U.S. System Summary: TEXAS/SOUTH CENTRAL

HighSpeedRail
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Texas/South Central High-Speed Rail System (Source: Texas A&M Transportation Institute)

The Texas/South Central high-speed rail system is a proposed system containing 1,572 miles of routes primarily in Texas, connecting to the adjoining states of Arkansas and Oklahoma. At the present time, all seven segments are in the ***Planning/Environmental*** phase. Four of the seven segments in the Texas/South Central high-speed rail system are part of the federally-designated South Central High-Speed Rail Corridor, consisting of a hub in the Dallas/Fort Worth region with spokes connecting south to Austin and San Antonio, north to Oklahoma City and Tulsa, and east to Texarkana and Little Rock. The Dallas/Fort Worth to Houston segment, while not part of a federally-designated high-speed rail corridor, has nevertheless been the focus of several past and multiple on-going high-speed rail development initiatives. The feasibility of high-speed rail between Oklahoma City, Dallas/Fort Worth, Austin, San Antonio, and South Texas is being studied as part of the Texas-Oklahoma Passenger Rail Study being undertaken by the Texas and Oklahoma Departments of Transportation.

SYSTEM DESCRIPTION AND HISTORY

System Description

The Texas/South Central high-speed rail system consists of seven identified segments, as described below.

Texas/South Central High-Speed Rail System Segment Characteristics

Segment Description	Approximate Distance	Segment Status	Designated Corridor?	Segment Population
Dallas/Fort Worth, TX, to Houston, TX	240 Miles	Planning/Environmental	No	12,731,855
Dallas/Fort Worth, TX, to San Antonio, TX	266 Miles	Planning/Environmental	Yes	10,943,083
San Antonio, TX, to Laredo, TX	157 Miles	Planning/Environmental	No	2,392,812
San Antonio, TX, to Brownsville, TX	277 Miles	Planning/Environmental	No	2,976,913
Dallas/Fort Worth, TX, to Oklahoma City, OK	206 Miles	Planning/Environmental	Yes	7,771,382
Oklahoma City, OK, to Tulsa, OK	107 Miles	Planning/Environmental	Yes	2,190,465
Dallas/Fort Worth, TX, to Little Rock, AR	319 Miles	Planning/Environmental	Yes	7,641,496

The Dallas/Fort Worth to Houston segment is approximately 240 miles in length and connects two of the largest U.S. metropolitan areas. Proposed high-speed intercity passenger rail service on this segment is being studied by the Texas Department of Transportation (TxDOT) partly funded by an FRA grant. As part of the TxDOT study, three routes between Dallas/Fort Worth and Houston are being considered, two routes utilizing existing freight railroad alignments and a new "greenfield" route approximately parallel to Interstate 45. The service being examined in the study is specified to operate with a minimum top speed of 150 mph. The total population of communities being considered for proposed high-speed rail service along this segment was 12,731,855 in 2010.

The Dallas/Fort Worth to Houston segment is approximately 240 miles in length and connects two of the largest U.S. metropolitan areas.

Four segments of the Texas/South Central high-speed rail system are the subject of an on-going feasibility study being led jointly by TxDOT and the Oklahoma Department of Transportation (ODOT) studying passenger rail service in the Oklahoma City to South Texas corridor. The Dallas/Fort Worth to San Antonio segment is approximately 266 miles in length and also connects two of the largest U.S. metropolitan areas. The total population of communities being considered for proposed passenger rail service along this segment was 10,943,083 in 2010. The feasibility of passenger rail service on two segments connecting San Antonio to South Texas is also being studied in the Texas-Oklahoma Passenger Rail Study project. The first segment, San Antonio to Laredo, is approximately 157 miles in length with a total population of 2,392,812 in 2010. The second segment, San Antonio to Brownsville, is approximately 277 miles in length and includes Corpus Christi and Harlingen along the route. The total population of communities being considered for proposed passenger rail service along this segment was 2,976,913 in 2010. The northern segment being examined in the Texas-Oklahoma Passenger Rail Studyproject is the Dallas/Fort Worth to Oklahoma City segment of the Texas/South Central high-speed rail system. This segment is approximately 206 miles in length. The total population of communities currently served by the Amtrak Heartland Flyer route along this segment was 7,771,382 in 2010.

