

WHAT CAN WE DO? - RAIL

Passenger Rail

Texas Passenger Rail Studies and Projects

Passenger rail in Texas is typically developed at the municipal level through local support. Dallas and Houston have both successfully implemented LRT (Light Rail) systems to serve their citizens. Development beyond the municipal level requires cooperation of the regions cities, counties, MPO's and other stakeholders. The Lone Star Rail District is an example of this regional cooperation.

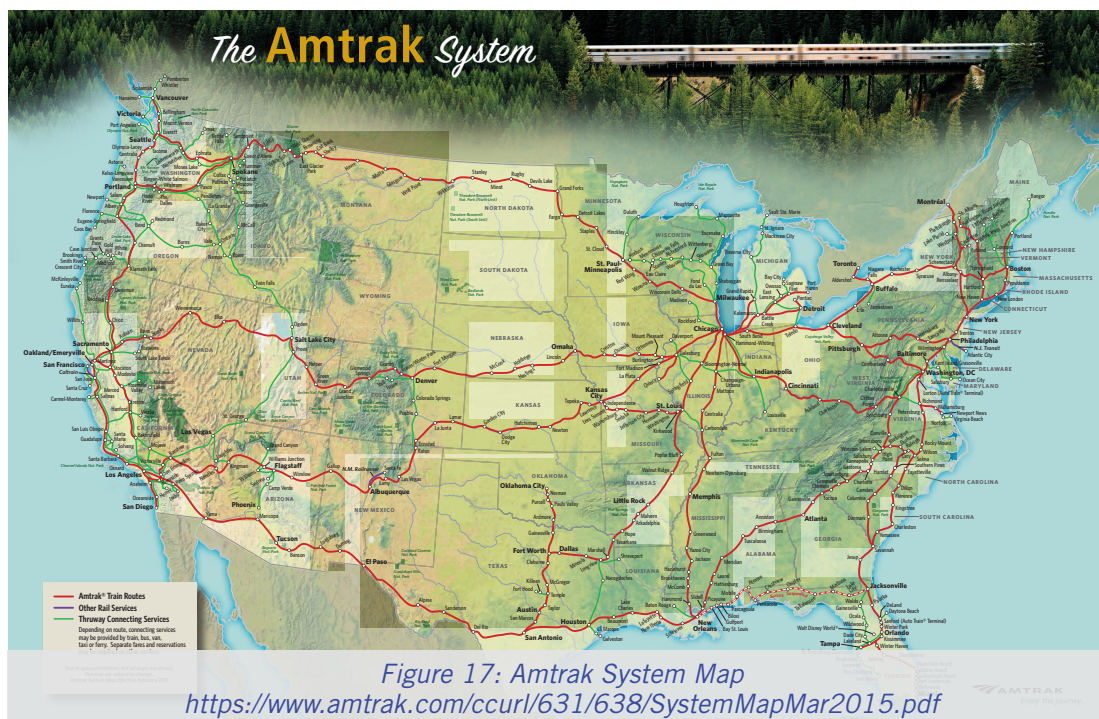
At the state and regional level, several rail investigations are underway in Texas including the passenger rail corridors shown in Figure 16. These studies include federal, state, regional, and private funding sources. If supported and developed, these corridors will serve Texas and the adjacent states and international ports (Mexico, Gulf seaports).



Figure 16: Texas Passenger Rail Studies

Discussions have explored the concept of a High Speed Rail (HSR) passenger network connecting San Antonio with the DFW Metroplex and Houston. Such a network, if supported by regional agencies, can form the statewide infrastructure for safe, reliable mobility choices; driving economies, and sustained development.

San Antonio sits at a crossroads of two long distance passenger rail lines operated by Amtrak (see Amtrak below) and a freight crossroads connecting Mexico with the United States by rail. Monterrey, Mexico has been discussed as a future high speed rail (HSR) passenger terminal for travel into Texas (currently there are many long haul buses from Mexico traveling to, and through, San Antonio). The IH-10 East corridor from San Antonio to Houston is a likely candidate for HSR development and would likely connect with the planned Texas Central Railway HSR between Houston and Dallas.



Amtrak Passenger Rail Service

Amtrak operates a nationwide rail network, serving more than 500 destinations in 46 states, the District of Columbia and three Canadian provinces (see Figure 17). Service is provided on more than 21,300 miles of routes. During FY 2015 (October 2014 - September 2015), Amtrak recorded more than 30.8 million passengers, *representing the fifth straight year in which ridership has exceeded 30 million*. On an average day, more than 84,600 passengers ride more than 300 Amtrak trains.

