, and detail your role in the development process.

Today We Will...
- Provide a history and summary of the Oklahoma Statewide Rail Plan;
- Gather comments on both current and future thoughts on rail in Oklahoma; and
- Provide ways to stay connected with the Oklahoma Department of Transportation.

Background
In September 2013, the Federal Railroad Administration (FRA) published its Final Statewide Rail Plan Guidance, which provided direction for Statewide Rail Plan stakeholder and public involvement. The Oklahoma Department of Transportation will actively engage private sector rail and freight infrastructure owners, freight, public planning agencies, transit operators, rail authorities, railroad and freight organizations, and passenger rail stakeholders. The Oklahoma Statewide Rail Plan will identify proposed improvements in urban and rural areas and those who travel through it. The Statewide Rail Plan is a way to connect all of these initiatives and allow them to move forward towards a common goal of optimal passenger and freight transportation in the state. In addition, the Statewide Rail Plan will guide ODOT's investment decisions to maintain and improve the rail transportation system, and ultimately strengthen the state's economy and raise the quality of life for its citizens.

The development of a comprehensive Oklahoma Statewide Rail Plan meets the FRA requirements and offers an opportunity for ODOT to accurately define what the rail system in the state looks like today and what it needs to look like in the future.

State Rail Plan Purpose
The primary purpose of the Statewide Rail Plan is to serve as a statewide, long-range rail planning document, fully integrated with other state planning initiatives.

The Statewide Rail Plan will integrate current and future freight and passenger rail projects into a multimodal framework, identify economic benefits, align initiatives with Oklahoma priorities, and unify common rail interests.

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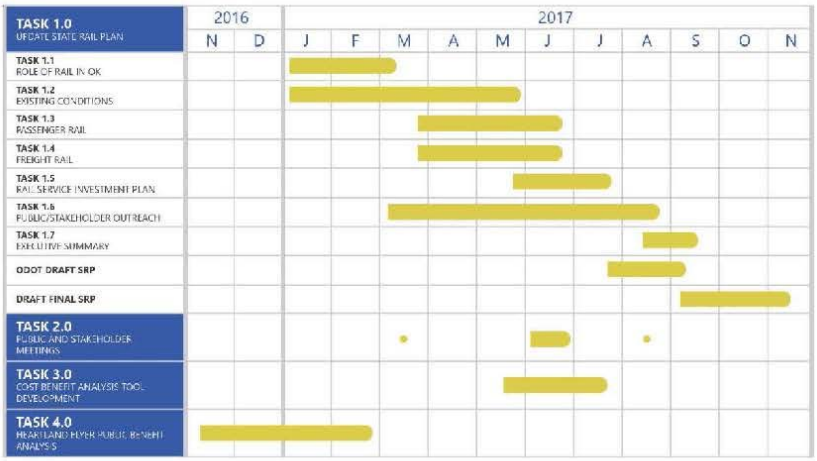
(continued from page 1)

Federal Guidelines

The federal government requires each state to develop a plan for rail transportation. Oklahoma's Statewide Rail Plan was most recently published in 2012. The 2017 Statewide Rail Plan will provide an update, will meet current federal guidelines, and will be available in late 2017.

The plan under development meets this federal requirement.

Schedule



What's Next?

There will be a number of opportunities for the public to provide feedback on the plan in the next year. Stay tuned for an email outlining various ways to provide input and feedback.

Stay Involved

Visit us at: *www.ok2017railplan.com*

Have a comment for the Statewide Rail Plan?

Send us an email at:
info@ok2017railplan.com

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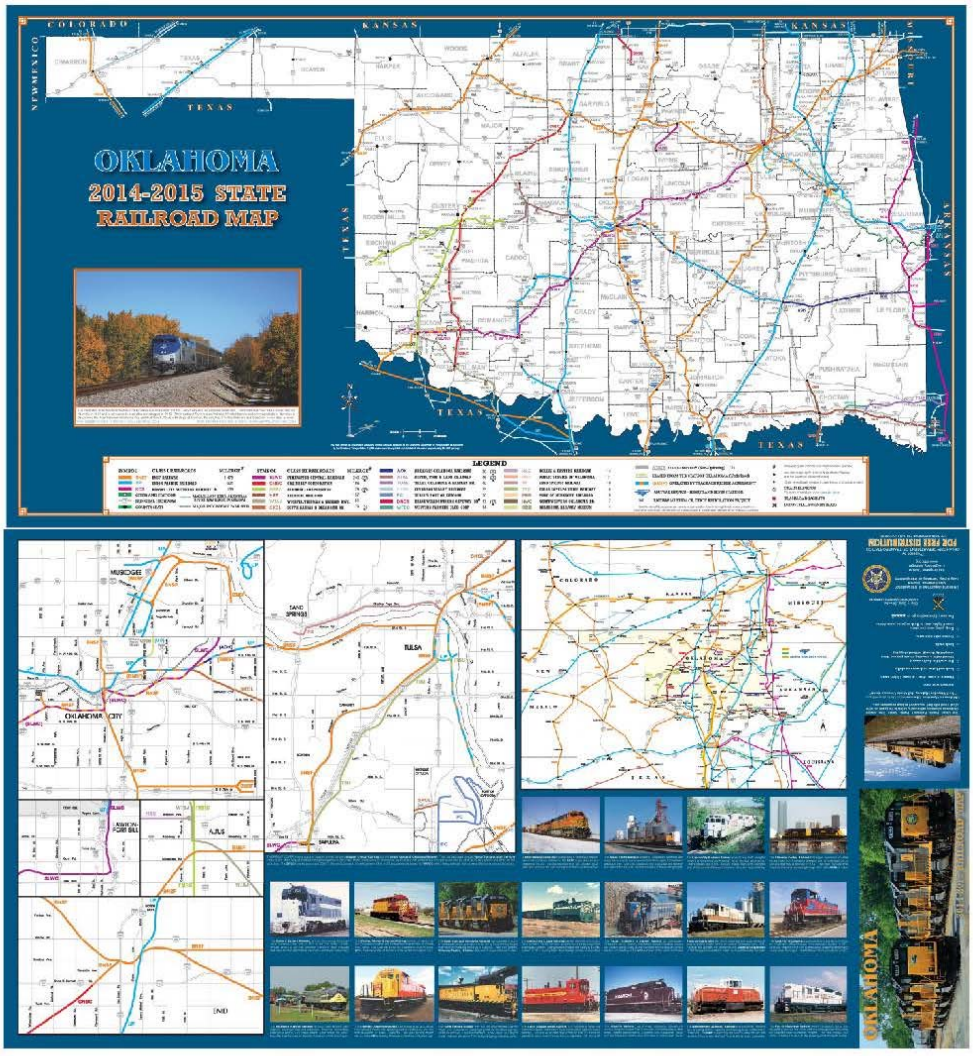

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Appendix D: Statewide Rail Map Activity Full Results

Economic Development Opportunities

Participants were given the opportunity to discuss and identify opportunities for economic development. A number of these opportunities are described as follows;

- The current connection between the BNSF Railway, Union Pacific Railroad, and the local Class III (short line) railroads in Enid, Oklahoma, limits the train size to 50 rail cars. If this connection was improved to allow complete unit trains it would provide opportunities for shipment of bulk materials in this area. The bulk materials would include grain, sand and aggregates. Opportunities have been lost due to the limited train size.
- The rail industry has moved towards shipping bulk materials in rail cars able to carry 286K cars. Many of the Class III (short line) railroads have infrastructure limitations that prevent them from having trains with 286K rail cars. In order to accommodate 286K rail cars, a number of bridges need to be rehabilitated or reconstructed. The limitation of the rail car capacity has hindered economic development.
- The Port of Muskogee has a number of infrastructure improvements which would promote economic development at the port. The Port currently has substandard track geometry which limits rail traffic to the Port. This is due to track geometry that prevents 6-axle locomotives and long blocks of 286K rail cars from utilizing the track. If the track was improved, grain unit trains would be able to utilize the Port. There is also limited access to the Port through one rail line. Union Pacific Railroad and BNSF Railway utilize the same track. A reciprocal switching agreement needs to be established.
- Tulsa, Oklahoma, has an opportunity for a multimodal facility utilizing air, rail, and water modes of transportation. This facility would facilitate the movement of freight.
- Oklahoma City, Oklahoma, has a shortage of multimodal and intermodal capabilities. Stakeholders recommended the development of an intermodal hub in Oklahoma City, Oklahoma.
- The topic of constructing TEAM tracks in rural areas was discussed as an economic development opportunity. The TEAM track would serve multiple shippers and customers who don't have the volume for a build-in to their specific facility. However, the TEAM track would be an opportunity to share the rail access with others within a 50 to 100 mile radius.
- Elgin, Oklahoma, has underutilized tracks.
- Another recommendation was to develop a wind distribution center north and west of Oklahoma City, Oklahoma, as most of this business is going to Kansas.
- The further development of rail spurs at the industrial park north of Atoka, Oklahoma, was also discussed.

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Heartland Flyer

- A proposed Amtrak passenger rail station near WinStar Casino was discussed.
- Attendees mentioned an expansion of the Heartland Flyer Amtrak service between Fort Worth, Texas, and Oklahoma City, Oklahoma, to Newton, Kansas. This expansion would provide a link between an Amtrak route in Fort Worth, Texas, and an Amtrak route in Newton, Kansas. This would increase passenger ridership with more connection opportunities.
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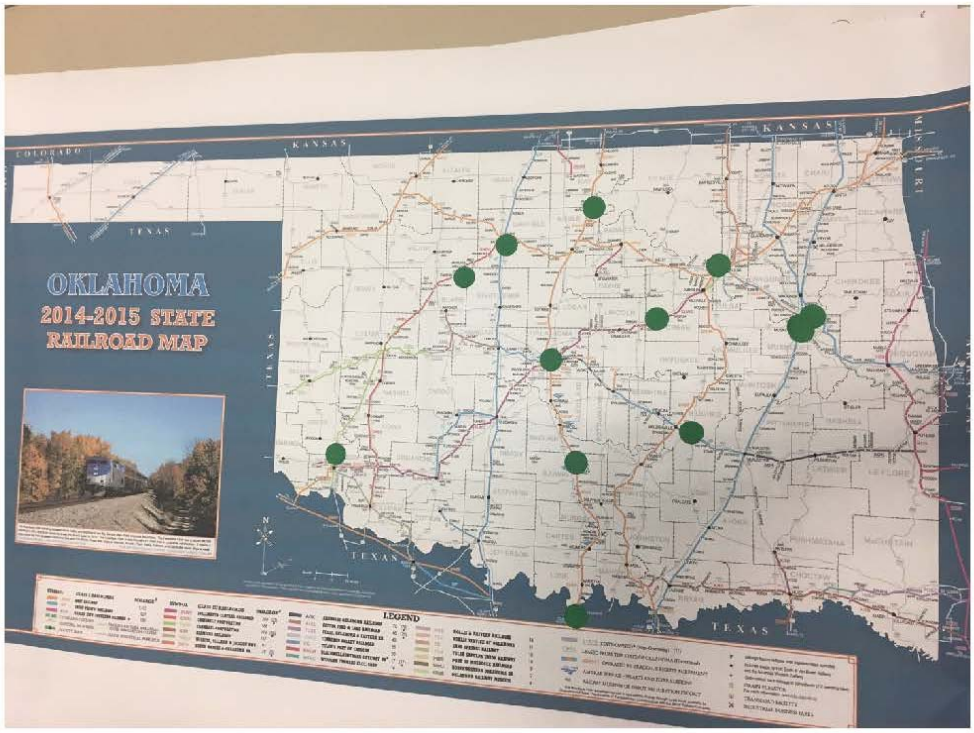
- Another recommendation was to establish commuter rail service between Tulsa and Oklahoma City, Oklahoma.



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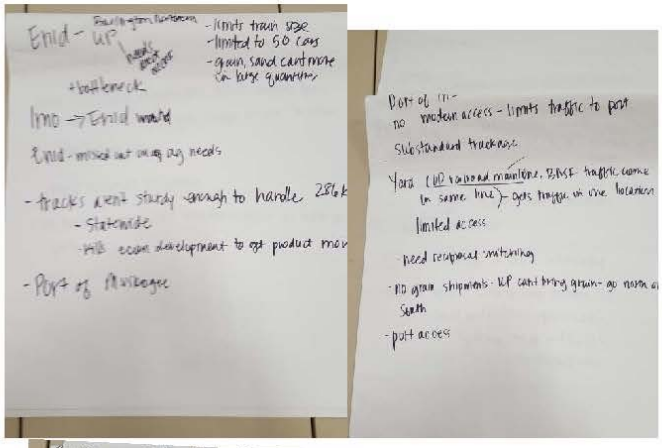

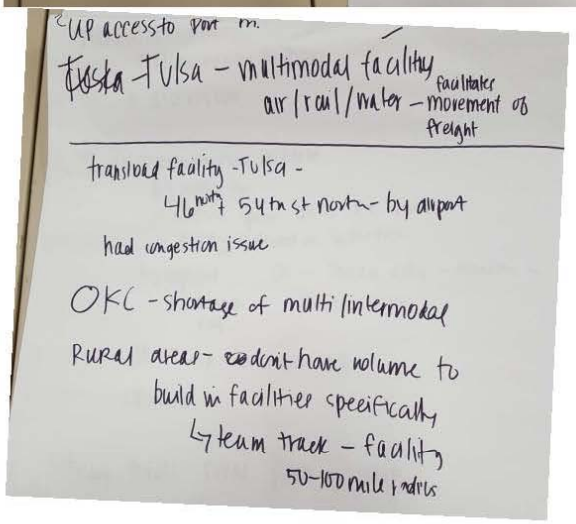

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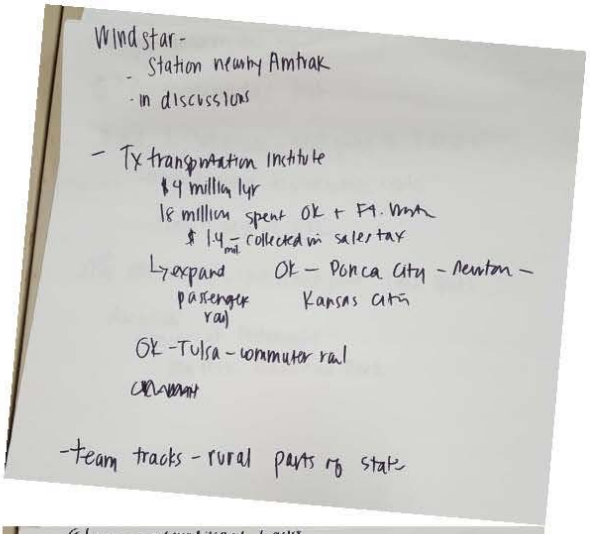

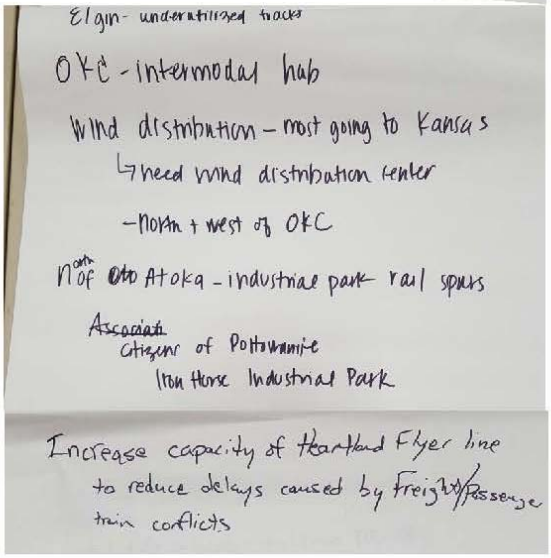

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Bottlenecks and Chokepoints

Participants were given the opportunity to discuss and identify bottlenecks and chokepoints along the existing rail network. A number of these bottlenecks and chokepoints are described as follows.

For passenger rail to be viable in Oklahoma, there are two primary chokepoints:

1. Midwest City – Santa Fe Depot in Oklahoma City, and
2. Sapulpa to Tulsa Union Depot.

The sale of the Sooner Sub line to BNSF carried with it an agreement to implement passenger rail. The rail between Oklahoma City and Kansas City via Newton and Wichita, Kansas was also mentioned as needed for the Heartland Flyer expansion.

Other chokepoints mentioned include:

- 76th Street in Owasso near the Watco yard
- Transload facility in Thomas – there is high truck and train traffic at the SH-47 crossing
- 4th Street in Moore (train and street at grade crossing)
- Downtown Claremore – very high train volumes
- Port of Muskogee – existing track curvature limits the types of trains. UP and BNSF converge leading to congestion, particularly at SH-16 crossing
- Enid – high numbers of railroads and congestion
- Altus – six railroads converge
- SKOL line, Tulsa-Owasso – loading point near Tulsa Airport at 56th Street
- Washout at Bridgeport – if open would allow UP direct access – but expensive

In general, bridges were cited as a frequent bottleneck for the short lines, less so than rail size. Deficient bridges incapable of carrying certain loads mean fewer routes available.

Several participants mentioned that besides looking at chokepoints, ODOT should look at underutilized rail lines, such as Shawnee-McAlester.

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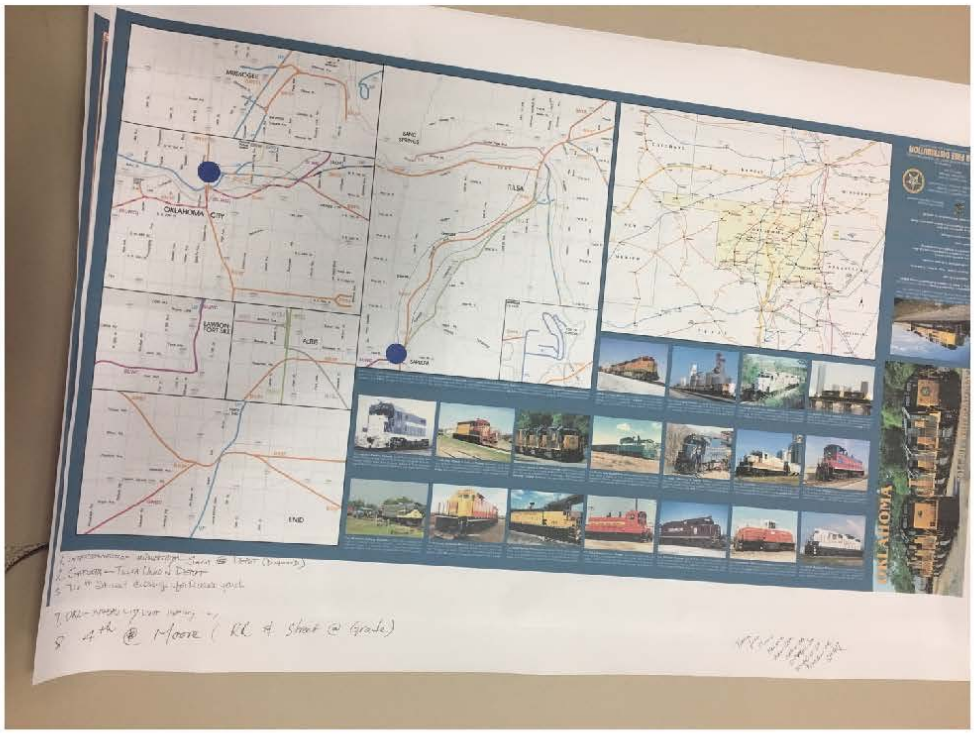

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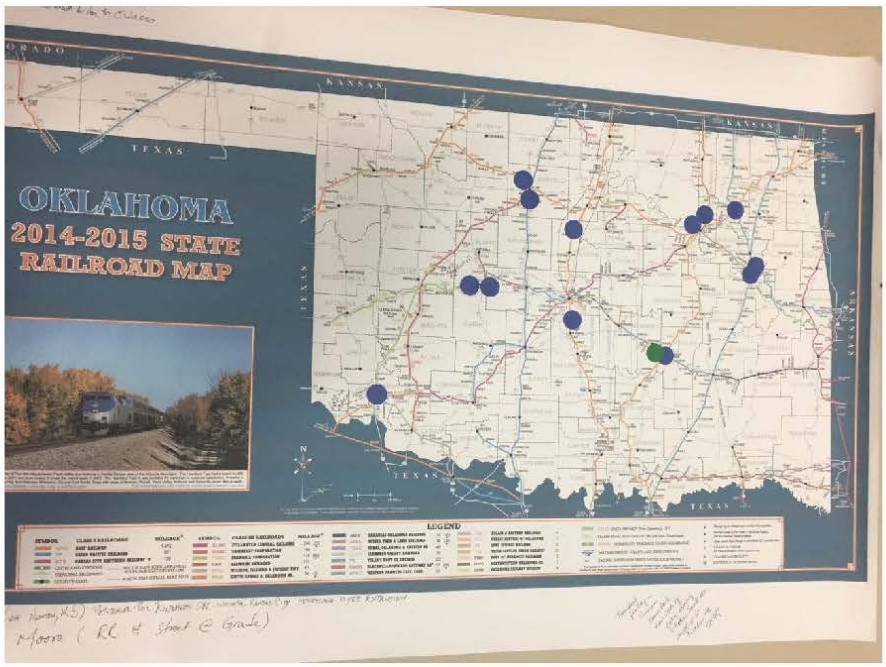

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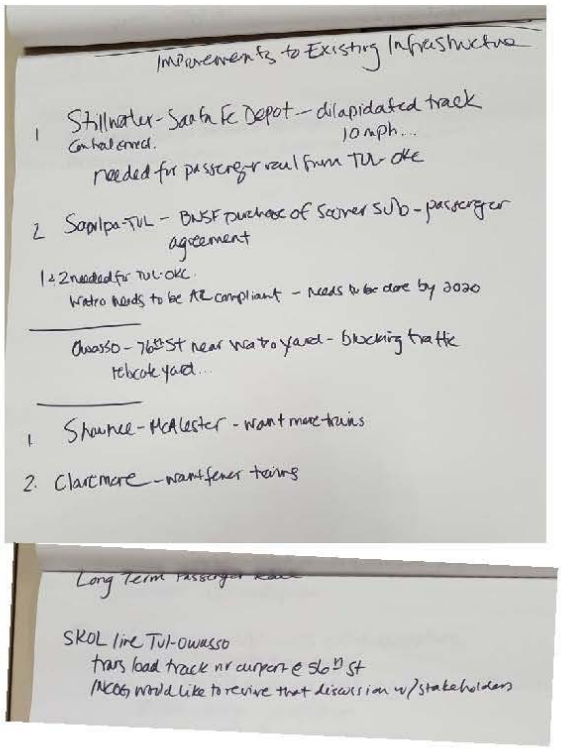

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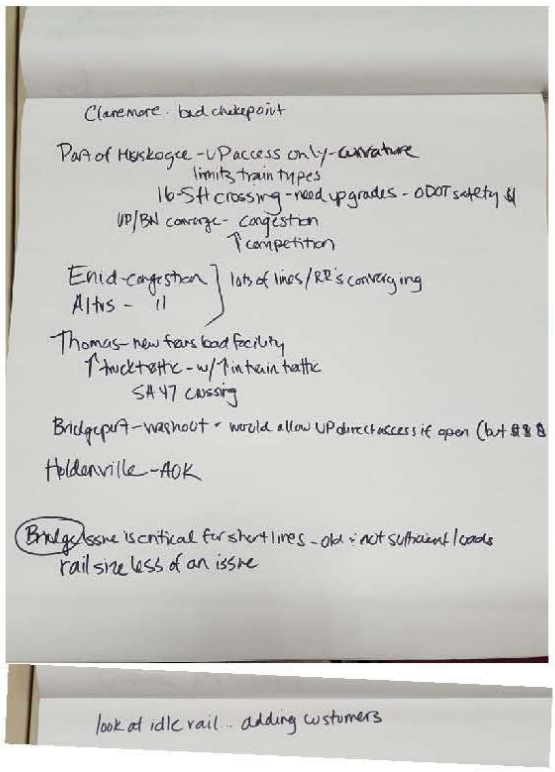

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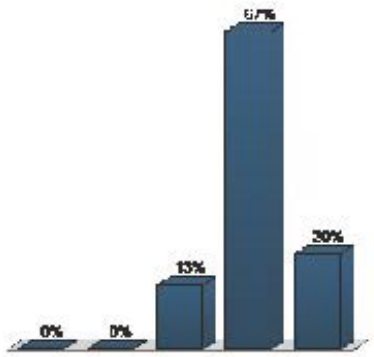
Appendix E: Project Identification Activity

4/6/2017

13. To what level of impact will this focus area optimize rail operations in Oklahoma? Last mile connections (Multiple Choice)

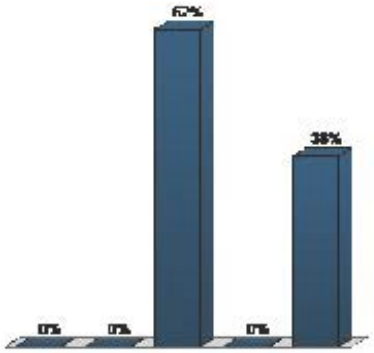
	Responses	
	Percent	**Count**
No Impact on the Desired Outcome	0%	0
Minor Impact on the Desired Outcome	0%	0
Some Impact on the Desired Outcome	13.33%	2
Significant Impact on the Desired Outcome	66.67%	10
Greatest Impact	20%	3
Totals	**100%**	**15**



4/6/2017

14. To what level of effort will this focus area optimize rail operations in Oklahoma? Last mile connections (Multiple Choice)

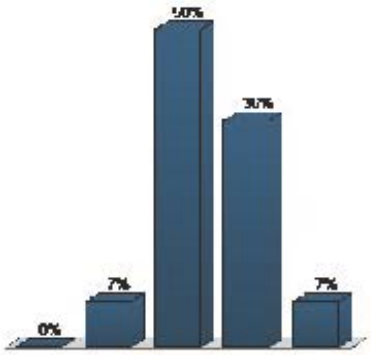
	Responses	
	Percent	**Count**
Minimal Effort to accomplish Desired Outcome	0%	0
-	0%	0
Moderate Effort to accomplish Desired Outcome	62.5%	10
-	0%	0
High Effort to accomplish Desired Outcome	37.5%	6
Totals	**100%**	**16**



4/6/2017

15. To what level of impact will this focus area optimize rail operations in Oklahoma? Increased frequency on existing lines (Multiple Choice)

	Responses	
	Percent	**Count**
No Impact on the Desired Outcome	0%	0
Minor Impact on the Desired Outcome	7.14%	1
Some Impact on the Desired Outcome	50%	7
Significant Impact on the Desired Outcome	35.71%	5
Greatest Impact	7.14%	1
Totals	**100%**	**14**



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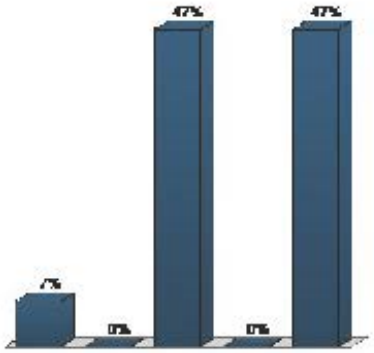
4/6/2017

16. To what level of effort will this focus area optimize rail operations in Oklahoma? Increased frequency on existing lines (Multiple Choice)

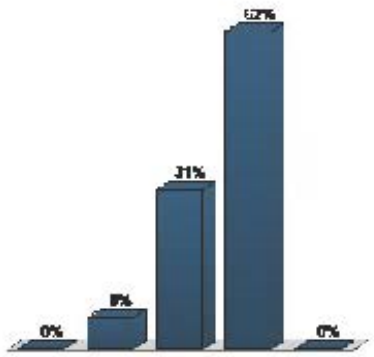
	Responses	
	Percent	**Count**
Minimal Effort to accomplish Desired Outcome	6.67%	1
-	0%	0
Moderate Effort to accomplish Desired Outcome	46.67%	7
-	0%	0
High Effort to accomplish Desired Outcome	46.67%	7
Totals	**100%**	**15**



4/6/2017

17. To what level of impact will this focus area optimize rail operations in Oklahoma? Improved reliability on existing lines (Multiple Choice)

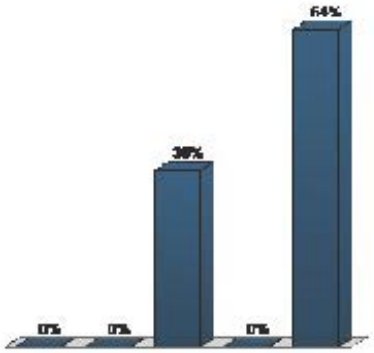
	Responses	
	Percent	**Count**
No Impact on the Desired Outcome	0%	0
Minor Impact on the Desired Outcome	6.25%	1
Some Impact on the Desired Outcome	31.25%	5
Significant Impact on the Desired Outcome	62.5%	10
Greatest Impact	0%	0
Totals	**100%**	**16**



4/6/2017

18. To what level of effort will this focus area optimize rail operations in Oklahoma? Increased reliability on existing lines (Multiple Choice)

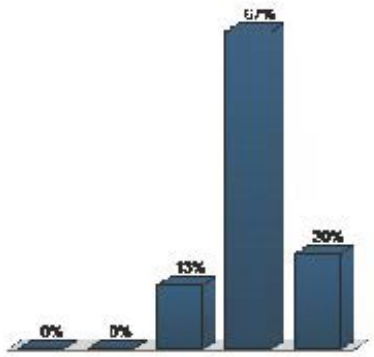
	Responses	
	Percent	**Count**
Minimal Effort to accomplish Desired Outcome	0%	0
-	0%	0
Moderate Effort to accomplish Desired Outcome	35.71%	5
-	0%	0
High Effort to accomplish Desired Outcome	64.29%	9
Totals	**100%**	**14**



4/6/2017

19. To what level of impact will this focus area optimize rail operations in Oklahoma? Alleviation of chokepoints (network fluidity) (Multiple Choice)

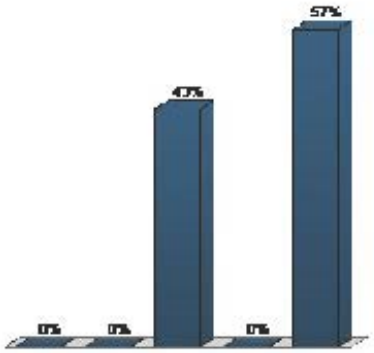
	Responses	
	Percent	**Count**
No Impact on the Desired Outcome	0%	0
Minor Impact on the Desired Outcome	0%	0
Some Impact on the Desired Outcome	13.33%	2
Significant Impact on the Desired Outcome	66.67%	10
Greatest Impact	20%	3
Totals	**100%**	**15**



4/6/2017

20. To what level of effort will this focus area optimize rail operations in Oklahoma? Alleviation of choke points (network fluidity) (Multiple Choice)

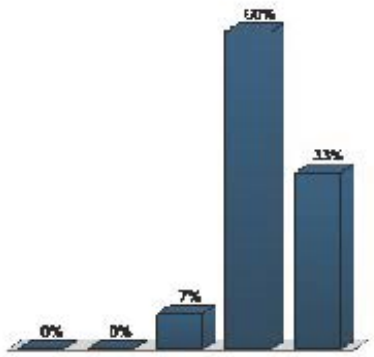
	Responses	
	Percent	**Count**
Minimal Effort to accomplish Desired Outcome	0%	0
-	0%	0
Moderate Effort to accomplish Desired Outcome	42.86%	6
-	0%	0
High Effort to accomplish Desired Outcome	57.14%	8
Totals	**100%**	**14**



4/6/2017

21. To what level of impact will this focus area optimize rail operations in Oklahoma? Infrastructure improvements (Multiple Choice)

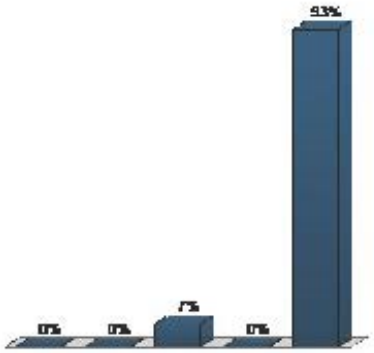
	Responses	
	Percent	**Count**
No Impact on the Desired Outcome	0%	0
Minor Impact on the Desired Outcome	0%	0
Some Impact on the Desired Outcome	6.67%	1
Significant Impact on the Desired Outcome	60%	9
Greatest Impact	33.33%	5
Totals	**100%**	**15**



4/6/2017

22. To what level of effort will this focus area optimize rail operations in Oklahoma? Infrastructure improvements (Multiple Choice)

	Responses	
	Percent	**Count**
Minimal Effort to accomplish Desired Outcome	0%	0
-	0%	0
Moderate Effort to accomplish Desired Outcome	6.67%	1
-	0%	0
High Effort to accomplish Desired Outcome	93.33%	14
Totals	**100%**	**15**



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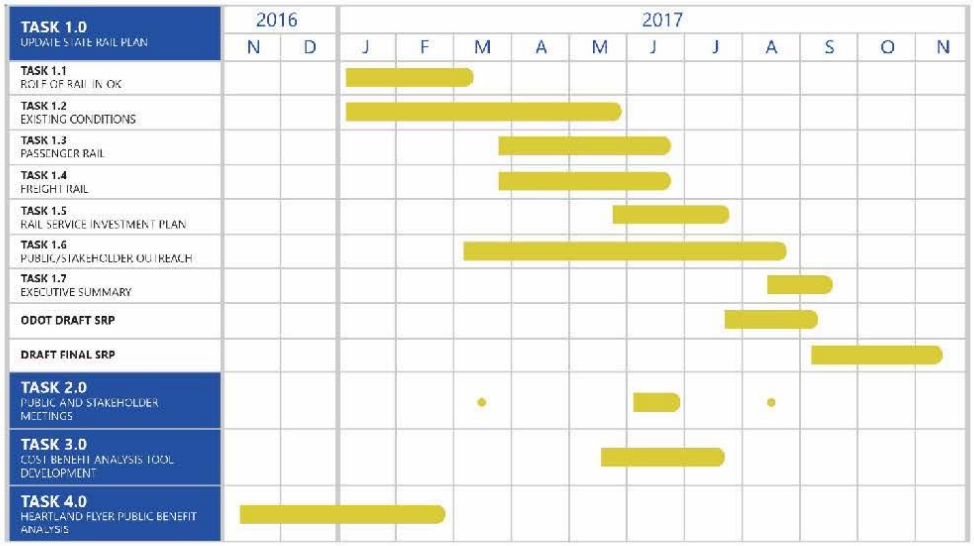
Appendix F: Schedule



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Appendix G: Draft Goals/Priorities Results

4/6/2017

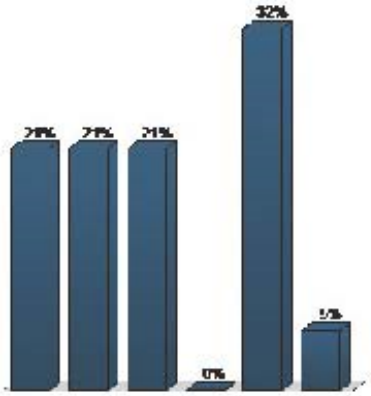
Session Name: New Session 3-22-2017 11-44 AM_2

Date Created:	3/22/2017 9:32:42 AM	**Active Participants:**	20 of 20
Average Score:	0.00%	**Questions:**	22

Results by Question

1. What is your favorite type of cake? (Multiple Choice)

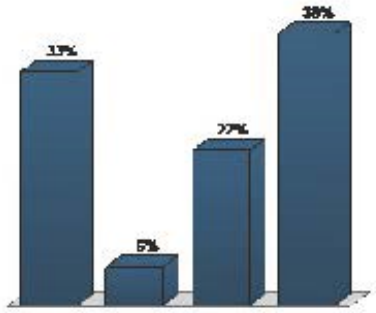
	Responses	
	Percent	**Count**
White cake with white frosting	21.05%	4
Yellow cake with chocolate frosting	21.05%	4
Chocolate cake with chocolate frosting	21.05%	4
Chocolate cake with cream cheese frosting	0%	0
I like every kind of cake!	31.58%	6
I don't like cake!	5.26%	1
Totals	**100%**	**19**