The Oklahoma City to Tulsa segment of the Texas/South Central high-speed rail system is approximately 107 miles in length. High-speed rail service on this segment has been proposed for existing rail right-of-way or new rail alignments along the existing Turner Turnpike (Interstate 44). The total population of communities being studied for high-speed rail service along this segment was 2,190,465 in 2010.

The Dallas/Fort Worth to Little Rock segment of the Texas/South Central high-speed rail system is approximately 319 miles in length. This segment the federally-designated South Central High-Speed Rail Corridor but the Federal designation does not specify the route. Intercity passenger rail service on this segment is currently offered by the Amtrak Texas Eagle long-distance train, which follows a route

Dallas, Texas (Source: *Texas A&M Transportation Institute*)

approximately parallel to Interstate 20 through Marshall, Texas; turning north toward Texarkana, Arkansas/Texas, then following Interstate 30 toward Little Rock. Alternate alignments for connecting Dallas/Fort Worth and Little Rock exist but have generally not been studied for passenger rail service to date. The total population of communities currently served by the Amtrak Texas Eagle route along this segment was 7,641,496 in 2010.

System History

Planning for high-speed intercity passenger rail in the Texas portions of the Texas/South Central high-speed rail system started in the 1970s with a series of studies on rail transportation and intercity travel in Texas published by the Texas Transportation Institute on behalf of the Texas Governor and Texas Legislature. Additional efforts with specific interest in high-speed rail were undertaken in the 1980s by both public and private interests, culminating in a 1989 study from the Texas Turnpike Authority (TTA) entitled the *Texas Triangle High-Speed Rail Study.* The TTA study was a major effort examining the feasibility of high-speed rail in the "Texas Triangle" region of the state (the heavily-populated region of Texas in the approximate shape of a triangle formed by Dallas/Fort Worth, Houston, and San Antonio at the vertices).

One key recommendation from the TTA study was that an independent state agency be formed to manage the construction of high-speed rail in Texas. The Texas Legislature adopted this recommendation and passed the *Texas High-Speed Rail Act* in 1989, creating the Texas High-Speed Rail Authority (THSRA). The THSRA was given the responsibility to award exclusive franchises to the private sector to construct, operate, and maintain an HSR facility if the THSRA found it to be within the public convenience and necessity. The THSRA obtained franchise applications to finance, build, operate, and maintain a high-speed rail system connecting the cities of the Texas Triangle from two consortiums, awarding the franchise to the Texas TGV Corporation in early 1992. Various administrative delays and other issues forced a renegotiation of the franchise agreement in 1993; however, the Texas TGV Corporation was unable to meet its deadline for a private financing plan and the franchise agreement was withdrawn in 1994. In 1995, the Texas Legislature abolished the THSRA. Additional details on the THSRA and the Texas TGV high-speed rail proposal can be found in Burns (1995) and a report from the U.S. Government Accountability Office (2009).

Following the failure of the THSRA-led efforts, high-speed rail development in Texas lay dormant for a number of years. The seminal national study on high-speed rail, the 1997 FRA-led *High-Speed Ground Transportation for America* study, included a conceptual "Texas Triangle" high-speed rail network in its analysis. In 2000, the South Central High-Speed Rail Corridor (SCHSRC) was named as a federally-designated high-speed rail corridor

Dallas, Texas (Source: *Texas A&M Transportation Institute*)

under the *Transportation Equity Act for the 21st Century* (TEA-21). The 2000s also saw an emergence of several proposals for a high-speed rail network in Texas led by a grassroots coalition of local elected officials (via the non-profit Texas High-Speed Rail and Transportation Corporation) as well as two privately-led proposals from national rail operators in France and Japan.