Two Amtrak lines currently run through San Antonio. Both operate on existing freight rail lines as long distance service (neither line provides local service). The Sunset Limited runs from New Orleans to Los Angeles, and the Texas Eagle runs from Chicago to San Antonio. Both lines arrive and depart at Sunset Station on the east side of downtown San Antonio.

The Sunset Limited currently has westbound departures every Tuesday, Thursday, and Sunday at 2:45 AM and eastbound departures every Tuesday, Friday, and Sunday at 6:25 AM. Other stops in Texas include Beaumont, Houston, Del Rio, Sanderson, Alpine, and El Paso.

San Antonio is the southern terminus of the Texas Eagle and serves as the transfer point to the Sunset Limited. The Texas Eagle departs daily (northbound) at 7 AM and the southbound train arrives daily at 9:55 PM. There are 13 stops in Texas including San Marcos, Austin, Fort Worth, Dallas, and Texarkana. Scheduled travel time on the Texas Eagle from San Antonio to Chicago is approximately 31 hours.

In northern Texas, Amtrak also operates the Heartland Flyer providing service between Fort Worth and Oklahoma City.

“Amtrak’s growth over the past ten years, especially on intercity corridors between 100 - 500 miles, hints at the tremendous opportunity of developing a robust, nationwide passenger rail system focused on city pairs.”

Source: (Amtrak National Facts: <https://www.amtrak.com/servlet/ContentServer?c=Page&pagename=am%2FLayout&cid=1246041980246>)

Proposed Lone Star Rail (LSTAR) Commuter Service

In 1997 the Texas State Legislature enacted legislation which allowed local jurisdictions in the Austin-San Antonio Corridor to create an intercity rail district (Rail District) to manage and operate a proposed passenger rail system. In 2003, State legislation approved granting the Rail District the Exclusive Development Agreement authority for the region. In 2009, the Rail District was re-branded officially as Lone Star Rail District (LSRD).

One of LSRD’s tasks is to evaluate the existing transportation corridors in the region for developing a passenger rail service (see Figure XX). This evaluation has progressed and is currently being conducted through the NEPA EIS process with multiple alternatives under scrutiny at this time. Passenger service will add capacity to the regional transportation system without the disruption and expense of highway expansion.