4/6/2017

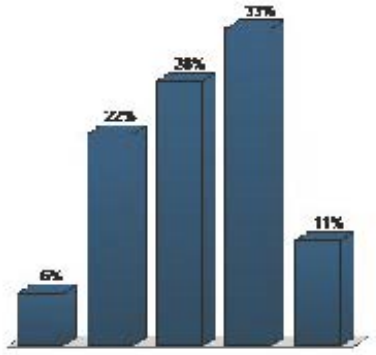
2. In 1920, passenger rail was at the height of popularity. 1920 saw how many rail passengers? (Multiple Choice)

	Responses	
	Percent	Count
1.0 billion	33.33%	6
1.1 billion	5.56%	1
1.2 billion	22.22%	4
1.3 billion	38.89%	7
Totals	**100%**	**18**



3. What investments could be made in Oklahoma to improve freight rail access, promote economic development, and enhance the state's competitiveness in national markets and the global marketplace? (Multiple Choice)

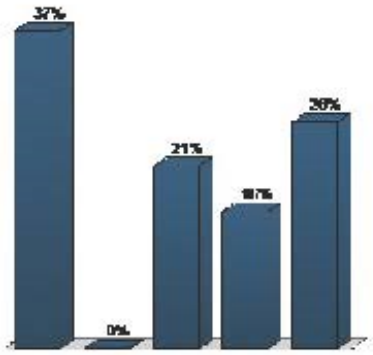
	Responses	
	Percent	Count
New or enhanced intermodal facilities	5.56%	1
New or enhanced industrial track access	22.22%	4
New or enhanced multimodal connections	27.78%	5
New or enhanced federal, state, local, and public-private partnership funding options	33.33%	6
Other options	11.11%	2
Totals	**100%**	**18**



4/6/2017

4. How should Oklahoma prioritize future freight rail service decisions? (Multiple Choice)

	Responses	
	Percent	**Count**
Increased speed/reliability to existing distributors	36.84%	7
Increased access to new distributors	0%	0
Alleviate network bottlenecks	21.05%	4
Expanded incentive programs	15.79%	3
Construction of new routes to accommodate economic growth	26.32%	5
Totals	**100%**	**19**



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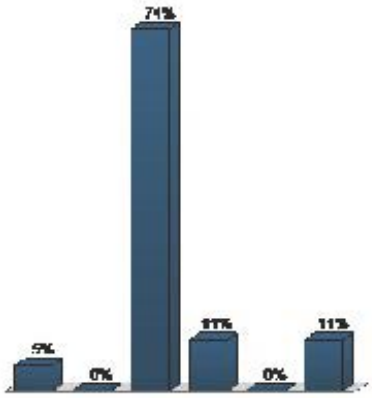
5. What investments could be made to enhance the efficiency, velocity, capacity, and safety on the Oklahoma state rail network? (Multiple Choice)

	Responses	
	Percent	**Count**
Grade crossing improvements (upgrades to grade crossing signals and surfaces, grade separation, etc.)	5.26%	1
New or enhanced rail yards and terminals	0%	0
Infiastructure investment (extend or construct new sidings and multiple main tracks, track and bridge upgrades to accommodate 286K cars, wayside signal system upgrades)	73.68%	14
Investments targeting state of good repair	10.53%	2
Advanced technology and innovation	0%	0
Other options	10.53%	2
Totals	**100%**	**19**



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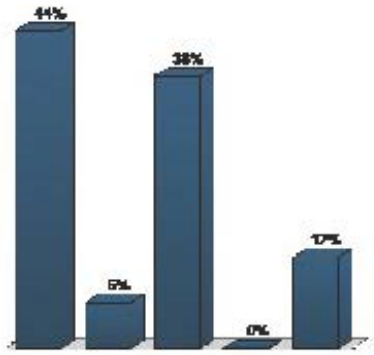
6. What are the bottlenecks and chokepoints on the Oklahoma state rail network? (Multiple Choice)

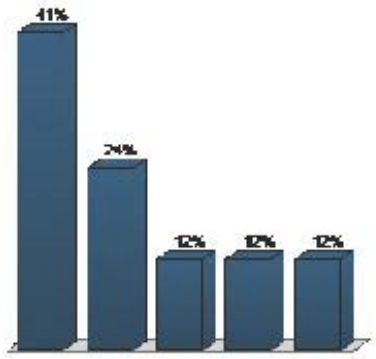
	Responses	
	Percent	**Count**
Congestion in urban terminal areas	43.75%	7
Constrained capacity on principle freight rail corridors	6.25%	1
Constrained capacity on shared-use passenger and freight rail corridors	37.5%	6
Constrained vertical clearances and railcar weight restrictions	0%	0
Other	12.5%	2
Totals	**100%**	**16**



4/6/2017

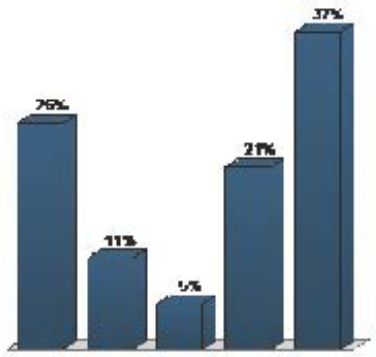
7. Which environmental effort could yield the *most* economic benefit to Oklahoma? (Multiple Choice)

	Responses	
	Percent	**Count**
Transportation technology advances	41.18%	7
Fuel efficiency improvements	23.53%	4
Greenhouse gas emission reduction	11.76%	2
Community enhancements	11.76%	2
Other	11.76%	2
Totals	**100%**	**17**



8. What are the *most* important aspects of a passenger railservice to you? (Multiple Choice)

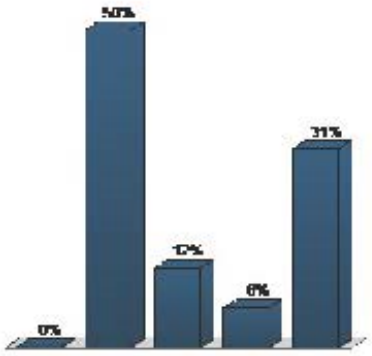
	Responses	
	Percent	**Count**
Travel speed/time	26.32%	5
Travel reliability	10.53%	2
Amenities and comfort (including technology)	5.26%	1
Frequency of service	21.05%	4
Other	36.84%	7
Totals	**100%**	**19**



4/6/2017

9. What should passenger rail accomplish in Oklahoma? (Multiple Choice)

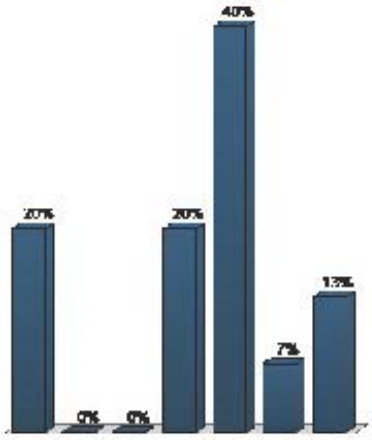
	Responses	
	Percent	**Count**
Opportunities for short trips, intra-state	0%	0
Opportunities for longer trips, interstate	50%	8
Opportunities for commuting to and from work	12.5%	2
Connections to other modes (airports, transit hubs)	6.25%	1
Other	31.25%	5
Totals	**100%**	**16**



4/6/2017

10. How should Oklahoma prioritize future passenger rail service decisions? (Multiple Choice)

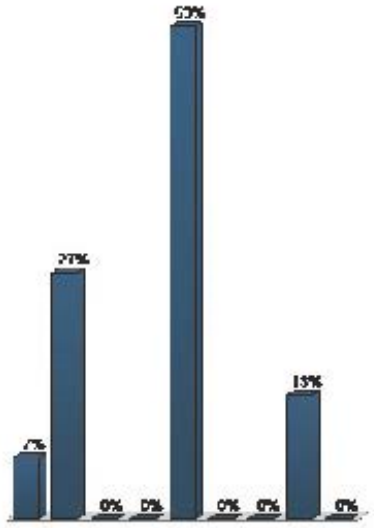
	Responses	
	Percent	**Count**
More frequencies on existing routes	20%	3
Same frequencies but improved amenities/performance	0%	0
More stations on existing routes	0%	0
New routes, even if frequencies on existing routes must be reduced	20%	3
New routes, with frequencies on existing routes maintained	40%	6
Same frequencies but improved station services	6.67%	1
More transit connections	13.33%	2
Totals	**100%**	**15**



4/6/2017

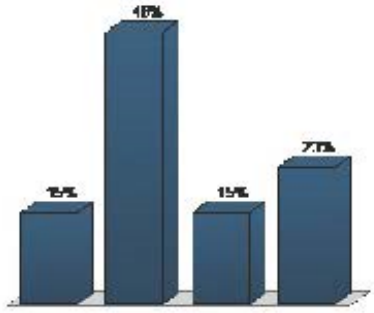
11. What are the most important aspects of a passenger station to you? (Multiple Choice)

	Responses	
	Percent	**Count**
Enclosed, climate-controlled waiting room	6.67%	1
Restroom/water fountain availability	26.67%	4
Staffed ticket office	0%	0
Checked baggage service/luggage storage	0%	0
Good transit connections (bus, airport, rail)	53.33%	8
Bicycle racks	0%	0
Food service option	0%	0
Wi-Fi	13.33%	2
Other	0%	0
Totals	**100%**	**15**



12. In 1829, the first locomotive for use on railways was imported from where? (Multiple Choice)

	Responses	
	Percent	**Count**
France	15.38%	2
Germany	46.15%	6
Italy	15.38%	2
England	23.08%	3
Totals	**100%**	**13**



Meeting 2

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HIGH LEVERAGE STAKEHOLDER COMMITTEE MEETING SUMMARY

Prepared by HDR

June 27, 2017

FINAL

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Contents

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Meeting Summary

The Oklahoma Department of Transportation hosted the second High Leverage Stakeholder Committee meeting to engage a specific group of stakeholders in the development of the Statewide Rail Plan. The meeting was held on Tuesday, June 27, 2017, in Oklahoma City, Oklahoma, and consisted of two interactive exercises that focused on reviewing and identifying both freight rail and passenger rail projects.

Outreach

Email invitations were distributed to 54 recipients. Twenty-four phone calls were also made to invitees. Table 1 summarizes the invitation outreach efforts for this meeting. See Appendix A: Meeting Invitation.

Table 1

Outreach	Deployment Date	Number of Emails Distributed
Mark Your Calendars! The second High Leverage Stakeholder Committee meeting for the Oklahoma Statewide Rail Plan has been scheduled for Tuesday, June 27!	June 8, 2017	54
Don't forget to R.S.V.P. for the second High Leverage Stakeholder Meeting for the Oklahoma State Rail Plan on June 27!	June 20, 2017	54
The second High Leverage Stakeholder Committee Meeting for the Oklahoma State Rail Plan is Tuesday!	June 23, 2017	54

Attendees

A total of 20 stakeholders attended the meeting including representatives from ODOT, industries related to freight and rail transportation, and special interest groups. One of the 20 attendees participated by phone. See Appendix B: Invitation Mailing and Attendee List.

Meeting Roles and Responsibilities

Table 2 summarizes the roles and responsibilities of each stakeholder workshop team member.

Table 2

Name	Responsibility
Kevin Keller (HDR)	Facilitator
Eric Frostestad (HDR)	Facilitator
Tara Bettale (HDR)	Floater/Scribe

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Meeting Agenda and Outcomes

The meeting was held Tuesday, June 27, 2017, at the Oklahoma Department of Transportation Commission Room located at 200 NE 21st Street in Oklahoma City. Registration began at 9:00 a.m. Each attendee received a handout and passenger and freight rail maps of Oklahoma. See Appendix C: Attendee Handout Packet.

Agenda

Time	Item
9:30 – 9:40 a.m.	Welcome, introductions, safety briefing
9:40 – 9:50 a.m.	Plan goals and objectives
9:50 – 10:00 a.m.	Recap of last meeting
10:00 – 10:45 a.m.	Rail map and project prioritization activity
10:45 – 10:55 a.m.	Break and ice breaker
10:55 – 11:20 a.m.	Project prioritization activity (cont.)
11:20 - 11:30 a.m.	Next steps and wrap-up

Welcome, Introductions and Safety Briefing

The workshop included a brief introduction from HDR's Kevin Keller and Oklahoma Department of Transportation's Rail Programs Division Manager Craig Moody. Participants, ODOT representatives, and consultants introduced themselves before ODOT's John Rosacker provided the safety briefing. HDR's Kevin Keller discussed presentation slides on the Plan Objectives that were discussed at the last stakeholder committee meeting. Stakeholders comments on the Plan Objectives ranged from safety not reflected as a prominent theme in the objectives, to discussion surrounding the emphasis on expanding and sustaining existing customers. See Appendix D: Plan Objective Comments.

Recap of Last Meeting

Keller reviewed meeting notes from the last meeting that identified bottlenecks, chokepoints and opportunities for economic development.

Activity: Rail Map and Project Prioritization Activity

Participants were separated into two groups to discuss freight rail and passenger rail projects in Oklahoma. One group participated in the freight rail prioritization activity and the other in the passenger rail prioritization activity. Maps were placed with each group and scribes captured notes. See Appendix E: Rail Map and Project Prioritization Activity Results.

Break, Ice Breaker and Policy Update

After a short break, Keller reviewed various rail trivia questions before reconvening the meeting. The State of Oklahoma is currently exploring if legislation should allow for public-private

partnerships (P3s). Stakeholder Lori Peterson mentioned two bills, HB 1534 and SB 430, that everyone should review.

Next Steps and Wrap-up

Keller encouraged group members to continue to provide their input, ideas and projects for the State Rail Plan. A stakeholder mentioned that visions and plans for Shortline and Class 1 should be included in the plan. Keller provided a schedule overview and that the plan is set for a December 2017 completion. Chapters 1, 2, 3 and 4 are complete. Chapter 5 is in progress and Chapter 6 will begin be developed in the future.

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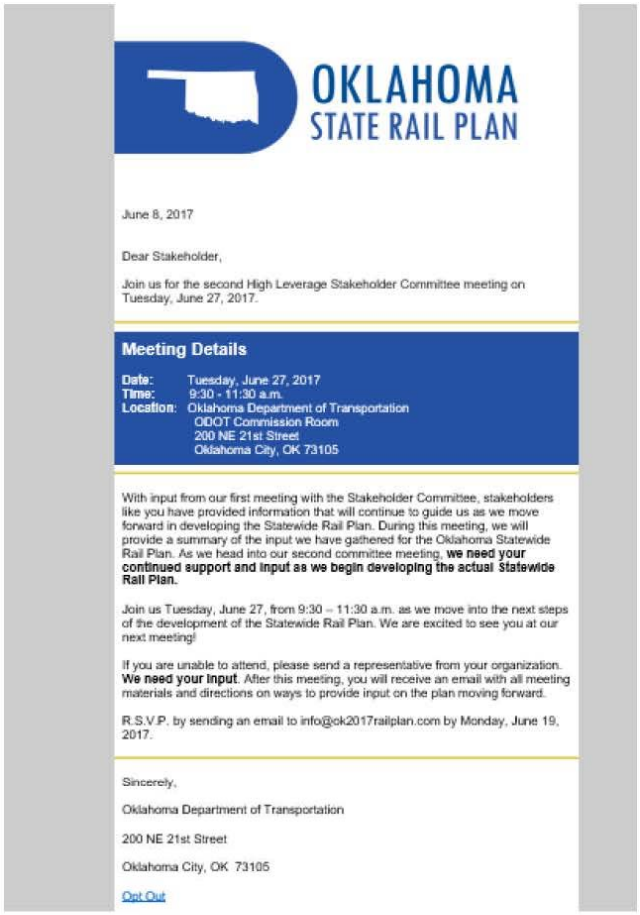
Appendix A: Meeting Invitation

Deployment: June 8, 2017



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June 8, 2017

Dear Stakeholder,

Join us for the second High Leverage Stakeholder Committee meeting on Tuesday, June 27, 2017.

Meeting Details

Date: Tuesday, June 27, 2017
Time: 9:30 - 11:30 a.m.
Location: Oklahoma Department of Transportation
ODOT Commission Room
200 NE 21st Street
Oklahoma City, OK 73105

With input from our first meeting with the Stakeholder Committee, stakeholders like you have provided information that will continue to guide us as we move forward in developing the Statewide Rail Plan. During this meeting, we will provide a summary of the input we have gathered for the Oklahoma Statewide Rail Plan. As we head into our second committee meeting, **we need your continued support and input as we begin developing the actual Statewide Rail Plan.**

Join us Tuesday, June 27, from 9:30 – 11:30 a.m. as we move into the next steps of the development of the Statewide Rail Plan. We are excited to see you at our next meeting!

If you are unable to attend, please send a representative from your organization. **We need your input**. After this meeting, you will receive an email with all meeting materials and directions on ways to provide input on the plan moving forward.

R.S.V.P. by sending an email to info@ok2017railplan.com by Monday, June 19, 2017.

Sincerely,

Oklahoma Department of Transportation

200 NE 21st Street

Oklahoma City, OK 73105

Opt Out

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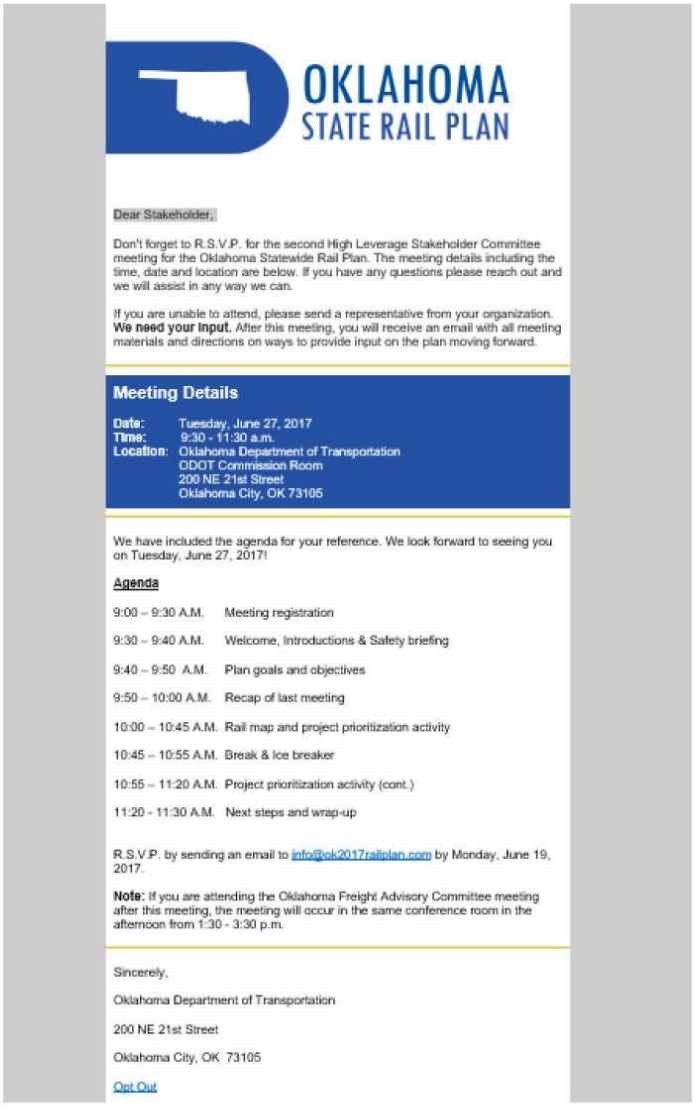
Deployment: June 20, 2017



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STATE RAIL PLAN

Dear Stakeholder,

Don't forget to R.S.V.P. for the second High Leverage Stakeholder Committee meeting for the Oklahoma Statewide Rail Plan. The meeting details including the time, date and location are below. If you have any questions please reach out and we will assist in any way we can.

If you are unable to attend, please send a representative from your organization. **We need your input.** After this meeting, you will receive an email with all meeting materials and directions on ways to provide input on the plan moving forward.

Meeting Details

Date: Tuesday, June 27, 2017
Time: 9:30 - 11:30 a.m.
Location: Oklahoma Department of Transportation
ODOT Commission Room
200 NE 21st Street
Oklahoma City, OK 73105

We have included the agenda for your reference. We look forward to seeing you on Tuesday, June 27, 2017!

Agenda

9:00 – 9:30 A.M. Meeting registration

9:30 – 9:40 A.M. Welcome, Introductions & Safety briefing

9:40 – 9:50 A.M. Plan goals and objectives

9:50 – 10:00 A.M. Recap of last meeting

10:00 – 10:45 A.M. Rail map and project prioritization activity

10:45 – 10:55 A.M. Break & Ice breaker

10:55 – 11:20 A.M. Project prioritization activity (cont.)

11:20 - 11:30 A.M. Next steps and wrap-up

R.S.V.P. by sending an email to info@ok2017railplan.com by Monday, June 19, 2017.

Note: If you are attending the Oklahoma Freight Advisory Committee meeting after this meeting, the meeting will occur in the same conference room in the afternoon from 1:30 - 3:30 p.m.

Sincerely,

Oklahoma Department of Transportation

200 NE 21st Street

Oklahoma City, OK 73105

Opt Out

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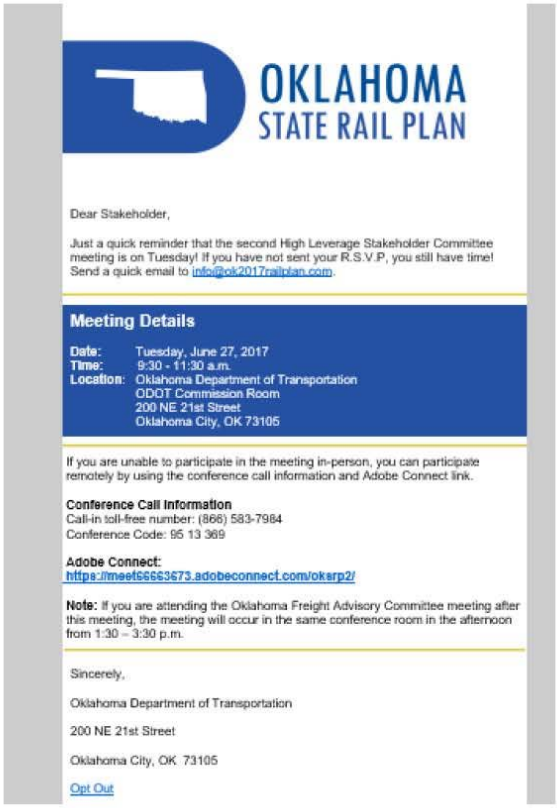
Deployment: June 23, 2017



OKLAHOMA
STATE RAIL PLAN

Dear Stakeholder,

Just a quick reminder that the second High Leverage Stakeholder Committee meeting is on Tuesday! If you have not sent your R.S.V.P, you still have time! Send a quick email to info@ok2017railplan.com.

Meeting Details

Date: Tuesday, June 27, 2017
Time: 9:30 - 11:30 a.m.
Location: Oklahoma Department of Transportation
ODOT Commission Room
200 NE 21st Street
Oklahoma City, OK 73105

If you are unable to participate in the meeting in-person, you can participate remotely by using the conference call information and Adobe Connect link.

Conference Call Information
Call-in toll-free number: (866) 583-7984
Conference Code: 95 13 369

Adobe Connect:
https://meet56663673.adobeconnect.com/oksrp2/

Note: If you are attending the Oklahoma Freight Advisory Committee meeting after this meeting, the meeting will occur in the same conference room in the afternoon from 1:30 – 3:30 p.m.

Sincerely,

Oklahoma Department of Transportation

200 NE 21st Street

Oklahoma City, OK 73105

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Appendix B: Invitation Mailing and Attendee List

Entity Name	Representative	Attended
Oklahoma Department of Agriculture	Betty Thompson	
Union Pacific	Brandon Morris	Yes
Indian Nations Council of Governments (INCOG)	Brian Bigbie	Yes
Watco (SLWC, SKO, AS)	Carly Ewing	
Hanson Aggregates	Chad Higgason	
Port of Muskogee	Chris Williams	
Union Pacific	Clay McManaman	
AOK	Dave Donoley	Yes
Omnitrax (Sand Springs)	David Arganbright	
Port of Catoosa - Tulsa	David Yarbrough	
ODOT Waterways	DeDe Smith	
ACG Materials	Dillon Price	
Passenger Rail Oklahoma	Evan Stair	
AOK	Heather Williams	
FHWA	Huy Nguyen	Yes
ODOT Rail Programs	Jack Webb	
Amtrak	Jay McArthur	
G&W (Kiamichi)	Jeff VanSchaick	Yes
ODOT Rail Programs	Jim Hatt	Yes
Oklahoma Trucking Association	Jim Newport	Yes
Oklahoma Department of Agriculture, Food and Forestry	Jim Reese	
Oklahoma Aggregates Association (OKAA)	Jim Rodriguez	
Seaboard Foods	Joe Goodwin	
WSP	Joe Gurskis	
Oklahoma Grain & Feed Association	Joe Neal Hampton	
Amtrak	Joe Shacter	
ACOG	John Johnson	
ODOT Rail Programs	John Rosacker	
Association of Central Oklahoma Governments	John Sharp	Yes

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Entity Name	Representative	Attended
(ACOG)		
Oklahoma Department of Commerce	Jon Chiappe	
Farmrail System, Inc.	Judy Petry	Yes
Dolese	Kermit Frank	Yes
KCS	Kevin McIntosh	
ODOT SAPM	Linda Koenig	Yes
Oklahoma Railroad Association	Lori Peterson	Yes
Sherwood Construction	Matt Ritchie	
Oklahoma Department of Commerce	Michael Craig	Yes
Oklahoma Office of Energy & Environment	Michael Teague	
Indian Nations Council of Governments (INCOG)	Nimish Dharmadhikari	
Watco (SLWC, SKO, AS)	Pat Cedeno	
Oklahoma Corporation Commission	Patricia Franz	
BNSF Railway	Paul Cristina	Yes
Oklahoma Corporation Commission	Paul Swigart	Yes
Oklahoma Trucking Association	Rebecca Chappell	
Port of Muskogee	Scott Robinson	
WT&J	Scott Traylor	
Association of Central Oklahoma Governments (ACOG)	Shelby Templin	Yes
Indian Nations Council of Governments (INCOG)	Viplav Putta	
ODOT Rail	Craig Moody	Yes
Oklahoma State Legislature	Seth Bryant	Yes
WSP	Joe Bryon	Yes
AOK	Eric Donoley	Yes
Association of Central Oklahoma Governments (ACOG)	Kathryn Wenger	Yes

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Appendix C: Attendee Handout Packet

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Oklahoma State Rail Plan

Tuesday, June 27, 2017

High Leverage Stakeholder Committee Meeting Agenda

9:00 – 9:30 A.M.	Meeting registration
9:30 – 9:40 A.M.	Welcome Introductions Safety briefing
9:40 – 9:50 A.M.	Plan objectives
9:50 – 10:00 A.M.	Recap of last meeting
10:00 – 10:45 A.M.	Rail map and project prioritization activity
10:45 – 10:55 A.M.	Break Ice breaker
10:55 – 11:20 A.M.	Project prioritization activity (cont.)
11:20 - 11:30 A.M.	Next steps and wrap-up

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High Leverage Stakeholder Committee
Meeting Handout

High Leverage Stakeholder Committee

Tuesday, June 27, 2017

9:30 – 11:30 a.m.

Oklahoma Department of Transportation
ODOT Commission Room
200 NE 21st Street
Oklahoma City, OK 73105

Stakeholders identified economic development areas, bottlenecks and chokepoints in in Oklahoma using state rail maps.

Welcome!

The purpose of today's meeting is to review and prioritize passenger and freight rail projects and studies needed in Oklahoma.

Today We Will...

- Provide a recap of the last stakeholder meeting;
- Gather comments on the current passenger and rail projects and studies needed in Oklahoma; and
- Consider the prioritization of projects and studies.

The Oklahoma Department of Transportation hosted the first High Leverage Stakeholder Committee meeting to engage a specific group of stakeholders in the development of the State Rail Plan. The meeting was held on Wednesday, March 22, 2017, in Oklahoma City, Oklahoma, and consisted of three interactive exercises that focused on the following:

- Identifying economic development areas, as well as bottlenecks and chokepoints in Oklahoma;
- Prioritizing the types of passenger and freight rail projects needed in Oklahoma; and
- Determining the level of effort and impact of the State Rail Plan strategies.

ODOT

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Passenger Rail Projects in Oklahoma

Freight Rail Projects in Oklahoma

What's Next?

An online meeting will be available during July. Make sure to visit ok2017railplan.com to stay up-to-date on the launch date of the online meeting.

Provide Comments:

While we look forward to hearing from you at any time, we will be able to incorporate comments provided until (date) into the plan.

Stay Involved:

Visit us at: *www.ok2017railplan.com*

Have a comment for the State Rail Plan?

Send us an email at:
info@ok2017railplan.com

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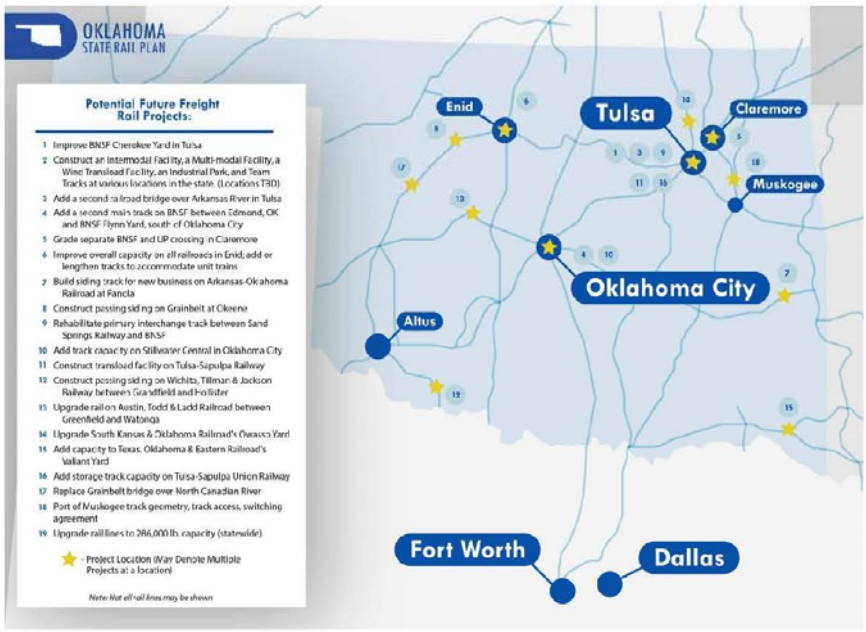

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Appendix D: Plan Objective Comments

Paul Cristina (BNSF Railway): safety is not a prominent theme in all of the plan objectives, in particular when discussing the at-grade crossing improvements.

Brian Bigbie (Indian Nations Council of Government): Asked to define "capacity" language in #1; Kevin Keller (HDR) confirmed it means availability on a lane.

Jeff VanSchaick (G&W Kiamichi): Emphasized expanding and sustaining existing customers.

Lori Peterson (Oklahoma Railroad Association): What is the federal dollar difference between rural and urban rail funding? Kevin Keller (HDR) confirmed that there are separate buckets of money for urban and rural rail and big and small projects.

Craig Moody (ODOT): Received the third largest ($62 million) grant from the federal Fast Lanes program – what is the project looking for? Kevin Keller (HDR) mentioned the Build America Bureau, safety and infrastructure improvements for freight corridors in particular.

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Appendix E: Rail Map and Project Prioritization Activity Results

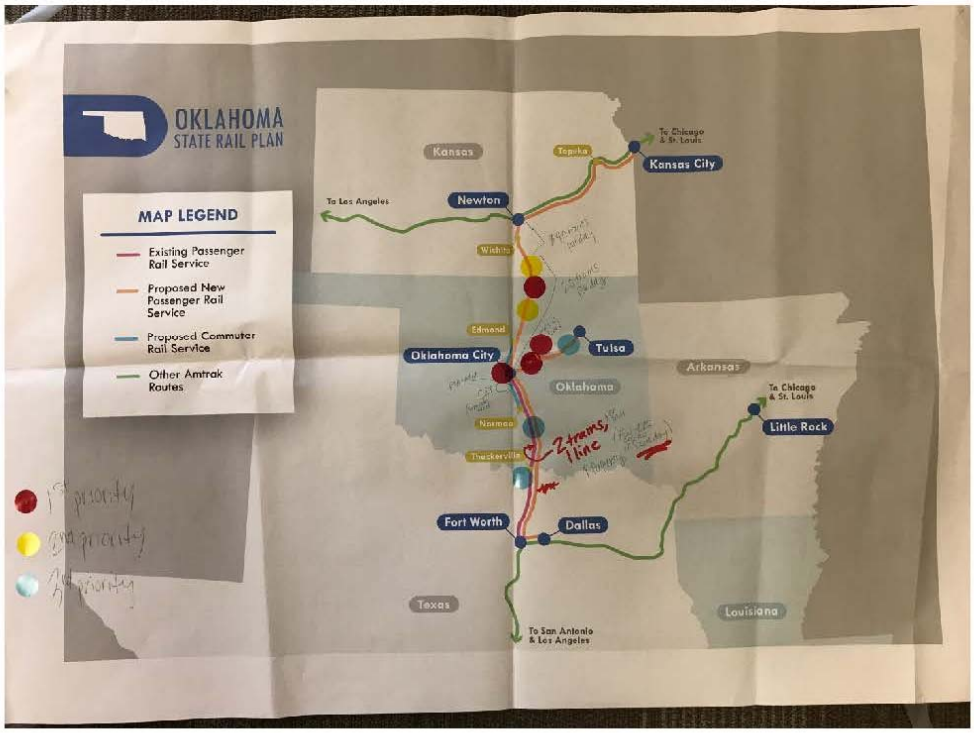
Passenger Rail Map

Stakeholders identified the following passenger rail projects or programs:

- New Passenger Rail Service
  - First Priority:
    - A new passenger rail service from Oklahoma City to Newton, Kansas was top priority and should be constructed first. Freight railroad stakeholders recommended OKC to Newton, Kansas corridor has to happen before the line south (Oklahoma City to Fort Worth/Dallas) can work. This corridor is a vital link to keep the south line moving. There is better potential ridership from Chicago (and cities to the West) to Oklahoma City than from Oklahoma City to Fort Worth/Dallas.
  - Second Priority: Commuter rail line on the east from Oklahoma City to Norman.
    - The train schedule would be same as current bus schedule.
    - The meet ups would be built into the passenger rail and freight rail schedules so there would be minimal impact.
- There needs to be stops along that north corridor at Edmond, Guthrie and Wichita
- The trains will need to maintain velocity (~60 mph) in order to maintain good enough headways to make the north corridor efficient and attractive.
- There is currently Greyhound bus from Oklahoma City to Newton, Kansas. Amtrak does not have the money to expand further or with more frequency (about 400-500 riders per month currently).
- The railroad companies said there is enough siding in Oklahoma City to accommodate a new passenger rail system (seven car train capacity now, but only using three cars).
- Companies such as UPS, FedEx and Amazon, could use more freight in order to help passenger rail infrastructure build-out and support future improvements. If using more freight these companies could be more sustainable, have more space and load capacity and be more cost-effective.
- FUNDING IS KEY! Safety and adequate frequency are top priorities.
- Bridges should be built for future capacity consideration.
- The south corridor from Oklahoma City to Forth Worth/Dallas has more weather concerns, not has high of a ridership demand and not as pretty of a ride for the non-commuter passengers (Denver to Oklahoma City or Oklahoma City to Chicago is more attractive).
- Oklahoma City to Tulsa corridor
  - Track condition is bad.

