OVERVIEW OF PROJECT 0-5930

TTI recently completed TxDOT Research Project 0-5930 *Potential for Development of a Intercity Passenger Transit System in Texas* which examined 18 intercity corridors within the state to determine current capacity for intercity travel by road, air, and rail. Project 0-5930 examined only long-distance, intercity corridors connecting regions of the state and provided data on estimated travel times for each corridor at a variety of potential high speed rail speeds up to (HrSR) standards (and have subsequently been updated to include high speed rail (HSR) speeds). The study evaluated current employment and population as well as projected population growth for the state to 2040 based on figures developed by the Texas State Demographer. Researchers used the 2035 FHWA Freight Analysis Framework projected traffic levels to estimate segment-by-segment volume-to-capacity (V/C) ratios along existing roadways in each of the corridors. The existing bus and rail transit systems connecting to each potential corridor were documented as were a variety of demographic data along each route. The corridors were then ranked as to their need for future expansion in intercity passenger transportation capacity. These corridor rankings have formed the basis for the advancement of four study corridors being submitted by TxDOT in this round of HSIPR applications.

INTRODUCTION

Texas has undergone a quiet transformation over the past several decades, passing New York in population to become the second most populous state in the U.S. behind only California. While much larger than the other two states, the population of Texas is concentrated largely within in the eastern half of the state—along and east of the I-35 corridor. Texas contains three of the U.S.'s top 10 urban areas by population—Dallas-Fort Worth, Houston, and San Antonio—all located within 200-300 miles of one another. The city of Austin, also over a million in population, is located on the I-35 corridor and serves as the state's capital attracting both business and government travelers. Texas sits at the crossroads, in the middle of the continent, astride trade and travel corridors connecting both north and south NAFTA traffic and the east and west flow of goods from Asia to the eastern U.S.

The State of Texas has long been a leader in the provision of quality transportation infrastructure for its citizens. Along with its federal funding partners, the state has built the most expansive highway system of any state with over 79,000 lane-miles. Texas has also benefitted from an excellent air transportation system that has steadily grown in use as urban airports in Dallas-Fort Worth and Houston have become national and international hubs. Airports in other Texas urban areas have grown to meet the intercity and regional travel demand that is not met by the highway system and as feeders to the hub airports for interstate travel. Over time, Texan's urban and suburban work and travel patterns have shifted, becoming longer and more frequent. Interconnectivity between urban areas throughout the state has grown in importance as centers of both housing and commercial activity have spread along existing transportation routes.

The state's burgeoning population and its rapid transition from a rural state to an urban one have strained elements of the existing transportation system. To meet the need for new intercity transportation capacity will require new financing and operational methods to provide the required infrastructure for continued economic growth and quality of life. High-performance intercity passenger rail systems must be considered as a part of the solution to meeting this challenge. A well-designed intercity rail system with coordinated transit connections in urban areas served by it could improve performance of the existing highway and air transportation systems allowing each mode—highway, air, and rail—to operate more effectively.

Figure 1 demonstrates the relative size of and distances between Texas' population centers and the relative distance between these centers within the state of Texas along the corridors identified and studied by TTI during TxDOT Project 0-5930. The close proximity and growth in the major urban centers shows in the Texas Urban Triangle area including Dallas-Fort Worth, Houston, San Antonio, and Austin. The Houston to Austin corridor connects two of Texas' major urban centers, both of which are rapidly growing. The Austin and San Antonio urban areas are also connected north-south by the I-35 corridor which is the subject of another HSIPR feasibility study application being filed in this round. Previous passenger rail studies along the proposed study corridor include regional intercity rail/commuter rail studies in both the Austin and Houston areas. The College-Station/Bryan CBSA is just north of the US 290 corridor and could be an intermediate route stop along the corridor.