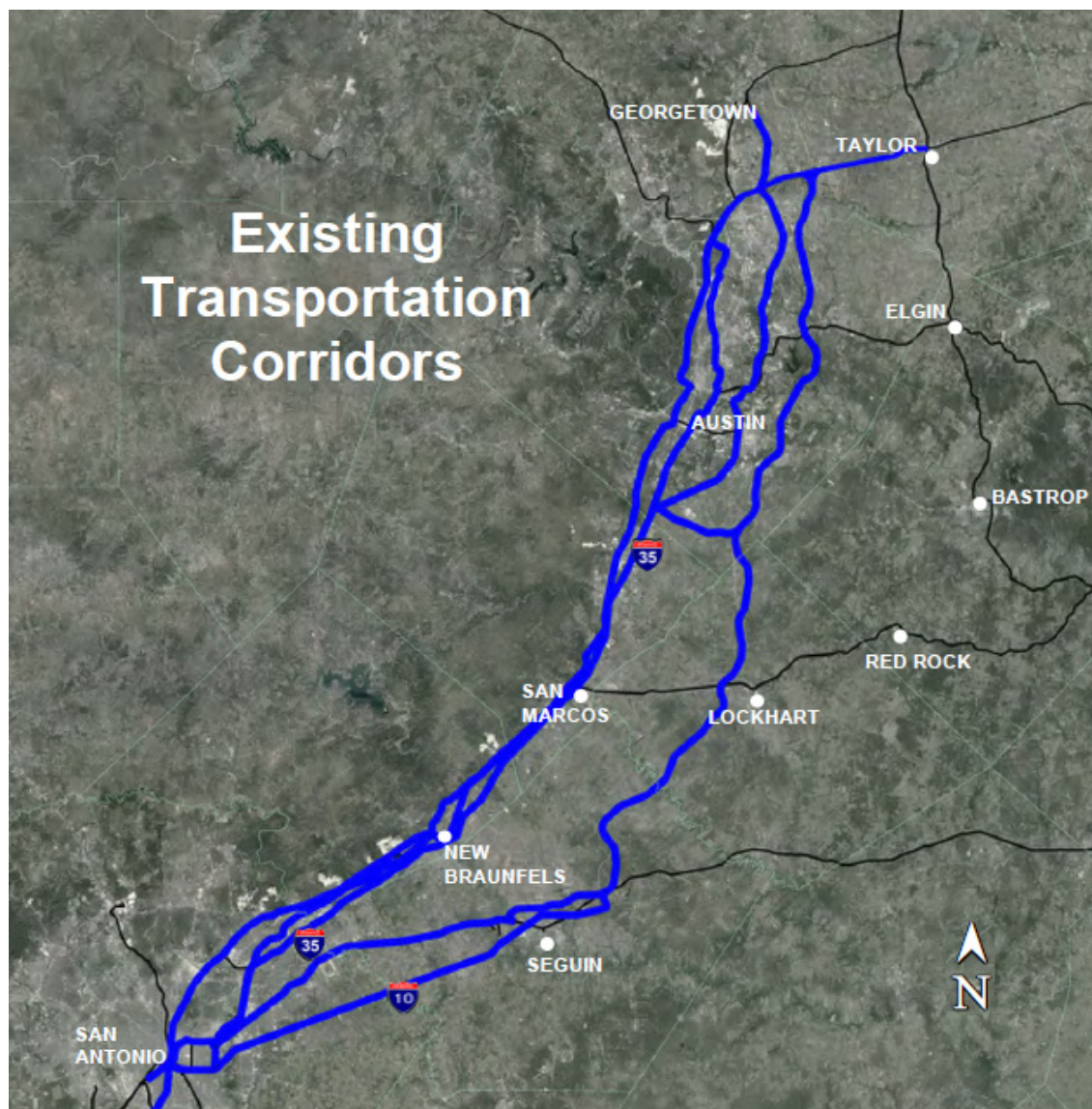


Figure 18: Existing Transportation Corridors between San Antonio and Austin
 Source: Lone Star Rail District Board Meeting, March 4, 2016

At peak hours, passenger rail service can carry the equivalent of two to four additional lanes in each direction on I-35. Users will see savings in terms of avoided congestion delays and fuel savings, while enjoying quality travel time to read, work, or enjoy the trip. Passenger rail service is a true economic engine for a region; providing quality mobility choices, economic development, increased tax base, jobs and increased quality of life and environment. At full proposed operation, the LSTAR service plans to offer up to 32 trains per day, seven days a week.

The current EIS alternatives analysis assesses the existing transportation corridors. As seen on Figure 19; the corridors include (but are not limited to) I-35, State Highway 130, the UPRR existing freight line, and other corridors/combinations. In addition to the 'geographic' corridors, the NEPA EIS process also assesses the different technologies for passenger rail (diesel,

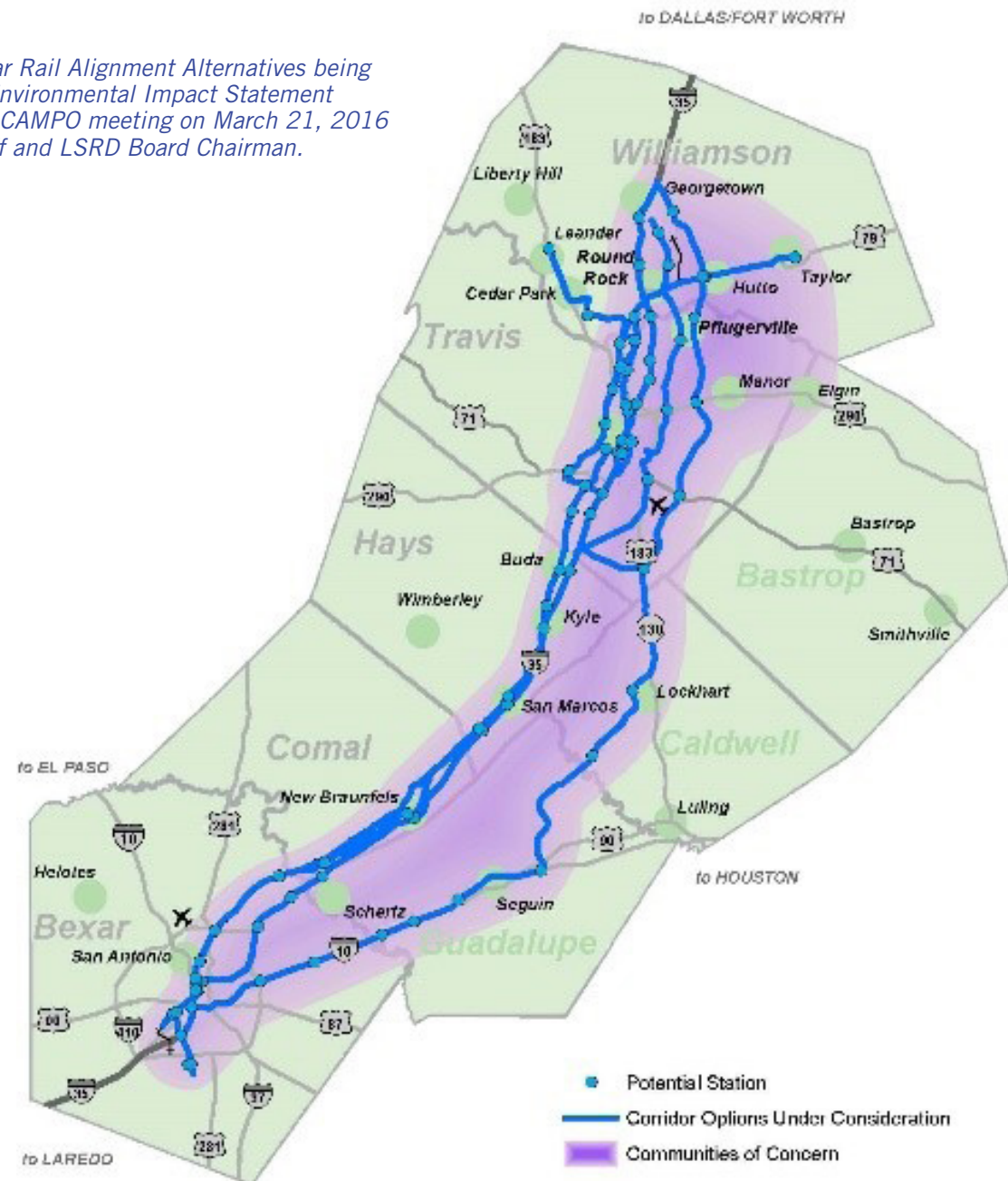
electric, higher speed), construction (at-grade, grade separated, elevated, tunnel), ridership projections, and stations. The anticipated completion date of the studies and receipt of federal approval is 2017, after which final design and construction is proposed to begin.