- Current bus service is not city center to city center (it stops in suburbs outside two cities).
- The train would need to be faster than driving; right now the highway is 75 mph and can take a little more than hour so the train should match or beat that to make it good for commuters.
- Some stakeholders said the OKC to Tulsa corridor should be for commuters or that commuters wouldn't use it so it is more about the journey; however a stakeholder did say that commuters would be allowed to work, not be on cellphone, deal with traffic, parking, etc.
- There is a big rail advocacy group for this corridor – they should be looked in to.
- Have to have a new passenger only rail corridor – not a shared track with the railroad.
- There is currently a high speed rail plan for intercity passenger rail in this corridor.

- All passenger rail lines should bypass Cherokee Yard.
- What about rail lines through Eastern Oklahoma that connects to Kansas City?



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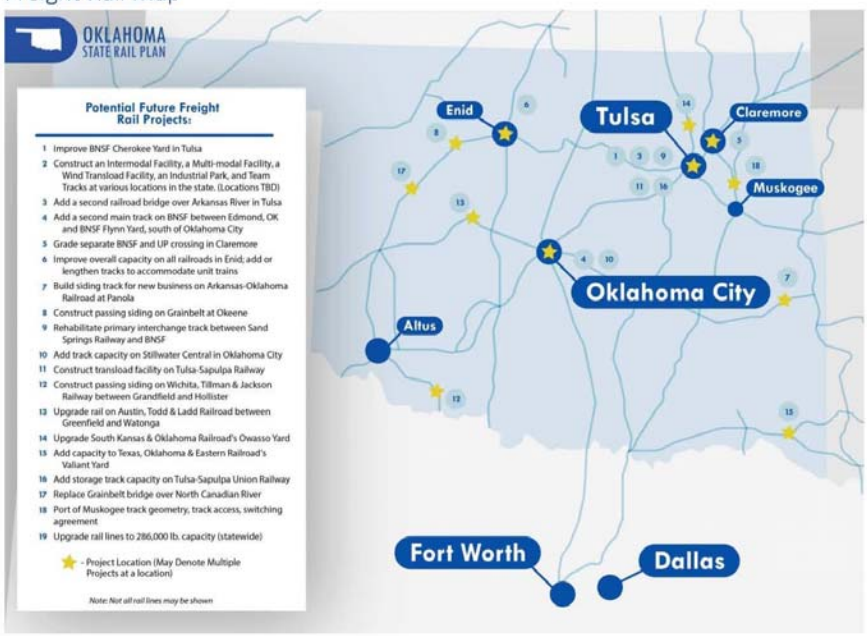
Freight Rail Map



Stakeholders identified the following freight rail projects or programs:

- Grade Separation Program – emphasize safety and providing funding for public private partnership projects that benefit the public as well as the railroads.
- Discussion was held whether private capacity improvement projects should be included in the rail plan for potential public funding.
- City of Moore/BNSF – grade separation project.
- City of Ardmore/BNSF – grade separation project.
- City of Claremore/BNSF – grade separation project, this is not a BNSF/UPRR crossing issue, it is a public roadway crossing issue – blocking grade crossings in disrupting the roadway traffic flow is a problem.
- Investigate grade separating crossings and closing others thru the BNSF corridor between Edmond, OK and BNSF Flynn Yard, south of Oklahoma City. This would be an alternate solution to project #4 on the Potential Future Freight Rail Project Map.
- Paul Cristina, BNSF, has a list of grade separation, public involvement projects that he could email us. This information will be provided at a later date.
- Action item – request the potential grade separation projects from BNSF, UPRR, and KCS as well as the shortlines. This information will be provided at a later date.

- 286K Program – instead of having a general increase the loading capacity of the rail network in Oklahoma to 286K, focus on specific corridors and their needs to increase to 286K.
- Identify specific locations – track, and bridges on the shortlines. This information will be provided at a later date.
- Economic Development – educate the public of the difference between intermodal facility, transload facility, TEAM tracks, etc.
- Intermodal facility in OKC or Tulsa.
- UPRR/AOK transload facility is currently being constructed on the Shawnee Line near OKC.
- UPRR N-S line south of Enid needs additional capacity due to frac sand and auto car traffic – proposed 10,000 TF siding at Jacks.
- Contact railroads for transload opportunities.
- Kiamichi Rail (KRR) – Rail, ties, surfacing on the Ashdown Sub to support movement of cars to multiple Class 1 connections for new customers locating in Durant. ($15 million)
- Kiamichi Rail (KRR) – Rail, ties, surfacing on the Paris Sub to upgrade to 286K.
- New rail bridge over the North Canadian River in Oklahoma City on the BNSF/SLWC. This is currently a single main line bridge and the SLWC runs on BNSF N-S line to cross the river and then splits off. This will allow the SLWC to have their own designated route over the river.
- Improve capacity between the BNSF and Grainbelt RR in Enid.
- New industry track in Inola, OK off the UPRR.

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Appendix B: Website Statistics and Analytics

Oklahoma State Rail Plan Website Statistics	
Date	March 15 – August 27, 2017 * as of production
Sessions	485
Unique users	407
Average session duration	0:29
Top locations	1. Oklahoma City 2. Dallas 3. Tulsa 4. Edmond 5. El Paso 6. Norman
Technology	1. Desktop (340) 2. Mobile (159) 3. Tablet (21)
Most views/visits	Friday, August 4

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Appendix C: Shipper Interviews

Oklahoma State Rail Plan: Passenger Rail User Interviews

BACKGROUND

SUMMARY RESPONSES TO SPECIFIC INTERVIEW QUESTIONS

1. What does your organization do? How big is it?

The group represented by the respondent is a grassroots advocacy group dedicated to the preservation and expansion of passenger rail service in Oklahoma and the surrounding region. The group has volunteers who open the Norman, Oklahoma, passenger rail station on weekends, and also advocate in support of in the state legislature and in city governments that have expressed an interest in improving or expanding passenger rail in the state.

2. What are the most important reasons for Oklahoma to have passenger rail service?

(e.g., provide alternative to driving for shorter trips such as intercity commuting; provide alternative to driving for longer trips out of state; other)

The respondent stated that the economic impact that passenger rail can generate is the most compelling reason for having rail service. Passenger trains have a commercial benefit and can promote economic development. A study done by the Texas Transportation Institute quantified the economic benefits of the *Heartland Flyer* and proved the value of public funding for passenger rail service. It showed that you get $3 back in commercial development for every $1 invested in rail service.

3. What makes people in Oklahoma decide to take a passenger train instead of driving or taking a bus or something else? What conditions would be necessary to convert more trips to passenger rail trips?

The respondent cited several benefits passenger rail transportation provides users:

Cyber-productivity. On the train, people can work, text, or surf the Internet without having to worry about driving. Studies have shown that millennials would rather have a new tablet than a new car.

Rising cost of car ownership. Millennials have a harder time than other age groups affording a car purchase and subsequent registration costs, insurance costs, and maintenance costs.

Cost of living rising faster than wages, especially for millennials. Suburban living is becoming unaffordable to everyone. Urban living is coming back for everyone, including millennials. Oklahoma City has a lot of development. This type of urban residential density is conducive to intercity passenger rail transportation, as well as other types of transit, such as the streetcar under construction in Oklahoma City.

Desire to keep students who attend Oklahoma colleges in the state after graduation. Oklahoma needs to retain its brightest college students after graduation, and not have them go to other states. Passenger trains provide young people with a mode of transportation, while also providing opportunities to save money and be cyber-productive.

4. What are the most important aspects of a passenger rail service to you?

(e.g., frequency of departures, trip time, reliability, station stops)

Frequency of departures is the biggest driver to increasing ridership, noted the respondent. The service has to be convenient. This was confirmed through a grassroots survey the respondent's group conducted among University of Oklahoma students, who indicated that the most common reason they did not use the train was the lack of frequency.

5. Is there enough awareness of existing passenger rail services in the state? If not, how should these services be promoted?

The respondent stated that, from their group's perspective, many people in Oklahoma don't know about their train service. The respondent would like to see efforts to more aggressively market the *Heartland Flyer* service throughout its service area.

6. Where should the state be focusing future passenger service improvements?

(e.g., more frequencies on existing routes; improved amenities/performance; new routes; station improvements/connections)

The respondent suggested that the states of Oklahoma and Texas look at different models of intercity passenger service that have worked around the country to determine what could be adopted to improve service in Oklahoma. Two specific examples mentioned were North Carolina DOT, which owns and maintains its own passenger rail equipment, helping to control their passenger service delivery costs, and Maine's Northern New England Passenger Rail Authority, a separate rail authority that manages Maine's intercity passenger service on behalf of the state.

The respondent also suggested that more frequent communication between ODOT and cities might also allow both parties to set common goals about future passenger service, and how that service might be implemented and funded. Increased local participation could generate increased political support and potentially provide access to other funding streams to implement or operate new services.

One example of this discussed during the interview was a 2015 resolution by the City of Oklahoma City to fund a $50,000 Union Pacific Railroad study to upgrade 4.2 miles of UP track from Stillwater to Oklahoma City in order to bring passenger trains from Tulsa to downtown Oklahoma City. That study did not occur.

The respondent recognized that the rise in state costs to pay for the existing Amtrak Heartland Flyer service has constrained the state's ability to advance initiatives that might expand passenger service on that existing route or other new routes. The respondent suggested that local communities might be able to expand their roles as advocates or sponsors for future passenger rail projects.

7. Are there any specific rail service improvement or infrastructure projects that would benefit you, or passenger rail bottlenecks that the state and its partners should work to alleviate? If so, what are they, and how would they help?

The respondent stated that there are state statutes in effect (O.S. 66-322 and 66-323) that require the establishment of passenger rail service between Oklahoma County and Tulsa County, but that this statute is an unfunded mandate. The respondent also stated that the purchase agreement by Watco of the Sooner Subdivision between Midland City and Sapulpa includes a financial penalty if a demonstration passenger service is not carried out.

The respondent's group would like to see more conventional and higher speed rail service, connecting with Amtrak's the *Southwest Chief* in Kansas on two different routes through Oklahoma, one via Tulsa and one via Wichita.

The respondent was aware, and supportive, of state efforts to work with Amtrak on providing additional service to Oklahoma City, and acknowledged that those efforts might be impacted by the need for significant capital outlays to expand freight rail capacity to accommodate additional passenger frequencies.

8. Is there value for Oklahoma passengers in having Amtrak as a service provider, as opposed to another operating entity?

The respondent stated that Amtrak's costs have been rising, since PRIIA Section 209 went into effect, but noted that the service has remained the same.

9. Are there any state regulations or policies impacting passenger rail service? If so, what changes would you suggest?

The respondent suggested that cities and counties should consider forming regional transportation authorities, and consider establishment of taxation authorities, to manage and fund new or expanded passenger rail services. These authorities might also consider purchasing passenger rail equipment and financing the train service in lieu of, or in cooperation with, the state of Oklahoma.

Oklahoma State Rail Plan: Freight Rail User Interviews

Survey Summary

Type of Business

Shippers interviewed were from a representative sampling of businesses, including transload operators, grain shippers, an energy utility, an aggregate producer, and an inland port. The volume of freight shipped by interviewees per year ranged from 25 carloads up to 16,000 carloads. One shipper was presently not moving any product by rail, but had plans to begin doing so in 2018. Except for some export grain shipments, most products were shipped domestically between the shipper interviewed and origin or destination. Shippers used a combination of trucks and barges in addition to rail to move their freight.

Reasons for Shipping by Rail

Multiple shippers cited the cost-effectiveness of rail for longer hauls or for transporting bulk commodities. Sometimes rail is chosen because it is preferred or required mode by their customers. Other shippers are modally agnostic and utilize whichever mode offers the most cost-effective means of transport at that time.

Shippers were also asked what conditions would be necessary to convert more traffic to rail. A common response was that rail rates would need to be lower to shift more freight to rail. One shipper cited unreliable rail service as a reason for not using rail more. Interchange rates between railroads were also cited as a reason for using trucks for shipments that would require handling by multiple railroads.

Multiple businesses responded that they located their business at a site specifically because it had rail access. Several modified the site to suit their needs if it had existing rail access. In the case of the ports, rail access is a critical component of their operations. One transloader took advantage of an existing rail yard with extra track infrastructure to locate its facility.

Access to Rail Service Competition

It was not common for a shipper to have a facility served by more than one railroad. Typically, competition between different modes was valued as a means to keep shipping prices down. In at least one case, the ability to source products from origins on different railroads had a

greater effect on rates than the ability to ship between the same origin and destination pairs on two different railroads. A shipper who was near two Class I railroads, but only served only by one, mentioned that reciprocal switching would be beneficial to them as a means to improve access and flexibility of product origin and destination.

Interest in expanded transload opportunities was mixed. Shippers already utilizing transload service were interested in expanding the use of it. In some cases, shippers said that transloading would be impractical given the nature of their business or the commodities they handle. One shipper expressed an interest in utilizing rail-to-barge transloading but did not have single-line rail service to a port, so the charges for interchanging between railroads made it cost-prohibitive. Generally, the state's ports were seen as an asset by shippers and were included for consideration in their long-term plans.

Several shippers expressed an interest in utilizing intermodal if a facility were opened within the state, but at present it did not make economic sense for them to ship through one of the facilities in a neighboring state.

Rail Service Satisfaction

Rail service satisfaction levels were generally positive among the shippers interviewed. One shipper noted that service from their Class I railroad has improved over the last 10 years. Another Class I shipper commended their serving railroad's communication and assistance in identifying future customers. A Class III shipper commented that their serving railroad feels like a business partner. One shipper was dissatisfied with their service, both on account of the direct service from a Class III railroad and the inconsistent interchange service between the Class III railroad and a connecting Class I railroad.

An inability to handle unit trains was an issue at multiple locations. Legacy infrastructure not built to modern engineering standards or insufficient track capacity was seen as a limiting factor in the volume of freight that could be shipped by rail. Tight track curvature limits the size and type of locomotive allowed on a track. Insufficient storage track capacity prevents the shipper from receiving or assembling unit trains.

A remark was made that with Oklahoma's more southerly climate, summers are hotter than elsewhere and heat-related issues such as sun kinks sun-kinks caused by thermal expansion of rails requiring a rail line to be taken out of service and repaired present an additional challenge

for the state's short lines. The Class I railroads are able to perform preventative maintenance and reduce the risk of slow orders, but the Class III railroads do not have these same resources.

There were no rail shipping trends that could be traced back to a specific commodity or the handling thereof. If a commodity was no longer shipped by rail, it was usually due to changing customer demand. One transload operation briefly brought in a product by one railroad and transferred it to truck to provide competition to a second railroad that directly served the customer. In other cases, a product may be temporarily shipped by rail if the standard mode is unavailable or if it is a one-off shipment.

Potential Rail Service Improvement Projects

Shippers were largely unable to identify specific rail service improvement projects. One shipper said that general help to the state's Class III railroads in the form of maintenance subsidies or capital funding for infrastructure improvements would have value. Upgrading of facility trackage or construction of a loop track to allow for storage and operation of unit trains would be potential projects of interest for several shippers. Geometric improvements to older track alignments would also improve operational efficiencies at multiple shipper locations.

State Programs and Regulations

State programs were generally viewed positively. Only a few of the shippers had utilized any of the programs themselves, but several more had positive views of them and thought that this support for the state's short line railroads was an important service. Another shipper sees state programs as an important part of growing the state's rural economy.

One shipper speculated that direct state subsidy to Class III lines may be beneficial to shippers. One shipper who was served by two Class I railroads expressed a desire for reciprocal switching service. This would allow for more competitive rail service and freight origin and destination options for their customers. Another shipper suggested that a state awareness campaign to make potential rail customers within the state aware of available shipping options such as transloading could be helpful.

None of the shippers interviewed had issues with existing state regulations.

Future Outlook

The outlook on future rail volumes was mixed among shippers, and tended to be positive.

One shipper said their optimism was contingent on the ability to upgrade their facility to handle unit trains. Another shipper who operated a transload facility expressed unqualified optimism based on the growth they were seeing in their business. Grain shippers were typically optimistic.

A shipper with a negative outlook felt like they were caught in a downward spiral of poor service leading to less freight shipped, which in turn led to a further reduction in rail service.

Appendix D: Online Meeting Statistics and Analytics

Oklahoma State Rail Plan Online Meeting Statistics	
Date	July 28 – August 18, 2017
Sessions	108
Unique users	86
Average session duration	1:26
Top locations	1. Oklahoma City 2. Tulsa 3. Norman 4. Edmond 5. Sapulpa
Technology	1. Desktop (74) 2. Mobile (23) 3. Tablet (10)
Most views/visits	Friday, August 4

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Appendix E: Public and Stakeholder Written Comments and Responses

General

Comment	Response
It would be wonderful to take a passenger train from OKC to Newton, KS, and beyond. I am very excited about this. Please add my email to the list to be kept informed about this! Thank you!	Thank you for your interest in the Oklahoma State Rail Plan. Your information has been added to our project mailing list and you will begin to receive updates on the Oklahoma State Rail Plan Update as we continue to make progress. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
Please add me to the list for information on the 2017 State Rail Plan.	Thank you for your interest in the Oklahoma State Rail Plan. Your information has been added to our project mailing list and you will begin to receive updates on the Oklahoma State Rail Plan Update as we continue to make progress. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
Please add my contact information.	Thank you for your interest in the Oklahoma State Rail Plan. Your information has been added to our project mailing list and you will begin to receive updates on the Oklahoma State Rail Plan Update as we continue to make progress. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely,

Comment	Response
	Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
I road the last passenger train out of Oklahoma as a child and hope to ride the first out of state from tulsa. rail is needed people can no longer afford cars and need reliable transportation besides a bus. thank you for your hard work.	Thank you for your interest in the Oklahoma State Rail Plan. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
On the surface it may seem a little far-fetched, but I think taking a hard look at reopening the KO&G to reduce the amount of traffic going across Lake Eufaula and shift risk and liability away from the drinking water supply and recreational areas is something that needs to be looked at. Union Pacific and BNSF could share the route long-term to offset costs. BNSF would reduce their trip miles between Denison and Henryetta. Union Pacific could run hazmat trains safely without jeopardizing the environment around the lake if the KO&G were reopened.	Thank you for your interest in the Oklahoma State Rail Plan. The proposed passenger rail improvements and investments that are highlighted in Chapter 3 of the online meeting reflect the projects identified in the initial part of the plan. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation

Comment	Response
	200 NE 21st Street Oklahoma City, OK 73105
I would like to learn more about the plan	Thank you for your interest in the Oklahoma State Rail Plan. Your information has been added to our project mailing list and you will begin to receive updates on the Oklahoma State Rail Plan Update as we continue to make progress. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
what happened to the plan to upgrade the A&O line from OKC to Shawnee and then rebuild the A&O Line to MacAlester? Also what about the passenger service that was suppose to run from OKC to Tulsa on the old Frisco Line?	Thank you for your interest in the Oklahoma State Rail Plan. The State Rail Plan includes proposed passenger and freight rail improvements and the studies identified in the initial part of the plan. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input.

Comment	Response
	Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
I think a commuter line or People Mover to/from Downtown Tulsa and Broken Arrow should be added to relieve traffic congestion. I would like to see passenger rail service to/from Tulsa. I get frustrated seeing OKC always getting preferential status for projects i.e. commuter line for Norman to Edmond, Amtrak, etc.	Thank you for your interest in the Oklahoma State Rail Plan. The proposed passenger rail improvements and investments that are highlighted in Chapter 3 of the online meeting reflect the projects identified in the initial part of the plan. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
i would ride amtrak from okla city to kansas city	Thank you for your interest in the Oklahoma State Rail Plan. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input.

Comment	Response
	Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
I am interested in staying informed about the rail plan and being able to give input. I would love to have passenger service to Tulsa from OKC and also to Kansas City from OKC.	Thank you for your interest in the Oklahoma State Rail Plan. During the development of the State Rail Plan, we have coordinated with Amtrak and other passenger rail service providers. At present, Oklahoma is served by an Amtrak intercity passenger rail service between Oklahoma City and Fort Worth, Texas. The passenger rail network serving the state has the potential to be expanded in the future to provide additional services within Oklahoma and the region. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
I'd like to see less traffic in Wagoner,okla. And noise reduction asawell	Thank you for your interest in the Oklahoma State Rail Plan. We are working to identify improvements that will optimize passenger and freight transportation in the state. Both traffic and noise are considered as we identify improvements to the proposed projects in the plan. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
I am the Lawton City Planner an the Director of the Lawton Metropolitan Planning Organization. I believe that rail service for both freight and potentially even passenger transport is a critical pert of our communities future economic growth. I would ask that the Lawton Fort Sill community be involved in these discussions.	Thank you for your interest in the Oklahoma State Rail Plan. Your information has been added to our project mailing list and you will begin to receive updates on the Oklahoma State Rail Plan Update as we continue to make progress. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely,

Comment	Response
	Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
Need to be able to pick up a passenger train in Sand Springs and ride to Houston, TX and nearby Pasadena, TX. Even from Sand Springs, OK to Oklahoma City would be nice.	Thank you for your interest in the Oklahoma State Rail Plan and your comment concerning the passenger rail improvements. The proposed passenger rail improvements and investments that are highlighted in Chapter 3 of the online meeting reflect the projects identified in the initial part of the plan. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
Passenger rail to Wichita, Ks and Tulsa, Ok will make our state more accessible to tourists. It will also make it possible for Oklahomans to use the passenger rail system in America to go somewhere other than Dallas. Texas is fun to visit but I would like to have other options.	Thank you for your interest in the Oklahoma State Rail Plan. Passenger rail and connectivity is an important part of the State Rail Plan and can be found in Chapter Three. We invite you to review that chapter and see the recommended Passenger Rail Improvements. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
Definitely hope the passenger line from OKC through Newton, KS to Kansas City is re-opened.	Thank you for your interest in the Oklahoma State Rail Plan. Passenger rail and connectivity is an important part of the State Rail Plan and can be found in Chapter Three. We invite you to review that chapter and see the recommended Passenger Rail Improvements. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely,

Comment	Response
	Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
PLEASE instate passenger rail travel via the Sooner Sub between Tulsa and Oklahoma City. This plan has been "in the works" for a few years now, and so far, nothing but a "test" run has been accomplished. This would provide safe and affordable travel from small towns along this route for senior citizens who either no longer drive themselves or who feel more comfortable taking a public form of transportation. Many of these towns no longer have bus service. This would be such a help to so many, plus would bring in added revenue to the cities at either end of the line with new spenders coming in to their establishments to shop, dine, and be entertained. This is a passenger train that was promised to us, and we are so hoping it won't be left in the "File 13" to die. We need this train to run daily at least twice a day to accommodate both business interests and retirees. Thank you very much for your consideration.	Thank you for your interest in the Oklahoma State Rail Plan. Passenger rail and connectivity is an important part of the State Rail Plan and can be found in Chapter Three. We invite you to review that chapter and see the recommended Passenger Rail Improvements. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
Please make this a reality	Thank you for your interest in the Oklahoma State Rail Plan. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
I love the idea of using passenger rail service and hope that it will be utilized again in our state. I think especially for big events such as college football games, concerts and other sporting events it would be nice to take a train and not worry about driving and parking. I live in Sapulpa so hoping the train would stop en route to OKC and Norman.	Thank you for your interest in the Oklahoma State Rail Plan. Passenger rail and connectivity is an important part of the State Rail Plan and can be found in Chapter Three. We invite you to review that chapter and see the recommended Passenger Rail Improvements. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
Any rail that is subsidized by the tax payers is nothing but theft. Moving commodities make sense as we are talking about a bunch of weight but it is proven that passenger rails lose money and I and all the other tax payers of this state should not pay for non competing form of transportation.	Thank you for your interest in the Oklahoma State Rail Plan and your comment concerning cost estimates. The State Rail Plan will guide the Oklahoma Department of Transportation's investment decisions to maintain and improve the rail transportation system, which will ultimately strengthen Oklahoma's economy and raise the quality of life for its citizens by improving mobility and economic competitiveness. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
I have a great interest in a state-wide rail plan. Please keep me informed. I would be interested in participating in meetings or conferences on this subject!	Thank you for your interest in the Oklahoma State Rail Plan. Your information has been added to our project mailing list and you will begin to receive updates on the Oklahoma State Rail Plan Update as we continue to make progress. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
I would love having passenger trains stop here in Oklahoma City. We are always looking for interesting and fun things to do. One to two day trips or getaways. The train would be a great way to do that. Going from here to Kansas and back would be great!,	Thank you for your interest in the Oklahoma State Rail Plan. Passenger rail and connectivity is an important part of the State Rail Plan and can be found in Chapter Three. We invite you to review that chapter and see the recommended Passenger Rail Improvements. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
Any thought of service along rt 3 from OKC to Enid. This could continue towards Denver?	Thank you for your interest in the Oklahoma State Rail Plan. Passenger rail and connectivity is an important part of the State Rail Plan and can be found in Chapter Three. We invite you to review that chapter and see the recommended Passenger Rail Improvements. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. The State Rail Plan includes proposed passenger and freight rail improvements and the studies identified in the initial part of the plan. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
Passenger rail service to Kansas City	Thank you for your interest in the Oklahoma State Rail Plan. Passenger rail and connectivity is an important part of the State Rail Plan and can be found in Chapter Three. We invite you to review that chapter and see the recommended Passenger Rail Improvements. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

High Leverage Stakeholder Committee/Agency Comments and Responses

Comment	Response
The changes to the proposed plan, specifically those indicated for Ch 4 Freight Rail Improvements, that were discussed at the June 27th state rail plan meeting are not reflected in the online meeting. Not sure why, but wanted to point this out. Thanks	Thank you for your comment. The meeting provides a brief overview of the chapters as an opportunity for stakeholders, like you, to provide input. The technical team has the information from the last High Leverage Stakeholder Committee meeting. Once the draft is ready for public review, we invite you to review Chapter Four and provide specific edits.

Comment	Response
Good morning, May I receive a copy of the goals for the 2017 State Rail Plan please?...as referenced in ONLINE MTG?	The State Rail Plan goals and objectives are referenced in the meeting presentation, which can be found under Resources on the project website, www.ok2017railplan.com, along with all other materials from the Stakeholder Committee meetings. As discussed with Mr. Frostestad, the goals and objectives will be put into writing in Chapter 5 of the Oklahoma State Rail Plan for review by the DOT staff. We appreciate your participation and input as we update the Oklahoma State Rail Plan.
On the Chapter 3 slide - you might add the commuter route going east from downtown OKC to Midwest City/Tinker. SOme of that route is on Reno and some on the current RR ROW.	Thank you for your interest in the Oklahoma State Rail Plan. The online meeting provides a brief overview of each chapter of the State Rail Plan. The map in Chapter 3 highlights the proposed projects or studies identified in the initial part of the plan. As the plan continues to develop, we will take all of the stakeholder comments, like yours, into consideration. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

Comment	Response
I'd like to receive communication regarding the state's rail plan. Thanks!	Thank you for your interest in the Oklahoma State Rail Plan. Your information has been added to our project mailing list and you will begin to receive updates on the Oklahoma State Rail Plan Update as we continue to make progress. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely, Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105
Hello, Please put me on your notification list of meetings and opportunities for input. Thank you.	Thank you for your interest in the Oklahoma State Rail Plan. Your information has been added to our project mailing list and you will begin to receive updates on the Oklahoma State Rail Plan Update as we continue to make progress. If you haven't already please visit the project website at http://www.ok2017railplan.com to see all materials from previous Stakeholder Meetings and provide further input. Sincerely,

Comment	Response
	Oklahoma Department of Transportation 200 NE 21st Street Oklahoma City, OK 73105

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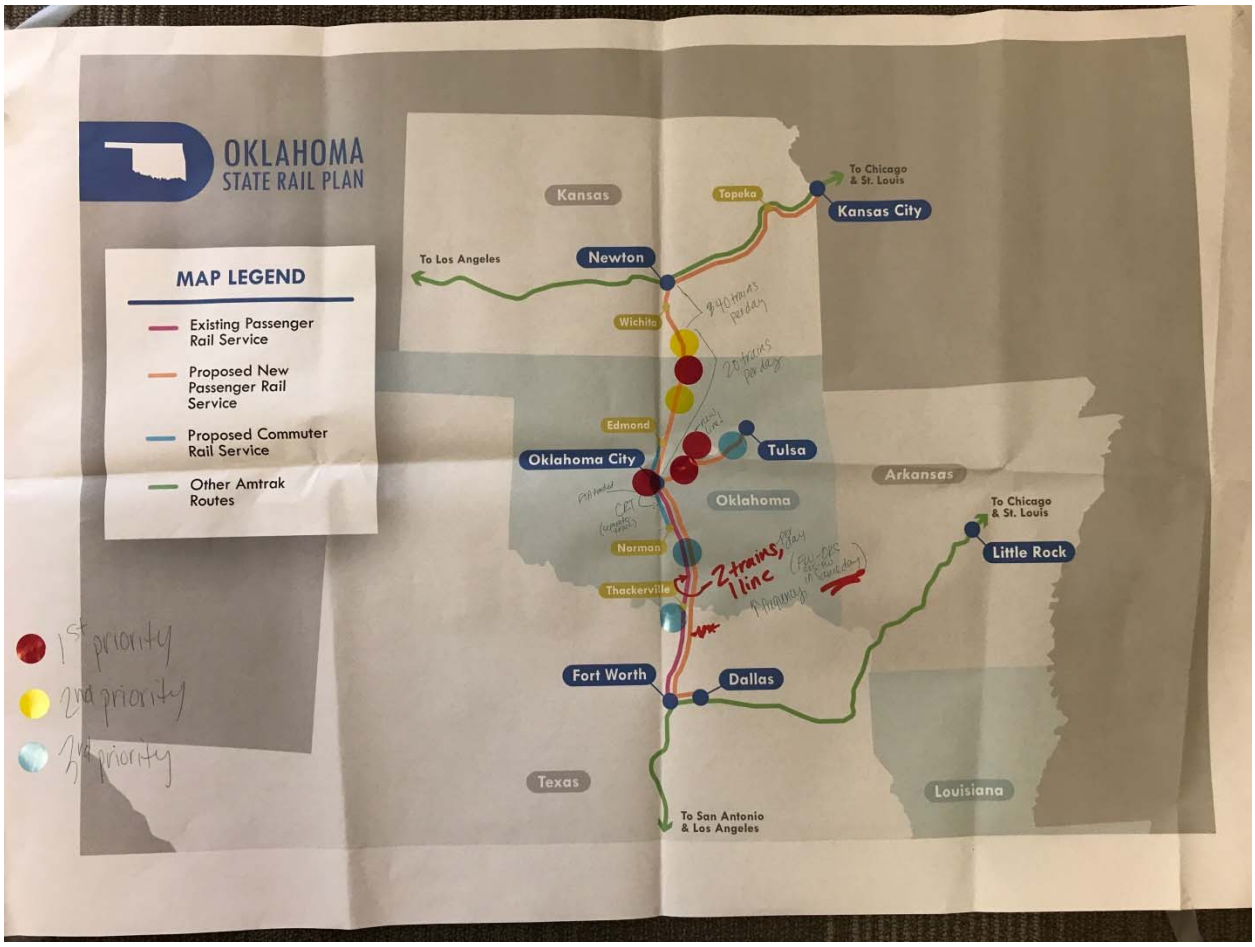
Appendix F: Stakeholder-Identified Projects and Studies

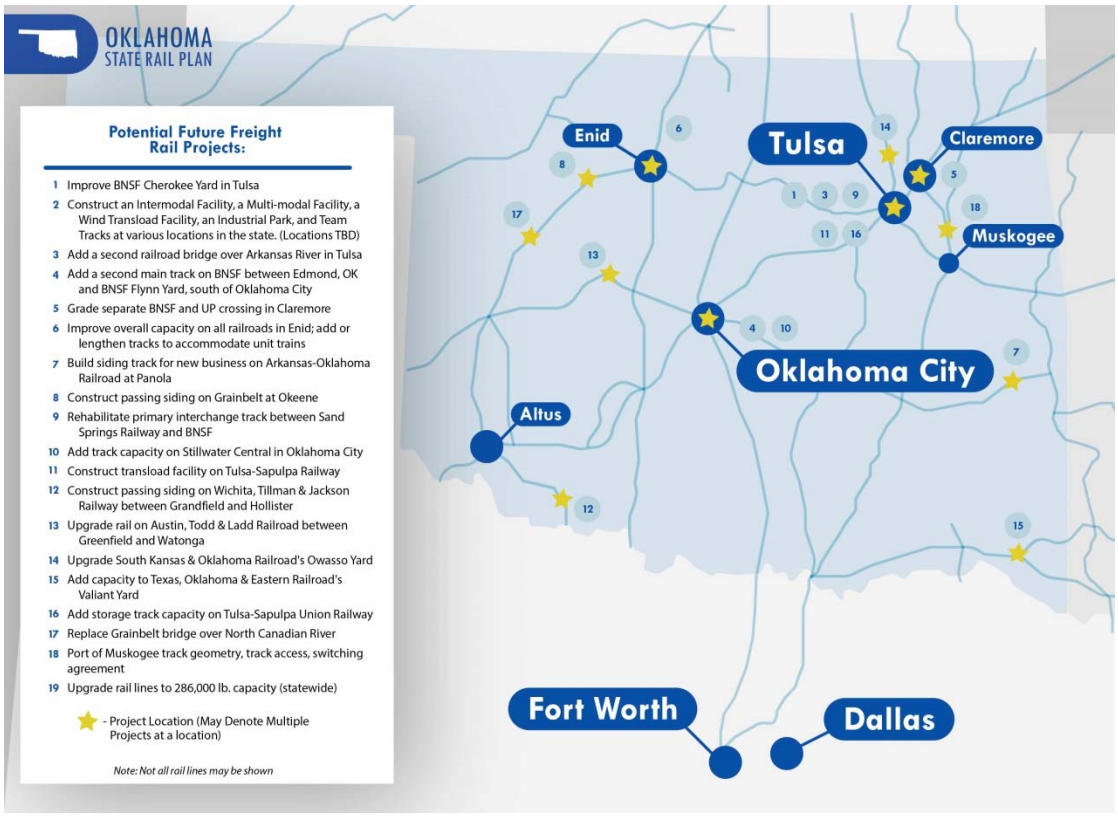
Stakeholders identified the following passenger rail projects or programs:

- New Passenger Rail Service
    - First Priority:
        - A new passenger rail service from Oklahoma City to Newton, Kansas was top priority and should be constructed first. Freight railroad stakeholders recommended OKC to Newton, Kansas corridor has to happen before the line south (Oklahoma City to Fort Worth/Dallas) can work. This corridor is a vital link to keep the south line moving. There is better potential ridership from Chicago (and cities to the West) to Oklahoma City than from Oklahoma City to Fort Worth/Dallas.
    - Second Priority: Commuter rail line on the east from Oklahoma City to Norman.
        - The train schedule would be same as current bus schedule.
        - The meet ups would be built into the passenger rail and freight rail schedules so there would be minimal impact.
- There needs to be stops along that north corridor at Edmond, Guthrie and Wichita
- The trains will need to maintain velocity (~60 mph) in order to maintain good enough headways to make the north corridor efficient and attractive.
- There is currently a Greyhound bus from Oklahoma City to Newton, Kansas. Amtrak does not have the money to expand further or with more frequency (about 400-500 riders per month currently).
- The railroad companies said there is enough siding in Oklahoma City to accommodate a new passenger rail system (seven car train capacity now, but only using three cars).
- Companies such as UPS, FedEx and Amazon could use more freight in order to help passenger rail infrastructure build-out and support future improvements. If using more freight these companies could be more sustainable, have more space and load capacity and be more cost-effective.
- FUNDING IS KEY! Safety and adequate frequency are top priorities.
- Bridges should be built for future capacity consideration.
- The south corridor from Oklahoma City to Forth Worth/Dallas has more weather concerns, not as high of a ridership demand, and not as pretty of a ride for the non-commuter passengers (Denver to Oklahoma City or Oklahoma City to Chicago is more attractive).
- Oklahoma City to Tulsa corridor
    - Track condition is bad.
    - Current bus service is not city center to city center (it stops in suburbs outside of the two cities).

