



# 2016 TEXAS

# RAIL PLAN UPDATE

## Executive Summary



# 2016 TEXAS RAIL PLAN UPDATE EXECUTIVE SUMMARY

The 2016 Texas Rail Plan Update (Rail Plan) is a federally mandated document detailing the state of the rail system in Texas and opportunities for improvement. Information about potential projects is illustrative, as the needs and improvements in the rail system change quite dynamically. The private sector drives 99 percent of the investment in rail in the state of Texas, making decisions that may not necessarily be captured in semi-annual public sector plans. Regardless of the limited role of the state, the rail system is a significant driver of the economy and contributes to the public good through congestion reduction on highways, environmental benefits, and more. The state can maximize the value of rail through collaboration with private and local stakeholders, and identification and facilitation of important projects.

The state of Texas does not have a constant and reliable source of funding for rail improvements. The legislature has provided a structure for financing but has not capitalized this funding source. Furthermore, there is no reliable and consistent source of funding at the federal level.

## Accomplishments Since the 2010 Texas Rail Plan

Since the adoption of the 2010 Texas Rail Plan, completed projects and updates to the passenger rail system and safety include:

### Completed Freight and Passenger Rail Projects

- South Orient Railroad Improvements
- Tower 55 Multimodal Improvement Project
- TRE Valley View Double Track Project

### Passenger Rail System Update

- Amtrak ridership steadily increased since 2010
- Amtrak on-time performance declined since 2010, a possible result of growing freight traffic and the impact of track work

### Safety Update

- Rail accidents and incidents leveled off since 2010
- After a significant decrease in grade crossing collisions and injuries between 2005 and 2010, incidents have gradually increased

## Texas' Rail System

The Texas freight and passenger rail system is a significant component of the national rail network. There are 49 freight railroad operators located in Texas, second in number to Pennsylvania, as well as Amtrak rail operations. In 2012, Texas ranked first in the nation for number of rail miles by state with 10,469 miles.

### Freight Rail

The Texas freight rail system includes three Class I rail operators. These are BNSF Railway (BNSF), Kansas City Southern (KCS), and Union Pacific Railroad (UP). In addition to the Class I railroads, there are 46 Class III short line railroads that provide specialized services and connect with the Class I railroads. Class III railroads own and use 1,823 miles of track, including trackage rights, which comprised 12.4 percent of the state's total trackage in 2012.

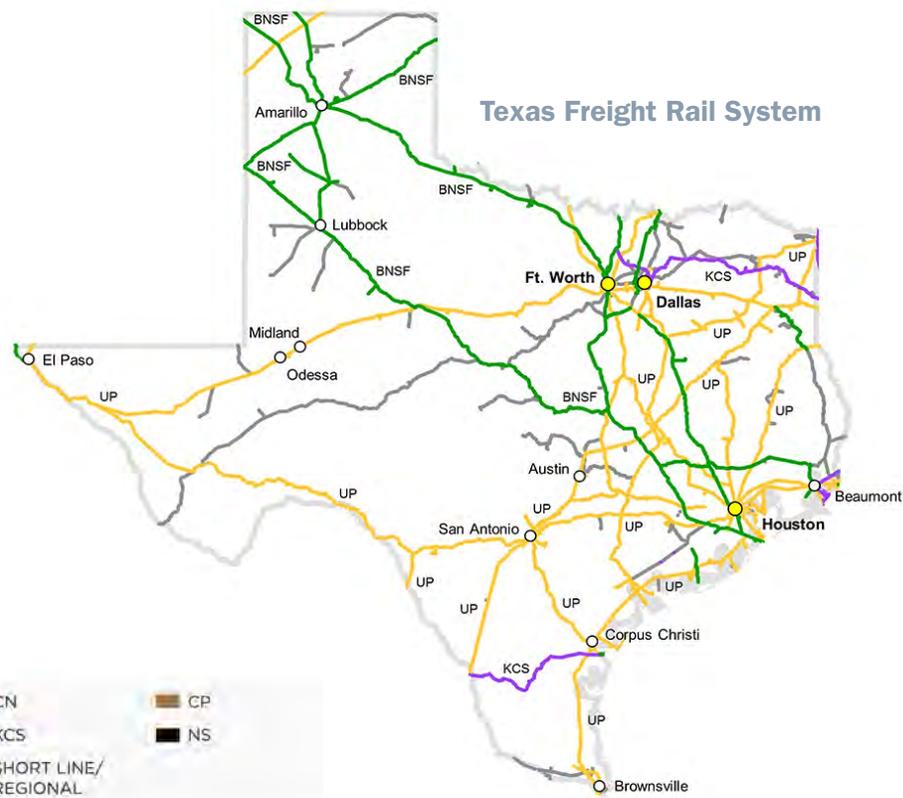
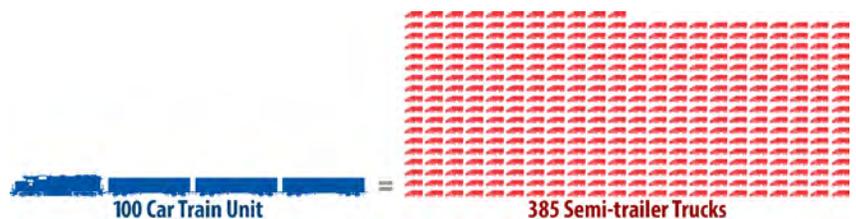
One rail car typically has a cargo capacity of approximately 100 tons, which equates to a total capacity of 10,000 tons for a 100 car train unit. It would take 385 semi-trailer trucks to carry the same amount of cargo as a 100 car train unit. The benefits of moving freight on the rail system include less congestion on highways, efficient fuel consumption, low greenhouse gas emissions, and an excellent safety record.