- a. One alternative utilizing the existing UPRR tracks for commingled passenger and freight traffic with modified freight usage, has been extensively publicized with strong public support. In this alternative, the Lone Star Rail District (LSRD) is evaluating a 118 mile intercity passenger rail service from north of Austin to San Antonio operating on the existing UPRR line as shown in Figure 3. Up to 24 possible stations are considered including San Antonio, San Marcos, New Braunfels and Austin. If supported by UPRR, the proposed passenger rail service would operate commingled with UPRR freight traffic. Potentially, some through-freight traffic could be shifted to an East Freight Rail Line comprised of existing and new rail lines to the east with estimates of up to 30 freight trains per day shifted to the east freight line. This plan requires over 80 miles of new freight rail
- line to be constructed between Seguin and Taylor, modifications to the existing freight line for passenger service, and support by all stakeholders. A variation in this new freight line may be to upgrade the existing line that runs between San Marcos and Taylor to the east bypassing the communities it currently bisects for “through” freight. This alternative would probably use current technology diesel-electric locomotives with top speeds of 79 miles per hour. LSRD is currently conducting environmental, economic and engineering studies associated with the 80 miles of new freight rail line.
- b. A second alternative is a modification of the Commingled use of the UPRR line alternative above. This alternative could focus on the acquisition of available ROW adjacent to the existing UPRR line, and construction of a separate passenger rail system – spatially running ‘parallel’ to the UPRR line. This alternative would not require providing an eastern through-freight line (i.e. freight rail operations will remain on the current UPRR tracks). This alternative would however, allow for other train-set technologies including elevated, electric, or higher speed. Stations
- may be located within the general footprint of those discussed in the commingled use alternative.
- c. An Interstate 35 alternative may involve construction of the rail line in the middle of, and/or adjacent to, Interstate 35. This alternative will not require a through-freight line to the east (i.e. freight rail operations will remain on the current UPRR tracks). This alternative will probably require some/all stations to be adjacent to the interstate highway; requiring local transit connections from the station to municipal business or education districts. This alternative may allow for diesel-electric, electric, elevated, and higher speed (100+ MPH) rail service.

Figure 19; Lone Star Rail Alignment Alternatives being studied in the Environmental Impact Statement
 Source: presented at CAMPO meeting on March 21, 2016 by LSRD staff and LSRD Board Chairman.

d. A Highway 130 alternative may offer greater 'greenfield' development, and also allows different train-set technologies (diesel-electric, elevated, electric, higher speed). However, proximity of the 130 alternative presents connection challenges with the municipalities along I-35 (Austin, San Marcos, New Braunfels, etc). Transit connections to those western communities will be important, requiring multi-modal stations and a robust regional transit infrastructure. This alternative probably provides the least immediate relief to the I-35 congestion.