  - The train would need to be faster than driving; right now the highway is 75 mph and can take a little more than hour so the train should match or beat that to make it good for commuters.
  - Some stakeholders said the OKC to Tulsa corridor should be for commuters or that commuters wouldn't use it so it is more about the journey; however, a stakeholder did say that commuters would be allowed to work, not be on cellphone, deal with traffic, parking, etc.
  - There is a big rail advocacy group for this corridor – they should be looked in to.
  - Have to have a new passenger only rail corridor – not a shared track with the railroad.
  - There is currently a high speed rail plan for intercity passenger rail in this corridor.
- All passenger rail lines should bypass Cherokee Yard.
- What about rail lines through Eastern Oklahoma that connects to Kansas City?



Freight Rail Map



Stakeholders identified the following freight rail projects or programs:

- Grade Separation Program – emphasize safety and providing funding for public private partnership projects that benefit the public as well as the railroads.
- Discussion was held whether private capacity improvement projects should be included in the rail plan for potential public funding.
- City of Moore/BNSF – grade separation project.
- City of Ardmore/BNSF – grade separation project.
- City of Claremore/BNSF – grade separation project, this is not a BNSF/UPRR crossing issue, it is a public roadway crossing issue – blocking grade crossings in disrupting the roadway traffic flow is a problem.
- Investigate grade separated crossings and closing others through the BNSF corridor between Edmond, OK and BNSF Flynn Yard, south of Oklahoma City. This would be an alternate solution to project #4 on the Potential Future Freight Rail Project Map.
- 286K Program – instead of having a general increase the loading capacity of the rail network in Oklahoma to 286K, focus on specific corridors and their needs to increase to 286K.

- Identify specific locations – track, and bridges on the short lines. This information will be provided at a later date.
- Economic Development – educate the public of the difference between intermodal facility, transload facility, TEAM tracks, etc.
- Intermodal facility in OKC or Tulsa.
- UPRR/AOK transload facility is currently being constructed on the Shawnee Line near OKC.
- UPRR N-S line south of Enid needs additional capacity due to frac sand and auto car traffic – proposed 10,000 TF siding at Jacks.
- Contact railroads for transload opportunities.
- Kiamichi Rail (KRR) – Rail, ties, surfacing on the Ashdown Sub to support movement of cars to multiple Class 1 connections for new customers locating in Durant. ($15 million)
- Kiamichi Rail (KRR) – Rail, ties, surfacing on the Paris Sub to upgrade to 286K.
- New rail bridge over the North Canadian River in Oklahoma City on the BNSF/SLWC. This is currently a single main line bridge and the SLWC runs on BNSF N-S line to cross the river and then splits off. This will allow the SLWC to have their own designated route over the river.
- Improve capacity between the BNSF and Grainbelt RR in Enid.
- New industry track in Inola, OK off the UPRR.

Appendix A – Profile of Oklahoma's Railroad Network

Table of Contents

A.1 Introduction

The primary purpose of this appendix is to provide an inventory and description of the assets of the Oklahoma railroad network for railroads of all classes and for non-operating railroad owners that includes background and details about the physical and operating characteristics of each railroad and rail line segment in the state. This data is used to understand potential freight capacity, service velocity and versatility, and to ascertain potentially what types of business and levels of service can be accommodated over each line segment. Furthermore, this inventory will be used as a tool later to identify and prioritize potential rail infrastructure improvements that eliminate bottlenecks and

operating and safety conflicts, expand capacity, promote rail access, enhance connectivity between railroads and between railroads and other transportation modes, and encourage growth in the railroad transportation sector that is consistent with the needs of Oklahoma's people, businesses, industries, and the vision of the Oklahoma State Rail Plan.

Included in the inventory for each railroad in the state, to the extent known during development of the Oklahoma State Rail Plan, are key physical and operating characteristics for each Oklahoma railroad subdivision or railroad line segment. This information, identified in the list below, was collected through coordination with Oklahoma's railroads in 2017, and via analysis of Oklahoma DOT data (including Oklahoma Railroad Annual Reports submitted by the state's railroads to Oklahoma DOT annually and rail maps generated by Oklahoma DOT), Class I Railroad Annual Report R-1s (submitted by the state's Class I railroads to the federal Surface Transportation Board annually), railroad timetables, and other publicly available data.

- **Railroad Subdivision and Division identification.**
- **Owner of the line**.
- **Operator of the line**.
- **Line Heritage –** identifies the historic railroad ownership of each subdivision.
- **Subdivision Route / Mileage –** identifies the subdivision endpoints and route mileage within Oklahoma. Note that railroad miles as portrayed in the railroad timetable and other public sources can vary from the route-mile calculations presented in the State Rail Plan.
- **FRA Track Class –** identifies the likely applicable Federal Railroad Administration (FRA) Class of Track designation on the main track(s) for each subdivision.
- **Track Configuration –** identifies the number of main tracks and the presence of sidings for train meet-pass events on each subdivision, within Oklahoma.
- **Maximum Authorized Speed for Freight Trains –** identifies the maximum speed freight trains can travel over each subdivision. Note that speeds may be further restricted owing to track geometry, bridge restrictions, limited sight distances, challenges of rail operations in urban and rail terminal areas, and other safety and operating considerations not identified in this inventory. Maximum authorized speeds for freight trains may also be lower than the maximum authorized speed by the FRA's Class of Track regulations.
- **Maximum Authorized Speed for Passenger Trains –** identifies the maximum speed passenger trains can travel over each subdivision; note that speeds may be further restricted owing to track geometry, bridge restrictions, limited sight distances, challenges of rail operations in urban and rail terminal areas, and other safety and operating considerations not identified in this inventory. Speeds are identified only for railroad subdivisions presently hosting Amtrak intercity and long-distance passenger trains in Oklahoma, and on other segments as designated by Oklahoma's railroads.
- **Wayside Signals –** indicates the presence of a wayside signal system on each subdivision (see operational authority below for wayside signal types), which is used to convey operating authority to trains and equipment and / or show occupation of main track(s) by trains and equipment.
- **Method of Operation –** identifies generally the railroad operating system or practice employed on each segment, to the extent known, including the presence of:
    - **Centralized Traffic Control (CTC) –** A train control system whereby a train dispatcher provides operational authority to trains remotely via a wayside signal system and radio communication.

  - **Automatic Train Control (ATC) –** A train control system integrated with a cab signaling system that applies train speed control. An alarm in the train locomotive notifies the engineer when the train has exceeded the maximum allowable speed for a given portion of track, and if the engineer fails to reduce speed or apply the air brake system, a penalty brake application is made automatically by the ATC system. ATC typically exists as an overlay to a CTC system, which provides operational authority.
  - **Automatic Block Signals (ABS) –** A wayside signal system that indicates block occupancy and minimizes the likelihood of collisions between trains. ABS is not controlled by a train dispatcher, but a train's entry to into a segment of ABS may be controlled by a train dispatcher. Typically requires that operational authority be provided as an overlay through a track warrant or track authority issued by a train dispatcher via radio communication.
  - **Track Warrant Control (TWC) or Track Authority (TA); designations may vary by railroad –** System of operational authority issued to trains remotely by a train dispatcher via radio communication.
  - **Restricted Limits (RL), Restricted Speed (RS), GCOR Rule 6.28, Yard Limits (YL), and Rule 520 (Non-Main Track); designations may vary by railroad –** Typically slow speed operations (not more than 20 mph, but may be much slower, depending upon designation, sight distance, congestion, and operating conditions) within and at the approach to railroad yards and on industrial leads and other trackage that does not require operational authority from a train dispatcher. Trains operating within these limits typically coordinate operations with the train dispatcher and other trains operating within the limits via radio communication.
- **Maximum Allowable Gross Weight –** identifies loaded railcar weight limitations, as dictated by the likely condition of mainline bridges and track.
- **Clearances –** identifies the known vertical clearance potential for accommodating specific types of railcar equipment and/or the vertical clearance above top of rail (ATR) in feet and inches. Reporting by railroad varies. Some equipment types identified include:
  - **Trailer on Flat Car (TOFC) –** railroad flat car on which a truck semi-trailer is transported; known also as piggyback.
  - **Double-Stack Car / Container on Flat Car (COFC) –** intermodal railcar that typically accommodates shipping containers of up to 53 feet in length stacked one or two high.
  - **Tri-Level / Hi-Trilevel –**railcar equipped with racks accommodating two or three decks of automobiles or light trucks.
  - **AutoMax –** automobile rack railcar with adjustable deck heights for accommodating bi-level or tri-level configurations.
- **Current Traffic Density (2016) –** identifies the rail traffic density by subdivision in annual Gross Ton-Miles (GTM) in millions. GTM includes the number of trailing tons in a train behind the locomotives (including railcars and lading, railroad company service equipment, and cabooses) times the distance moved in road freight trains. Traffic density for tenant railroads with trackage rights over subdivisions of an owning (or host) railroad are identified, if known.
- **Average Number of Trains per Day –** identifies a range of likely average daily train volumes for each subdivision.
- **Commodities Transported –** identifies typical commodities or commodity groups transported over each subdivision. Note that commodities and the rail routes they travel over can change at any time due to markets, rail capacity, and other considerations. A more detailed discussion of current traffic flows and primary commodities transported by rail in and through Oklahoma can be found in Chapter 2 of the Oklahoma State Rail Plan.

- **Industrial Leads –** identifies railroad-designated industrial leads (or spurs, as designated by some railroads) which are used to access rail customers off the subdivision mainline and extend the reach of rail service in Oklahoma; mileage of industrial leads (and spurs) is not included in route-mile calculations for the state owing to their designation.
- **FRA Excepted Track –** identifies segments of FRA Excepted Track over which railroads operate under the following conditions: Trains will be operated at 10 mph or less; no occupied passenger trains will be operated; no freight train will be operated that contains more than five railcars required to be placarded as hazardous materials shipments; and track gage (distance between the rails) will not be more than 4 feet 10 ¼ inches (standard gage is 4 feet 8 ½"). FRA Excepted Track in Oklahoma is typically found on lightly used industrial leads.

Also identified in the context of each railroad's network in Oklahoma is the existence of trackage rights which provide authority for one railroad (a tenant) to operate over the line of another railroad (host); haulage rights which is an arrangement whereby one railroad markets service over a route owned by another, but does not operate its own trains over the host railroad; and connections (or interchanges) between railroads where railcars are exchanged. Major railroad yards/terminals and rail facilities as well as rail-port connections in the state are also identified.

Table A-1 below identifies Oklahoma's 24 railroads and one non-operating railroad owners that own a total of approximately 3,245 route miles in the state, and which are detailed in this appendix. The table also identifies by entity – railroad class (if applicable), standard alpha carrier code (an industry standard two- to four-letter abbreviation), total miles of railroad owned and operated in Oklahoma (including lines leased, operated under contract, trackage rights, and haulage rights, as applicable), and the percentage of the total Oklahoma rail network that each railroad ownership represents. Note that miles leased and/or operated under contract, miles operated under trackage rights, and miles operated under haulage rights are included in the total miles operated figures, allowing total miles operated to exceed total miles owned. Industrial railroads and private track ownership provide transportation service at industrial installations in Oklahoma, but, due to their classification, the mileage of privately owned industrial track is not included in calculations of the state's rail network. Similarly, the industrial track (including designated industrial leads and spurs) of Class I, II, and III rail carriers is also not included in the route-mile calculations.

Table A-1: Oklahoma Route Mileage by Railroad and Non-Operating Railroad Owner

Railroad	Standard Carrier Alpha Code	Railroad Class	Total Miles Owned	Percent of Total OK Rail Network Owned	Miles Owned and Operated	Miles Leased / Operated Under Contract	Miles Operated Under Trackage Rights	Miles Operated Under Haulage Rights	Total Miles Operated
BNSF Railway	BNSF	Class I	966	29.76%	966	0	219	46	1230
Kansas City Southern Railway	KCS	Class I	150	4.65%	145	0	1	0	146
Union Pacific Railroad	UP	Class I	894	27.55%	821	0	351	0	1171
Subtotal (Class I)			2010		1931	0	570	46	2548
Arkansas-Oklahoma Railroad	AOK	Class III	70	2.16%	70	48	4	0	122
Arkansas Southern Railroad	ARS	Class III	0	0.00%	0	6	4	0	10
Austin, Todd & Ladd Railroad	ATL	Class III	39	1.20%	39	4	29	0	72
Blackwell Northern Gateway Railroad	BNGR	Class III	0	0.00%	0	17	0	0	17
Cimarron Valley Railroad	CVRR	Class III	35	1.08%	35	0	0	0	35
Farmrail Corporation	FMRC	Class III	97	2.99%	97	90	0	0	187
Grainbelt Corporation	GNBC	Class III	180	5.56%	179	0	37	0	216
Kiamichi Railroad	KRR	Class III	156	4.81%	156	0	34	0	190
Northwestern Oklahoma Railroad	NOKL	Class III	5.4	0.17%	5	0	0	0	5
Sand Springs Railway	SS	Class III	8	0.25%	8	0	0	0	8
South Kansas & Oklahoma Railroad	SKOL	Class III	68.2	2.10%	68.2	5	0	0	73.2
Stillwater Central Railroad	SLWC	Class III	257	7.93%	257	37.6	37	0	332
Texas, Oklahoma & Eastern Railroad	TOE	Class III	40	1.23%	40	0	0	0	40
Tulsa Sapulpa Union Railway	TSU	Class III	10	0.31%	10	13	0	0	23
Western Farmers Electric Corp.	WFEC	Class III	14	0.43%	14	0	0	0	14
Wichita, Tillman & Jackson Railway	WTJR	Class III	61	1.88%	61	0	0	0	61
Subtotal (Class III)			1041		1040	221	145	0	1406
State of Oklahoma	N/A	N/A	152.7	4.71%	0	0	0	0	0

Tulsa's Port of Catoosa	POCA	Industry	20	0.62%	20	0	0	0	20
Port of Muskogee Railroad	PMR	Industry	9	0.28%	9	0	0	0	9
Public Service of Oklahoma	PSO	Industry	11	0.34%	11	0	0	0	11
Subtotal (Other Railroads)			193		40	0	0	0	0
Total all Railroads			3245		3011	221	716	46	3953[c]

Source: Oklahoma DOT; Class I Railroad Annual Reports R-1 (2014); Oklahoma Class I, II, and III railroads

Notes:

(a) 17 miles owned by the State and other railroads are presently not operated.

A.2 Class I Railroads in Oklahoma

The section describes Oklahoma's three Class I railroads. Included are data and operating subdivision tables for each railroad, showing such details as ownership, miles owned and operated, trackage and haulage rights, physical characteristics of operating subdivisions, facilities, commodities handled, connections with other railroads, and more. In 2017, Oklahoma's Class I railroads were asked to confirm much of the data appearing in this section and to provide additional input, as appropriate. All of Oklahoma's three Class I railroads participated in the data gathering. No physical inspections of the Class I railroads were conducted during development of the Oklahoma State Rail Plan.

BNSF Railway (BNSF)

A summary of statistical information for BNSF Railway (BNSF) within Oklahoma is as follows:

- Line owned: 966 miles
- Line operated under lease: 0 miles
- Line operated under contract: 0 miles
- Line operated under trackage rights: 219 miles
- Line operated under haulage rights: 46 miles
- Total mileage operated: 1230 miles
- Line owned, not operated, by respondent: 0 miles

BNSF Interchanges

Interchanges are locations where railroads intersect and exchange railcars. BNSF has the ability to interchange freight rail traffic with one Class I carrier (UP) and 12 Class III carriers (AOK, CVRR, FMRC, GNBC, KRR, NOKL, SS, SKOL, SLWC, TSU, WT&J). Designated interchange point locations and connecting carriers are listed below:

- Altus – Farmrail Corporation (FMRC), Grainbelt Corporation (GNBC), Stillwater Central Railroad (SLWC), Wichita, Tillman & Jackson Railway (WT&J)
- Boise City – Cimarron Valley Railroad (CVRR)
- Claremore – Union Pacific Railroad (UP)

- Enid – FMRC, GNBC, UP
- Madill – Kiamichi Railroad (KRR)
- Muskogee – UP
- Oklahoma City – Austin, Todd & Ladd Railraod (AT&L), SLWC, UP
- Pawnee – SLWC
- Sapulpa – SLWC, Tulsa Sapulpa Union Railway (TSU)
- Sequoyah – Public Service of Oklahoma (PSO)
- Shawnee – Arkansas-Oklahoma Railroad (AOK), UP
- Snyder – GNBC
- Tulsa – South Kansas & Oklahoma Railroad (SKOL), Sand Springs Railway (SS), UP
- Wellington, KS – Blackwell Northern Gateway Railroad (BNGR)
- Woodward – Northwestern Oklahoma Railroad (NOKL)

BNSF Trackage Rights and Joint Trackage

BNSF has trackage rights over the following line segments and connecting railroads:

- Haulage rights over Union Pacific Railroad Tulsa Subdivision between Tulsa, Oklahoma and Muskogee, Oklahoma; approximately 46.0 miles.
- Trackage rights over Union Pacific Railroad Oklahoma City Subdivision between Oklahoma City, Oklahoma and Shawnee, Oklahoma; approximately 37.0 miles.
- Trackage rights over Union Pacific Railroad Pratt Subdivision between Kansas / Oklahoma state line near Tyrone, Oklahoma–Oklahoma / Texas state line near Texhoma; approximately 52.0 miles.
- Stillwater Central Railroad (SLWC) between Sapulpa, Oklahoma and Oklahoma City, Oklahoma; approximately 130.0 miles.
- Stillwater Central Railroad (SLWC) between Oklahoma City, Oklahoma and Snyder, Oklahoma; approximately 94.0 miles.

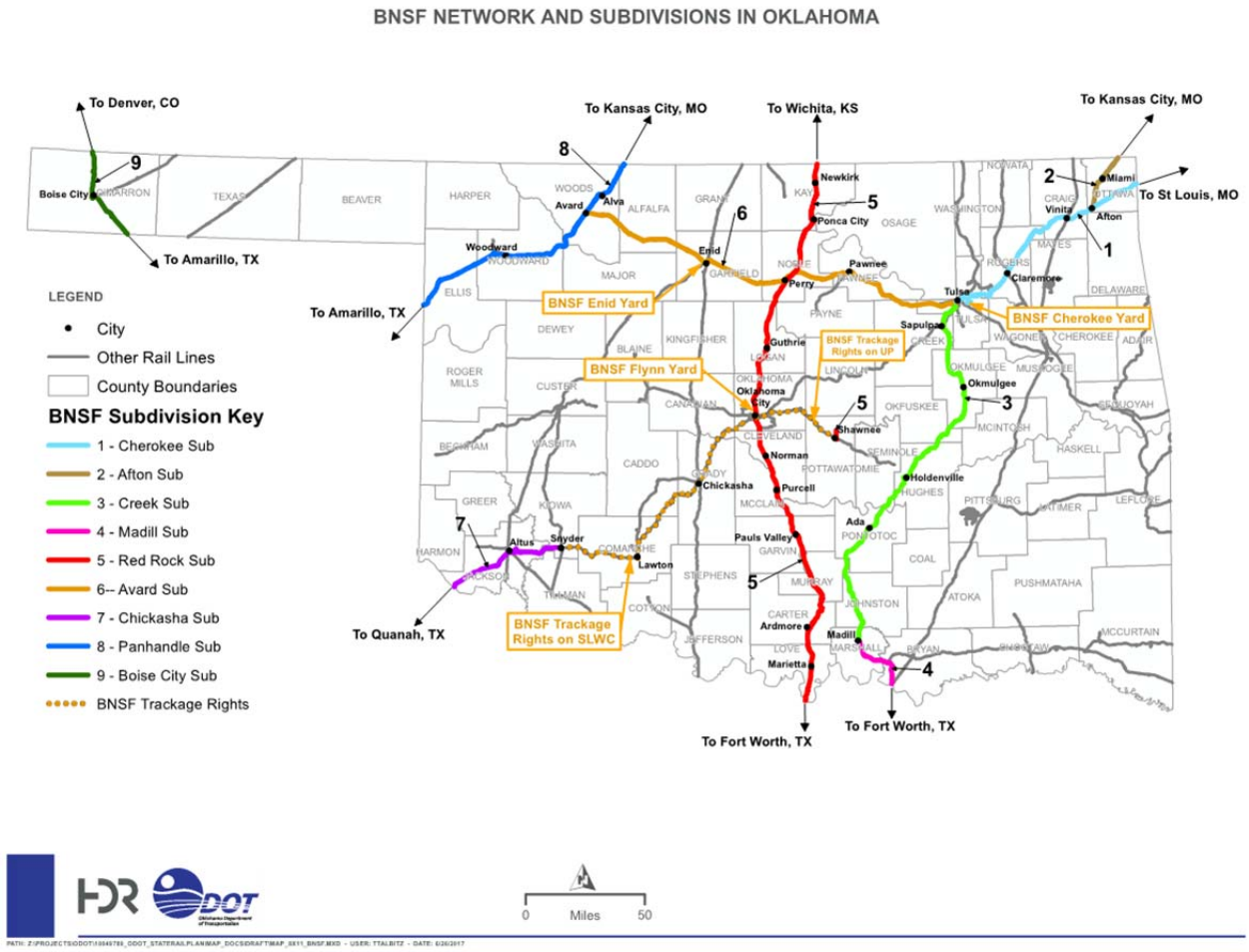
BNSF Divisions and Subdivisions in Oklahoma

BNSF's Oklahoma network is comprised of part of three operating divisions:

- Heartland Division
- Kansas Division
- Red River Division

BNSF's 9 operating subdivisions in Oklahoma are shown in **Figure A-1** below. BNSF's Oklahoma subdivisions are presented by division and described in the tables below.

Figure A-1: BNSF Network and Subdivisions in Oklahoma



Source: BNSF and HDR

The Oklahoma subdivisions shown in **Table A-2** below are components of the BNSF Heartland Division.

Table A-2: Descriptions of BNSF Subdivisions in Oklahoma – Heartland Division

Subdivision	Cherokee Subdivision
Division	Heartland
Owner	BNSF
Operator	BNSF
Line Heritage	St. Louis-San Francisco Railway (SLSF)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Oklahoma / Missouri state line near Seneca, Missouri–Tulsa, Oklahoma; 101.1 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings, limited sections of two main tracks
Maximum Authorized Speed Freight	50 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC) / Positive Train Control (PTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment

Current Traffic Density (2015) in Annual Gross Tons per Mile (in Millions)	74 GTM
Average Number of Trains per Day	20–30
Commodities Transported	Coal, farm products, food and kindred products, chemical and allied products, intermodal, ethanol, and general merchandise freight traffic
Industrial Leads	Howard Spur: Tulsa, Oklahoma; approximately 1.0 mile
FRA Excepted Track	Howard Spur

Subdivision	Afton Subdivision
Division	Heartland
Owner	BNSF
Operator	BNSF
Line Heritage	St. Louis-San Francisco Railway (SLSF)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Oklahoma / Kansas state line near Quapaw, Oklahoma–Afton, Oklahoma; 24.8 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	50 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC) / Positive Train Control (PTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Traffic Density (2015) in Annual Gross Tons per Mile (in Millions)	34 GTM
Average Number of Trains per Day	10–20
Commodities Transported	Coal, farm products, food and kindred products, chemical and allied products, intermodal, ethanol, and general merchandise freight traffic
Industrial Leads	• Miami Lead: Miami, Oklahoma; approximately 3.0 miles; 286,000 lbs. maximum allowable gross weight; line density unknown.
FRA Excepted Track	Miami Lead Yard tracks at Tiger

The Oklahoma subdivisions shown in **Table A-3** below are components of the BNSF Chicago Division.

Table A-3: Descriptions of BNSF Subdivisions in Oklahoma – Red River Division

Subdivision	Creek Subdivision
Division	Red River
Owner	BNSF
Operator	BNSF
Line Heritage	St. Louis-San Francisco Railway (SLSF)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Tulsa, Oklahoma–Madill, Oklahoma; 175.7 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings, limited sections of two main tracks
Maximum Authorized Speed Freight	55 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC), GCOR Rule 6.28 at Cherokee Yard
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment

Current Line Density (2015) in Annual Gross Tons per Mile (in Millions)	• 38 GTM (Tulsa–Sapulpa) • 30 GTM (Sapulpa–Troy) • 37 GTM (Troy–Madill)
Average Number of Trains per Day	10–20
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	Okmulgee, Oklahoma; approximately 2.2 miles
FRA Excepted Track	West Cherokee, tracks 0141, 0143, 0151, and 0150 (Industry tracks)

Subdivision	Madill Subdivision
Division	Red River
Owner	BNSF
Operator	BNSF
Line Heritage	St. Louis-San Francisco Railway (SLSF)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Tulsa, Oklahoma–Oklahoma / Texas state line near Colbert, Oklahoma; 28.7 miles
FRA Track Class	Class 3
Track Configuration	One main track
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2015) in Annual Gross Tons per Mile (in Millions)	33 GTM
Average Number of Trains per Day	20–30
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

Subdivision	Red Rock Subdivision
Division	Red River
Owner	BNSF
Operator	BNSF
Line Heritage	Atchison, Topeka & Santa Fe Railway (AT&SF)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Oklahoma / Kansas state line near Arkansas City, Kansas–Oklahoma / Texas state line near Thackerville, Oklahoma; 248.7 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	55 mph freight
Maximum Authorized Speed Passenger	79 mph passenger
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC) / Positive Train Control (PTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2015) in Annual Gross Tons per Mile (in Millions)	• 60 GTM (KS/OK state line–Red Rock) • 54 GTM (Red Rock–Perry) • 53 GTM (Perry–Oklahoma City) • 57 GTM (Oklahoma City–OK/TX state line)

Average Number of Trains per Day	20–30
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	Shawnee Industrial Spur: Aydelotte, Oklahoma–Shawnee, OK; approximately 8.9 miles (former Atchison, Topeka & Santa Fe Railway) Flynn Industrial Spur: Flynn (Oklahoma City), Oklahoma; approximately 4.7 miles (former Atchison, Topeka & Santa Fe Railway)
FRA Excepted Track	Various yard tracks

Subdivision	Avard Subdivision
Division	Red River
Owner	BNSF
Operator	BNSF
Line Heritage	St. Louis-San Francisco Railway (SLSF)
Subdivision Route / Mileage	Tulsa, Oklahoma–Avard, Oklahoma; 176.0 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	70 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC) / Positive Train Control (PTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2015) in Annual Gross Tons per Mile (in Millions)	• 46 GTM (Tulsa–Pawnee) • 54 GTM (Pawnee–Perry) • 66 GTM (Perry–Enid) • 32 GTM (Enid–Avard)
Average Number of Trains per Day	10–20
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	Tracks 4001, 4006 through 4020 in Enid

Subdivision	Chickasha Subdivision
Division	Red River
Owner	BNSF
Operator	BNSF
Line Heritage	St. Louis-San Francisco Railway (SLSF)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Altus, Oklahoma–Oklahoma / Texas state line near Eldorado, Oklahoma; 47.2 miles
FRA Track Class	Class 2
Track Configuration	One main track
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	268,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2015) in Annual Gross Tons per Mile (in Millions)	1 GTM
Average Number of Trains per Day	1–10
Commodities Transported	Farm products, food and kindred products, chemical and allied products,

	ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

The Oklahoma subdivisions shown in **Table A-4** below are components of the BNSF Kansas Division.

Table A-4: Descriptions of BNSF Subdivisions in Oklahoma – Kansas Division

Subdivision	Panhandle Subdivision
Division	Kansas
Owner	BNSF
Operator	BNSF
Line Heritage	Atchison, Topeka & Santa Fe Railway (AT&SF)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Oklahoma / Kansas state line near Kiowa, Kansas–Oklahoma / Texas state line near Higgins, Texas; 118.9 miles
FRA Track Class	Class 5
Track Configuration	Two main tracks
Maximum Authorized Speed Freight	70 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC) / Positive Train Control (PTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2015) in Annual Gross Tons per Mile (in Millions)	174 GTM
Average Number of Trains per Day	70–80
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

Subdivision	Boise City Subdivision
Division	Kansas
Owner	BNSF
Operator	BNSF
Line Heritage	Atchison, Topeka & Santa Fe Railway (AT&SF)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Oklahoma / Colorado state line near Campo, Colorado–Oklahoma / Texas state line near Kerrick, Texas; 42.9 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	49 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2015) in Annual Gross Tons per Mile (in Millions)	56 GTM
Average Number of Trains per Day	10–20
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred

	products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

Kansas City Southern Railway (KCS)

A summary of statistical information for Kansas City Southern Railway (KCS) within Oklahoma is as follows:

- Line owned: 145 miles
- Line operated under lease: 0 miles
- Line operated under contract: 0 miles
- Line operated under trackage rights: 0 miles
- Line operated under haulage rights: 0 miles
- Total mileage operated: 145 miles
- Line owned, not operated, by respondent: 10 miles

KCS Interchanges

Interchanges are locations where railroads intersect and exchange railcars. KCS has the ability to interchange freight rail traffic with one Class I carriers (UP), and two Class III carriers (AOK, ARS, KRR, TOE, UP). Designated interchange point locations and connecting carriers are listed below:

- Ashdown, Arkansas – Kiamichi Railroad (KRR)
- Heavener – Arkansas Southern Railroad (ARS)
- Howe – Arkansas-Oklahoma Railroad (AOK)
- Perkins, Arkansas – Texas, Oklahoma & Eastern Railroad (TOE)
- Sallisaw – Union Pacific Railroad (UP)

KCS Trackage Rights and Joint Trackage

KCS does not have trackage rights over any foreign railroads in Oklahoma.

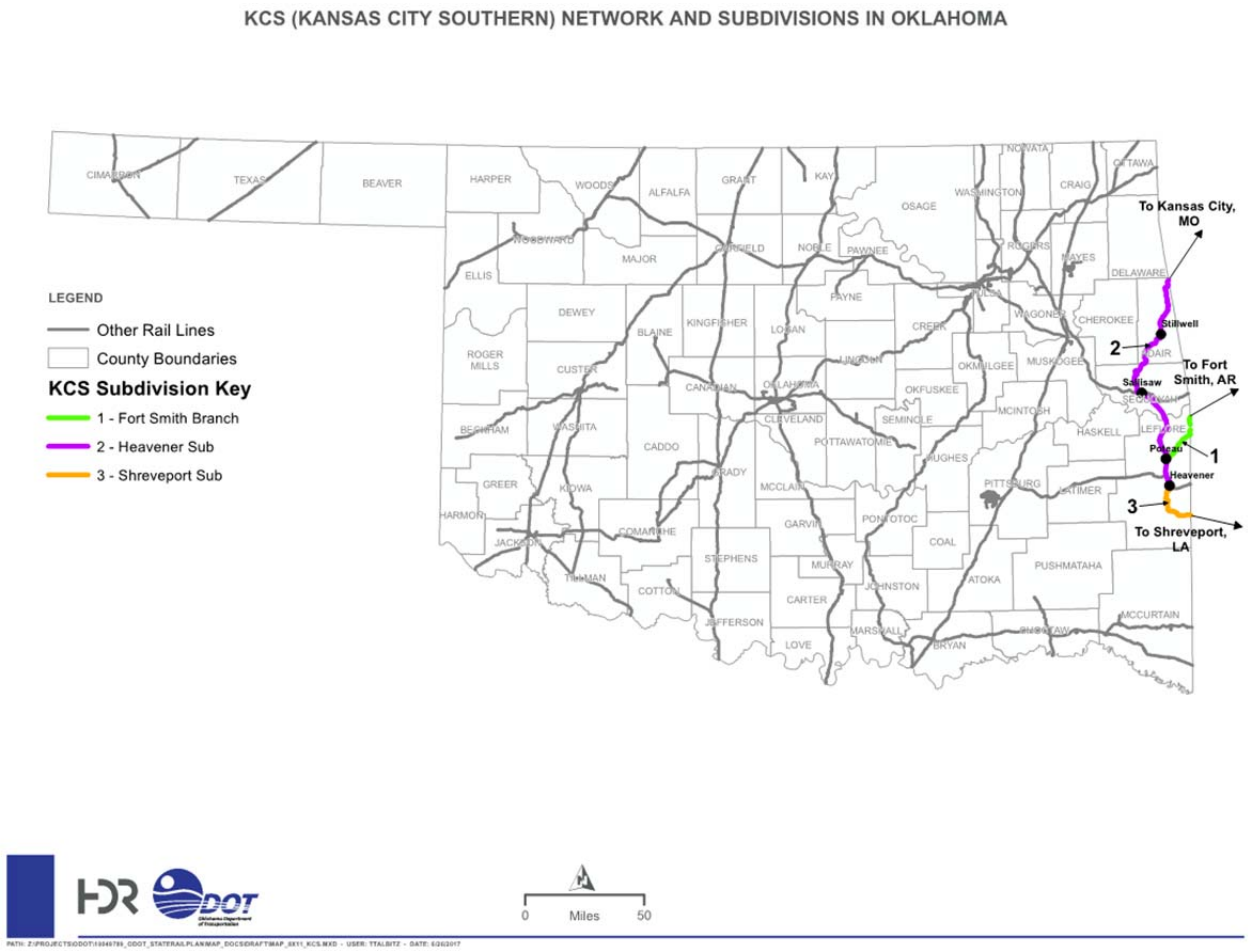
KCS Divisions and Subdivisions in Oklahoma

KCS's Oklahoma network is comprised of part of one operating division:

- Midwest Division

KCS's 3 operating subdivisions in Oklahoma are shown in **Figure A-2** below. BNSF's Oklahoma subdivisions are presented by division and described in the tables below.

Figure A-2: KCS Network in Oklahoma



Source: KCS and Oklahoma DOT

The Oklahoma subdivisions shown in **Table A-5** below are components of the KCS Midwest Division.

Table A-5: Descriptions of KCS Subdivisions in Oklahoma – Midwest Division

Subdivision	Heavener Subdivision
Division	Midwest
Owner	KCS
Operator	KCS
Line Heritage	Kansas City, Pittsburg & Gulf Railroad (KCP&G)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Oklahoma / Arkansas state line near Watts, Oklahoma–Heavener, Oklahoma; 105.2 miles
FRA Track Class	Class 3 (MP 236.0–MP 301.0) Class 4 (MP 301.0–MP 331.7) Class 2/3 (MP 331.7–MP 338.4)
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC)

Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	40.32 GTM
Average Number of Trains per Day	Unknown
Commodities Transported	Coal, intermodal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

Subdivision	Shreveport Subdivision
Division	Midwest
Owner	KCS
Operator	KCS
Line Heritage	Kansas City, Pittsburg & Gulf Railroad (KCP&G)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Heavener, Oklahoma–Oklahoma / Arkansas state line near Page, Oklahoma; 22.0 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	42.94 GTM
Average Number of Trains per Day	Unknown
Commodities Transported	Coal, intermodal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

Subdivision	Fort Smith Branch
Division	Midwest
Owner	KCS
Operator	KCS
Line Heritage	Kansas City, Pittsburg & Gulf Railroad (KCP&G)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Poteau, Oklahoma-Oklahoma / Arkansas near Bonanza, Arkansas; 14.3 miles
FRA Track Class	Class 2
Track Configuration	One main track
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	263,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2015) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic

Industrial Leads	None
FRA Excepted Track	None

Union Pacific Railroad (UP)

A summary of statistical information for Union Pacific Railroad (UP) within Oklahoma is as follows:[1]

- Line owned: 821 miles
- Line operated under lease: 0 miles
- Line operated under contract: 0 miles
- Line operated under trackage rights: 351 miles
- Line operated under haulage rights: 0 miles
- Total mileage operated: 1,171 miles
- Line owned, not operated, by respondent: 73 miles

UP Interchanges

Interchanges are locations where railroads intersect and exchange railcars. UP has the ability to interchange freight rail traffic with two Class I carriers (BNSF, KCS) and eight Class III carriers (AOK, AT&L, GNBC, KRR, SS, SKOL, SLWC, TOE, TSU) in Oklahoma. Designated interchange point locations and connecting carriers in Oklahoma are listed below:

- Chickasha – Stillwater Central Railroad (SLWC)
- DeQueen, Arkansas – Texas, Oklahoma & Eastern Railroad (TOE)
- Durant – Kiamichi Railroad (KRR)
- El Reno – Austin, Todd & Ladd (AT&L)
- Enid – Grainbelt Corporation (GNBC)
- Hope, Arkansas – KRR
- Howe – Kansas City Southern Railway (KCS)
- McAlester – Arkansas-Oklahoma Railroad (AOK)
- Midwest City - SLWC
- Muskogee – Port of Muskogee Railroad (PMR), BNSF
- Oklahoma City – AOK, BNSF, Oklahoma Railway Museum (ORM)
- Sallisaw – Kansas City Southern Railway (KCS)
- Shawnee – BNSF Railway (BNSF)
- Tulsa – Sand Springs Railway (SS), South Kansas and Oklahoma Railroad (SKOL), Tulsa Sapulpa Union Railway (TSU)

UP Trackage Rights and Joint Trackage

UP has trackage rights over the following line segments and connecting railroads:

- BNSF Railway (BNSF) Red Rock Subdivision between the Oklahoma / Kansas state line and the Oklahoma / Texas state line; approximately 248.7 miles.