The state's rail network moves more than 7.4 million tons of intermodal rail freight. Texas is home to approximately 20 intermodal rail facilities, and rail freight also provides essential services at the Port of Houston. Texas rail lines carry over 8.8 million rail carloads annually.

In addition to rail activities between Texas and other U.S. states, Texas receives over 750,000 rail cars across the Mexican border. In 2014, rail cars carried 20 percent of the total freight tonnage moved in the state.

Texas' Class I railroads make significant capital investments within the state annually. UP's 2015 capital program plans for Texas called for \$383 million for infrastructure projects, while BNSF's Texas program called for \$223 million. KCS also makes significant capital investments in the state annually.

### Rail and Truck Capacity Comparison Equivalent Units



Source: 2015 Association of American Railroads

### Passenger Rail

The intercity passenger rail service in Texas is limited. Those areas which are covered by intercity passenger rail are serviced by Amtrak, the National Railroad Passenger Corporation. It operates three routes: the *Heartland Flyer*, *Sunset Limited* and *Texas Eagle*.

The *Texas Eagle* operates daily service between Chicago and San Antonio. At San Antonio, it connects to the *Sunset Limited* for continued service to Los Angeles. Twelve stations within Texas are served by this train.

The *Sunset Limited* provides tri-weekly service between New Orleans and Los Angeles. Seven Texas stations are served by this train.