In addition to providing relief to I-35 drivers, LSRD has the potential of connecting over 300,000 higher education students (Universities and Colleges along its proposed route) with homes, employment, training, and internship locales. If used by daily commuters, LSRD can provide reliable and affordable access between affordable housing and job markets in San Antonio and Austin.



Dallas Houston High Speed Rail Project

Texas Central Partners, LLC (TCP) is a private, Texas-based company developing the proposed 240-mile high-speed passenger railway and associated facilities between Houston and Dallas. TCP and its affiliated entities are responsible for the system's design, finance, construction, operation and maintenance. Texas Central High-Speed Railway (TCR) is a separate affiliated company leading the feasibility effort and the environmental analyses necessary to complete the environmental impact statement (EIS). The Federal Railroad Administration (FRA) is preparing the EIS and serves as the lead federal agency for the project ^[1].

The FRA published a [Notice of Intent](#) to prepare an Environmental Impact Statement (EIS) on June 25, 2014. Twelve public scoping meetings were held in October - December. The scoping period ended on January 9, 2015. The EIS will analyze alternative HSR route alignments.

The TCR's proposed high speed line will not share track or infrastructure with existing trains or rail lines and may be located alongside a utility corridor. The EIS will also analyze potential impacts associated with stations and maintenance facilities.

Service will be electrified high speed (up to 205 MPH) and track construction is proposed to be elevated, grade separated between Houston and Dallas. The Dallas station has been conceptualized south of, in close proximity to Dallas Union Station (<http://www.texascentral.com/project/>). The Houston station is currently being planned along the 610 Loop between 290 and I-10 (west side of Houston; better proximity to San Antonio). TCP successfully completed two rounds of Texas focused fund raising, and the project met a major milestone by attracting a world-class design build firm, Dallas to Houston Constructors (DHC), to conduct engineering and pre-construction work. DHC is a joint venture between

Archer Western Contractors and Ferrovial Agroman US Corp. Texas Central values the work being done by DHC at \$130 million, signaling another significant boost for the project. DHC has no equity or ownership stake in the project and will not be involved in land acquisition.

There are currently no formal plans for a connection to San Antonio. However, this project, in conjunction with the [Dallas-Fort Worth Core Express Project](#), [Lone Star Rail Project](#) and the [Texas-Oklahoma Passenger Rail Study](#) will provide Texas with an opportunity to address future growth and congestion on highways and in airports through development of an interconnected and multimodal transportation system.

Figure 20: Texas Oklahoma Passenger Rail - Three Sections
 Source: <http://www.txdot.gov/inside-tdot/projects/studies/statewide/texas-oklahoma-rail.html>