[1] UP Class I Railroad Annual Report R-1, 2015

- BNSF Railway (BNSF) Boise City Subdivision between Oklahoma / Colorado state line near Campo, Colorado-Oklahoma / Texas state line near Kerrick, Texas; 42.9 miles.
- BNSF Railway (BNSF) Creek Subdivision between Tulsa, Oklahoma, and Henryetta, Oklahoma; approximately 59.0 miles.
- Tulsa Sapulpa Railway (TSU) Jenks Lead between Tulsa, Oklahoma, and Jenks, Oklahoma; approximately 12.9 miles.

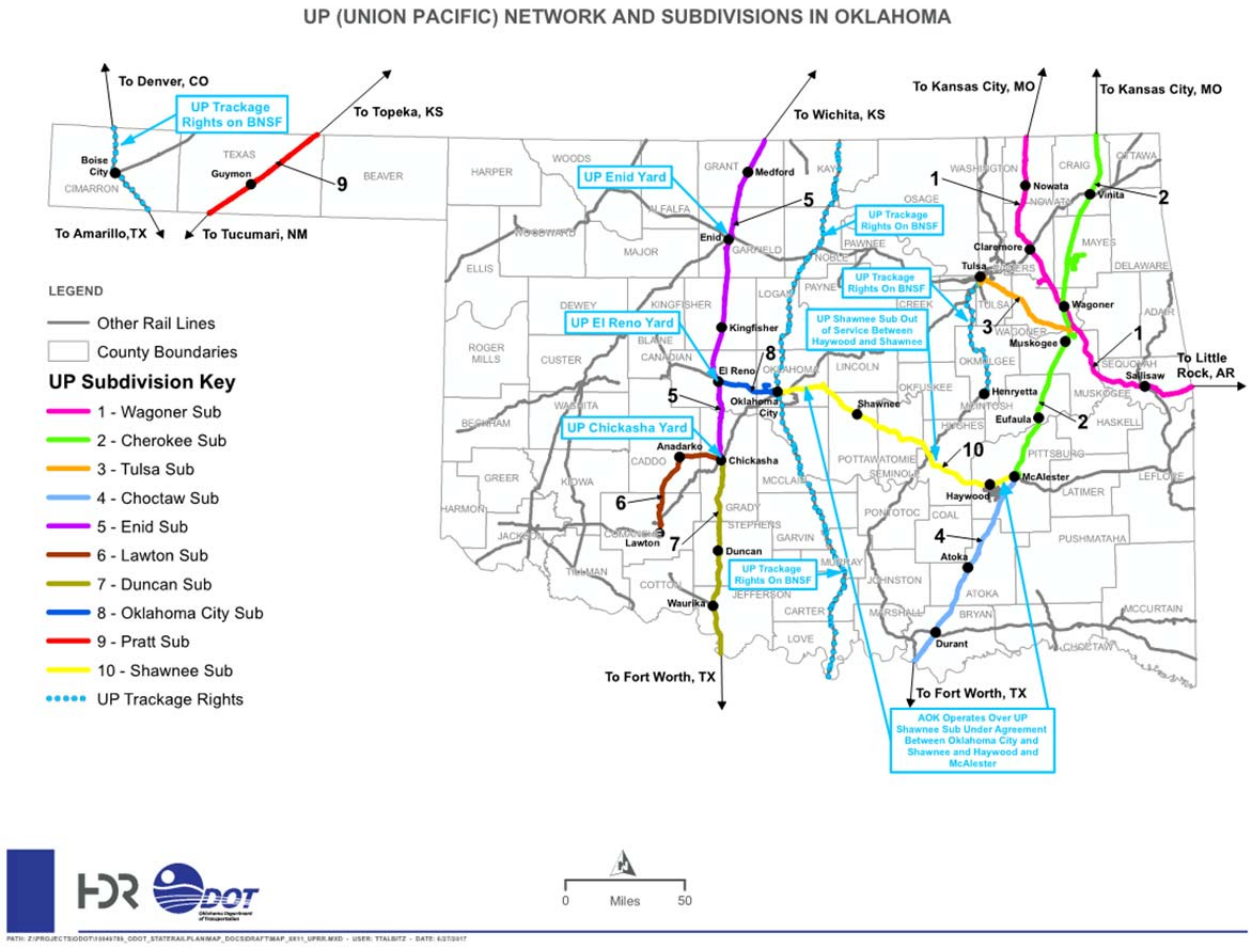
UP Divisions and Subdivisions in Oklahoma

UP's Oklahoma network is comprised of all or part of five operating divisions:

- Kansas City Area
- Dallas-Ft. Worth Area
- Salina Area

UP's 9 operating subdivisions in Oklahoma are shown in **Figure A-3** below. UP's Oklahoma subdivisions are presented by division and described in the tables below.

Figure A-3: UP Network and Subdivisions in Oklahoma



Source: UP and HDR

The Oklahoma subdivision shown in **Table A-6** below is a component of the UP Kansas City Area.

Table A-6: Descriptions of UP Subdivisions in Oklahoma – Kansas City Area

Subdivision	Wagoner Subdivision
Division	Kansas City Area
Owner	UP
Operator	UP
Line Heritage	Missouri Pacific Railroad (MP)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Oklahoma / Kansas state line at South Coffeyville, Oklahoma–Oklahoma / Arkansas state line near Roland, Oklahoma; 157.4 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	60 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC) Kansas / Oklahoma state line at South Coffeyville, Oklahoma–Okay, Oklahoma Automatic Block Signals (ABS) Okay, Oklahoma–Oklahoma / Arkansas state line near Roland, Oklahoma
Method of Operation	Centralized Traffic Control (CTC) Kansas / Oklahoma state line at South Coffeyville, Oklahoma–Okay, Oklahoma Track Warrant Control (TWC) Okay, Oklahoma–Oklahoma / Arkansas state line near Roland, Oklahoma
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	15-25
Commodities Transported	Coal, automobiles, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

Subdivision	Cherokee Subdivision
Division	Kansas City Area
Owner	UP
Operator	UP
Line Heritage	Missouri-Kansas-Texas Railroad (MKT)
Subdivision Route / Mileage	Oklahoma / Kansas state line near Chetopa, Kansas–McAlester, Oklahoma; 152.0 miles
FRA Track Class	Class 4
Track Configuration	Mix of two main tracks and one main track with passing sidings
Maximum Authorized Speed Freight	60 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Automatic Block Signals (ABS) Kansas / Oklahoma state line Chetopa, Kansas–Wagoner, Oklahoma Centralized Traffic Control (CTC) Wagoner, Oklahoma–McAlester, Oklahoma
Method of Operation	Track Warrant Control (TWC) Kansas / Oklahoma state line near Chetopa, Kansas–Wagoner, Oklahoma Centralized Traffic Control (CTC) Wagoner, Oklahoma–McAlester, Oklahoma
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	15-25

Commodities Transported	Coal, automobiles, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	Pryor Industrial Lead: Beverly, Oklahoma–Otis, Oklahoma; approximately 9.0 miles (former Missouri-Kansas-Texas Railroad); maximum allowable gross weight unknown; line density unknown
FRA Excepted Track	• Pryor Industrial Lead: from wye at MP 4.0 to end of tracks. • Muskogee Yard: All industry tracks except the Port Lead.

Subdivision	Tulsa Subdivision
Division	Kansas City Area
Owner	UP
Operator	UP
Line Heritage	Missouri-Kansas-Texas Railroad (MKT)
Subdivision Route / Mileage	Muskokee, Oklahoma–Tulsa, Oklahoma; 45.8 miles
FRA Track Class	Class 2
Track Configuration	One main track
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	268,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	0-5
Commodities Transported	Automobiles, farm products, food and kindred products, chemical and allied products, and general merchandise freight traffic
Industrial Leads	Tulsa Industrial Lead: 13.7 miles (former Midland Valley Railroad); 286,000 lbs. maximum allowable gross weight; line density unknown
FRA Excepted Track	Most industry tracks

The Oklahoma subdivision shown in **Table A-7** below is a component of the UP Dallas-Ft. Worth Area.

Table A-7: Descriptions of UP Subdivisions in Oklahoma – Dallas-Ft. Worth Area

Subdivision	Choctaw Subdivision
Division	Dallas-Ft. Worth Area
Owner	UP
Operator	UP
Line Heritage	Missouri-Kansas-Texas Railroad (MKT)
Subdivision Route / Mileage	McAlester, Oklahoma-Oklahoma/Texas state line near Colbert, TX; 91.3 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	60 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	15-25
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic

Industrial Leads	None
FRA Excepted Track	• Multiple yard tracks at Ray • Entire track at Perrin Field

Subdivision	Enid Subdivision
Division	Dallas-Ft. Worth Area
Owner	UP
Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Kansas / Oklahoma state line near Caldwell, Kansas–Chickasha, Oklahoma; 141.6 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	49 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Track Warrant Control (TWC) • Areas of Yard Limits (YL) at Enid, Oklahoma; El Reno, Oklahoma; Chickasha, Oklahoma
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	5-10
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	El Reno: Most tracks in Big Yard

Subdivision	Lawton Subdivision
Division	Dallas-Ft. Worth Area
Owner	UP
Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Chickasha, Oklahoma–Lawton, Oklahoma; 48.8 miles
FRA Track Class	Class 3
Track Configuration	One main track
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	268,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	0-2
Commodities Transported	Farm products, aggregate, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	Lawton Industrial Lead: Lawton, Oklahoma–Ft. Sill, Oklahoma; 6.6 miles including 0.4 miles over Stillwater Central Lawson Subdivision (former St. Louis-San Francisco Railway); 238,000 lbs. maximum allowable gross weight; line density unknown
FRA Excepted Track	• All tracks at Apache and Andarko except main track • Main track between MP 41.2 and MP 42.7

Subdivision	Duncan Subdivision
Division	Dallas-Ft. Worth Area
Owner	UP
Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Chickasha, Oklahoma-Oklahoma / Texas state line near Terral, Oklahoma; 79.2 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	49 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	5-10
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

Subdivision	Oklahoma City Subdivision
Division	Dallas-Ft. Worth Area
Owner	UP
Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	El Reno, Oklahoma-Oklahoma City, Oklahoma; 33.0 miles
FRA Track Class	Class 4
Track Configuration	One main track
Maximum Authorized Speed Freight	49 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	2-4
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	All tracks within the Oklahoma City Yard area except the main track

The Oklahoma subdivision shown in **Table A-8** below is a component of the UP Salina Area.

Table A-8: Descriptions of UP Subdivision in Oklahoma – Salina Area

Subdivision	Pratt Subdivision
Division	Salina Area
Owner	UP
Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)

Subdivision Route / Mileage	Portion of Subdivision in Oklahoma: Kansas / Oklahoma state line near Tyrone, Oklahoma–Oklahoma / Texas state line near Texhoma, Oklahoma; 51.69 miles
FRA Track Class	Class 5
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	70 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

A.3 Class II Railroads in Oklahoma

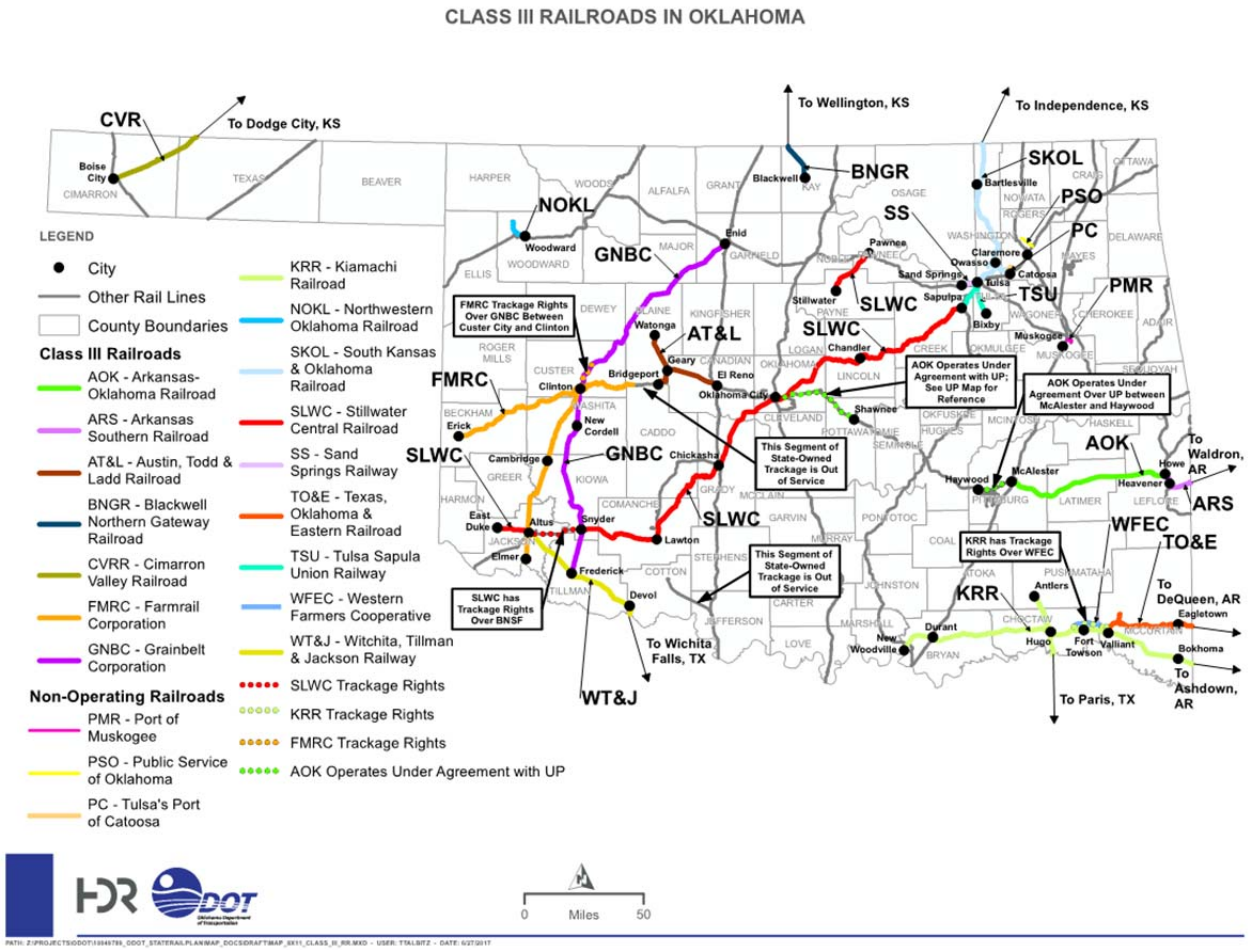
Oklahoma does not contain any Class II railroads.

A.4 Class III Railroads in Oklahoma

The section identifies and describes Oklahoma's 16 Class III (or short line) railroads. All of these Class III railroads currently provide railroad service. Included is a data sheet for the Class III railroads providing railroad service, showing such details as ownership, miles owned and operated, physical characteristics of rail lines, commodities and carloads handled, connections with other railroads, potential improvement needs, and more. In 2017, the Class III railroads currently providing railroad service were asked to confirm the data appearing in the data sheets and to provide additional input, as appropriate. 15 of the 16 Class III railroads providing rail service in Oklahoma participated. No physical inspections of Oklahoma's Class III railroads were conducted during development of the Oklahoma State Rail Plan.

Figure A-4 below identifies the networks of the state's Class III railroads described in this section, and also identifies non-operating railroad owners that will be described in Appendix A.5.

Figure A-4: Oklahoma's Class III Railroads and Non-Operating Railroad Owners



Source: HDR and Oklahoma DOT

Each of the railroads identified above are described in this section.

Arkansas-Oklahoma Railroad (AOK)

The Arkansas-Oklahoma Railroad (AOK) is a Class III railroad headquartered in Centerville, Oklahoma. The APNC was established in 1996 to operate segments of former Chicago, Rock Island & Pacific Railroad trackage running from Howe, Oklahoma to McAlester, Oklahoma and Shawnee, Oklahoma to Oklahoma City, Oklahoma under a lease agreement with Union Pacific. AOK operates 122 miles of railroad in Oklahoma.

Figure A-5 below includes a datasheet for AOK identifying additional details and operating and physical characteristics of the AOK network in Oklahoma.

Figure A-5: AOK Datasheet

Railroad	Arkansas-Oklahoma Railroad						
Alpha Code:	AOK						
Operator:	Arkansas-Oklahoma Railroad						
Parent Company:	N/A						
Contact:	Heather Williams						
Phone:	(918)465-0299						
Email:	heather@aokrr.com						
Company Website:	www.aokrr.com						
Service Area							
Counties in Oklahoma:	Oklahoma, Lincoln, Pottawatomie, Pittsburg, Latimer, Le Flore						
Principal Stations in Oklahoma:	Midwest City, Shawnee, McAlester, Wilburton, Howe						
Rail Traffic							
Principal Commodities:	N/A						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	Frac sand, autos, agricultural commodities, plastics, aggregates						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per Day**
Shawnee Subdivision	37	37	0	0	37	0	2
Howe Subdivision	70	70	0	70	0	0	1
McAlester Segment	15	15	0	0	15	4	1
Total	122	122	0	70	52	4	4
Track Characteristics (As Necessary By Line Segment)							
FRA Track Class:	Class 1 and Excepted Track						
Operating Speed:	10 mph						
Signal System:	N/A						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	N/A						
Weight Limits:	268,000 lbs. (286,000 lbs. may be allowed with special waiver)						
Vertical Clearance and Restrictions:	None on AOK main line; one restriction at customer's facility.						
FRA Excepted Track	Shawnee Subdivision: 35 miles; Howe Subdivision: 60 miles						

Interchange Points	
Location:	**Railroad:**
Shawnee, Oklahoma	BNSF
Oklahoma City, Oklahoma	UP
McAlester, Oklahoma	UP
Howe, Oklahoma	KCS
Facilities	
Type:	**Location:**
Classification Yards	Shawnee, McAlester
Transload Facility	Shawnee, McAlester
Intermodal Facility	
Mechanical Facility	
Bridges	
Number of Bridges on AOK in Oklahoma: 112	**Number of Bridges in Need of Repair:** 30 percent
Number of Bridges in Need of Upgrade to Handle 286K Loads: 112	**Other Bridge Comments, if applicable:** N/A
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Oklahoma City, Oklahoma	Limited space for interchange from both UP and BNSF
McAlester, Oklahoma	Limited inbound/outbound train size from UP
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Shawnee, Oklahoma – Bridge replacement for 400-acre industrial park	$3 Million
Shawnee Subdivision - Flooding	$250,000
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Shawnee, Oklahoma – Upgrade 35 miles to Class 1 track	$1.5 Million
Wilburton, Oklahoma – Upgrade / repair two bridges	$250,000
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Wister, Oklahoma – Track and dirt work for new customer	$350,000
Panola, Oklahoma – Build siding track for new business or storage	$90,000
Alderson, Oklahoma – Build track for new business or storage	$480,000
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
Yes, varies.	1,000 railcars
Other Comments	
Identification:	**Description:**

Source: AOK and Oklahoma DOT

Arkansas Southern Railroad (ARS)

The Arkansas Southern Railroad (ARS) is a Class III railroad based in Nashville, Arkansas. ARS operates two branches, one of which is partially in Oklahoma. The track that originally made up the ARS from Ashdown to Nashville, AR started in 1907 as a freight and passenger line known as the MP&G (Memphis, Paris & Gulf) Railroad. The line was later restructured to be the GN&A (Graysonia, Nashville & Ashdown) Railroad. By 1954, 75% of the GN&A business came from quarry rock and cement. From 1960-1966, the GN&A worked with the Army Corps of Engineers to move the track to make room for the Millwood dam. The line was successfully relocated from MP 7.1 to 31.1, resulting in continuing operation of the railroad and the cement quarry. In 1998, KCS purchased the track from Ashdown to Nashville from the GN&A Railroad. The ARS started operating in October of 2005 after Watco acquired the ARS from KCS through a lease agreement.

Figure A-6 below includes a datasheet for ARS identifying additional details and operating and physical characteristics of the ARS network in Oklahoma.

Figure A-6: ARS Datasheet

Railroad	Arkansas Southern Railroad						
Alpha Code:	ARS						
Operator:	Arkansas Southern Railroad						
Parent Company:	Watco						
Contact:	Jeffery Buck						
Phone:	(601) 670-1500						
Email:	jbuck@watcocompanies.com						
Company Website:	https://www.watcocompanies.com/services/rail/arkansas-southern-railroad-ars/						
Service Area							
Counties in Oklahoma:	Le Flore						
Principal Stations in Oklahoma:	Heavener						
Rail Traffic							
Principal Commodities:	Grain						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	Not provided						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per Day**
Heavener– OK/AR state line	10	10	0	0	6	4	1
Total	10	10	0	0	6	4	1
Track Characteristics (As Necessary By Line Segment)							
FRA Track Class:	FRA Excepted Track						
Operating Speed:	10 mph						
Signal System:	None						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	Not provided						
Weight Limits:	263,000 lbs.						
Vertical Clearance and Restrictions:	None noted						
FRA Excepted Track	Yes						

Interchange Points	
Location:	**Railroad:**
Heavener	Kansas City Southern
Facilities	
Type:	**Location:**
Classification Yards	Heavener, Oklahoma
Transload Facility	None
Intermodal Facility	None
Mechanical Facility	Waldron, Arkansas
Bridges	
Number of Bridges on ARS in Oklahoma:	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
N/A	N/A
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
N/A	N/A
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
N/A	N/A
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
N/A	N/A
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
N/A	N/A
Other Comments	
Identification:	**Description:**
N/A	N/A

Source: ARS, KCS, and Oklahoma DOT

Austin, Todd & Ladd Railroad (AT&L)

The Austin, Todd & Ladd Railroad (AT&L) is a Class III railroad headquartered in Watonga, Oklahoma. The AT&L was established to provide rail service over former Chicago, Rock Island & Pacific Railroad trackage in Oklahoma. AT&L owns a branch from Geary to Watonga and operates a state-owned line from El Reno to Bridgeport.

Figure A-7 below includes a datasheet for AT&L identifying additional details and operating and physical characteristics of the AT&L network in Oklahoma.

Figure A-7: AT&L Datasheet

Railroad	Austin, Todd & Ladd Railroad						
Alpha Code:	AT&L						
Operator:	AT&L Railroad						
Parent Company:	AT&L Railroad						
Contact:	Danny Williams						
Phone:	(580) 623-5477						
Email:	atlrr@wheelerbrothers.com						
Company Website:							
Service Area							
Counties in Oklahoma:	Canadian, Blaine, Caddo						
Blaine and Canadian							
Watonga, Greenfield, Geary, Calumet							
Principal Commodities:	Grain						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2015 – 2,293; 2016 – 3,323						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per Day**
El Reno to Watonga	39.0	39.0	0	39.0	0	0	1
Geary to Bridgeport	9.5	5.0	4.5	0	9.5	0	>1
Total	48.5	44	4.5	39.0	0	0	1
Track Characteristics (As Necessary By Line Segment)							
FRA Track Class:	Class 1 and Class 2						
Operating Speed:	10-20 mph						
Signal System:	None						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	Not provided						
Weight Limits:	286,000 lbs.						
Vertical Clearance and Restrictions:	None noted						
FRA Excepted Track	None						
Interchange Points							
Location:			**Railroad:**				
El Reno			UP				

Facilities	
Type:	**Location:**
Classification Yards	N/A
Transload Facility	N/A
Intermodal Facility	N/A
Mechanical Facility	N/A
Bridges	
Number of Bridges on AT&L in Oklahoma:	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
N/A	N/A
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Rail Replacement Watonga to Greenfield	$770,784
Tie Replacement Geary to El Reno	$275,800
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Rail Replacement Greenfield to Geary	$956,831
Tie Replacement Geary to Watonga	$275,800
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
N/A	N/A
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
200 to 300	300
Other Comments	
Identification:	**Description:**
N/A	N/A

Source: AT&L and Oklahoma DOT

Blackwell Northern Gateway Railroad (BNGR)

The Blackwell Northern Gateway Railroad (BNGR) is a Class III railroad operator of state-owned trackage. The line was purchased by the Blackwell Industrial Authority (BIA) and the State of Oklahoma (ODOT) in 1997 with ODOT acquiring the portion located in Oklahoma (the Blackwell Line), and BIA acquiring the portion located in Kansas that goes to Wellington, Kansas.

On October 17, 1997, on behalf of both BIA and itself, the ODOT entered into a track lease agreement with South Kansas and Oklahoma Railroad, Inc. (SKOL) to operate the Blackwell Subdivision. SKOL subsequently assigned all of its lease and operating rights to Blackwell & Northern Railway Company, Inc. (BNGR). The lease expired on November 30, 2015. BNGR continues to occupy and operate the Blackwell Line under the terms of the expired first lease.

BNGR currently uses the Line primarily for railcar storage. The customer on the line is A-Line T.D.S. It is a contractor in the decommissioning and disposal industry that ships mineral oil on the Blackwell Line.

Figure A-8 below includes a datasheet for BNGR identifying additional details and operating and physical characteristics of the BNGR network in Oklahoma.

Figure A-8: BNGR Datasheet

Railroad	Blackwell Northern Gateway Railroad						
Alpha Code:	BNGR						
Operator:	BNGR						
Parent Company:	U.S. Rail Partners, Ltd.						
Contact:							
Phone:							
Email:							
Company Website:							
Service Area							
Counties in Oklahoma:	Kay						
Principal Stations in Oklahoma:							
Rail Traffic							
Principal Commodities:							
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):							
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per Day**
KS / OK state line to Blackwell							
Total							

Track Characteristics (As Necessary By Line Segment)	
FRA Track Class:	
Operating Speed:	
Signal System:	None
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	
Weight Limits:	
Vertical Clearance and Restrictions:	
FRA Excepted Track:	

Interchange Points	
Location:	**Railroad:**

Facilities	
Type:	**Location:**
Classification Yards	
Transload Facility	
Intermodal Facility	
Mechanical Facility	

Bridges	
Number of Bridges on BNGR in Oklahoma:	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**

Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**

Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**

Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**

Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**

Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**

Other Comments	
Identification:	**Description:**

Source: BNGR and Oklahoma DOT

Cimarron Valley Railroad (CVRR)

The Cimarron Valley Railroad (CVRR) is a Class III railroad based in Satanta, Kansas. Operating former Atchison, Topeka & Santa Fe Railway branch lines in southwestern Kansas and the Oklahoma Panhandle, it serves as a carrier of grain.

Figure A-9 below includes a datasheet for CVRR identifying additional details and operating and physical characteristics of the CVRR network in Oklahoma.

Figure A-9: CVRR Datasheet

Railroad	**Cimarron Valley Railroad**
Alpha Code:	CVRR
Operator:	Cimarron Valley Railroad
Parent Company:	Western Group
Contact:	Eric Hale
Phone:	(620) 649-3280
Email:	eric@cimarronvalleyrr.net
Company Website:	http://www.cimarronvalleyrr.com
Service Area	
Counties in Oklahoma:	Texas, Cimarron
Principal Stations in Oklahoma:	Keyes, Boise City
Rail Traffic	
Principal Commodities:	Grain
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	150

Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per Day**
West CV Subdivision	34.8	34.8	0	34.8	0	0	0.14
Total							

Track Characteristics (As Necessary By Line Segment)	
FRA Track Class:	Class 1
Operating Speed:	10 mph
Signal System:	None
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	2,600 GTM
Weight Limits:	286,000 lbs.
Vertical Clearance and Restrictions:	None
FRA Excepted Track	None

Interchange Points	
Location:	**Railroad:**
Boise City	BNSF

Facilities	
Type:	**Location:**
Classification Yards	BNSF Boise City
Transload Facility	
Intermodal Facility	
Mechanical Facility	

Bridges	
Number of Bridges on CVRR in Oklahoma : 21	**Number of Bridges in Need of Repair:** 16
Number of Bridges in Need of Upgrade to Handle 286K Loads: None	**Other Bridge Comments, if applicable:** N/A
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
None	None
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
None	None
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
None	None
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
N/A	N/A
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
N/A	N/A
Other Comments	
Identification:	**Description:**

Source: CVRR and Oklahoma DOT

Farmrail Corporation (FMRC)

Farmrail Corporation (FMRC) has acted since 1981 as a lessee-operator for Oklahoma Department of Transportation, managing an 82-mile east-west line of Chicago, Rock Island & Pacific Railroad heritage between Weatherford and Erick. An additional 89 miles of former Atchison, Topeka & Santa Fe Railway line between Westhom and Elmer, was purchased from the state in 2013 after 20 years of operation under lease. Farmrail System, Inc. is an employee-owned holding company based in Clinton, Oklahoma for two Class III common-carrier railroads comprising "Western Oklahoma's Regional Railroad."

Figure A-10 below includes a datasheet for FMRC identifying additional details and physical and operating characteristics of the FMRC network in Oklahoma.

Figure A-10: FMRC Datasheet

Railroad	Farmrail Corporation
Alpha Code:	FMRC
Operator:	Farmrail Corporation
Parent Company:	Farmrail System, Inc.
Contact:	Judy Petry
Phone:	(580) 323-1234
Email:	judypetry@farmrail.com
Company Website:	www.farmrail.com
Service Area	
Counties in Oklahoma:	Beckham, Washita, Custer, Caddo, Kiowa, Greer, Jackson
Principal Stations in Oklahoma:	Clinton, Elk City, Weatherford, Altus, Lonewolf, Westhom
Rail Traffic	
Principal Commodities:	Frac sand, aggregate, oilfield products, feed
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2015 – 8,425 2016 – 9,508

Oklahoma Route Miles

Subdivision or Segment and Limits	Length	Operated	Out of Service	Owned	Leased	Trackage Rights	Average Number of Trains per Day
Sunbelt	87.0	79.5	7.5	0	87.0	0	2-3
Orient	97.0	93.1	3.9	97.0	0	0	2-3
Total	184.0	172.6	11.4	97.0	87.0	0	4-6

Track Characteristics (As Necessary By Line Segment)	
FRA Track Class:	Sunbelt (Class 1 and Class 2); Orient (Class 1)
Operating Speed:	25 mph (Sunbelt – Class 1 Track); 10 mph (Sunbelt and Orient – Class 1 Track)
Signal System:	None
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	Not provided
Weight Limits:	268,000 lbs.
Vertical Clearance and Restrictions:	N/A
FRA Excepted Track:	Sunbelt – Clinton to Weatherford
Interchange Points	
Location:	**Railroad:**
Altus	BNSF, WTJR
Clinton	GNBC

Facilities	
Type:	**Location:**
Classification Yards	Altus, Clinton
Transload Facility	None
Intermodal Facility	None
Mechanical Facility	Clinton, Elk City
Bridges	
Number of Bridges on FMRC in Oklahoma: 85 on Sunbelt Sub 56 on Orient Sub	**Number of Bridges in Need of Repair**:
Number of Bridges in Need of Upgrade to Handle 286K Loads: 10 on Sunbelt Sub 23 on Orient Sub	**Other Bridge Comments, if applicable:**
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Altus	Five serving railroads
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
N/A	N/A
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Track upgrade from Foley to Thomas (Orient line) to 286,000 lb capacity	$3,900,000
Bridge upgrade from Foley to Thomas (Orient line) to 286,000 lb capacity	$357,000
Bridge upgrade from Clinton to Elk City (Sunbelt line) to 286,000 lb capacity	$445,000
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
N/A	N/A
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
2016 – 911 cars	Capacity – variable
2017 – 647 cars	Storage market is down due to upturn in traffic
Other Comments	
Identification:	**Description:**
N/A	N/A

Grainbelt Corporation (GNBC)

Grainbelt Corporation (GNBC), was formed in 1987 to purchase from Burlington Northern Railroad Company 178 miles of line linking Enid and Frederick.

Figure A-11 below includes a datasheet for GNBC identifying additional details and operating and physical characteristics of the GNBC network in Oklahoma.

Figure A-11: GNBC Datasheet

Railroad	Grainbelt Corporation						
Alpha Code:	GNBC						
Operator:	Grainbelt Corporation						
Parent Company:	Farmrail System, Inc.						
Contact:	Judy Petry						
Phone:	(580) 323-1234						
Email:	judypetry@farmrail.com						
Company Website:	www.farmrail.com						
Service Area							
Counties in Oklahoma:	Garfield, Major, Blaine, Dewey, Custer, Washita, Kiowa, Tillman						
Principal Stations in Oklahoma:	Enid, Okeene, Southard, Thomas, Clinton, Snyder, Frederick						
Rail Traffic							
Principal Commodities:	Frac sand, grain, aggregate, gypsum, oilfield products, feed						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2015 – 12,879 2016 – 16,053						
Georgia Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per Day**
GNBC	178.9	177.2	1.5	178.9	0	37.3	6-7
Total	178.9	177.2	1.5	178.9	0	37.3	
TRACK CHARACTERISTICS (As Necessary By Line Segment)							
FRA Track Class:	Class 2						
Operating Speed:	25 mph						
Signal System:	None						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):							
Weight Limits:	268,000 lbs.						
Vertical Clearance and Restrictions:	N/A						
FRA Excepted Track	None						
Interchange Points							
Location:	**Railroad:**						
Enid	BNSF (and UP via BNSF)						
Clinton	FMRC						
Snyder	BNSF, SLWC						
Frederick	WTJR						
Altus	BNSF via trackage rights						

Facilities	
Type:	**Location:**
Classification Yards	Clinton, Snyder, Frederick
Transload Facility	None
Intermodal Facility	None
Mechanical Facility	Clinton
Bridges	
Number of Bridges on GNBC in Oklahoma: 120	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads: 18	**Other Bridge Comments, if applicable:**
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Enid	No yard tracks for unit trains
Okeene	No siding for meeting trains
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Replace 9 miles of 90/40 rail between Okeene and Southard	$3,900,000
Replace North Canadian River Bridge	$3,300,000
Track upgrade from Enid to Clinton	$2,250,000
Build new 6,000' passing siding at Okeene	$1,050,000
Bridge upgrades from Enid to Clinton	$374,000
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
2016 – 377 cars 2017 – 468 cars	Storage is variable. We expect storage to fluctuate with traffic volumes.
Other Comments	
Identification:	**Description:**

Source: GNBC and Oklahoma DOT

Hollis & Eastern Railroad (H&E)

The Hollis & Eastern (H&E) was established in 1958 to purchase a 34-mile section of the Missouri-Kansas-Texas Railroad slated for abandonment from Hollis, Oklahoma to Altus, Oklahoma. The portion from Hollis to Duke was later abandoned. Now owned by American Gypsum, the portion from Duke to Altus is operated by the Stillwater Central Railroad today. Details about the operating and physical characteristics of the H&E in Oklahoma can be found in the SLWC section presented later in **Appendix A.**

Source: Oklahoma Historical Society

Kiamichi Railroad (KRR)

The Kiamichi Railroad operates in southeastern Oklahoma over former St. Louis-San Francisco Railroad branch lines. It is a subsidiary o f Genessee & Wyoming, a large short line holding company. Its primary commodities include coal, clay, concrete, food and kindred products, glass and stone, lumber and wood products, pulp and paper, and non-metallic minerals.