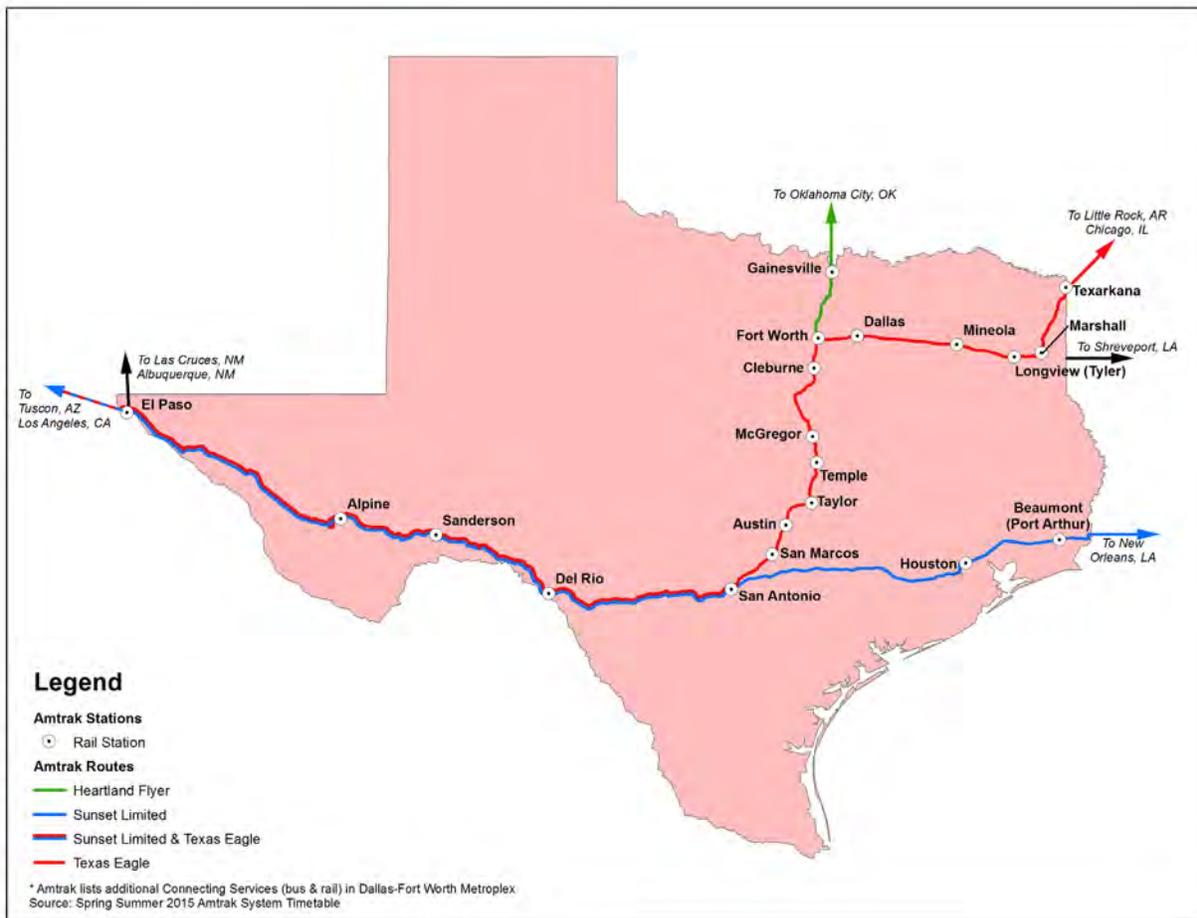
The *Heartland Flyer* is a daily passenger train that operates between Oklahoma City and Fort Worth. The service is operated by Amtrak under contract to the states of Texas and

Oklahoma. The schedule is timed to allow transfers to the *Texas Eagle* in each direction.

For the Texas Rail Plan, passenger rail refers to intercity passenger movements. There are public transit rail services within the state that are discussed in local/regional public transit plans.



### Current Texas Amtrak Routes



## Rail Impacts

Rail transportation provides low-cost, high-capacity and low environmental impact solutions for the movement of goods, particularly as travel distances increase. Rail is a major component of freight movement throughout Texas.

Railroads are also up to four times more fuel efficient than trucks, and as greenhouse gas emissions directly relate to fuel consumption, every ton-mile of freight moved by rail instead of truck reduces environmental damages and costs by 75 percent according to the Association of American Railroads (AAR). The diversion of freight to rail also increases the safety of the state’s highway system by reducing truck traffic.

### Economic

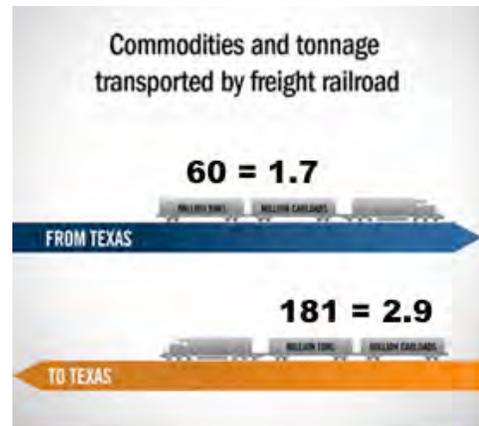
In 2014, freight rail accounted for 20 percent of the state’s total freight tonnage movement and 25 percent of the value of total freight movements. According to the AAR, in 2012, Texas topped the nation in rail industry employment with over 16,826 freight rail employees. As a result of high rail employment, Texas also ranks first in the nation in wages and retirement payments to current and former freight rail employees.