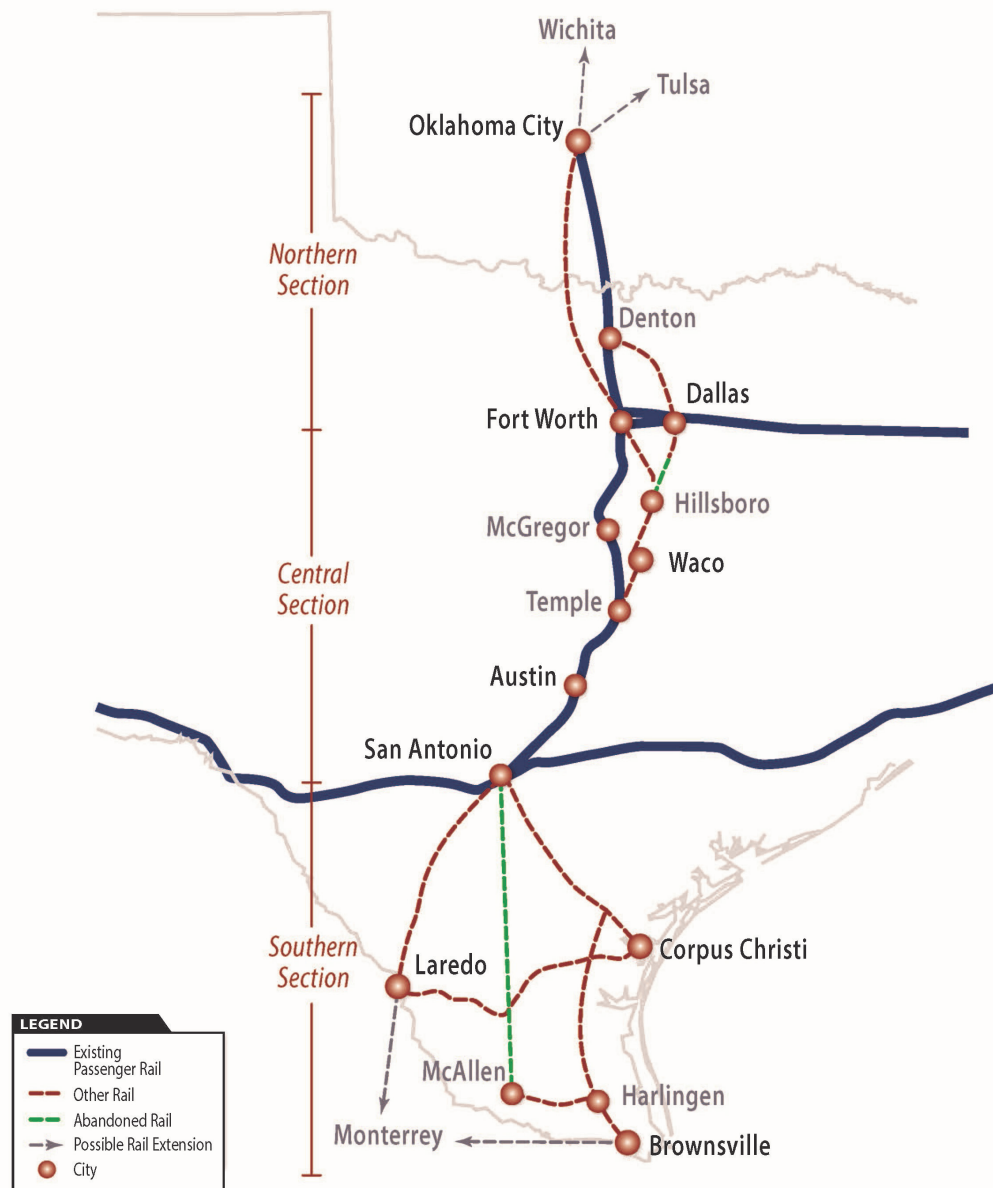
Texas-Oklahoma Passenger Rail Project

The Texas-Oklahoma Passenger Rail Study is a TxDOT project to explore how passenger rail service could provide a transportation alternative to the IH 35 corridor between Oklahoma City and South Texas shown in Figure 20. The 850-mile corridor has been split into three sections ^[2]:

- » Northern: Oklahoma City to Dallas/Fort Worth
- » Central: Dallas/Fort Worth to San Antonio
- » Southern: San Antonio to Rio Grande Valley/Corpus Christi/Laredo

TxDOT is preparing a service-level environmental impact statement (Tier One EIS) per NEPA on this federally-funded project to determine the feasibility of the passenger rail service within the corridor. The analysis is based on conceptual passenger rail alternatives to identify a group of feasible improvements for different sections of the corridor.

Texas Oklahoma Passenger Rail Study



^[1] <http://www.texascentral.com/>

^[2] <http://www.txdot.gov/inside-tdot/projects/studies/statewide/texas-oklahoma-rail.html>




The study will answer “big picture” questions:

- » Is improved passenger rail a good idea?
- » What kind of passenger rail service is feasible?
- » What are the costs, impacts, and benefits of passenger rail service?
- » What cities would be served by passenger rail?

The study will not determine:

- » Where would new railroad track be constructed?
- » What would the impacts be to specific properties?
- » When would new service be available?
- » Exactly where would stations be located?

Figure xx shows the different types of passenger rail service being considered. The operating speed options influence ridership, the number and locations of stations and the cost of construction, operations and maintenance.

Texas Oklahoma Passenger Rail Service Types		
	Speed (miles per hour)	Stops/ frequency
Conventional rail (mostly uses existing tracks) 	Maximum: 70-90 mph Average: 45-60 mph	Stops 15 to 60 miles apart 3-6 trains/day each direction (no more than 12)
Higher speed rail (some dedicated tracks) 	Maximum: 110-125 mph Average: 70-85 mph	Stops 30 to 90 miles apart 4-8 trains/day each direction (as many as 12)
High speed rail (fully dedicated tracks) 	Maximum: 165-220 mph Average: 100-140 mph	Stops 50 to 100+ miles apart 12-24 trains/day each direction

Common Attributes: Single or double deck trains, stations with parking, operation on existing or dedicated tracks

Source: TOPRS Public Meetings Presentation, Winter 2014 <http://www.txdot.gov/inside-txdot/projects/studies/statewide/texas-oklahoma-rail.html>

The alternatives were presented at a series of public meetings along the corridor in January and February of 2014. The Draft Environmental Impact Statement (DEIS) target publication is Summer 2016.

San Antonio's Future Role in Passenger Rail

The City of San Antonio has been participating in an organization supporting high-speed rail. The Texas High-Speed Rail and Transportation Corporation is a not-for-profit Texas corporation dedicated to bringing specific regions of the state together in a grassroots, collective effort to improve transportation and create a network of high-speed rail service in Texas that can connect to states and countries beyond.