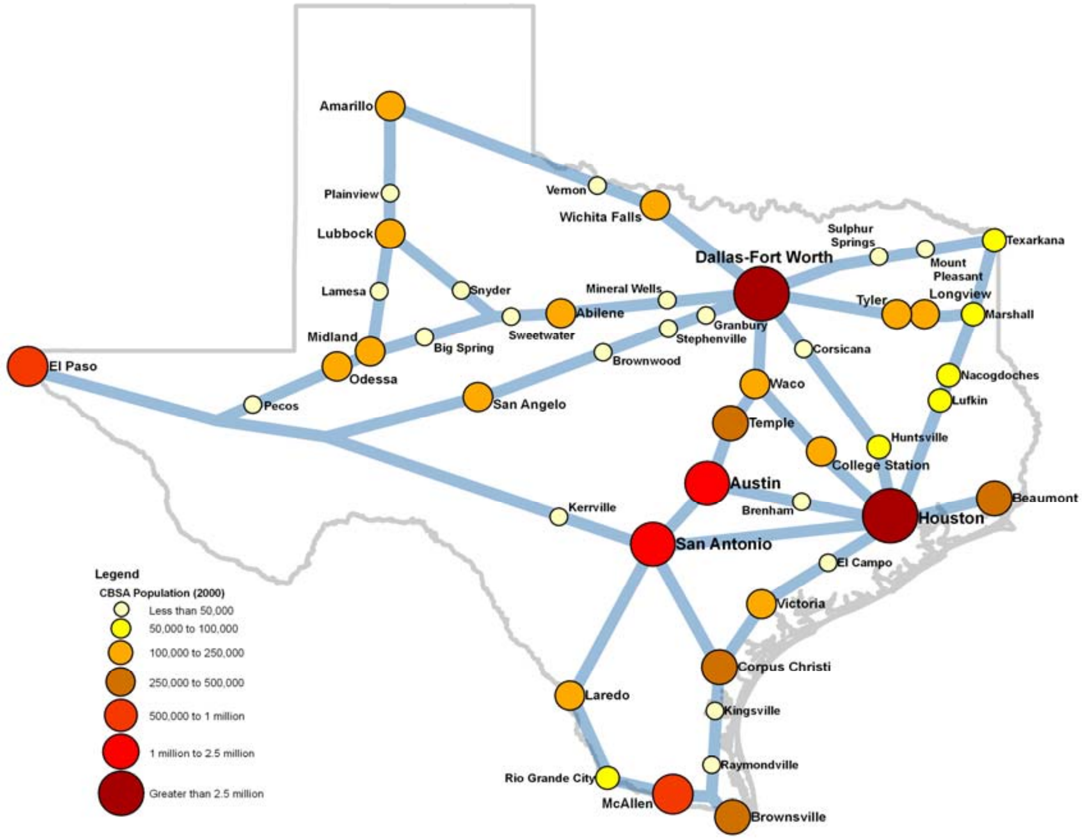


Figure 1. Relative Size and Distance of Texas Population Centers along 0-5930 Study Corridors.

HOUSTON TO AUSTIN CORRIDOR OVERVIEW

The Houston-Austin corridor was considered in the 0-5930 study as one of the most direct routes to connect Houston, the U.S.'s fourth largest city, which is the current terminus of the federally designated Gulf Coast High Speed Rail Corridor with the large population centers of Austin and San Antonio in South Central Texas. Corridors connecting Houston to both San Antonio and Austin directly were ranked roughly equally (at number 5 & 6 respectively) in the Project 0-5930 analysis of statewide corridors. The number 1 & 2 ranked corridors are the subject of additional HSIPR study requests in this round of applications. The corridors that ranked 3 & 4 were long-distance corridors connecting the massive north Texas Dallas-Fort Worth (DFW) urban area to El Paso in west Texas via Abilene along I-20/I-10 and to Lubbock along I-20 and US 84. While these corridors ranked higher in total population that could be served, their length and relatively low population-per-mile combined with their potential rail service times of well over 3-4 hours, at even the highest HSR speeds, put them outside the current scope of study for HrSR and HSR routes and likely to remain more attractive for air travel.

The east-west Austin-Houston corridor has several apparent, potential advantages over the San Antonio-Houston corridor related to existing public ownership of a rail corridor on its western third, an abandoned rail right-of-way that could be redeveloped in its middle third, and an existing private freight rail corridor on its eastern third into the city of Houston over which the private rail company owner has expressed willingness to cooperate with passenger rail feasibility studies. An existing U.S. Highway, US 290, also runs the length of the corridor parallel to the railroad and could potentially share ROW with a HrSR or HSR system. This corridor feature is especially important in the abandoned rail segment of the corridor described more fully in the section on existing freight rail below.

