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

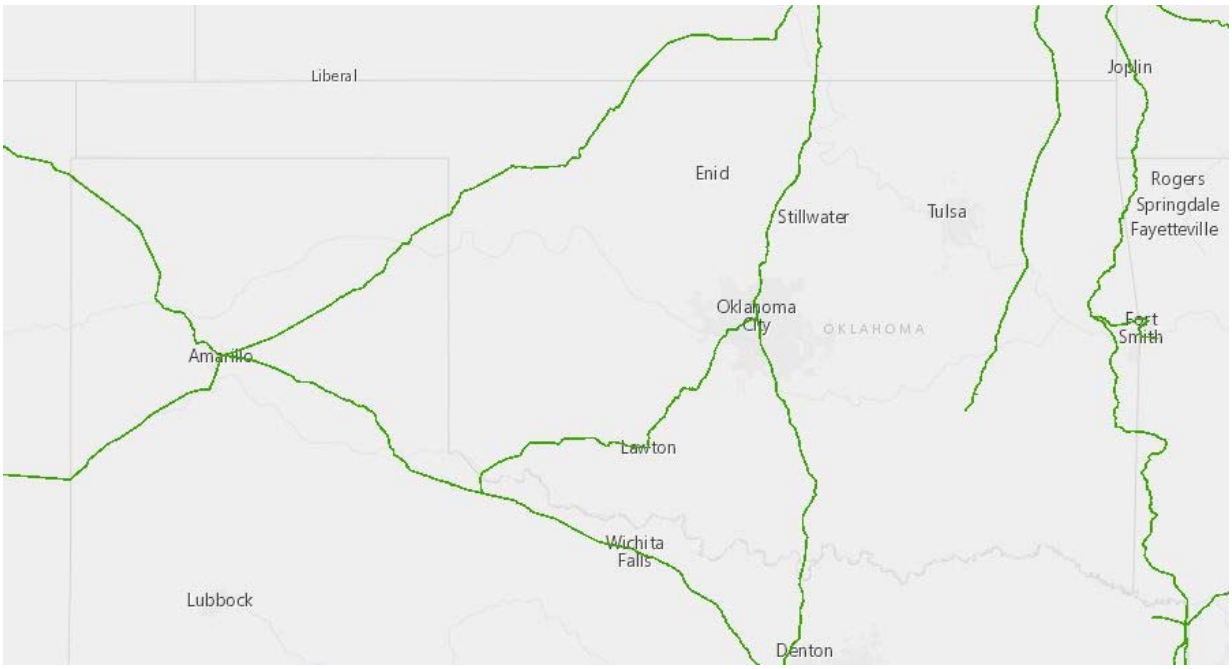
regional rail plans prepared by or in cooperation with other states in the region. Oklahoma has received information from neighboring states that has been incorporated into this plan.

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 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.

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).

Table X-X 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.

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 Wichita, Kansas. Connections at Newton, Kansas, to Amtrak's Southwest Chief.	Enhance passenger transportation and mobility options.	$147,500,000	Federal and State Sources
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-	Continue funding of	Enhance	$30,180,000	State

supported Heartland Flyer	state-supported Heartland Flyer intercity passenger rail service between Oklahoma City and Fort Worth, Texas, as required under PRIIA.	passenger transportation and mobility options.		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 costs.	$5,400,000	Federal, State, and Local Sources
GNBC Okeene Passing Siding and Mainline Rail Upgrade	Construct a passing siding at Okeene to allow for meets between trains and upgrade main line track including 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 benefits include reduced labor costs and lower operations and maintenance	$7,600,000	Federal, State, and Local Sources

	speeds.	costs.		
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 maintenance costs.	$176,213	Local Sources
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	$497,306	Local Sources

		and maintenance costs.		
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
Remove barrier to railcar interchange between Grainbelt Corp. and UP in Enid	Remove paper barrier between Grainbelt Corp. and UP in Enid to allow for the capacity to interchange railcars between the two carriers at this location.	Improved rail access for competitive shipping rates and more efficient operations.	TBD	Local Sources
Subtotal:			$23,270,000	
Short Range Studies and Projects:			$672,050,000	

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 through downtown Tulsa linking UP and	Add main line track and roadway and pedestrian grade separations through	Enhance intercity passenger and commuter rail	TBD	Federal, State, and Local Sources

BNSF main lines	downtown Tulsa between UP and BNSF main lines to accommodate passenger rail service.	transportation and mobility options.		
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 freight service for shippers.	$250,000	State and Local Sources

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	Extend sidings to accommodate longer	Added capacity benefits shippers	TBD	Federal, state, and local

Subdivision	trains and enhance capacity for meet-pass events between trains.	and improves efficiency.		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
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	Upgrade track to include 115 lb. rail, tie	Public benefits include reduced	$5,100,000	State and Local Sources

KRR	replacement, ballast placement, and surfacing to increase operating speeds.	transit times and capacity for larger freight cars; private 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 of Muskogee	Construct a new track between UP and BNSF to facilitate improved rail access for Port.	Improved rail access for competitive shipping rates and more efficient operations.	$5,000,000	Federal, State, and Local Sources
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 in Claremore	Grade separate State Route 66 and UP crossing in Claremore.	Public benefits include reduced crossing delays and safety; private benefits include reduced train delays.	TBD	Federal, State, and Local 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:			$221,530,000	
Long Range Studies and Projects:		$1,431,530,000		
Rail Program Total:		$2,103,580,000		

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 $683.9 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 – 5 projects
- Infrastructure upgrades to improve operating speeds and safety – 13 projects
- Grade crossing improvements – 4 projects
- Replace existing rail bridges to allow for improved capacity on public highways – 2 projects
- Enhancements to the capacity of the state's rail network – 4 projects
- Mitigate flooding issues – 1 project

Estimated capital costs of short-range projects, to the extent known during development of the Oklahoma State Rail Plan, total approximately $23.3 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 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 – 21 projects
- Development of a new intermodal facility – 1 projectEnhancement of existing transload facilities or construction of new transload facilities – 1 projects
- Improvements to bridge infrastructure – 6 projects

- Improvements to track infrastructure – 13 projects
- Enhancement of existing rail access or development of new rail access for shippers/receivers – 2 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.