Since its inception in 2002, the corporation's goal and approach has been to connect cities and counties by high-speed rail in the main Texas "triangle" of dense population, including the Dallas-Fort Worth, Houston and San Antonio-Austin areas and points within, including College Station and Fort Hood. The corporation's members represent millions of Texans. The goal is to coordinate High Speed Rail within the triangle and to Monterrey, Mexico.

Mike Frisbie, Director, Transportation & Capital Improvements, City of San Antonio, currently serves as Vice Chairman of the organization. Our members share an intense interest in the future of transportation, are supported by a Legislative and Congressional caucus, and proactively pursue Texas' best interests.



State of Good Repair: Our Biggest Challenge

What is the Concern?

A growing need for capital investment and a funding deficit today threatens our future unless we address this problem now.

Our customers and our communities depend on Metra every day.

- Over 300,000 people depend on Metra every day to get where they need to go. The economy of our entire region depends on our ability to function reliably and safely.
- More people use Metra than use an automobile to get to the Chicago Central Business District, and the highways are already congested.
- Without Metra, an additional 29 lanes of expressway and twelve 10-story parking decks would have to be built.
- Our customers make critical, long-term investments in their careers and their communities based on their ability to get to work and our ability to provide service. Their investment depends on our investment in our future.

Our #1 priority is to provide safe, reliable service, now and for years to come.

- We will never sacrifice safety for service. If we can't operate safely, we won't operate. Safety will always be a priority for capital funding.

Investments in Metra's infrastructure create both public & private sector jobs.

- Every \$1B in public transportation capital investment supports nearly 24,000 jobs.

Source: APTA, "Economic Impact of Public Transportation Investment"

What is Needed?

State of Illinois: A regular and reliable source of funding for capital needs

Washington, DC: Metra (and all commuter railroads / public transit agencies) need expanded Federal Formula Capital funding, including reauthorization at current or greater funding levels and a new funding source for State of Good Repair

Metra System:	90,238 Parking Spaces
241 Stations	821 Bridges
(5 downtown / 236 outlying)	572 Grade Crossings
1,155 Miles of Track	24 Coach Yards
487.7 Route Miles	4,480 Employees

*"An asset or system is in a **state of good repair** when no backlog of capital needs exists – hence all asset lifecycle investment needs (e.g., preventative maintenance & rehabilitation) have been addressed and no capital asset exceeds its useful life."*

- Federal Transit Administration's Transit Asset Management Practices Report

Metra must work to achieve a State of Good Repair and create a sustainable capital investment strategy for the future.

The FTA's emphasis on State of Good Repair for transit systems nationwide has necessitated that Metra focus our capital investments on State of Good Repair projects as opposed to expansion.



What Has Metra Done?

While it is Metra's ultimate goal, it is very difficult to attain and consequently maintain a State of Good Repair. After falling decades behind in capital investment, Metra must move toward more efficient capital planning and programming to restore the system to a State of Good Repair.

- Metra has balanced the operating budget through a painful fare increase and large operating budget cuts
- Board policy to stop diversion of capital eligible formula funds to cover operating costs
- Completed and are now updating our capital asset condition assessment and management system
- Developing a capital decision tool at the regional level to support strategic capital investment

Without sufficient capital investment, operating expenses will eventually skyrocket, and service reliability will plummet.



Capital maintenance involves expensive components that must be replaced as they wear out.

- Components include: rolling stock, track, structures, signals, electrical, communication, facilities, equipment, stations and parking.
- Key components can only be "repaired" so long until they must be replaced.
- Railroads require more capital spending to maintain than most other major industries.
- Capital maintenance should be a primary concern for our customers and our communities.

Regular on-going capital maintenance is fundamental to Metra's ability to provide reliable service and efficient operations.

- Metra must invest hundreds of millions of dollars each year to maintain our network.
- Our critical assets are long-lasting, but they do wear out and require regular replacement.
- The long-lasting nature of railroad assets gives the image of a fixed investment that doesn't wear out. This image is fundamentally flawed.

Our biggest deficit is capital maintenance; Our biggest threat is deferred maintenance.

- Because of the strong commitment by our Board and our passengers, our operating funding is in far better shape than our capital funding which depends on federal and state sources.
- Our capital maintenance requirements total \$7.37B over the next ten years. Optimistically, if federal and state capital funds remain at current levels, we will still be short over \$5B to maintain the system.
- The uncertainty of federal and State of Illinois capital funding puts Metra's system at great risk.
- Deferred maintenance is a compounding problem that does not go away with a new budget year. The capital we don't spend today is not like an operating expense that we forgo and then start over with in the next budget cycle. It is a physical asset debt that accumulates over time.