Source: Genesee & Wyoming

Figure A-12 below includes a datasheet for KRR identifying additional details and operating and physical characteristics of the IKRR network in Oklahoma.

Figure A-12: KRR Datasheet

Railroad	Kiamichi Railroad						
Alpha Code:	KRR						
Operator:	Kiamichi Railroad						
Parent Company:	Genesee & Wyoming						
Contact:	John Black, Assistant General Manager or Cindy Hicks, Office Manager						
Phone:	580-916-7602 or 580-916-7620						
Email:	John.black@gwrr.com / cindy.hicks@gwrr.com						
Company Website:	https://www.gwrr.com/railroads/north_america/kiamichi_railroad#m_tab-one-panel						
Service Area							
Counties in Oklahoma:	Bryan, Choctaw, McCurtain, Pushmataha						
Principal Stations in Oklahoma:	Madill, Lakeside, Durant, Hugo, Antlers, Valiant						
Rail Traffic							
Principal Commodities:	Coal, Clay, Concrete, Food and Kindred Products, Glass and Stone, Lumber and Wood Products, Pulp and Paper, Non-metallic Minerals						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	36,953						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per Day**
Lake – Hugo	65	65	0	65	0	0	2-3
Hugo – Oklahoma / Arkansas State Line	65	65	0	65	0	0	3
Hugo – Antlers	16	3	13	16	0	0	1
Hugo – Oklahoma / Texas State Line (Paris Branch)	10	10	0	10	0	0	2
Total	156	143	0	156	0	0	
Track Characteristics (Lake Subdivision)							
FRA Track Class:	Class 2						
Operating Speed:	25 MPH						
Signal System:	None (Track Warrant Control Territory)						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):							
Weight Limits:	286,000 lbs.						
Vertical Clearance and Restrictions:							
FRA Excepted Track:	None						

Track Characteristics (Ashdown Subdivision)	
FRA Track Class:	Class 2
Operating Speed:	25 MPH
Signal System:	None (Track Warrant Control Territory)
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	
Weight Limits:	286,000 lbs.
Vertical Clearance and Restrictions:	
FRA Excepted Track:	None
Track Characteristics (Antlers Subdivision)	
FRA Track Class:	Class 1
Operating Speed:	10 MPH
Signal System:	None (Track Warrant Control Territory)
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	
Weight Limits:	286,000 lbs.
Vertical Clearance and Restrictions:	
FRA Excepted Track:	Yes (13 miles out of service)
Track Characteristics (Paris Subdivision)	
FRA Track Class:	Class 1
Operating Speed:	10 MPH
Signal System:	None (Track Warrant Control Territory)
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	
Weight Limits:	286,000 lbs. on system, except for Hugo, Oklahoma-Paris, Texas, segment of Paris Branch (263,000 lbs.)
Vertical Clearance and Restrictions:	
FRA Excepted Track:	None

Interchange Points	
Location:	**Railroad:**
Madill	BNSF
Durant	UP
Valliant	DQE
Ashdown (AR)	KCS
Hope (AR)	UP

Facilities	
Type:	**Location:**
Classification Yards	Hugo
Transload Facility	Paris, TX
Intermodal Facility	N/A
Mechanical Facility	Hugo

Bridges	
Number of Bridges on KRR in Oklahoma: 83	**Number of Bridges in Need of Repair:** 0
Number of Bridges in Need of Upgrade to Handle 286K Loads: 18	**Other Bridge Comments, if applicable:** None

Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Paris and Ashdown Subdivisions	Rail upgrade to modern high density temperature controlled process
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Track Rehab Paris Subdivision	$1.5 Million
Track Rehab Lakeside Subdivision	$3.6 Million
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Ashdown Subdivision Rail Upgrade	$15 Million
Paris Subdivision Rail Upgrade	$7 Million
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Structure upgrades to 286K will increase carload volumes from shipper utilization of car fleets.	$7.2 Million
New Customer in Durant will require rail upgrades	$5.1 Million
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
Yes – 343	Approx. 600
Other Comments	
Identification:	**Description:**

Source: KRR and Oklahoma DOT

Northwestern Oklahoma Railroad (NOKL)

The Northwestern Oklahoma Railroad (NOKL) is a Class III railroad based in Woodward, Oklahoma near the Texas and Kansas borders. The BNSF serves as the NOKL Railroad's Class 1 connection.

Figure A-13 below includes a datasheet for NOKL identifying additional details and operating and physical characteristics of the NOKL network in Oklahoma.

Figure A-13: NOKL Datasheet

Railroad	Northwestern Oklahoma Railroad						
Alpha Code:	NOKL						
Operator:	Northwestern Oklahoma Railroad						
Parent Company:	NOKL						
Contact:	Mark Clemence						
Phone:	(580) 256-8901						
Email:	mark@noklrailroad.com						
Company Website:	www.noklrailroad.com						
Service Area							
Counties in Oklahoma:	Woodward						
Principal Stations in Oklahoma:	Woodward						
Rail Traffic							
Principal Commodities:	Oilfield Products						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2016 – 0						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
All Tracks	4.5	4.1	0.4	4.5	0	0	0
Total							
Track Characteristics (As Necessary By Line Segment)							
FRA Track Class:	Excepted Track						
Operating Speed:	10 mph						
Signal System:	None						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):							
Weight Limits:	286,000 lbs.						
Vertical Clearance and Restrictions:	None						
FRA Excepted Track:	All						
Interchange Points							
Location:				**Railroad:**			
Woodward				BNSF			
Facilities							
Type:				**Location:**			
Classification Yards							
Transload Facility							
Intermodal Facility							
Mechanical Facility							

Bridges	
Number of Bridges on NOKL in Oklahoma : 2	**Number of Bridges in Need of Repair:** 2
Number of Bridges in Need of Upgrade to Handle 286K Loads: 1	**Other Bridge Comments, if applicable:** One bridge needs minor upgrade, the other needs a total rebuild.
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
None	
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
None	
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
None	
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Bridge Rebuild	$1 Million
0.4-Mile Track Rebuild	Not known
Bridge Minor Upgrades	Not known
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
No	
Other Comments	
Identification:	**Description:**

Source: NOKL and Oklahoma DOT

Sand Springs Railway (SS)

The Sand Springs Railway (SS) is a Class III railroad based in Tulsa, Oklahoma. The Sand Springs Railway has direct connections with Union Pacific, BNSF and South Kansas Oklahoma Railroad. The Sand Springs Railway Company is a Class III railroad operating freight rail service between Sand Springs and Tulsa over a 32-mile route. Traffic handled includes steel, pulpboard, scrap iron, scrap paper, petroleum products, plastics and lumber. Key customers of Sand Springs Railway Company include Yaffe Metals, Baker Petrolite, Webco Industries and Ranger Steel.

Figure A-14 below includes a datasheet for SS identifying additional details and operating and physical characteristics of the SS network in Oklahoma.

Figure A-14: SS Datasheet

Railroad	Public Service Of Oklahoma						
Alpha Code:	SS						
Operator:	Sand Springs Railway						
Parent Company:	OmniTRAX						
Contact:	David Arganbright, VP of Government Affairs						
Phone:	(215) 205-0202						
Email:	darganbright@omnitrax.com						
Company Website:	www.omnitrax.com						
Service Area							
Counties in Oklahoma:	Tulsa						
Principal Stations in Oklahoma:	Tulsa, Sand Springs						
Rail Traffic							
Principal Commodities:	Steel, pulpboard, scrap iron, scrap paper, petroleum products, plastics, and lumber						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2015 – 2,595; 2016 – 2,461						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Main Track	8	8	0	8	0	0	1-3
Total	8	8	0	8	0	0	
Track Characteristics (As Necessary By Line Segment)							
FRA Track Class:	Class 1						
Operating Speed:	10 mph						
Signal System:	None						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	1,969 KGTM						
Weight Limits:	286,000 lbs.						
Vertical Clearance and Restrictions:	Plate F						
FRA Excepted Track:	Storage Tracks only						
Interchange Points							
Location:			**Railroad:**				
Tulsa			BNSF, SKOL, UP				

Facilities	
Type:	**Location:**
Classification Yards	Sand Springs and Tulsa
Transload Facility	Sand Springs
Intermodal Facility	N/A
Mechanical Facility	Sand Springs
Bridges	
Number of Bridges on SS in Oklahoma : 0	**Number of Bridges in Need of Repair:** 0
Number of Bridges in Need of Upgrade to Handle 286K Loads: 0	**Other Bridge Comments, if applicable:** N/A
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
N/A	
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Rail Repair	$300,000
Crossing Renewals	$100,000
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Track Rehabilitation Primary Lead to Interchange (Unfunded)	$2.5 Million
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Redevelopment of Former Gerdau Mill Site in Sand Springs	$1 Million
Locomotive Repair Facility	$1 Million
Transload Site	$3 Million
System Crossing Upgrades – Signal/ Surface/Closure	$4 Million
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
Yes – 120	200
Other Comments	
Identification:	**Description:**
Other Trackage	SS also owns 24 miles of sidings and yard tracks, which are not included in route-mile calculations.

Source: SS and Oklahoma DOT

South Kansas & Oklahoma (SKOL)

The South Kansas & Oklahoma (SKOL) is a Class III railroad based in Cherryvale, Kansas. Operating on more than 433 miles and carrying more than 50,000 loaded railcars, the SKOL serves a diverse customer base. More than 30 locomotives and up to 10 train crews (assembling and hauling) are in operation at any time, making the SKOL one of the busiest short line operations in the industry. Our diverse commodity base is comprised of grain and grain products, cement, coal, chemicals, steel and plastics. Three-dimensional shippers are also located on the SKOL.

Figure A-15 below includes a datasheet for SKOL identifying additional details and operating and physical characteristics of the SKOL network in Oklahoma.

Figure A-15: SKOL Datasheet

Railroad	South Kansas & Oklahoma						
Alpha Code:	SKOL						
Operator:	South Kansas and Oklahoma Railroad						
Parent Company:	Watco Companies						
Contact:	Jimmy Patterson, General Manager						
Phone:	(620) 336-2291						
Email:	jpatterson@watcocompanies.com						
Company Website:	www.watcocompanies.com						
Service Area							
Counties in Oklahoma:	Washington, Tulsa						
Principal Stations in Oklahoma:	Owasso						
Rail Traffic							
Principal Commodities:	Cement Powder, Sand, Gypsum, Rock, Butane, Grain						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2015 – 24,822 2016 – 30,876						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Tulsa Subdivision	68.2	68.2	0	68.2	0	0	3–4
Total	68.2	68.2	0	68.2	0	0	
Track Characteristics (As Necessary By Line Segment)							
FRA Track Class:	Class 2						
Operating Speed:	25 mph						
Wayside Signal System:	None						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):							
Weight Limits:	263,000 lbs.						
Vertical Clearance and Restrictions:							
FRA Excepted Track:	Dewey, Bartlesville, and Cherokee Industrial Spurs						

Interchange Points	
Location:	**Railroad:**
Tulsa	BNSF
Tulsa	SLWC
Tulsa	UP (handoff to BNSF for delivery to UP)
Owasso	Port of Catoosa (Tulsa Port Authority)
Facilities	
Type:	**Location:**
Classification Yards	Owasso, Tulsa
Transload Facility	
Intermodal Facility	
Mechanical Facility	
Bridges	
Number of Bridges on SKOL in Oklahoma : 61	**Number of Bridges in Need of Repair:** 13
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Owasso	Track capacity causing bottlenecks in operation
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Ties and Surfacing Milepost 52-Milepost 72	$1,790,974
Owasso Yard Switch Upgrade	$176,213
Signal/Surfacing Hwy 266, Yale, Pine, Harbard X-ings	$728,733
Bridge at Milepost 60.7	$14,713
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
Other Comments	
Identification:	**Description:**

Source: SKOL and Oklahoma DOT

Stillwater Central Railroad (SLWC)

The Stillwater Central Railroad (SLWC) is a Class III railroad based in Oklahoma City, Oklahoma. The SLWC operates over 275 miles of track in Oklahoma, stretching from Tulsa in the upper northeast corner to Duke in the southwest, with an additional branch running from Pawnee to Stillwater. The SLWC transports commodities such as fuels, minerals, and industrial products across the Sooner State. Transloading facilities in Stroud, Lawton and Oklahoma City have added to the services available on the SLWC line.

Figure A-16 below includes a datasheet for SLWC identifying additional details and operating and physical characteristics of the SLWC network in Oklahoma.

Figure A-16: SLWC Datasheet

Railroad	Stillwater Central Railroad						
Alpha Code:	SLWC						
Operator:	SLWC						
Parent Company:	Watco Companies						
Contact:	Jimmy Patterson, General Manager						
Phone:	(405) 616-3000						
Email:	jpatterson@watcocompanies.com						
Company Website:	https://www.watcocompanies.com						
Service Area							
Counties in Oklahoma:	Pawnee, Payne, Creek, Lincoln, Oklahoma, Canadian, Grady, Caddo, Comanche, Kiowa						
Principal Stations in Oklahoma:	Owasso, Oklahoma City, Cyril, Stillwater						
Rail Traffic							
Principal Commodities:	Granite, limestone, construction sand, frac sand, gypsum, cement, lumber						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2015 – 35,638 2016 – 30,949						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Cowboy Subdivision	23.6	23.6	0	0	23.6	0	0.14
Sooner Subdivision	130.1	130.1	0	130.1	0	0	1.5
Lawton Subdivision	127.3	127.3	0	127.3	0	0	Unknown
Hollis & Eastern Line	14	14	0	0	14	0	Unknown
Total	281	281	0	257.4	23.6	0	
Track Characteristics (As Necessary By Line Segment)							
FRA Track Class:	Class 2						
Operating Speed:	25 mph						
Signal System:	None						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):							
Weight Limits:	286,000 lbs.						
Vertical Clearance and Restrictions:	19'6" Above Top of Rail at cantilevers						
FRA Excepted Track:	2.5 miles on Dayton Industrial Lead on Lawton Subdivision, Milepost 548.5						

Interchange Points	
Location:	**Railroad:**
Midwest City	UP
Oklahoma City	BNSF
Sapulpa	BNSF
Chickasha	UP
Altus	BNSF
Facilities	
Type:	**Location:**
Classification Yards	Oklahoma City
Transload Facility	Midwest City, Oklahoma City
Intermodal Facility	None
Mechanical Facility	Oklahoma City
Bridges	
Number of Bridges on SLWC in Oklahoma : 154	**Number of Bridges in Need of Repair:** 86 (2-4 priority)
Number of Bridges in Need of Upgrade to Handle 286K Loads: 28	**Other Bridge Comments, if applicable:**
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Oklahoma City	Out of existing track space in Oklahoma City area
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Tie improvement/Surfacing, Lawton Subdivision (Milepost 563-Milepost 580)	$497,306
Various Bridge Repairs (Milepost 438.9- Milepost 668.7)	$581,760
Tie Improvement, Cowboy Subdivision	$234,725
Various Crossing Systemwide Crossing Repairs	$150,000
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
Current – 278	Capacity - 300
Other Comments	
Identification:	**Description:**

Source: SLWC and Oklahoma DOT

Texas, Oklahoma & Eastern Railroad (TO&E)

The Texas, Oklahoma & Eastern Railroad (TO&E) is a Class III railroad subsidiary of the DeQueen & Eastern Railroad based in DeQueen, Arkansas. The TO&E operates 40 miles of track in the state of Oklahoma and interchanges with Kiamichi Railroad and Western Farmers Electric Corporation.

Figure A-17 below includes a datasheet for TO&E identifying additional details and operating and physical characteristics of the TO&E network in Oklahoma.

Figure A-17: TO&E Datasheet

Railroad	Texas, Oklahoma & Eastern Railroad
Alpha Code:	TO&E
Operator:	DQE (De Queen & Eastern Railroad)
Parent Company:	Patriot Rail Company
Contact:	Joey Reyes, Operations Manager
Phone:	(870) 642-1355
Email:	joey.reyes@patriotrail.com
Company Website:	www.patriotrail.com
Service Area	
Counties in Oklahoma:	McCurtain
Principal Stations in Oklahoma:	Broken Bow, Wright City, Valliant
Rail Traffic	
Principal Commodities:	Pulpboard, Paper, Corn, Stone, Wood Chips
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2015 – 31,194 2016 – 31,286

Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Main Track (MP 0-40	40	40	0	40	0	0	2
Total	40	40	0	40	0	0	2

Track Characteristics (As Necessary By Line Segment)	
FRA Track Class:	Class 2
Operating Speed:	25
Signal System:	None
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	2016 – 108,275,853 GTM (in Oklahoma)
Weight Limits:	286,000 lbs.
Vertical Clearance and Restrictions:	None in Oklahoma
FRA Excepted Track:	None

Interchange Points	
Location:	**Railroad:**
Valliant, Oklahoma	KRR
De Queen, Arkansas	KCS
Perkins, Arkansas	UPRR

Facilities	
Type:	**Location:**
Classification Yards	International Paper Plant, Valliant, Oklahoma
Transload Facility	None
Intermodal Facility	None
Mechanical Facility	Valliant, Oklahoma, and De Queen, Arkansas
Bridges	
Number of Bridges on TO&E in Oklahoma : 30	**Number of Bridges in Need of Repair:** 16
Number of Bridges in Need of Upgrade to Handle 286K Loads: None	**Other Bridge Comments, if applicable:** N/A
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Valliant, Oklahoma	Yard Capacity – need for increased yard tracks
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Bridge Repairs (Oklahoma Portion)	$150,000
Spot Cross and Switch Tie Replacement (Oklahoma Portion)	$52,000
Crossing Repairs (Oklahoma Portion)	$40,000
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Wright City Yard Tracks Rehabilitation (rehabilitate 6 switches, replace 400 crossties, align/tamp 2 tracks)	$75,000
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
Yes, average of 250 railcars	300 railcars
Other Comments	
Identification:	**Description:**

Source: TO&E, KCS, and Oklahoma DOT

Tulsa Sapulpa Union Railway (TSU)

The Tulsa Sapulpa Union Railway (TSU) is a Class III railroad based in Tulsa, Oklahoma. It operates between Sapulpa and Tulsa, Oklahoma. It is one of Oklahoma's oldest operating railroads with origins dating back to 1907. The railroad operates trackage between Tulsa and Sapulpa serving multiple industrial customers. The railway also operates trackage between Tulsa and Jenks, Oklahoma on behalf of the Union Pacific Railroad (UP).

Figure A-18 below includes a datasheet for TSU identifying additional details and operating and physical characteristics of the TSU network in Oklahoma.

Figure A-18: TSU Datasheet

Railroad	Tulsa Sapulpa Union Railway						
Alpha Code:	TSU						
Operator:	TSU						
Parent Company:	N/A						
Contact:	Kevin Tucker						
Phone:	(918) 224-1515 Office; (918) 638-4009 Cell						
Email:	Ktucker@tsurailway.com						
Company Website:	www.tsurailway.com						
Service Area							
Counties in Oklahoma:	Creek, Tulsa						
Principal Stations in Oklahoma:	Sapulpa						
Rail Traffic							
Principal Commodities:	Silica sand, pulp paper, soda ash, limestone, plastic						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2015 – 3,890 2016 – 4,364						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Sapulpa	10	10	0	10	0	0	1
Jenks	13	13	0	0	13	0	1
Total	23	23	0	10	13	0	
TRACK CHARACTERISTICS (As Necessary By Line Segment)							
FRA Track Class:	FRA Excepted Track						
Operating Speed:	10 mph						
Signal System:	None						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):							
Weight Limits:	263,000 lbs.						
Vertical Clearance and Restrictions:	Height – 18'6" Above Top of Rail Width – Maximum of 12'						
FRA Excepted Track:	All railroad with exception of interchange track						
Interchange Points							
Location:			**Railroad:**				
Sapulpa			BNSF				
Tulsa			UP				

Facilities	
Type:	**Location:**
Classification Yards	N/A
Transload Facility	None at this time
Intermodal Facility	None
Mechanical Facility	None
Bridges	
Number of Bridges on TSU in Oklahoma : 12	**Number of Bridges in Need of Repair:** General maintenance
Number of Bridges in Need of Upgrade to Handle 286K Loads: 12	**Other Bridge Comments, if applicable:** N/A
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Entire Railroad	Limited track storage capacity
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Entire Railroad Maintenance	$500,000 (2017 budget)
Upgrade of Four At-Grade Railroad Crossings with Surface and Signals Installed	$975,000 estimated total cost (federal, state, and railroad)
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Bridge Maintenance	$50,000 (2018 budget)
General Track Maintenance	$500,000 (2018 budget)
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Customer Building a Transload Facility	Unknown at this time
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
20 railcar storage for one existing customer's products	Primarily reserved for online customers – limited space available to third party lease for track space
Other Comments	
Identification:	**Description:**

Source: TSU and Oklahoma DOT

Western Farmers Electric Corp. (WFEC)

The Western Farmers Electric Corp. (WFEC) is a Class III railroad based in Andarko, Oklahoma. The line is operated under agreement by Kiamichi Railroad (KRR).

Figure A-19 below includes a datasheet for WFEC identifying additional details and operating and physical characteristics of the WFEC network in Oklahoma.

Figure A-19: WFEC Datasheet

Railroad	Western Farmers Electric Corp.						
Alpha Code:	WFEC						
Operator:	Kiamichi Railroad (KRR)						
Parent Company:	Western Farmers Electric Cooperative						
Contact:	Ben Wetherill						
Phone:	580-873-2201 x140						
Email:	B_wetherill@wfec.com						
Company Website:	www.wfec.com						
Service Area							
Counties in Oklahoma:	McCurtain, Choctaw						
Principal Stations in Oklahoma:							
Rail Traffic							
Principal Commodities:							
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):							
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Mainline	14.1	14.1	0	14.1	0	0	N/A
Total							
Track Characteristics (As Necessary By Line Segment)							
FRA Track Class:	Class 2						
Operating Speed:	Unknown						
Signal System:	N/A						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	Unknown						
Weight Limits:	286,000 lbs.						
Vertical Clearance and Restrictions:							
FRA Excepted Track:							
Interchange Points							
Location:				**Railroad:**			
Facilities							
Type:				**Location:**			
Classification Yards							
Transload Facility							
Intermodal Facility							
Mechanical Facility							

Bridges	
Number of Bridges on WFEC in Oklahoma : 5	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads: 0	**Other Bridge Comments, if applicable:**
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
Other Comments	
Identification:	**Description:**

Source: WFEC and Oklahoma DOT

Wichita, Tillman & Jackson Railway (WT&J)

The Wichita, Tillman & Jackson Railway (WT&J) is a Class III railroad based in Wichita Falls, Texas. It is composed of a former UP branch line operating in Texas and Oklahoma. The railroad interchanges with the UP and BNSF in Wichita Falls, Texas and Altus, Okla. Shipments are predominately grain, chemicals and agricultural products. Rio Grande Pacific Corporation maintains a 100% equity interest in this property.

Figure A-20 below includes a datasheet for WT&J identifying additional details and operating and physical characteristics of the WT&J network in Oklahoma.

Figure A-20: WT&J Datasheet

Railroad	Wichita, Tillman & Jackson Railway						
Alpha Code:	WT&J						
Operator:	Wichita, Tillman & Jackson Railway						
Parent Company:	Rio Grande Pacific Corp.						
Contact:	Scott Traylor						
Phone:	(817) 737-7288 x 3107						
Email:	scott@rgpc.com						
Company Website:	http://rgpc.com/railroads/wichita-tillman-and-jackson-railway-company/						
Service Area							
Counties in Oklahoma:	Jackson, Tillman						
Principal Stations in Oklahoma:	Devol, Grandfield, Hollister, Frederick, Tipton, Humphries, Altus						
Rail Traffic							
Principal Commodities:	Grain, scrap metal, fertilizer, animal feed						
Annual Carloads in Oklahoma (2015 – and/or 2016, if available):	2016 – 1,034 interchange carloads originated or terminated in Oklahoma						
Oklahoma Route Miles							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Red River Subdivision: Milepost 17.5 – Milepost 78.6	61.1	61.1	0	61.1	0	0	0-2
Total	61.1	61.1	0	61.1	0	0	0-2
Track Characteristics (As Necessary By Line Segment)							
FRA Track Class:	Class 1						
Operating Speed:	10 MPH						
Signal System:	N/A						
Line Density (2015 – and/or 2016, if available) in Annual Gross Tons per Mile (in Millions):	N/A						
Weight Limits:	286,000 lbs						
Vertical Clearance and Restrictions:	19 feet above top of rail						
FRA Excepted Track:							
Interchange Points							
Location:	**Railroad:**						
Altus	BNSF, FMRC, SLWC						
Frederick	GNBC						

Facilities	
Type:	**Location:**
Classification Yards	Altus
Transload Facility	N/A
Intermodal Facility	N/A
Mechanical Facility	N/A
Bridges	
Number of Bridges on WT&J in Oklahoma : 21	**Number of Bridges in Need of Repair:** 5
Number of Bridges in Need of Upgrade to Handle 286K Loads: 0	**Other Bridge Comments, if applicable:** Red River bridge needs south side stream bank stabilization and reclamation. Several bridges need stringers and deck ties replaced.
Present Capacity Constraints And Operational Bottlenecks	
Location:	**Description:**
Annual surfacing work – approximately 10 miles	$45,000
Funded Capital Projects (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated Costs, if known:**
Future Planned Improvements (Infrastructure And Other Improvements)	
Identification and Description:	**Estimated costs, if known:**
Rail siding addition between Grandfield and Hollister	
Other Improvement And Infrastructure Needs (Not Yet Funded Or Planned), Including Rehabilitation Or Construction Of Spur Tracks For Increased Or Renewed Use By Rail Shippers	
Identification and Description:	**Estimated costs, if known:**
Railcar Storage	
Has the railroad engaged in short-term or long-term railcar storage in 2016 and 2017? If so, what is/was the volume of cars stored on the railroad?	**What is the railroad's capacity for railcar storage? Any other comments about the present railcar storage market?**
Railcars are being stored at present. Volume fluctuates depending on market conditions – approximately 467 cars.	Total storage capacity is approximately 525 cars.
Other Comments	
Identification:	**Description:**

Source: WT&J and Oklahoma DOT

A.5 Non-Operating Railroad Owners in Oklahoma

The following two entities own trackage in Oklahoma that is part of the state rail network, but are considered non-operators. Each non-operating railroad owner has established an agreement with an operator to provide rail service. The location of these segments within the Oklahoma rail network was identified previously in **Figure A-4** in **Appendix A.4** above. The general physical characteristics for the networks of each non-operating railroad owner are included in the discussion for the designated Class III railroad operator of each segment included earlier in **Appendix A.4**.

State of Oklahoma (OK)

The State of Oklahoma stepped in and assisted in saving many rail lines from being abandoned and dismantled in the 1980s after several Class I railroads declared bankruptcy. CRIP discontinued service in late 1979. In 1980 and 1981, the Oklahoma legislature appropriated $12 million and $10 million, respectively, to be invested in the Oklahoma rail system. The State of Oklahoma acquired nearly 500 miles of railroads from CRIP and the Missouri-Kansas-Texas Railroad Company in 1981–1983. To this date, the state continues to own track and leases the majority of these tracks to Class III railroads in order to have continued rail service for many Oklahoma communities and businesses.

Port of Muskogee Railroad (PMR)

The Port of Muskogee Railroad (PMR) is a private railroad based in Muskogee, Oklahoma. The railroad operates approximately 5.5 miles of trackage serving port customers and interchanges with both BNSF Railway and Union Pacific Railroad.

Public Service of Oklahoma (PSO)

Public Service of Oklahoma (PSO) is a private railroad based in Sequoyah, Oklahoma. It was built to serve the PSO generating station at Oologah and is served by both BNSF Railway and the Union Pacific Railroad.

Tulsa's Port of Catoosa (POCA)

Tulsa's Port of Catoosa (POCA) in Rogers County, Oklahoma owns and operates trackage within the port. It is served by both BNSF Railway and the South Kansas and Oklahoma Railroad.

A.6 Industrial Railroads in Oklahoma

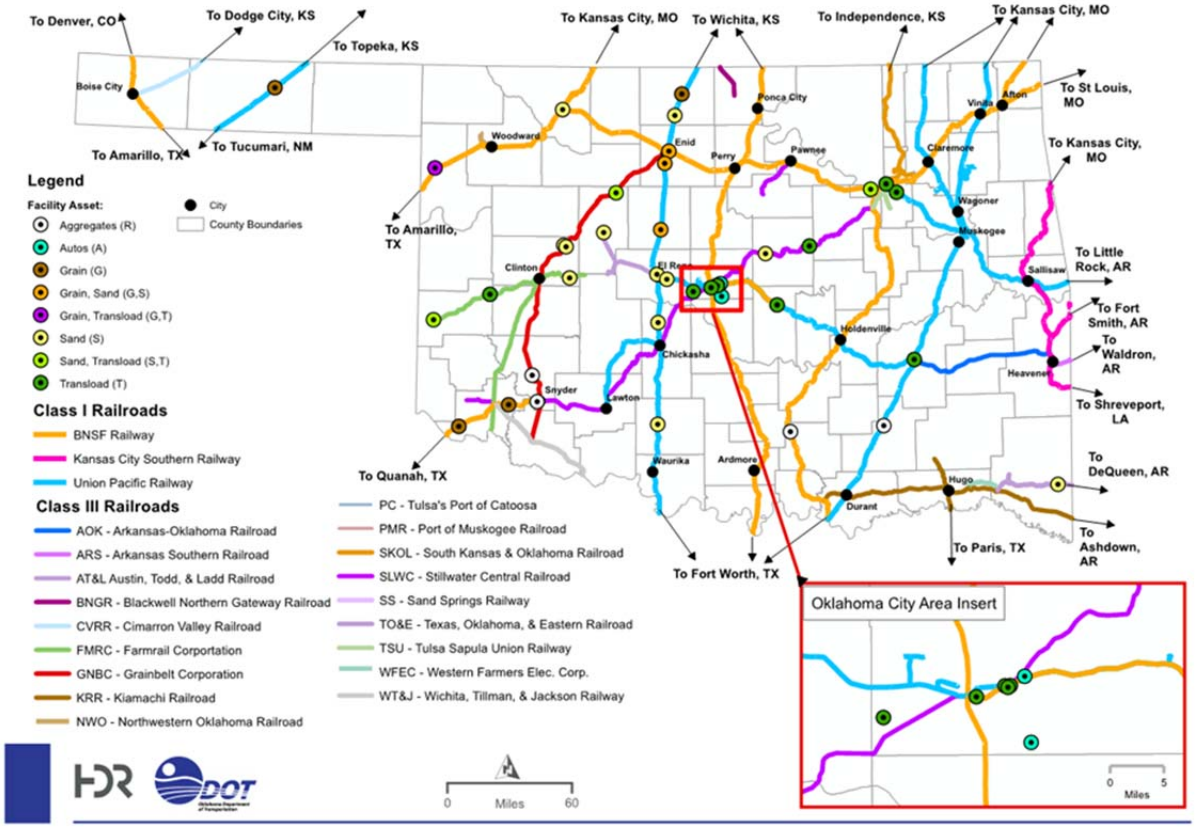
Industrial railroads exist in Oklahoma that typically provide intraplant and interplant rail switching service to industrial and manufacturing customers and to coordinate and facilitate carload interchange with Class I or III railroads. These small privately owned switching railroads operate over short segments of private industrial track on private property, and exist at many grain elevators, ethanol plants, and other manufacturing and industrial facilities in Oklahoma. These operations can be owned and operated by the company they serve or can be operated under a contract agreement with an outside party. Due to their classification, the mileage of privately owned industrial track is not included in route-mile calculations of the Oklahoma rail network. Specific industrial railroad applications and private track ownership in Oklahoma are not identified in the Oklahoma State Rail Plan.

A.7 Major Railroad Yards and Facilities in Oklahoma

The section identifies the location of known major Class I, II, and III railroad yards and facilities in Oklahoma, including the following:

- **Yard/Terminal –** Locations with yards where railcars are switched, classified, and stored and where trains are built and staged. Oklahoma's principal rail yards are located throughout the state.
- **Intermodal Facility –** Location where the transfer of trailers and containers between road and rail modes occurs. There are presently no intermodal facilities in Oklahoma.
- **Transload Facility –** Other "intermodal" facility location where freight is transferred between two modes of transportation. There are several transload facilities on the Oklahoma rail network. Commonly transloaded commodities include finished and unfinished goods, food and beverage products, lumber, metals, paper, building materials, and other packaged bulk commodities.
- **Freight Car Repair Facilities –** Locations where railcars used for freight transportation may be repaired in Oklahoma.
- **Locomotive Repair and Servicing Facilities –** Locations where railroad locomotives may be repaired and / or serviced (which may include fueling) in Oklahoma.

Figure A-21: Rail Asset and Network Map in Oklahoma



Source: Oklahoma DOT and HDR

Class I Railroads

Major freight rail yards and facilities of Class I railroads in Oklahoma, to the extent known through coordination with the state's railroads, are shown in **Table A-9** below.

Table A-9: Oklahoma Class I Railroads Major Freight Rail Yards and Facilities in Oklahoma

Railroad	Yard/Terminal	Mechanical Facility	Automotive Facility	Unit Grain Loading Facility	Aggregate Loading Facility	Transload Facility
BNSF Railway (BNSF)	Enid; OKC; Ponca City; Tulsa	OKC; Tulsa	Oklahoma City	El Dorado; Headrick; Enid; Shattuck	Avard; Enid; Mill Creek; Snyder	OKC
Kansas City Southern Railway (KCS)	Heavener; Watts	Heavener				
Union Pacific Railroad (UP)	Chickasha; El Reno; Enid; Muskogee; OKC			Enid; Kingfisher; Medford; Optima	Enid; El Reno; Kingfisher; Yukon; Duncan; Pocasset; Pond Creek; Stringtown	OKC; Tulsa

Source: BNSF, KCS, UP, Oklahoma DOT

Class II and Class III Railroads

Major freight rail yards and facilities of Class II and Class III railroads in Oklahoma, to the extent known through coordination with the state's railroads, are shown in **Table A-10** below.

Table A-10: Oklahoma Class II and III Railroads Major Freight Rail Yards and Facilities in Oklahoma

Railroad	Yard/Terminal	Mechanical Facility	Automotive Facility	Unit Grain Loading Facility	Aggregate Loading Facility	Transload Facility
Arkansas-Oklahoma Railroad (AOK)	Shawnee; McAlester		Oklahoma City			Shawnee; McAlester
Arkansas Southern Railroad (ARS)	Heavener	Waldron, AR				
Austin, Todd & Ladd Railroad (AT&L)				Watonga		
Blackwell Northern Gateway Railroad (BNGR)						
Cimarron Valley Railroad (CVRR)	Boise City (BNSF)					
Farmrail Corporation (FMRC)	Altus; Clinton	Clinton; Elk City			Elk City; Weatherford; Thomas	Erick
Grainbelt Corporation (GNBC)	Clinton; Snyder; Frederick	Clinton			Okeene; Roosevelt; Thomas	
Kiamichi Railroad (KRR)	Hugo	Hugo				Paris, TX

Northwestern Oklahoma Railroad (NOKL)	Woodward	Woodward				
Sand Springs Railway (SS)	Sand Springs; Tulsa	Sand Springs				Sand Springs
South Kansas & Oklahoma Railroad (SKOL)	Owasso; Tulsa					Tulsa
Stillwater Central Railroad (SLWC)	OKC	OKC				Del City; Midwest City; OKC; Wellston; Stroud
Texas, Oklahoma & Eastern Railroad (TO&E)	Valliant	Valliant; De Queen, AR				
Tulsa Sapulpa Union Railway (TSU)						
Western Farmers Electric Corp. (WFEC)						
Wichita, Tillman & Jackson Railway (WT&J)	Altus					

Source: Class III railroad outreach, ODOT

Rail Intermodal Facilities

Oklahoma does not have any active Class I intermodal facilities, but it is located in proximity to other intermodal facilities operated by BNSF, UP, and KCS in the Dallas/Fort Worth and Kansas City areas; BNSF also operates a facility in the Memphis area. Oklahoma's central location in the Midwest could potentially make it a hub for the development of an additional facility on various domestic intermodal rail corridor services extending to the southern, eastern, and western U.S. and various international ports, thus enhancing access to the rail network in Oklahoma and the reach of Oklahoma's shippers and receivers in the national and global marketplace.