More recently, TxDOT was awarded two grants through the FRA High-Speed Intercity Passenger Rail (HSIPR) program for high-speed rail planning in two corridors of the Texas/South Central high-speed rail system. The first grant, in the amount of $5.6 million and awarded in October 2010, is being used for a $14 million study of high-speed rail between Oklahoma City and South Texas via Dallas/Fort Worth, Austin, and San Antonio. This study, called the "Texas-Oklahoma Passenger Rail Study," will examine passenger rail service options and develop a service-level environmental impact statement (EIS) for the corridor. The feasibility of high-speed rail in the two segments connecting San Antonio to South Texas (Laredo and Brownsville via Corpus Christi) is being studied as part of this project, which is expected to be complete by October 2014. The second grant, in the amount of $15 million and awarded in May 2011, will be used to complete preliminary engineering and a project-level environmental study for "Core Express" high-speed rail between Dallas/Fort Worth and Houston. As of March 2013, this project is not yet officially underway.

Interest in high-speed rail among the states bordering Texas was stimulated in large part by the efforts leading to the SCHSRC designation in 2000. ODOT began studying the issue of high-speed rail in 1999, subsequently issuing two studies – the 2001 *High Speed Passenger Rail Feasibility Study* and the 2002 *Oklahoma High Speed Rail Initiative*. These studies examined the capital investment requirements to expand passenger rail service in Oklahoma, including high-speed rail between Oklahoma City and Tulsa. In 2009, ODOT initiated a Tier 1 Environmental Assessment (EA) for high-speed rail service between Oklahoma City and Tulsa. The Tier 1 EA document was completed but the entire EA process was not completed. In 2010, ODOT was awarded $2.4 million from the FRA to complete the environmental process and create a service development plan for the Oklahoma City to Tulsa segment. In 2011, the Oklahoma State Legislature directed the creation of the Eastern Flyer Passenger Rail Development Task Force to study and develop a comprehensive plan for the expansion of passenger rail service from Tulsa to Oklahoma City. The Task Force released its final report in December 2012, focusing largely on outlining policy issues and available alternatives.

Planning for high-speed rail service along the Dallas/Fort Worth to Little Rock portion of the Texas/South Central high-speed rail system has been limited to efforts in Texas to secure short-distance corridor-type service between East Texas communities and Dallas/Fort Worth. Following the designation of the SCHSRC in 2000, the State of Arkansas remained relatively inactive in planning for high-speed rail in the state. The *Passenger Rail Investment and Improvement Act of 2008* (PRIIA) called for the U.S. DOT to conduct several high-speed rail studies, including examining the feasibility of extending the SCHSRC from Little Rock to Memphis, Tennessee. In 2012, the Arkansas State Highway and Transportation Department (AHTD) initiated a consultant study to complete this feasibility study, as well as generate a service development plan for the Little Rock to Texarkana segment and update the state rail plan.

Federally-Designated Corridors

Five of the seven identified segments of the Texas/South Central high-speed rail system are part of the federally-designated South Central High-Speed Rail Corridor. The South Central High-Speed Rail Corridor consists of a hub in Dallas/Fort Worth and three branches linking to 1) Austin and San Antonio, Texas; 2) Oklahoma City and Tulsa, Oklahoma; and 3) Texarkana, Arkansas/Texas, and Little Rock, Arkansas. The South Central High-Speed Rail Corridor was one of six federally-designated corridors authorized by the *Transportation Equity Act for the 21st Century* (TEA-21) and was officially-designated by the U.S. DOT in October 2000. The *Passenger Rail Investment and Improvement Act of 2008* (PRIIA) called for the U.S. DOT to examine the feasibility of extending the South Central High-Speed Rail Corridor to Memphis, Tennessee; the Port of Houston, Texas via Killeen, Texas; and south of San Antonio to a location in south Texas to be determined.

Existing Intercity Passenger Rail Service

Existing intercity passenger rail service in the Texas/South Central high-speed rail system is conventional-type service provided by Amtrak. The Amtrak Texas Eagle long-distance train operates daily between Chicago and San Antonio via Little Rock, Texarkana, Dallas, Fort Worth, and Austin, providing rail service over the Dallas/Fort Worth to San Antonio and Dallas/Fort Worth to Little Rock segments. The Amtrak Heartland Flyer service is a daily corridor train between Fort Worth and Oklahoma City.