2010 – 2019 Capital Funding Needs

Metra State of Good Repair	\$ 7.37 B
Anticipated Federal Formula Funds (at current funding levels)	\$ 2 + B
Metra's Outstanding Deficit	\$ 5 + B

Source: RTA 2010 Capital Asset Condition Assessment

11/10/2011

The Capital Maintenance SPIRAL

If Capital Maintenance is deferred too long...

- Service suffers as components fail to operate reliably. For example, if an important interlocker fails, entire portions of the Metra system will not operate.
- Transportation operating expenses increase as trains are delayed and crews must work longer.
- Maintenance operating expenses go up because more maintenance crews and longer on-duty times are required to repair components that are failing at an increasing rate.
- The poor condition of one component accelerates the wear and tear on other components. For example, track conditions affect the conditions of locomotives and cars and vice versa. A railroad is like the engine of an automobile: when one component is out of condition, other parts wear out at an accelerated rate.
- As operating costs rise, more dollars are diverted from capital needs, capital maintenance is deferred even longer, and the cycle continues to worsen at an ever steeper rate.



We Must Maintain What We Have Before We Can Expand

- Expansion and growth depend most critically on a well maintained and well functioning core. Future expansion depends first on proper maintenance of the existing system.
- We must focus limited state and federal capital dollars on achieving a good state of repair for now and into the foreseeable future.
- This means that Metra will not likely be able to fund new lines, extensions, or new station stops for some time into the future.

San Antonio can be a critical, and vibrant driver, and anchor, in the development of a robust rail system. Passenger Rail service is essentially immune to overcrowding and congestion; simply adding a car, or increasing service provides huge capacity increases at minimal costs and efforts.

Passenger Rail is a congestion proof Economic Engine moving people and commerce. The vibrant cities of the future will develop expanding cores of highly trained professionals that contribute higher percentages of per capita to a region. These professionals demand quality of life; translating into better mobility choices (many 17 to 25 year olds today choose to NOT have driver licenses) to access housing, education, and work choices.

San Antonio should immediately implement the following:

»Get involved with LSRD for most immediate regional benefit. Put \$ in the game. Corridor selection, station selection and direct access to Austin CBD, I-35 Corridor, and SA CBD is at stake. Regional rail provides immense long term Economic stability by providing reliable access and flow of business into San Antonio. See METRA flyer on passenger, highway, parking, etc. benefits.

»Support VIA initiatives to develop municipal rail in SA and within a Regional and Statewide System. VIA is an extremely important municipal anchor to the regional infrastructure. A good example

is the relationship between Chicago Metra (regional passenger rail), Chicago Transit Authority (municipal rail/bus transit), and PACE (urban bus transit). Together, these systems move commerce (people) into, around, and out of the Business Districts – allowing more businesses to flourish in downtown with minimal expansion problems (no additional parking garages, roads, or highway congestion needed). Personnel arrive less stressed, on time, and more productive.

- » Metra alone transports over **300,000 daily commuters** into downtown Chicago to work, play, and spend money.
- » Become an active supporter with the TxDOT Rail Division to help shape the future of passenger and freight rail transportation.
 - » This is important from a freight perspective as more NAFTA trade comes across the border from Mexico, into the USA, and through San Antonio by truck. Eventually the opening of the Panama Canal to larger cargo ships headed for Texas ports, will impact the state in a positive (if prepared) or negative (if ignored) manner. Freight rail with intermodal centers are some of the most efficient means of transport.
 - » This is important from a passenger rail perspective as TxDOT can assist and help develop a State passenger rail network – if local, regional, and state support is cultivated.
 - » Communicate with and establish relationship with the Texas Central Railway executives. HSR is a preferred mobility choice in most countries, and the USA will soon catch up.
 - » Can TCR expand their HSR from Houston or Dallas to San Antonio?
 - » What lessons can be shared for future development?
 - » Engage with the Class 1 freight railroads that transport into and through San Antonio. Topics to address include: how to minimize impact of long freight trains on citizens; how can freight be routed around San Antonio to intermodal facilities; can existing ROW inside the city be commingled with passenger rail?
 - » Actively encourage, and CULTIVATE, investments in passenger rail infrastructure. Look to foreign investors as well as domestic (TCR raised much investment from Texans). Many European and Asian passenger rail firms look to the USA as the next investment horizon

– especially as more of their own countries become well served by passenger rail (heavy rail, electric, HSR, LRT). San Antonio can reap the benefits of known systems, implementations, and operations. Texas is viewed by many foreign firms as the one of the best regions for intercity passenger rail.