The need for intermodal facilities within Oklahoma was identified in the *2005-2030 Oklahoma Statewide Intermodal Transportation Plan*. Stakeholders would need to identify locations, funding sources, and levels of service, among other issues. Partnerships with railroads, specifically the short line railroads in which the state is already in partnership will be critical to the success of any plan.[2]

BNSF operates one automotive facility in the state, in Oklahoma City. Facilities also exist in adjacent states at Kansas City, Kansas; Amarillo, Texas; and Alliance, Texas.[3]

UP operates one automotive facility in the state, in Oklahoma. Facilities also exist in adjacent states at Kansas City, Kansas and in the Dallas-Fort Worth area of Texas.[4]

[2] *2005-2030 Oklahoma Statewide Intermodal Transportation Plan*
[3] http://bnsf.com/customers/where-can-i-ship/
[4] https://www.up.com/customers/autos/facility_profiles/index.htm

A.8 Rail-Port Connections in Oklahoma

Oklahoma does not have any seaports, but its two river ports on the McClellan-Kerr Arkansas River Navigation System have a physical connection to the Oklahoma rail network. This waterway, the McClellan-Kerr Arkansas River Navigation System, provides a 445-mile navigable waterway connecting Oklahoma to the Mississippi River and the Gulf of Mexico[5].

Oklahoma has 2 public river ports or barge terminals on the McClellan-Kerr Arkansas River Navigation System[6]. Both of these facilities have active multimodal connections to the Oklahoma rail network. River barge terminals in Oklahoma with known connections to the Oklahoma rail network are identified and described in **Table A-11** below. River barge capacity (for worked and stored barges) and railcar storage capacity at each facility and commodity types typically handled by each facility, to the extent known, are included.

Table A-11: Oklahoma River Barge Terminals with Connections to the Oklahoma Rail Network

Facility and Owner	Location	Navigable Waterway	Railroad Connection(s)	River Barge Capacity	Railcar Storage Capacity	Major Commodities Handled by Facility
Port of Muskogee	Muskogee	McClellan-Kerr Arkansas River Navigation System	BNSF, UP	Unknown	Unknown	iron and steel, industrial minerals, asphalt, petroleum coke, molasses, fertilizer, grain and other agricultural products, coal and construction materials
Port of Catoosa	Catoosa	McClellan-Kerr Arkansas River Navigation System	BNSF, UP	Unknown	Unknown	Agricultural commodities, consumer goods

Source: ODOT, Arkansas-Oklahoma Port Operators Association, Port of Catoosa, Port of Muskogee

[5] *http://www.swt.usace.army.mil/Missions/Navigation.aspx*
[6] Ibid.

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Appendix B

This appendix provides detailed table and supplementary documentation for Section 2.2.2.2 Current Freight Rail. The data solely reflects freight movements (outbound, inbound, intrastate, and through) and is not reflective of consumption and/or production patterns in the state. The appendix includes the following tables:

- Rail Movement by Commodity (All Directions), 2014
- Rail Outbound Movement by Commodity, 2014
- Rail Inbound Movement by Commodity, 2014
- Rail Intrastate Movement by Commodity, 2014
- Rail Through Movement by Commodity, 2014
- Rail Outbound Tons by Geography, 2014
- Rail Inbound Tons by Geography, 2014
- FHWA FAF Rail Tonnage by SCTG Code, 2014 and 2040

Table 1: Rail Movement by Commodity (All Directions), 2014

STCC 2	Commodity	Tons		Carloads	
		Amount	Percent	Amount	Percent
01	Farm Products	35,526,172	9.7%	488,889	6.7%
08	Forest Products	16,000	0.0%	600	0.0%
09	Fresh Fish or Marine Products	29,120	0.0%	1,480	0.0%
10	Metallic Ores	1,834,291	0.5%	18,385	0.3%
11	Coal	123,898,755	33.9%	1,030,562	14.1%
13	Petroleum Prod, Natural Gas	53,950	0.0%	566	0.0%
14	Nonmetallic Minerals	45,136,424	12.4%	426,243	5.8%
19	Ordnance or Accessories	20,440	0.0%	476	0.0%
20	Food or Kindred Products	27,187,071	7.4%	483,052	6.6%
21	Tobacco Products	2,800	0.0%	280	0.0%
22	Textile Mill Products	85,040	0.0%	6,040	0.1%
23	Apparel or Related Products	1,051,920	0.3%	86,400	1.2%
24	Logs, Lumber, Wood Prod.	3,436,852	0.9%	44,332	0.6%
25	Furniture or Fixtures	505,520	0.1%	47,360	0.6%
26	Pulp, Paper or Allied Products	5,397,248	1.5%	128,072	1.8%
27	Printed Matter	183,760	0.1%	10,760	0.1%
28	Chemicals or Allied Products	21,259,965	5.8%	255,565	3.5%
29	Petroleum or Coal Products	4,375,796	1.2%	53,172	0.7%
30	Rubber or Misc Plastics	783,240	0.2%	56,280	0.8%
31	Leather or Leather Products	9,160	0.0%	720	0.0%
32	Clay, Concrete, Glass or Stone	4,699,368	1.3%	54,824	0.8%
33	Primary Metal Products	6,774,676	1.9%	92,808	1.3%
34	Fabricated Metal Products	393,728	0.1%	28,088	0.4%
35	Machinery	594,444	0.2%	30,757	0.4%
36	Electrical Equipment	499,680	0.1%	48,956	0.7%

STCC 2	Commodity	Tons		Carloads	
		Amount	Percent	Amount	Percent
37	Transportation Equipment	6,525,573	1.8%	362,927	5.0%
38	Instrum, Photo Equip, Optical Eq	41,400	0.0%	3,160	0.0%
39	Misc Manufacturing Products	258,240	0.1%	28,520	0.4%
40	Waste or Scrap Materials	4,484,140	1.2%	74,660	1.0%
41	Misc Freight Shipments	484,176	0.1%	65,679	0.9%
42	Shipping Containers	828,160	0.2%	177,880	2.4%
43	Mail or Contract Traffic	5,080	0.0%	320	0.0%
46	Misc Mixed Shipments	38,394,848	10.5%	2,621,360	36.0%
47	Small Pig Freight Shipments	736,680	0.2%	71,280	1.0%
49	Hazardous Materials	29,657,647	8.1%	490,967	6.7%
	Total	**365,171,364**	**100%**	**7,291,420**	**100%**

Table 2: Rail Outbound Movement by Commodity, 2014

STCC 2	Commodity	Tons		Carloads	
		Amount	Percent	Amount	Percent
01	Farm Products	1,367,266	7.9%	12,531	7.2%
11	Coal	85,836	0.5%	896	0.5%
14	Nonmetallic Minerals	10,348,993	59.8%	96,162	55.3%
20	Food or Kindred Products	246,888	1.4%	2,712	1.6%
24	Logs, Lumber, Wood Prod.	103,000	0.6%	1,160	0.7%
26	Pulp, Paper or Allied Products	944,520	5.5%	11,800	6.8%
28	Chemicals or Allied Products	1,835,456	10.6%	18,907	10.9%
29	Petroleum or Coal Products	844,192	4.9%	9,256	5.3%
32	Clay, Concrete, Glass or Stone	260,000	1.5%	2,560	1.5%
33	Primary Metal Products	60,320	0.3%	720	0.4%
35	Machinery	5,880	0.0%	240	0.1%
37	Transportation Equipment	95,876	0.6%	2,972	1.7%
40	Waste or Scrap Materials	447,576	2.6%	5,500	3.2%
46	Misc Mixed Shipments	216	0.0%	36	0.0%
49	Hazardous Materials	658,632	3.8%	8,436	4.9%
	Total	**17,304,651**	**100%**	**173,888**	**100%**

Table 3: Rail Inbound Movement by Commodity, 2014

STCC 2	Commodity	Tons		Carloads	
		Amount	Percent	Amount	Percent
01	Farm Products	1,193,398	4.1%	11,305	4.1%
11	Coal	17,847,878	61.8%	148,362	54.1%
13	Petroleum Prod, Natural Gas	6,840	0.0%	72	0.0%
14	Nonmetallic Minerals	2,903,899	10.1%	27,170	9.9%
20	Food or Kindred Products	1,066,328	3.7%	13,384	4.9%
24	Logs, Lumber, Wood Prod.	411,640	1.4%	4,360	1.6%
26	Pulp, Paper or Allied Products	332,984	1.2%	3,656	1.3%
28	Chemicals or Allied Products	677,196	2.3%	7,216	2.6%
29	Petroleum or Coal Products	290,332	1.0%	3,336	1.2%
32	Clay, Concrete, Glass or Stone	378,108	1.3%	3,868	1.4%
33	Primary Metal Products	1,105,524	3.8%	12,748	4.6%
35	Machinery	21,040	0.1%	280	0.1%
37	Transportation Equipment	230,029	0.8%	10,159	3.7%
40	Waste or Scrap Materials	629,046	2.2%	6,530	2.4%
41	Misc Freight Shipments	5,400	0.0%	240	0.1%
46	Misc Mixed Shipments	28	0.0%	124	0.0%
49	Hazardous Materials	1,778,987	6.2%	21,655	7.9%
	Total	**28,878,657**	**100%**	**274,465**	**100%**

Table 4: Rail Intrastate Movement by Commodity, 2014

STCC 2	Commodity	Tons		Carloads	
		Amount	Percent	Amount	Percent
14	Nonmetallic Minerals	2,247,051	90.7%	22,985	90.4%
28	Chemicals or Allied Products	19,680	0.8%	200	0.8%
29	Petroleum or Coal Products	31,216	1.3%	356	1.4%
32	Clay, Concrete, Glass or Stone	159,560	6.4%	1,440	5.7%
33	Primary Metal Products	3,040	0.1%	40	0.2%
37	Transportation Equipment	10,832	0.4%	324	1.3%
49	Hazardous Materials	7,240	0.3%	80	0.3%
	Total	**2,478,619**	**100%**	**25,425**	**100%**

Table 5: Rail Through Movement by Commodity, 2014

STCC 2	Commodity	Tons		Carloads	
		Amount	Percent	Amount	Percent
01	Farm Products	32,965,508	10.4%	465,053	6.8%
08	Forest Products	16,000	0.0%	600	0.0%
09	Fresh Fish or Marine Products	29,120	0.0%	1,480	0.0%
10	Metallic Ores	1,834,291	0.6%	18,385	0.3%
11	Coal	105,965,041	33.5%	881,304	12.9%
13	Petroleum Prod, Natural Gas	47,110	0.0%	494	0.0%
14	Nonmetallic Minerals	29,636,481	9.4%	279,926	4.1%
19	Ordnance or Accessories	20,440	0.0%	476	0.0%
20	Food or Kindred Products	25,873,855	8.2%	466,956	6.8%
21	Tobacco Products	2,800	0.0%	280	0.0%
22	Textile Mill Products	85,040	0.0%	6,040	0.1%
23	Apparel or Related Products	1,051,920	0.3%	86,400	1.3%
24	Logs, Lumber, Wood Prod.	2,922,212	0.9%	38,812	0.6%
25	Furniture or Fixtures	505,520	0.2%	47,360	0.7%
26	Pulp, Paper or Allied Products	4,119,744	1.3%	112,616	1.7%
27	Printed Matter	183,760	0.1%	10,760	0.2%
28	Chemicals or Allied Products	18,727,633	5.9%	229,242	3.4%
29	Petroleum or Coal Products	3,210,056	1.0%	40,224	0.6%
30	Rubber or Misc Plastics	783,240	0.2%	56,280	0.8%
31	Leather or Leather Products	9,160	0.0%	720	0.0%
32	Clay, Concrete, Glass or Stone	3,901,700	1.2%	46,956	0.7%
33	Primary Metal Products	5,605,792	1.8%	79,300	1.2%
34	Fabricated Metal Products	393,728	0.1%	28,088	0.4%
35	Machinery	567,524	0.2%	30,237	0.4%
36	Electrical Equipment	499,680	0.2%	48,956	0.7%
37	Transportation Equipment	6,188,836	2.0%	349,472	5.1%
38	Instrum, Photo Equip, Optical Eq	41,400	0.0%	3,160	0.0%
39	Misc Manufacturing Products	258,240	0.1%	28,520	0.4%
40	Waste or Scrap Materials	3,407,518	1.1%	62,630	0.9%
41	Misc Freight Shipments	478,776	0.2%	65,439	1.0%
42	Shipping Containers	828,160	0.3%	177,880	2.6%
43	Mail or Contract Traffic	5,080	0.0%	320	0.0%
46	Misc Mixed Shipments	38,394,604	12.1%	2,621,200	38.4%
47	Small Pig Freight Shipments	736,680	0.2%	71,280	1.0%
49	Hazardous Materials	27,212,788	8.6%	460,796	6.8%
	Total	**316,509,437**	**100%**	**6,817,642**	**100%**

Table 6: Rail Outbound Tons by Geography, 2014

Commodity	Originating Oklahoma Counties						Total	Percent
	Johnston	Garfield	Rogers	McCurtain	Atoka	Remaining		
Farm Products	0	1,045,732	0	0	0	321,534	**1,367,266**	**7.9%**
Coal	0	0	0	0	0	85,836	**85,836**	**0.5%**
Nonmetallic Minerals	8,122,630	0	3,984	122,244	914,160	1,185,975	**10,348,993**	**59.8%**
Food or Kindred Products	0	85,600	0	0	0	161,288	**246,888**	**1.4%**
Logs, Lumber, Wood Prod.	0	0	0	69,040	0	33,960	**103,000**	**0.6%**
Pulp, Paper or Allied Products	0	0	0	890,840	0	53,680	**944,520**	**5.5%**
Chemicals or Allied Products	0	104,864	1,326,940	6,400	0	397,252	**1,835,456**	**10.6%**
Petroleum or Coal Products	0	355,000	0	0	0	489,192	**844,192**	**4.9%**
Clay, Concrete, Glass or Stone	0	29,840	0	0	0	230,160	**260,000**	**1.5%**
Primary Metal Products	0	0	16,680	0	0	43,640	**60,320**	**0.3%**
Machinery	0	0	0	0	0	5,880	**5,880**	**0.0%**
Transportation Equipment	0	2,160	0	1,240	0	92,476	**95,876**	**0.6%**
Waste or Scrap Materials	0	0	120,088	0	0	327,488	**447,576**	**2.6%**
Misc Mixed Shipments	0	0	0	0	0	216	**216**	**0.0%**
Hazardous Materials	0	209,960	42,880	0	0	405,792	**658,632**	**3.8%**
Total	**8,122,630**	**1,833,156**	**1,510,572**	**1,089,764**	**914,160**	**3,834,369**	**17,304,651**	**100%**
Percent	**46.9%**	**10.6%**	**8.7%**	**6.3%**	**5.3%**	**22.2%**	**100%**	**-**

Commodity	Terminating State						Total	Percent
	Texas	Nebraska	Missouri	California	Illinois	Remaining		
Farm Products	1,320,040	0	0	19,464	0	27,762	**1,367,266**	**7.9%**
Coal	68,736	0	0	0	0	17,100	**85,836**	**0.5%**
Nonmetallic Minerals	9,399,524	49,704	268,410	0	7,640	623,715	**10,348,993**	**59.8%**
Food or Kindred Products	122,724	3,680	2,760	15,044	15,520	87,160	**246,888**	**1.4%**

Logs, Lumber, Wood Prod.	33,960	7,240	13,080	0	9,600	39,120	**103,000**	**0.6%**
Pulp, Paper or Allied Products	59,280	50,680	70,680	152,080	47,200	564,600	**944,520**	**5.5%**
Chemicals or Allied Products	188,880	621,702	35,480	92,832	171,407	725,155	**1,835,456**	**10.6%**
Petroleum or Coal Products	230,392	3,880	10,400	26,880	17,768	554,872	**844,192**	**4.9%**
Clay, Concrete, Glass or Stone	114,160	0	0	28,480	15,960	101,400	**260,000**	**1.5%**
Primary Metal Products	0	0	0	4,080	0	56,240	**60,320**	**0.3%**
Machinery	5,880	0	0	0	0	0	**5,880**	**0.0%**
Transportation Equipment	29,472	11,720	7,076	0	9,220	38,388	**95,876**	**0.6%**
Waste or Scrap Materials	186,296	2,560	25,120	0	7,240	226,360	**447,576**	**2.6%**
Misc Mixed Shipments	0	0	0	0	0	216	**216**	**0.0%**
Hazardous Materials	200,960	38,000	6,560	13,800	40,880	358,432	**658,632**	**3.8%**
Total	**11,960,304**	**789,166**	**439,566**	**352,660**	**342,435**	**3,420,520**	**17,304,651**	**100%**
Percent	**69.1%**	**4.6%**	**2.5%**	**2.0%**	**2.0%**	**19.8%**	**100%**	**-**

Table 7: Rail Inbound Tons by Geography, 2014

Commodity	Originating State						Total	Percent
	Wyoming	Wisconsin	Illinois	Texas	North Dakota	Remaining		
Farm Products	0	3,800	70,651	0	87,136	1,031,811	**1,193,398**	**4.1%**
Coal	17,847,878	0	0	0	0	0	**17,847,878**	**61.8%**
Petroleum Prod, Natural Gas	0	0	0	0	0	6,840	**6,840**	**0.0%**
Nonmetallic Minerals	0	1,513,931	577,260	103,724	0	708,984	**2,903,899**	**10.1%**
Food or Kindred Products	0	6,920	73,960	27,120	71,920	886,408	**1,066,328**	**3.7%**
Logs, Lumber, Wood Prod.	0	0	0	0	0	411,640	**411,640**	**1.4%**
Pulp, Paper or Allied Products	0	4,120	27,400	38,240	0	263,224	**332,984**	**1.2%**
Chemicals or Allied Products	106,560	0	30,100	252,760	0	287,776	**677,196**	**2.3%**

Commodity	Originating State						Total	Percent
	Wyoming	Wisconsin	Illinois	Texas	North Dakota	Remaining		
Farm Products	0	3,800	70,651	0	87,136	1,031,811	**1,193,398**	**4.1%**
Petroleum or Coal Products	6,880	0	15,388	20,280	0	247,784	**290,332**	**1.0%**
Clay, Concrete, Glass or Stone	103,240	15,600	28,600	18,240	0	212,428	**378,108**	**1.3%**
Primary Metal Products	3,160	0	37,720	75,160	0	989,484	**1,105,524**	**3.8%**
Machinery	0	0	0	0	0	21,040	**21,040**	**0.1%**
Transportation Equipment	0	0	99,720	90,269	0	40,040	**230,029**	**0.8%**
Waste or Scrap Materials	0	2,640	501,462	18,304	0	106,640	**629,046**	**2.2%**
Misc Freight Shipments	0	0	0	0	0	5,400	**5,400**	**0.0%**
Misc Mixed Shipments	0	0	0	0	0	28	**28**	**0.0%**
Hazardous Materials	3,400	12,720	62,560	282,760	608,237	809,310	**1,778,987**	**6.2%**
Total	**18,071,118**	**1,559,731**	**1,524,821**	**926,857**	**767,293**	**6,028,837**	**28,878,657**	**100%**
Percent	**62.6%**	**5.4%**	**5.3%**	**3.2%**	**2.7%**	**20.9%**	**100%**	**-**

Commodity	Terminating Oklahoma Counties						Total	Percent
	Muskogee	Rogers	Mayes	Noble	Choctaw	Remaining		
Farm Products	0	0	0	0	0	1,193,398	**1,193,398**	**4.1%**
Coal	5,429,038	4,091,968	3,172,596	3,138,904	1,570,972	444,400	**17,847,878**	**61.8%**
Petroleum Prod, Natural Gas	0	0	0	0	0	6,840	**6,840**	**0.0%**
Nonmetallic Minerals	0	0	17,840	0	0	2,886,059	**2,903,899**	**10.1%**
Food or Kindred Products	41,680	21,400	133,872	0	0	869,376	**1,066,328**	**3.7%**
Logs, Lumber, Wood Prod.	0	15,360	0	0	0	396,280	**411,640**	**1.4%**
Pulp, Paper or Allied Products	86,744	0	0	0	0	246,240	**332,984**	**1.2%**
Chemicals or Allied Products	16,960	17,548	94,280	0	0	548,408	**677,196**	**2.3%**
Petroleum or Coal Products	0	6,880	0	0	0	283,452	**290,332**	**1.0%**
Clay, Concrete, Glass or	47,200	0	3,880	0	0	327,028	**378,108**	**1.3%**

Commodity	Terminating Oklahoma Counties						Total	Percent
	Muskogee	Rogers	Mayes	Noble	Choctaw	Remaining		
Stone								
Primary Metal Products	194,004	423,640	0	0	0	487,880	**1,105,524**	**3.8%**
Machinery	0	0	0	0	0	21,040	**21,040**	**0.1%**
Transportation Equipment	1,280	5,600	0	0	7,172	215,977	**230,029**	**0.8%**
Waste or Scrap Materials	6,720	3,600	0	0	0	618,726	**629,046**	**2.2%**
Misc Freight Shipments	0	0	0	0	0	5,400	**5,400**	**0.0%**
Misc Mixed Shipments	0	0	0	0	0	28	**28**	**0.0%**
Hazardous Materials	83,396	86,000	23,640	0	0	1,585,951	**1,778,987**	**6.2%**
Total	**5,907,022**	**4,671,996**	**3,446,108**	**3,138,904**	**1,578,144**	**10,136,483**	**28,878,657**	
Percent	**20.5%**	**16.2%**	**11.9%**	**10.9%**	**5.5%**	**35.1%**	**100%**	**-**

Table 8: FHWA FAF Rail Tonnage by SCTG Code, 2014 and 2040

STCG	Commodity	Outbound			Inbound			Intrastate		
		2014	2040	CAGR	2014	2040	CAGR	2014	2040	CAGR
	Agricultural									
2	Cereal grains	529,991	861,139	1.9%	438,242	396,130	-0.4%	0	0	N/A
3	Other ag prods.	32,723	82,920	3.6%	18,363	65,844	5.0%	0	0	N/A
4	Animal feed	23,916	31,588	1.1%	98,850	245,822	3.6%	0	0	N/A
5	Meat/seafood	211	445	2.9%	58	124	3.0%	0	0	N/A
6	Milled grain prods.	361	906	3.6%	117	306	3.8%	0	0	N/A
7	Other foodstuffs	3,365	8,982	3.8%	253,885	361,579	1.4%	351,240	516,988	1.5%
8	Alcoholic beverages	0	0	N/A	13	68	6.4%	5,353	6,698	0.9%
	Subtotal	**590,567**	**985,979**	**2.0%**	**809,529**	**1,069,872**	**1.1%**	**356,593**	**523,686**	**1.5%**
	Mining/Extraction									

STCG	Commodity	Outbound			Inbound			Intrastate		
		2014	2040	CAGR	2014	2040	CAGR	2014	2040	CAGR
11	Natural sands	703,564	872,936	0.8%	565,216	852,976	1.6%	513,653	762,165	1.5%
12	Gravel	478,405	452,153	-0.2%	82,077	99,351	0.7%	4,336,786	4,098,813	-0.2%
13	Nonmetallic minerals	47,721	51,907	0.3%	161,626	186,507	0.6%	0	0	N/A
14	Metallic ores	0	0	N/A	107,034	140,835	1.1%	0	0	N/A
15	Coal	116	148	0.9%	18,317,623	8,576,599	-2.9%	0	0	N/A
16	Crude petroleum	3,597,324	2,084,550	-2.1%	0	0	N/A	0	0	N/A
	Subtotal	**4,827,130**	**3,461,694**	**-1.3%**	**19,233,576**	**9,856,269**	**-2.5%**	**4,850,439**	**4,860,978**	**0.0%**
	Manufacturing									
17	Gasoline	1.4	0.0	-100%	35,173	25,702	-1%	0	0	N/A
18	Fuel oils	367,190	266,403	-1.2%	3,346	2,857	-0.6%	0	0	N/A
19	Coal-n.e.c.	8,420,888	15,988,976	2.5%	436,999	427,111	-0.1%	323,721	466,731	1.4%
20	Basic chemicals	219,900	253,441	0.5%	490,206	919,719	2.4%	0	0	N/A
21	Pharmaceuticals	0.4	1.4	4.9%	740	2,977	5.5%	0	0	N/A
22	Fertilizers	3,623,366	5,057,126	1.3%	37,202	39,429	0.2%	48,063	73,992	1.7%
23	Chemical prods.	1,599	5,593	4.9%	26,067	67,624	3.7%	0	0	N/A
24	Plastics/rubber	4,514	10,877	3.4%	769,495	1,798,626	3.3%	0	0	N/A
25	Logs	0.0	0.0	N/A	61,250	114,714	2.4%	0	0	N/A
26	Wood prods.	9,212	10,713	0.6%	118,745	217,898	2.4%	112,665	137,289	0.8%
27	Newsprint/paper	800,799	863,249	0.3%	197,807	336,515	2.1%	0	0	N/A
28	Paper articles	46	119	3.7%	20,790	37,496	2.3%	0	0	N/A
29	Printed prods.	58	170	4.2%	19,121	37,938	2.7%	0	0	N/A
30	Textiles/leather	118	181	1.7%	27,095	81,924	4.3%	0	0	N/A
31	Nonmetal min. prods.	90,916	84,828	-0.3%	118,582	368,971	4.5%	0	0	N/A
32	Base metals	127,037	134,307	0.2%	184,084	243,327	1.1%	0	0	N/A

STCG	Commodity	Outbound			Inbound			Intrastate		
		2014	2040	CAGR	2014	2040	CAGR	2014	2040	CAGR
33	Articles-base metal	196,324	301,659	1.7%	100,347	207,412	2.8%	0	0	N/A
34	Machinery	1,702	7,853	6.1%	60,698	198,577	4.7%	0	0	N/A
35	Electronics	179	969	6.7%	34,367	131,723	5.3%	0	0	N/A
36	Motorized vehicles	314	514	1.9%	40,017	56,267	1.3%	0	0	N/A
37	Transport equip.	715	2,991	5.7%	2,509	4,812	2.5%	0	0	N/A
38	Precision instruments	18	118	7.5%	1,365	6,780	6.4%	0	0	N/A
39	Furniture	21	73	4.9%	28,406	158,557	6.8%	0	0	N/A
40	Misc. mfg. prods.	4,706	7,462	1.8%	92,097	293,332	4.6%	0	0	N/A
	Subtotal	**13,869,621**	**22,997,622**	**2.0%**	**2,906,504**	**5,780,285**	**2.7%**	**484,449**	**678,012**	**1.3%**
	Other									
41	Waste/scrap	99,097	135,596	1.2%	147,794	254,462	2.1%	0	0	N/A
43	Mixed freight	5,205	13,344	3.7%	979	1,636	2.0%	0	0	N/A
99	Unknown	0	0	N/A	0	0	N/A	140,204	209,360	1.6%
	Subtotal	**104,302**	**148,940**	**1.4%**	**148,773**	**256,098**	**2.1%**	**140,204**	**209,360**	**1.6%**
	Grand Total	**19,391,621**	**27,594,235**	**1.4%**	**23,098,382**	**16,962,524**	**-1.2%**	**5,831,685**	**6,272,036**	**0.3%**

Appendix C

Executive Summary

Rail economic impacts to Oklahoma are estimated using IMPLAN economic impact modeling tool with input data and assumptions on:

- Freight movements, based on data derived from the STB Waybill Sample data of shipments originating in Oklahoma described in Section 2.2 of the main part of this State Rail Plan document;
- Values of commodity shipments extracted from FAF data base for rail shipments originating in Oklahoma and converted to $/ton;
- Rail transportation operations, and
- Expenditures of visitors coming to Oklahoma by rail.

Impacts are calculated and presented by activity type (service provision and rail users), category of impact (direct, indirect, induced, and total), and measure of economic activity (employment, income, value added, output, and tax revenue) to provide a comprehensive perspective on how rail in Oklahoma impacts the economy. Table C.1 provides a summary of impacts which include the following:

- **Employment** – Economic impacts of rail extend beyond the 1,870 directly employed in the provision of rail transport (both passenger and freight). When the freight rail transportation and visitor impact activities and multiplier impacts are included, rail-related employment in Oklahoma amounts to 21,503 jobs, which represent 0.9% of the 2.3 million statewide employment.
- **Employment Income** – $1.4 billion earned by these total employees represent 1.2% of Oklahoma's total labor income. Labor income includes employee compensation and proprietary income. Employee compensation, in turn, consists of wage and salary payments as well as benefits (health, retirement, etc.) and employer paid payroll taxes (employer side of social security, unemployment taxes, etc.). Proprietary income consists of payments received by self-employed individuals and unincorporated business owners.
- **Value Added** – The combined value added impact of rail-related activity is over $3.1 billion and represents 1.7% of the state's Gross State Product (GSP).
- **Output** – In terms of total revenue, the rail-related industries generated about $6.5 billion in output, which represents 1.8% of Oklahoma's total output.
- **Tax Revenue** – Federal, state and local tax revenues generated by the rail industry totaled $590.8 million.

Table C.1: Rail Economic Impacts in Oklahoma

Impact Metric	Transportation Services			Transportation Users			Total Rail-Related Industries		
	Total	Freight	Passenger	Total	Freight	Passenger	Total	Freight	Passenger
Employment, Jobs									
Direct	1,870	1,842	28	5,497	5,477	20	7,367	7,319	48
Total	5,244	5,165	79	16,260	16,234	26	21,503	21,399	104
Employment Income, $ Millions									
Direct	$207.4	$204.3	$3.1	$474.5	$474.1	$0.4	$681.9	$678.4	$3.5
Total	$379.2	$373.5	$5.7	$1,049.2	$1,048.6	$0.7	$1,428.4	$1,422.1	$6.3
Value Added, $ Millions									
Direct	$990.1	$975.3	$14.8	$903.7	$903.1	$0.6	$1,893.8	$1,878.4	$15.4
Total	$1,275.6	$1,256.5	$19.1	$1,870.4	$1,869.3	$1.1	$3,146.0	$3,125.8	$20.2
Output, $ Millions									
Direct	$1,347.1	$1,326.9	$20.2	$2,769.3	$2,768.2	$1.1	$4,116.4	$4,095.1	$21.3
Total	$1,899.2	$1,870.7	$28.4	$4,633.5	$4,631.5	$2.0	$6,532.6	$6,502.2	$30.4
Tax Revenues, $ Millions									
State and Local	$51.0	$50.2	$0.8	$151.5	$151.4	$0.1	$202.5	$201.6	$0.9
Federal	$140.4	$138.3	$2.1	$248.0	$247.8	$0.2	$388.3	$386.1	$2.3
Total	$191.3	$188.5	$2.9	$399.5	$399.2	$0.3	$590.8	$587.7	$3.1

Introduction

Economic impacts of rail transportation industry in Oklahoma stem from (1) railroads providing freight and passenger rail services, (2) industries using such services to trade goods (i.e. shippers of goods), and (3) visitors coming to Oklahoma by rail and spending money on goods and services.

This Appendix outlines the methodology of quantification of these impacts together with input data in Section 2, and results in Section 3. The methodology represents an input-output approach that captures and quantifies the flow of goods and services (expenditures) between various industries in the economy arising from technical requirements of one industry for inputs provided by another industry. These inter-industry requirements for input supplies and labor create rounds of expenditures and impacts that – when added throughout the economy – exceed the initial expenditure.

The analysis is implemented on the basis of STB Waybill Sample data of shipments originating in Oklahoma and using IMPLAN, a professional economic impact modeling tool based on the input-output approach and social accounting framework. Section 2 of this Appendix provides an overview of the specific methodology, data and assumptions used in this assessment while Section 3 presents the results. All monetary estimates are in 2016 dollars.

C.1 Methodology, Data Sources, and Analysis Assumptions

1.1 Key Concepts and Modeling Tools

Economic impact analysis (or assessment) is a type of conceptual analysis that identifies and quantifies the economic activity that is generated or can be attributed and linked to an investment project, government policies, events, etc. being evaluated. These projects, policies, or events have some underlying change in the stream of expenditures in an economy and lead to a change in the demand for goods and services. This has implications on the number of jobs and other measures of economic activity in the local, regional, and national economy.

Traditionally, economic impact analysis involves the estimation of three distinct types of economic activity, commonly referred to as "direct effects," "indirect effects," and "induced effects" that are attributable to an initial stream of incremental capital or operating expenditures. These are defined as follows:

- Direct impacts refer to the initial economic effects occurring as the result of capital or operating expenditures directly related to the project, policy, or event being evaluated. Direct spending results in the employment of workers, business output, and sales of locally produced goods or services.
- Indirect impacts refer to the "spin-off" economic activities that result from purchases of production inputs, goods and services, by businesses that are impacted by the initial expenditures. The spending by the supplier firms on their labor, production inputs, goods and services that they require creates output of other firms further down the production chain, bringing about additional business output, employment, and earnings. The sum of these effects across the supply chain is the indirect impact.
- Induced impacts represent the increase in business output, employment, and earnings over and above the direct and indirect impacts, generated by re-spending of employment income derived from the direct and indirect employment.. Induced impacts are thus changes in

economic activity that are the result of personal (household) spending for goods and services by employees comprising the direct and indirect impacts.

- Total economic impact is the sum of the direct, indirect and induced effects for the project being evaluated.

Each of the direct, indirect, and induced impacts defined is estimated in terms of the various measures of economic activity that include the following:

- Output, the total gross value of all business revenue. Output represents the total sum of all economic activity that has taken place in connection with it. This is the broadest measure of economic activity.
- Value Added, or gross domestic product (GDP), the "value added" to the economy, or value of output minus value of purchased goods and services used in the production process. Value added represents the unduplicated measure of the total value of economic activity.
- Employment, the number of incremental jobs created as a result of all expenditures related to the activities evaluated.[1]
- Salaries and Wages, the additional salaries and wages that would be paid to above employees.
- Government Tax Revenues, the total amount of incremental tax revenues generated at all levels of government.

Indirect and induced impacts are often referred to as "multiplier effects," since they increase the overall economic impacts of the original expenditure that initiated the rounds of spending and effects described above.

The above analysis is made operational via an input-output methodology that captures and quantifies the flow of goods and services between various industries in an economy arising from technical requirements of one industry for inputs produced by another industry (supply-purchase relationships).

Aggregate measures of the requirements of one industry from all other industries (per $1 of output) represent indirect multipliers. Own industry requirements for labor and operational profile (wages and salaries paid, use of production inputs) represent direct multipliers. Indirect multipliers can be used to estimate indirect impacts, direct multipliers can be used to estimate direct effects (or its missing components, e.g. employment from given expenditure amount). Induced impacts are estimated based on profile of consumer expenditures on goods and services.

Economic impacts of rail transportation are driven by both transport service providers and the choice of rail transportation made by users of these services themselves. In other words, Oklahoma rail-related economic impacts are categorized into service provider and user impacts. Rail transport services would be curtailed in the absence of rail activity (elimination of goods or passenger movements). Transport user impacts pertain to industries using freight rail to transport goods, or the industries relying on expenditures of visitors to Oklahoma traveling by rail. The nature of these impacts is briefly discussed below.

[1] In economic impact analysis, employment impacts are typically estimated in terms of job-years which expresses the number of jobs created times the length of time in years that they would last for. E.g. 1 job-year is 1 job created for 1 year. For simplicity, we refer here to these impacts as "jobs" or employment impacts.

- **Transport Service Providers** – Impacts associated with the provision of rail transport (e.g., the rail industry) include a wide range of primarily modal transport activity, but also may include other support administrative operations. It reflects freight and passenger railroad operations.

- **Transport Users** – Impacts associated with shippers of freight and the industries that supply goods and services to them as well as travellers' expenditures on goods & services and industries that are supported by these expenditures.