### Current Freight Rail Volumes and Commodity Flow

Texas rail movements in 2013 totaled 403.3 million tons, carried within almost 10.0 million carload units. Inbound rail is the dominant directional movement by tonnage, comprising almost half of all directions, at 44.9 percent; however, through freight rail is the dominant direction by carload unit terms, at 47.5 percent.

Outbound and intrastate movements, combined, are less than either through tonnage or inbound units. This translates into over 60 million tons outbound from Texas and more than 180 million inbound tons.

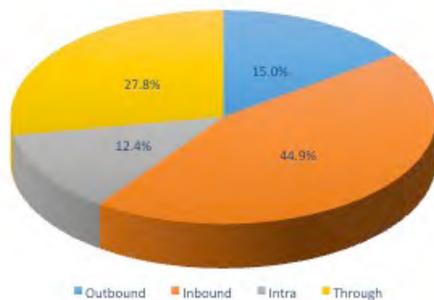
### Texas Rail Outbound and Inbound Tons, 2013



Source: prepared by CDM Smith, based on the STB Waybill Sample data for 2013

The top five rail commodities by tonnage for all rail movements in 2013 include:

### Texas Rail Tons by Direction, 2013

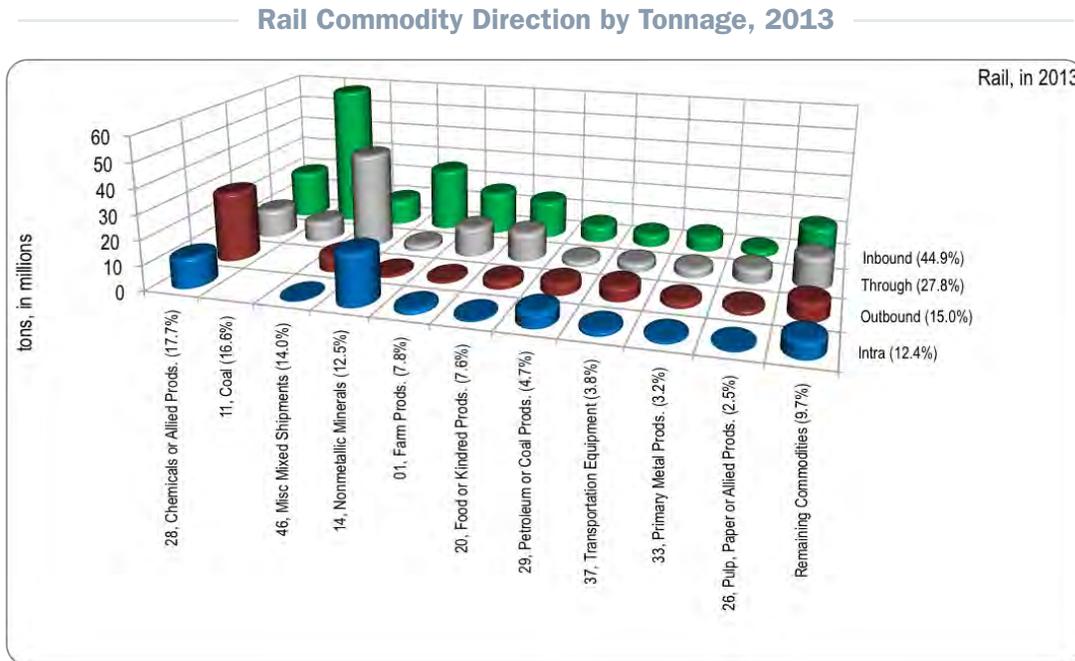


Source: prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Commodity	Tons (millions)	Percent of All Rail Movements
Chemicals or Allied Products	71.4	17.7%
Coal	66.9	16.6%
Miscellaneous Mixed Shipments	56.4	14.0%
Nonmetallic Minerals	50.2	12.5%
Farm Products	31.6	7.8%

Source: prepared by CDM Smith, based on the STB Waybill Sample data for 2013

The graphic below shows all Texas commodities by rail divided into direction movement for 2013. Coal, for example, is a high-tonnage inbound commodity and has no outbound or intrastate movements.