Sources: 2010 U.S. Census, TxDOT Website: Texas-Oklahoma Passenger Rail Study, Federal Railroad Administration High-Speed Rail Corridors Chronology, Amtrak System Timetable Fall 2011/Winter 2012

ESTIMATED SYSTEM COSTS AND FUNDING SOURCES

Estimated System Costs

The 2002 report entitled *Oklahoma High-Speed Rail Initiative: Oklahoma City to Tulsa High-Speed Rail Corridor Cost Study* provided an investment-grade capital cost estimate for high-speed rail in the Oklahoma City to Tulsa segment of the Texas/South Central high-speed rail system. This study examined two alignments (one following the existing Turner Turnpike/Interstate 44 and a route south of the turnpike) for either non-electrified or electrified service at speeds of 125 mph (Southern Corridor alignment only) and 150 mph (both alignments). For 150 mph service, the capital cost estimates were lower for the Turner Turnpike/Interstate 44 alignment, with electrified service estimated to cost more than non-electrified. Cost estimates for 125 mph service on the Southern Corridor alignment were generally equal to the 150 mph cost estimates for the Turnpike alignment.

Projected Funding Sources

No specific funding sources have been evaluated for the Texas/South Central high-speed rail system to date. This will be part of the on-going studies.

Segment Description/Study Name/Year	Maximum Speed/ Scenario	Estimated Capital Cost per Mile ($ Millions)
Oklahoma City to Tulsa (2002)		
Turner Turnpike/ Interstate 44 Alignment	150 mph Non-Electrified	$7.9 – 9.0
Turner Turnpike/ Interstate 44 Alignment	150 mph Electrified	$10.6 – 11.8
Southern Corridor Alignment	125 mph Non-Electrified	$7.8
Southern Corridor Alignment	125 mph Electrified	$10.5
Southern Corridor Alignment	150 mph Non-Electrified	$8.4 – 8.5
Southern Corridor Alignment	150 mph Electrified	$11.1 – 11.2

Recent Funding Awards

- Oklahoma: $2,242,050 from FY 2010 high-speed rail appropriations for the completion of a Service Development Plan and corridor environmental study for the Tulsa-Oklahoma City segment of the South Central High-Speed Rail Corridor.
- Texas: $15,000,000 from the *American Recovery and Reinvestment Act of 2009* funds for the preliminary engineering and project-level environmental analysis necessary to develop a new Core Express corridor from Dallas/Fort Worth to Houston, two of the largest metropolitan areas in the country.
- Texas: $5,600,000 from FY 2010 high-speed rail appropriations for the completion of feasibility studies, a service development plan, and environmental work for the designated high-speed rail corridor of Oklahoma City to Dallas/Fort Worth, with a potential extension to Austin and San Antonio.

Source: Oklahoma High-Speed Rail Initiative: Oklahoma City to Tulsa High-Speed Rail Corridor Cost Study, Federal Railroad Administration

TRANSPORTATION SYSTEM IMPACTS

Ridership Estimates

The most recent high-speed rail feasibility studies that have been completed within the Texas/South Central high-speed rail system have focused on the selection of rail alignments and capital cost estimates for different high-speed rail alternatives. Some ridership estimates have been developed as part of unofficial feasibility studies commissioned for various organizations in the region, but no recent "official" ridership estimates exist at this time. More detailed forecasts of ridership for different high-speed rail alternatives are expected to be generated as part of on-going high-speed rail feasibility studies of segments in the system.

Mode Choice

No recent studies have examined the transportation system impacts of proposed high-speed rail service in the Texas/South Central high-speed rail system. Some projections of these impacts are likely to be developed as part of on-going feasibility studies in the system.

Connectivity with Other High-Speed Rail Systems

The Dallas/Fort Worth to Houston segment of the Texas/South Central high-speed rail system connects to the Gulf Coast high-speed rail system in Houston, Texas.

GOVERNANCE

High-speed intercity passenger rail planning and implementation activities in the Texas/South Central high-speed rail system are coordinated by the rail offices of the state Departments of Transportation for the three states – Arkansas, Oklahoma, and Texas.

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