    - **Freight Users** – Impacts associated with shippers using freight rail for goods movement, except for the rail industry itself. Rail users have several options available to transport freight and can substitute this service with other modes (truck and/or water) if rail services were unavailable. However, the choice to use railroads to ship freight indicates cost and/or logistical advantages in a competitive marketplace. Loss of rail service could negatively affect its current users. In this sense, rail contributes to the vitality of the state economy and supports jobs and economic activity of its users involved in the production of goods shipped.

      This analysis focuses on impacts to shippers as captured by outbound freight with an Oklahoma origin. Although receivers may also benefit by being able to obtain their orders by rail at a lower total cost, including many production inputs and supplies, this impact is difficult to quantify without a risk of double counting or over-stating the impact. For example, the receivers of production supplies may then themselves ship final goods they produce by rail as well. The economic activity and contribution to the state economy corresponding to the production of those final goods will be accounted for under outbound freight. Including impact due to being able to obtain production supplies by rail as well carries a high risk of double counting as those supplies may be used for the production of the goods already captured under the outbound freight.

    - **Travellers** – Similarly, the local economy is also impacted by the expenditures of travellers on goods and services such as food, or accommodation. Rail-transported travellers may have several transport options and may be able to substitute other modal transport (auto, bus, air) if rail services became unavailable. However, the choice of those travellers to use Amtrak reveals factors such as cost savings, convenience, and/or other amenity advantages. As such, if rail were unavailable, affected travellers' expenditures and corresponding economic impact would likely be reduced.

The above analysis is implemented and estimated within the IMPLAN model. IMPLAN (IMpact analysis for PLANning) is an economic impact modeling tool used for forecasting the effect of a given economic activity on the local, regional, and national economy. The activity is specified in terms of incremental expenditures related to the activity, e.g. revenue of the industry that receives orders for its goods and services, or number of workers that will be required to complete the order. The model is based on classic input-output modeling approaches combined with social accounting matrices and multipliers. It consists of a software package with data sets at various levels of geography (all of US/ national average, state, county, zip code) which are loaded into the software depending on the specific project and desired geographic area of impact assessment.2 Estimation of economic impacts with IMPLAN involves the following key steps:

[2] IMPLAN was originally developed in the 1970s for the US National Forest Services for economic impact projections of alternative uses of US public forest resources. In later years, IMPLAN was improved and

Step (1): Identify the streams of expenditures directly resulting from, or related to, the activity being analyzed and classify them into industrial sectors;

Step (2): Identify IMPLAN industries that most closely correspond to the industrial sectors of expenditures listed in Step (1) (based on North American Industrial Classification System (NAICS) codes concordance);

Step (3): Prepare the IMPLAN software and model and enter the amounts of direct expenditures (alternatively, the number of direct jobs may be used), and

Step (4): Run model simulations for specific categories of expenditures and geography.

The specific data and methodological assumptions used develop the streams of expenditures generating economic impacts are discussed in the next section.

2.1 Data and Input Assumptions

Rail Service Provision

Estimation of total economic impacts of rail service provision in Oklahoma is based on information on direct industry employment. Based on data on Oklahoma economy that forms the underlying IMPLAN input, employment in the rail industry in Oklahoma amounted to 1,870.3 This total includes both employment related to passenger services and employment related to freight services.

Given that passenger rail transportation industry in Oklahoma is small – essentially represented only by Amtrak's Heartland Flyer train service – it can be assumed that the vast majority of total industry employment is related to freight transportation. In fact, a 2005 study for ODOT examining in detail the economic impact of the Heartland Flyer reported that 28 Oklahoma residents were directly employed by Amtrak in the operations of the Heartland Flyer.4

It is noted that Heartland Flyer ridership was increasing in the initial years of operations but declined in 2012 and the subsequent years, and in 2016 ridership was at the same level as in 2005. The level of service also remains at the same level of two daily trips. This suggests that current employment is likely at a similar level as employment reported in the 2005 study for ODOT referenced above.

Since the IMPLAN software tool models only one aggregate rail transportation industry that includes both freight transportation and passenger transportation, the impacts specific to freight and passenger service are pro-rated from total using the shares of employment in each subsector of this industry.

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updated to make it more functional and relevant for a wider range of projects and users. IMPLAN is now widely used and recognized by government organizations, academia, advisory services, and business organizations. Currently, IMPLAN is operated by the Minnesota IMPLAN Group (MIG). In addition to updating and improving the databases and software, MIG holds regular training sessions, biannual user conferences, and maintains a collection of papers that have used IMPLAN. More information about the company, software, help, and support can be found at https://implan.com/.

[3] Employment in the rail transportation industry at state or local level is not published in readily accessible public sources such as Bureau of Labur Statistics or U.S. Census Bureau.

[4] "The Heartland Flyer Oklahoma's Passenger Rail Service Economic Benefit Report", Oklahoma Department of Transportation Rail Programs Division, prepared by Carter and Burgess, C&B Project No. 020874.010, February 2005.

Freight Movements

STB Waybill Sample data of rail shipments originating in Oklahoma described in Section 2 provided the volume (i.e. tonnage) of shipments of goods originating in Oklahoma.

FAF[4] database of freight flows among states was used to extract values of shipments by rail that originate in Oklahoma. The total shipment values were converted to average commodity value in terms of $/ton, and a weighted average was calculated for each commodity group (with weights based on the share of tonnage shipped for the given commodity group). These were then matched to commodity categories in STB Waybill Sample data.

Multiplying the tonnage of shipments from the STB Waybill Sample data by the average value of goods provided the total value of commodities shipped from an Oklahoma origin. As mentioned in the previous section, this is interpreted as the value of production that is supported (facilitated, or made more competitive) by the presence of rail transportation. The employment and income related to these shipments are interpreted as economic impact related to rail.

It is noted, however, that in practice in today's economy many shipments may represent movements of goods from warehousing and distribution centers, rather, than manufacturing establishments. In fact, analysis of 2012 Commodity Flow Survey data by Bureau of Transportation Statistics (BTS) reveals that, by value, 42% of shipments are shipped by manufacturing industries, another 42% by wholesale trade, and 12% by auxiliary industries.[5]

Based on this analysis, 50% of all commodity shipments by value are assigned to wholesale trade and the other 50% are assigned to the IMPLAN manufacturing industry (or agriculture) that best matches particular commodity group. Table 1 presents the results of this analysis. The table shows that some commodity groups have two or three IMPLAN industries assigned. This was applied in cases of quite diverse commodities covered under one commodity group.

The volume of goods shipped from Oklahoma origins amounted to over 19 million tons at a total value of nearly $4.7 billion. Half of this value, or $2,329.7 million, is assumed to represent shipments by wholesale trade, while the remaining $2,329.7 represents manufacturing shipments assigned to various relevant manufacturing industries as shown in the table.

The table also demonstrates that the largest shipments in terms of tonnage are non-metalic minerals (at over 63% of total tonnage), followed by chemicals and allied products (at more than 9% of total tonnage) and farm products (at 6.9% of total tonnage). In terms of shipment value, chemicals and allied products represented the largest shipments at nearly one third of total value followed by transportation equipment (at 16% of total value), petroleum products and pulp & paper products industries (each at nearly 12% of total value).

[5] See: "U.S. Freight on the move: Highlights From the 2012 Commodity Flow Survey Preliminary Data", U.S. Department of Transportation, Bureau of Transportation Statistics, August 2014. "Auxiliary industries" are defined in the study as establishments specifically involved in warehousing and storage, corporate, subsidiary, and regional managing offices (footnote 10 in the paper).

Table 1: Freight Shipments Included in Economic Impact Assessment

Commodity Group	Outbound and Intra-State, Tons	Commodity Value Assigned, $/Ton	Shipment Value, $Millions	Value to Allocate to Wholesale Trade, $Millions	Value to Allocate to IMPLAN Industries, $Millions	IMPLAN Industry Assigned (Other than Wholesale)
Farm Products	1,367,266	$169.80	$232.2	$116.08	$116.1	2 Grain Cereals
Coal	85,836	$404.69	$34.7	$17.37	$17.4	22 Coal mining
Nonmetallic Minerals	12,596,044	$10.49	$132.1	$66.07	$66.1	30 Stone mining and quarrying
Food or Kindred Products	246,888	$122.42	$30.2	$15.11	$15.1	91 Rendering and meat byproduct processing
						105 All other food manufacturing
Logs, Lumber, Wood Prod.	103,000	$560.29	$57.7	$28.85	$28.9	15 Forestry and Forest Products
						134 Sawmills
Pulp, Paper or Allied Products	944,520	$579.29	$547.2	$273.58	$273.6	148 Paperboard mills
Chemicals or Allied Products	1,855,136	$824.52	$1,529.6	$764.80	$764.8	164 Other basic inorganic chemical manufacturing
						166 Plastics material and resin manufacturing
						169 Nitrogenous fertilizer manufacturing
Petroleum or Coal Products	875,408	$624.26	$546.5	$273.24	$273.2	159 Petroleum lubricating oil and grease manufacturing
						160 All other petroleum and coal products manufacturing
Clay, Concrete, Glass or Stone	419,560	$134.20	$56.3	$28.15	$28.2	206 Ready-mix concrete manufacturing
Primary Metal Products	63,360	$475.12	$30.1	$15.05	$15.1	218 Iron, steel pipe and tube manuf.
Machinery	5,880	$19,755.35	$116.2	$58.08	$58.1	271 All other industrial machinery
Transportation Equipment	106,708	$7,034.51	$750.6	$375.32	$375.3	362 Railroad rolling stock manufacturing
Waste or Scrap	447,576	$428.79	$191.9	$95.96	$96.0	471 Waste management and remediation

Materials						services
Misc Mixed Shipments	216	$11,951.09	$2.6	$1.29	$1.3	394 All other misc. manufacturing
Hazardous Materials	665,872	$603.09	$401.6	$200.79	$200.8	187 - Other Chemical Products
Total	**19,783,270**		**$4,659.5**	**$2,329.7**	**$2,329.7**	

Travellers' Expenditures

Specific data on the number of visitors coming to Oklahoma by rail (out-of-state and from same state visitors), or traveling in Oklahoma by rail, was not identified. Given that the Heartland Flyer (HF) train service is the only passenger rail service in the state, HF ridership statistics are used to help in this assessment.

In 2016, HF ridership amounted to 66,105.[6] Detailed information regarding the residence and trip itinerary of the travellers is not available. However, a 2010 study of the benefits and impacts of the Heartland Flyer conducted by the Texas Transportation Institute (2010 TTI Study) provided survey-based information about passenger profiles, including trip origin and destination, trip purpose, and state of residence.[7]

The study revealed that about 70% of passengers are residents of Oklahoma while the remaining 30% are residents of Texas and other states. The survey also showed that the largest city pairs served by HF are Oklahoma City – Fort Worth and Norman – Fort Worth which together account for about 68% of ridership. These two sets of statistics suggest a predominant travel pattern on HF by which residents of Oklahoma travel to Texas (where they would then spend money on goods and services), rather, than to other Oklahoma destinations. Therefore, in order to minimize the risk of overstating the economic impacts of visitors' expenditures, only out-of-state visitors should be counted in the impact assessment.

Based on a 2013 U.S. Travel Association study on the economic impact of tourism in Oklahoma, overall per-party average trip spending in Oklahoma amounted to $375 in 2012 and the average party size was 2.9 people.[8] This implies an average per-person expenditure of $129.31. Expenditure on public transportation accounted for about 44% of total and expenditure on auto transportation for 9%. These expenditures should be deducted from total expenditures when conducting the impact assessment as they would be largely accounted for under the operational impact of service providers. This implies that the relevant average trip expenditure amounts to $58.06 in 2012 dollars, or $60.98 in 2016 dollars (after inflating with an inflation index of 105.03 based on Bureau of Labor Statistics data).

Using the above numbers gives total visitors' expenditures in Oklahoma of about $1.2 million. These expenditures were distributed between general retail, entertainments and recreation, food services and accommodation as shown in the table below.

Table 2: Expenditures of Visitors coming to Oklahoma by Rail

Expenditure Item	Amount
Total	**$1,209,340**
Retail Trade	$123,897
Entertainment and Recreation	$377,077
Food Services	$530,601
Accommodation	$177,765

[6] Based on data obtained from Oklahoma Department of Transportation.
[7] Texas Transportation Institute, "Measuring the Benefits of Intercity Passenger Rail" A Study of the Heartland Flyer Corridor", Report #169116-1, April 2010.
[8] U.S. Travel Association, "The Economic Impact of Travel on Oklahoma Counties 2011-2012", August 2013, page 12.

Source: Developed by HDR based on ridership statistics and trip expenditures profile based on 2013 U.S. Travel Association Study.

C.2 Results

2.1 Transport Service Impacts

Table C.2 below presents the impacts of rail transportation services provision in Oklahoma. The rail transportation services industry in Oklahoma generates a direct employment impact of 1,870 jobs, comprised of 28 passenger-related transport jobs and 1,842 freight transport jobs. The indirect and induced effects in other related industries due to spending on rail operations generates an additional 3,374 jobs (1,623 and 1,751 indirect and induced, respectively) throughout the State. Combined, an estimated 5,244 people have jobs related in some way to the provision of freight rail and passenger rail services.

Other industry impacts include: a total of $379.2 million in employment income (including $207.4 million direct impact), $1,275.6 million value added (including $990.1 million direct value added), $1,899.2 million in output (including $1,347.1 million direct output). In addition, the industry generates $51 million in state and local taxes and $140.4 million in federal taxes (see Table C.3).

The findings shown in Table C.2 demonstrate that the impacts of freight movements represent a predominant share of impacts of the rail transportation industry in Oklahoma. This is due to a quite small scale of operations of passenger rail services as discussed earlier in this Appendix.

Table C.2: Transport Service Impacts

Category of Impact	Employment	Employment Income, $M	Value Added, $M	Output, $M
All Rail Transport Users				
Direct	1,870	$207.4	$990.1	$1,347.1
Indirect	1,623	$98.7	$156.2	$316.3
Induced	1,751	$73.1	$129.2	$235.7
Total	5,244	$379.2	$1,275.6	$1,899.2
Freight Shippers				
Direct	1,842	$204.3	$975.3	$1,326.9
Indirect	1,599	$97.2	$153.9	$311.6
Induced	1,724	$72.0	$127.3	$232.2
Total	5,165	$373.5	$1,256.5	$1,870.7
Visitors to Oklahoma				
Direct	28	$3.1	$14.8	$20.2
Indirect	24	$1.5	$2.3	$4.7
Induced	26	$1.1	$1.9	$3.5
Total	79	$5.7	$19.1	$28.4

Table C.3: Transport Service Tax Revenue Impacts

Tax Revenue by Level of Government	All Rail Services	Freight Related Services	Passenger Related Services
State and Local	$51.0	$50.2	$0.8
Federal	$140.4	$138.3	$2.1
Total	$191.3	$188.5	$2.9

2.2 Transport User Impacts

Table C.4 presents the impacts of rail transportation users on Oklahoma. Through their economic activities, rail users generate a direct employment impact of 5,497 jobs, comprised of 20 passenger transport-related jobs and 5,477 freight transport-related jobs. The indirect and induced effects in other related industries due to spending on rail operations generates an additional 10,763 jobs (5,963 and 4,800 indirect and induced, respectively) throughout the State. Combined, the use of rail for transportation of goods and people contributes an estimated 16,260 jobs to the state economy.

Other industry impacts include: a total of over $1 billion in employment income (including $474.5 million direct impact), $1,869.3 million value added (including $903.1 million direct value added), $4,688.5 million in output (including $2,769.3 million direct output), as well as $151.5 million in state and local taxes and $248 million in federal taxes (shown in Table C.5).

The findings reported here demonstrate that – similarly as in the case of rail transportation service provision – the impacts of freight movements represent a predominant share of impacts of the rail transportation user impacts in Oklahoma. This is due to a quite small scale of operations of passenger rail services, small passenger ridership and expenditures stemming from using the service.

Table C.4: Transport User Impacts

Category of Impact	Employment	Employment Income, $M	Value Added, $M	Output, $M
All Rail Transport Users				
Direct	5,497	$474.5	$903.7	$2,769.3
Indirect	5,963	$373.1	$610.3	$1,214.5
Induced	4,800	$201.6	$356.5	$649.6
Total	16,260	$1,049.2	$1,870.4	$4,633.5
Freight Shippers				
Direct	5,477	$474.1	$903.1	$2,768.2
Indirect	5,960	$372.9	$610.0	$1,214.1
Induced	4,797	$201.5	$356.2	$649.2
Total	16,234	$1,048.6	$1,869.3	$4,631.5
Visitors to Oklahoma				
Direct	20	$0.4	$0.6	$1.1

Indirect	2.7	$0.1	$0.2	$0.4
Induced	3	$0.1	$0.2	$0.4
Total	26	$0.7	$1.1	$2.0

Table C.5: Transport User Tax Revenue Impacts

Tax Revenue by Level of Government	All Rail Transport Users	Freight Shippers	Visitors to Oklahoma
State and Local, $M	$151.5	$151.4	$0.1
Federal, $M	$248.0	$247.8	$0.2
Total, $M	$399.5	$399.2	$0.3

C.3 Summary of Impacts

3.1 Total Rail Activity Impacts

Table C.6 provides a summary of all rail-related impacts. Taking into account provision of rail as transportation service and user impacts, the industry accounts for 21,503 jobs across Oklahoma's economy, $1,428.4 million in employment income, $3,146 million value added, and $6,532.6 million business output.

Table C.6: Total Rail Transportation Impacts

Category of Impact	Employment	Employment Income, $M	Value Added, $M	Output, $M
Direct	7,367	$681.9	$1,893.8	$4,116.4
Indirect	7,586	$471.8	$766.5	$1,530.8
Induced	6,550	$274.7	$485.7	$885.4
Total	21,503	$1,428.4	$3,146.0	$6,532.6

3.2 Impacts as Percentage of Total Economy

In order to present the economic contribution of the rail industry in Oklahoma in a specific context, the estimated impacts are compared with the corresponding economic statistics for the entire State. This is shown in Table C.7.

Table C.7: Oklahoma and Rail-Related Economic Measures

Measure of Economic Activity	Oklahoma	Rail Industry Related Activities	Share of Rail Related Activities
Employment	2,282,695	21,503	0.9%
Employment Income, $ Millions	$123,130	$1,428.4	1.2%
Value Added, $ Millions	$189,515	$3,146.0	1.7%
Output, $ Millions	$364,309	$6,532.6	1.8%

The table shows that total share of economic impacts related to rail movements in Oklahoma range between about 1% (employment) to 1.8% (output) of the statewide economy, depending on measure.

3.3 Impacts by Industry

Table C.8 presents the employment impacts to Oklahoma from the combined transport services and user-related impacts by industry (as classified in IMPLAN). The table shows industries affected directly as defined for the purpose of this study as well as those industries affected through indirect and induced impacts where the effect exceeds 100 jobs. The table demonstrates that in addition to industries affected directly as users of rail freight services, there is a wide range of industries affected through indirect and induced effects, primarily various service industries.

Table C.8: Rail Employment Impacts by Industry

Description	Direct	Indirect	Induced	Total
Total all industries	**7,367**	**7,586**	**6,550**	**21,503**
Grain farming	545	6	0	551
Forestry, forest products, and timber tract production	188	2	0	190
Coal mining	27	1	0	28
Stone mining and quarrying	308	13	1	323
Rendering and meat byproduct processing	13	1	0	14
All other food manufacturing	22	0	0	22
Sawmills	43	17	0	60
Paperboard mills	280	0	0	281
Petroleum lubricating oil and grease manufacturing	107	1	0	108
All other petroleum and coal products manufacturing	65	1	0	65
Other basic inorganic chemical manufacturing	269	3	0	273
Plastics material and resin manufacturing	158	0	0	158
Nitrogenous fertilizer manufacturing	159	12	0	171
Other miscellaneous chemical product manufacturing	302	2	0	304
Ready-mix concrete manufacturing	80	2	1	83
Iron, steel pipe and tube manufacturing from purchased steel	29	2	0	31
All other miscellaneous manufacturing	8	2	2	11
Wholesale trade	1,689	668	159	2,516
All other industrial machinery manufacturing	197	0	0	197
Railroad rolling stock manufacturing	492	17	0	509
Rail transportation	1,870	40	2	1,912

Description	Direct	Indirect	Induced	Total
Retail - Miscellaneous store retailers	2	15	107	123
Waste management and remediation services	497	79	12	587
Full-service restaurants	6	132	367	505
Limited-service restaurants	4	115	380	498
Hotels and motels, including casino hotels	2	3	4	9
Other amusement and recreation industries	7	10	34	51
Commercial logging	0	106	0	106
Support activities for agriculture and forestry	0	206	1	207
Extraction of natural gas and crude petroleum	0	408	27	435
Support activities for oil and gas operations	0	125	5	130
Maintenance and repair construction of nonresidential structures	0	223	39	262
Retail - Motor vehicle and parts dealers	0	11	100	111
Retail - Food and beverage stores	0	2	159	160
Retail - General merchandise stores	0	7	237	243
Retail - Nonstore retailers	0	6	119	125
Truck transportation	0	252	59	311
Couriers and messengers	0	88	18	106
Warehousing and storage	0	120	33	152
Monetary authorities and depository credit intermediation	0	162	124	286
Nondepository credit intermediation and related activities	0	181	41	222
Other financial investment activities	0	166	128	295
Insurance agencies, brokerages, and related activities	0	129	91	220
Real estate	0	240	270	509
Commercial and industrial machinery and equipment rental and leasing	0	131	6	137
Legal services	0	115	65	179
Accounting, tax preparation, bookkeeping, and payroll services	0	232	58	290
Architectural, engineering, and related services	0	159	21	180
Management consulting services	0	125	37	162
Marketing research and all other miscellaneous professional, scientific, and technical services	0	118	23	141

Description	Direct	Indirect	Induced	Total
Management of companies and enterprises	0	395	43	438
Employment services	0	261	115	376
Business support services	0	166	34	200
Investigation and security services	0	81	29	110
Services to buildings	0	247	99	346
Landscape and horticultural services	0	103	52	154
Offices of physicians	0	0	182	182
Home health care services	0	0	116	116
Hospitals	0	0	341	341
Nursing and community care facilities	0	0	133	133
Individual and family services	0	0	126	126
All other food and drinking places	0	23	134	157
Automotive repair and maintenance, except car washes	0	66	123	189
Personal care services	0	0	127	127
Other personal services	0	24	90	113
Other local government enterprises	0	98	75	173
Sub-Total	**7,367**	**7,497**	**6,505**	**21,368**
Other Industries	0	89	46	135

Appendix D – ODOT Rail Division Construction Projects 2012-2017

County	J/P No. Project No. DOT No.	Description	Dollar Amount	Let Date	Railroad	RR MP	Subdivision
Cleveland	22670(04) STP-STIM(504)HP 012 198U	Robinson Street grade separation	N/A	2/1/2010	BNSF	400.83	Red Rock
Oklahoma	17428(81)(87) IMY-XTWN(074) 440 716S	WP 3.5 I-40 Crosstown, EB Off-Ramp & WB On-Ramp over UP	------	1/1/2012	UPRR	489.15	N/A
Lincoln	24180(08)(15) BRFY-141B(206) 668 848L	Grading, drainage, surface, & bridge plus railroad signal and surfacing project near Warwick	$415,000	1/1/2012	SLWC	503.1	ODOT
Oklahoma	N/A JKT-2221 012 253S	OTA Bridge Replacement on Kilpatrick Turnpike over BNSF	-------	1/1/2012	BNSF	374.21	Red Rock
Oklahoma	17428(78) OKCY-XTWN(058)TI N/A	I-40 Crosstown: Ann Arbor Siding along UPRR Mainline - WP 6.2A	$2,094,701	1/2/2012	UPRR	491.78 to 492.0	OKC
Tulsa	N/A CKT-2121 428 359P	OTA Bridge Widening on Creek Turnpike over UPRR/TSU	-------	2/1/2012	UPRR	141.03	Jenks
Mayes	28497(08) BRO-149D(148)CI 413 575N	Bridge Project on County Rd. EW-590 over UP	$10,000	5/1/2012	UPRR	473.8	Cherokee
Cimarron	24823(08) CIRB-113C(086)RB 017 121Y	Install. of 48-ft. crossing surface on CR EW-035 parallel to US-287	$62,495	6/1/2012	BNSF	100.54	Boise City
Beckham, Washita	29353(04) STP-TIGR(016)SS	49 miles surfacing, 50,600 ties, 67,000 tons of ballast, 5280 ft. of rail, renewed 16 crossings, signalized 3 crossings, and improve 7 switches.	$8,456,580	6/1/2012	FMRC	578.0 to 629.0	Sunbelt
Oklahoma	17428(51) OKCY-XTWN(035)TI 596938J; 596937C	I-40 Crosstown: Construct New UP & BNSF Interchange Yard	$16,264,672	9/1/2012	UPRR	482.61 to 482.86	Oklahoma
Oklahoma	17428(55) OKCY-XTWN(043)SG 596967U	I-40 Crosstown: Relocation of Existing UPRR Wye Track - WP 6.2B	$5,029,367	9/1/2012	UPRR	491.04 to 491.33	OKC
Pawnee	20897(04) SSP-159C(042)SS 673 686W	US-64 Bridge: New Alignment over BNSF Railway, NW of Casey	$121,000	9/1/2012	BNSF	469.66	Avard
Oklahoma	17428(78) OKCY-XTWN(068) 668925J; 012367E	I-40 Crosstown: SLWC Improvement - Interchange Yard	$1,497,530	11/1/2012	SLWC	535.92/ 3.72	Stillwater/ Oklahoma
Oklahoma	09033(13) IMY-0044-1(060)127 012 087C	I-235/I-44 Interchange, Phase3B under BNSF in OKC	$121,280	1/1/2013	BNSF	379.52	Red Rock
Tulsa	26604(08) J2-6604(008) N/A	I-244 over Arkansas River (east bound) in Tulsa over BNSF	$25,000	2/1/2013	BNSF	N/A	N/A
Bryan	18847(09) NHY-022N(087) N/A	US-70: Bridge and Approaches on Durant Bypass over KRR	$26,880	6/1/2013	KRR	635.28	Lakeside (Dist. #1)

County	J/P No. Project No. DOT No.	Description	Dollar Amount	Let Date	Railroad	RR MP	Subdivision
Custer	19669(04) STP-120B(070)UR 018 119B	Chapman Ave. roadway widening at FMRC crossing in Clinton	$34,650	6/1/2013	FMRC	402.34	Altus
Oklahoma	17428(59) OKCY-XTWN(047) 596 949W	WP 4.4 I-40 Crosstown, I-40 off-ramp over UPRR in OKC	$10,000	9/1/2013	UPRR	486.2 & 486.33	Oklahoma, Yukon
Sequoyah	20913(04) SSP-168C(123)SS 434 153D	US-64 (new alignment) Br. replacement over UPRR Track	$10,000	9/1/2013	UPRR	534.7	Wagoner
Oklahoma	17428(53) OKCY-XTWN(041)TI N/A	Harter Yard, I-40 Crosstown w/ the UPRR in OKC	$6,158,123	1/1/2014	UPRR	485.50 to 485.80	OKC
Logan	24214(04) SSP-142C(133)SS 012 028A	US-77: bridge and approach over Lawrie Creek, parallel to BNSF	$63,475	1/1/2014	BNSF	346.92	Red Rock
Noble	20983(04) STPY-152B(059) 020 736U	US-177 roadway widening with the BNSF	$193,446	2/1/2014	BNSF	476.09	Red Rock
Custer	27911(04) NHPPIY-0040-3(085)082 597 398U	Widening of Washington Ave. at FMRC rail crossing in Weatherford	$92,884	2/1/2014	FMRC	561.91	Sun Belt
Murray	25418(04) CRIB 150D(074)RB 020 736U	Primrose Lane, bridge replacement over BNSF, near Davis	$113,120	2/1/2014	BNSF	476.09	Red Rock
McIntosh	21730(04) BRFY-146C(062) 413 657V	SH-9 bridge realignment project over UPRR SE of US-69B Jct.	$10,000	2/1/2014	UPRR	539.3	Choctaw
Cleveland	29261(05) STP-214C(021)AG 012 213U	Cedar Lane Road widening at BNSF crossing in Norman	$542,878	4/1/2014	BNSF	404.81	Red Rock
Custer	24863(04) CIRB-120C(158)RB 671 319G	Arapaho Road widening at GNBC crossing in Arapaho	$62,557	6/1/2014	GNBC	675.57	Augusta - Davids
Kay	22953(09) CIRB-136D(188)RB 011 914E	Roadway widening to 4 lanes with curb and gutter at Hubbard Rd. in Ponca City	$273,389	6/1/2014	BNSF	285.23	Red Rock
Tulsa	28478(04) STPG-272D(083)RR 011 914E	Railroad preemption with new roadway traffic signals. US-75 & Peoria Ave. in Tulsa.	$193,962	6/1/2014	BNSF	285.23	Red Rock
Oklahoma	17428(94) OKCY-XTWN(083) N/A	Relocation of BNSF utilities within ODOT /BNSF River Connection Track- Del City BN	$2,400,000	9/1/2014	BNSF	381.0 to 384.0	N/A
Comanche	21717(07) STPY-116C(212) 596 595E	Roadway realignment at Porter Hill - Signal/ Surface Project	$438,000	9/1/2014	UPRR	40.55	Lawton
Kiowa	25094(04) CIRB-138D(149)RB 671 200K	Widening of Broadway St. at GNBC rail Crossing in Mountain Park	$70,108	10/1/2014	GNBC	741.6	Enid
Muskogee	25419(08) J2-5419(008)RB 434 092P	County bridge project on CR EW-83.5 over Grand River, east of Ft. Gibson	$42,561	11/1/2014	UPRR	568.56	Coffeyville

County	J/P No. Project No. DOT No.	Description	Dollar Amount	Let Date	Railroad	RR MP	Subdivision
Beckham	29353(05) STP-TIGR(036)	12 miles of surfacing & brush cutting, 19,500 ties, build 1500 ft. of industrial siding, renew 17 road crossings, and rehab 2 bridges.	$2,621,700	11/1/2014	FMRC	629.0 to 641.0	Sunbelt
Oklahoma	17428(25) OKCY-XTWN(006) 012 112H	Construction of BNSF bridge and approach at Boulevard within I-40 Crosstown-OKC	$18,952	1/1/2015	BNSF	384.3	Red Rock
Kingfisher	25086(08) CIRB-237D(003)RB 595 429J	CR EW-82 Section Line Road widening with the UPRR	$138,404	2/1/2015	UPRR	380.98	Enid
Craig	24115(04) STP-118B(080)SS 413 495V	US-59 bridge replacement and approaches over UPRR in Welch	$5,700	5/1/2015	UPRR	420.3	Cherokee
Jackson	24970(04) CIRB-133C(095)RB 413 939L	CL bridge & grade Draining, Bridge and Surface, (Part 1)	$76,012	6/1/2015	WT&J	67.1	Western
Pittsburg	28995(04) PLHD-261N(013)DC 413 698A	C Tree Rd. bridge replacement US-69, Army Ammunition Plant entrance, McAlester	$18,000	6/1/2015	UPRR	573.9	Choctaw
Washita	26478(04) STP-175C(103)SS) 018 152B	SH-152 bridge replacement over FMRC in Dill City	$5,000	8/1/2015	FMRC	418.91	Orient
Rogers	27053(04) STP-272A(093)SS 008 609R	SH-266 reconstruction and widening at SK&O rail crossing, north of Catoosa	$491,301	9/1/2015	SK&O	4.3	Third
Oklahoma	09033(49) NHPPI-2350(003)SS 012 089R	I-235 Realignment and widening from NW 36th St. to NW 50th, OKC	-------	3/1/2016	BNSF	380.12	Red Rock
Tulsa	28861(04) ACNHPPI-2440-(010)SS 663 810X	Bridge rehab, W. 23rd St. & WB ramp over BNSF & I-244, Tulsa	$14,633,320	4/1/2016	BNSF	425.6	Cherokee
Oklahoma	09033(16) NHPPIG-0235-(109) 012 089R	Phase 4A, I-235, Construct BNSF Rail Bridge & NW 50th St bridge	$19,428,487	4/1/2016	BNSF	380.08	Red Rock
Oklahoma	09033(25) NHPPIY-0235-1(094)003 012 089R	Phase 7A, I-235, realignment and widening from NW 36th to NW 50	-------	4/1/2016	BNSF	380.08	Red Rock
Texas	29447(04) ACNHPP-008N(087)SS 596 052N	US-54 over Pony Creek, NE of Jct. SH-3, UP parallels project	-------	4/1/2016	UPRR	461.8	Liberal
Garfield	23087(04) STP-124B(080)UR 673 845B	Willow Road widening at BNSF Track/Property	$412,730	7/1/2016	BNSF	547.3	Avard
Logan	21860(04) ACSTP-242C(046)SS) 012 036S	SH-33 bridge replacement over BNSF in Guthrie	$363,600	9/1/2016	BNSF	352.44	Red Rock
Pittsburg	14999(04) NHY-013N(017)SS 600 234K	US-69 bridge widening and rehab over AOKRR in McAlester	$14,221,785	9/1/2016	AOKRR	364.81	Howe

County	J/P No. Project No. DOT No.	Description	Dollar Amount	Let Date	Railroad	RR MP	Subdivision
Creek	27075(04) STP-219C(033)SS 671 798N	US-75A bridge replacement over BNSF in Mounds	$315,120	9/1/2016	BNSF	46.43	Creek
Creek	22350(08) CIRB -119C(192) RB 668 723L	West 81st Street South in Sapulpa: grading, drainage, and surface at BNSF	$474,447	10/1/2016	BNSF	434.01	Creek
Oklahoma	31504(04) STP-255E(354)AG) 668 723L	OKC pedestrian tunnel and platform improvements under & upon BNSF track	$400,000	3/1/2017	BNSF	384.3	Red Rock
Atoka	31169(04) CIRB-203D(034)RB 413 729W	Dairy Lane bridge replacement over the UPRR in Atoka	$200,000	3/1/2017	UPRR	613.4	Choctaw
Comanche	27050(04) NHPPY-216N(021) 669 142U	US-62 at I-44 Interchange in Lawton	$495,454	5/1/2017	SLWC	626.86	SLWC - Stillwater
Tulsa	31313(04) J3-1313(004) N/A	Gilcrease Expressway I-44 to Edison- grading, drainage, surface, and bridge in Tulsa	$500,000	7/1/2017	BNSF	428.08	Avard
Tulsa	27291(04) STP-172B(284)IG 839 479R, 839 480K	Main St. and Morrow Rd. Improvements from SH-97 to US-412 in Sand Springs	$650,000	7/1/2017	SSR	N/A	N/A
Cleveland/ McClain	27946(04) NHPP-244N(052) 012 239W	US-77 bridge replacement over BNSF & S. Canadian River	$400,000	7/1/2017	BNSF	417.2	Red Rock
Oklahoma	17428(52), OKCY-XTWN(036) N/A	Construction of BNSF River Connection Track by SLWC Del City	$5,400,000	8/1/2017	BNSF	381.0 to 384.0	LS 7400
Sequoyah	28961(04) J2-8961(004) 330 679N	I-40 bridge replacement over KCS Railway	$200,000	9/1/2017	KCS	292	Heavener
Craig	21904(04) NHPPY-218N(033)SS N/A/413 522P	SH-2, grading, drainage, and surface in Vinita, (US-60 at UPRR)(SH-2 BNSF)	$550,000	11/1/2017	BNSF	359.83	Cherokee
Canadian	27004(04) NHPP-209N(051)SS 596 830A	I-40B (US-81) bridge replacement over UPRR in El Reno	$350,000	11/1/2017	UPRR	403.9	Enid
Rogers	28470(15) SRS-166D(258)ST 434 049J	Sidewalk across the UPRR in Inola	$90,000	11/1/2017	UPRR	597.03	Van Buren
Garfield	24637(04) J2-4637(004) 673 842F	US-81/US-60 bridge replacement over BNSF Rail Yard in Enid	$420,000	11/1/2017	BNSF	545.49	Avard
		TOTAL:	**$107,716,60**				