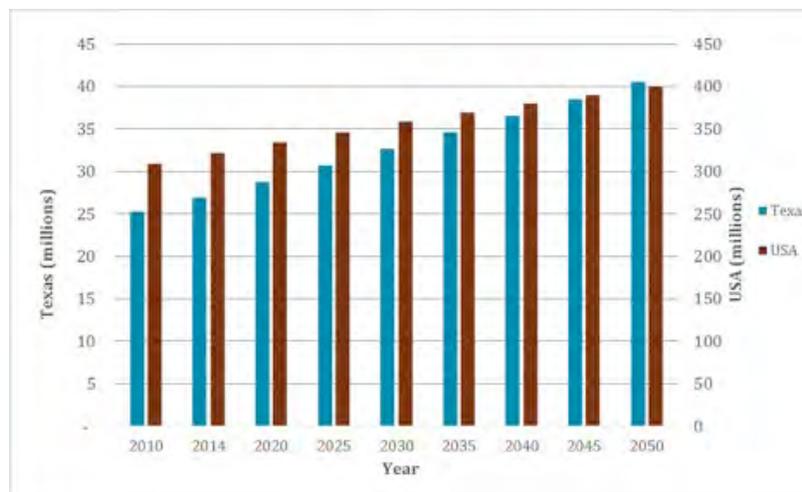
Source: prepared by CDM Smith, based on the STB Waybill Sample data for 2013

## Demographics and Forecasts of Freight and Passenger Rail Volume

### Population

The estimated population for Texas in 2014 was over 26 million, which ranked second behind California in the U.S. From 2000 to 2014, Texas grew at the fourth fastest rate in the country, reflecting the incredible growth of the region compared to other portions of the country. By 2050, Texas' population estimates are more than 41 million. As a result, additional consumer goods and commodities are required to support the growing population, which are transported by rail, truck, and other means. In addition, population growth supports intercity rail services.

### Population Estimates



Source: Texas State Data Center and U.S. Census Bureau

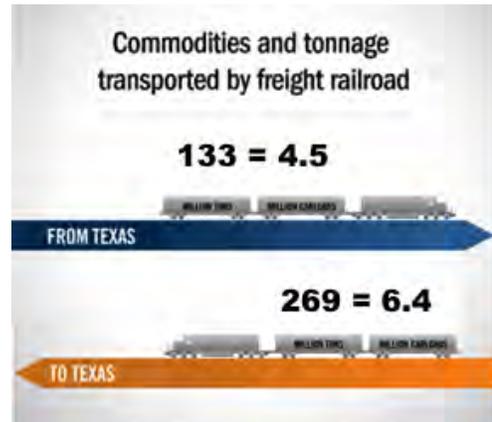
Employment

The current wage and salary employment (i.e. base employment) figures indicate that around 15.2 million people were employed in the state as of 2014, based on information from the Bureau of Economic Analysis (BEA). Using Labor Market & Career Information Department (LMCI) employment growth projections, base employment in Texas will reach around 2.44 million jobs by 2020, a 21.3 percent increase over 2012. Using this information and applying actual employment data from the BEA, the state's base employment will increase approximately 37 percent to nearly 18.3 million jobs by 2040. Texas will need additional goods, components, commodities and services to support the growing employment base.

Freight Volume Forecasts

Inbound rail volumes are projected to increase from 181 million tons in 2013 to 269 million tons in 2040, comprising 35 percent of the total rail freight traffic in Texas. Outbound rail tons could more than double from 60 million tons in 2013 to 133 million tons in 2040, becoming 17 percent of the state freight rail traffic by tonnage.

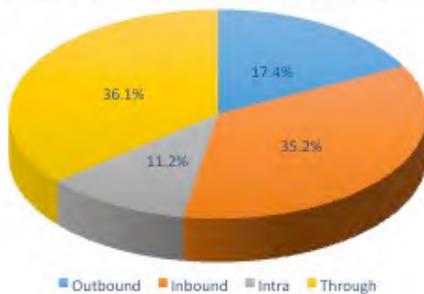
**Texas Rail Outbound and Inbound Tons, 2040**



Source: prepared by CDM Smith, based on TRANSEARCH 2010-'40

**Rail Movement Share by Direction, 2040**

Texas Rails Tons By Direction, 2040



Source: prepared by CDM Smith, based on TRANSEARCH 2010-'40

Passenger Rail Volume Forecasts

Population near Texas' Amtrak stations shows growth around the state but particularly in the large metropolitan areas. Ridership at Texas' 19 intercity rail stations reached over 409,000 in 2014. With a forecasted passenger rail ridership of over 567,000 in 2040, the ridership growth rate is projected at 1.2 percent. The need for passenger rail is anticipated to increase along with the growing population. Additional route and station capacity will be needed to meet this future demand.



## Texas’ Rail Visions and Goals

### Rail Vision

TxDOT used stakeholder input to create a vision statement that reflects Texas’ most essential needs and desires. The resulting rail vision is:

***The State of Texas facilitates investor-driven projects that improve the safety, capacity, and efficiency of the rail network. Private rail infrastructure improvements add value by connecting Texas communities, linking businesses with domestic and international markets, and minimizing environmental impacts and road congestion.***

### Goals

The Rail Plan vision statement encompasses goals and objectives consistent with the Texas Transportation Plan 2040 and Texas Freight Mobility Plan. These are:

Goals	Objectives
Safety	Reduce rail related fatalities and serious injuries, especially at at-grade rail crossings.
Asset Management	Achieve a state of good repair of the rail assets, especially those assets owned by TxDOT.
Mobility and Reliability	Reduce congestion and improving rail system efficiency, capacity, and performance, including rail freight and passenger travel time reliability.
Multimodal Connectivity	Provide freight and passenger choices by improving the rail system and providing intermodal and multimodal connectivity.
Economic Competitiveness	Strengthen Texas’ position as a trade and logistics hub and support both existing industries and the attraction of new industries.

## Long Range Vision

The Rail Plan recommends potential short- and long-range freight and passenger projects to meet the state's identified rail needs. These projects are expected to meet and advance Texas' rail goals and objectives.

### *Freight Rail Projects*

- The short-range freight rail projects could be implemented within a four-year time period and which have been assigned a high priority. These focus primarily on capital projects deemed necessary to preserve and improve the infrastructure of state-owned rail assets and service to existing and prospective rail customers. It should be noted that the capital projects currently do not have public-sector funding sources available. In addition to the capital projects, TxDOT's current program of at-grade crossing improvements have also been included as part of the short-range projects.
- The long-range freight rail projects are not expected to be implemented within the next four years. In many cases, neither the justification for funding (in terms of public benefits) nor the funding sources themselves have been identified. The range of projects, most of which have been proposed by rail operators, involve mainline capacity expansion through double tracking, improved rail efficiency through the construction of wye tracks, highway-rail grade separation projects, and improved rail operations at the Mexican border.



### *Passenger Rail Projects*

- Passenger rail projects include improvements to existing rail stations, improvement and expansion of existing Amtrak services, and a number of potential intercity passenger initiatives. Due primarily to the lack of specific funding sources for passenger rail projects in the state, all passenger rail projects are regarded as long-range projects.





## Summary

The Rail Plan serves to document this information and set a direction for rail planning and project development, with the intention to meet federal requirements to qualify the state for any future federal rail funding. The Rail Plan supports the Texas Freight Mobility Plan and the Texas Transportation Plan 2040.

### The Rail Plan Chapters

The Rail Plan chapters are organized as follows:

**Chapter 1: The Role of Rail in Statewide Transportation** - Outlines the statewide planning context; describes how public-private collaboration can benefit the predominantly private rail network; describes how rail supports established goals and objectives for a multimodal transportation system; and summarizes recent achievements and future plans for the rail system.

**Chapter 2: Texas' Existing Rail System** - Discusses the existing freight and passenger rail system, trends, and forecasts freight and passenger rail traffic.

**Chapter 3: Potential Passenger Rail Improvements and Investments** - Identifies various passenger rail projects and improvements proposed in Texas.

**Chapter 4: Potential Freight Rail Improvements and Investments** - Identifies possible future improvements and investments to address the freight rail needs of Texas.

**Chapter 5: Long Range Vision** - Outlines potential short-range and long-range freight and passenger rail projects.

The development of this Rail Plan was achieved through participation of rail stakeholders and interested agencies. TxDOT expresses its appreciation to those individuals and organizations who participated in this effort. The Texas rail system is very important to the economic vitality of the state.



For More Information:

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<http://www.txdot.gov/inside-txdot/division/rail.html>