Table 1 shows that the population of the Houston CBSA is expected to almost double to over 8.4 million people by 2040 according to numbers provided by the Texas State Demographer. The Austin CBSA population is expected to more than double to over 2.6 million people during the same period. Table 1 also shows the estimated travel times at various average travel speeds over the approximately 165-mile long corridor. A high-speed train traveling at an average speed of 110 mph could travel the corridor in 1.5 hours and at 200 mph could travel the length of the corridor in approximately 49 minutes. Selecting the appropriate speed and technology options would be a major focus of the proposed feasibility study.

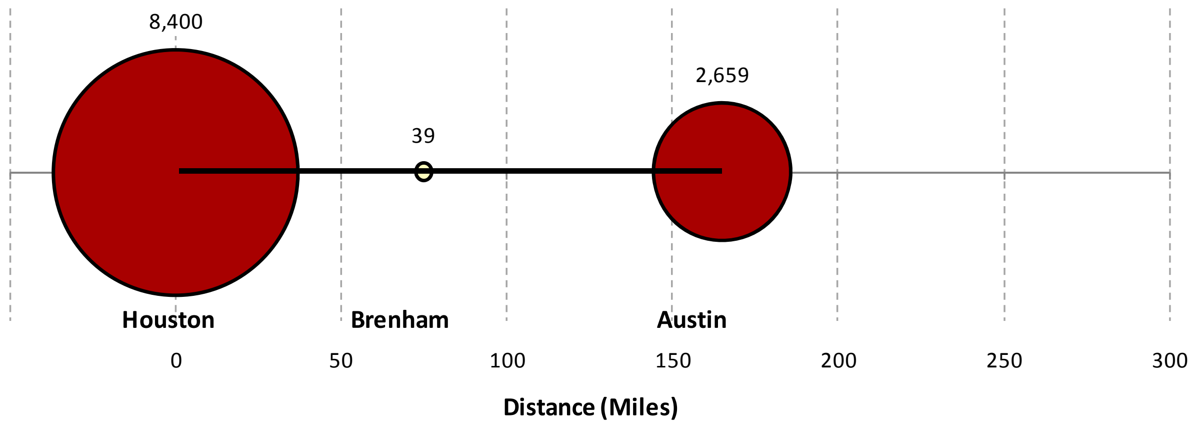
Table 1. Houston to Austin CBSA Populations, Distances, and Estimated Travel Times

		Population		Distance		Travel Time (hours:minutes)				
CBSA	**2000**	**2008**	**2040**	**Segment**	**Cumulative**	**60 mph**	**80 mph**	**110 mph**	**150 mph**	**200 mph**
Houston	4,715,400	5,718,678	8,400,100	0	0	0:00	0:00	0:00	0:00	0:00
Brenham	30,400	32,601	39,500	75	75	1:15	0:56	0:40	0:30	0:22
Austin	1,249,800	1,637,936	2,658,500	90	165	2:45	2:03	1:30	1:06	0:49

Table 2 shows alternative travel times and populations for a routing through College Station using existing highway distances for analysis.

Table 2. Houston to Austin via College Station CBSA Populations, Distances, and Estimated Travel Times

CBSA	Population			Distance		Travel Time (hours:minutes)				
	2000	2008	2040	Segment	Cumulative	60 mph	80 mph	110 mph	150 mph	200 mph
Houston	4,715,400	5,718,700	8,400,100	0	0	0:00	0:00	0:00	0:00	0:00
College Station	184,900	208,400	267,700	95	95	1:35	1:11	0:51	0:38	0:28
Austin	1,249,800	1,637,900	2,658,500	105	200	3:20	2:30	1:49	1:20	1:00



2040

Figure 2 provides a view of the CBSA populations along the Houston to Austin corridor, along with a demonstration of the distance between these urban centers. The corridor is approximately 165 miles in length with a total of three CBSA's, two Metropolitan and one Micropolitan. According to the 2000 census, the Houston CBSA contained over 4.7 million people; the Austin CBSA contained over 1.2 million people; and the Brenham CBSA contained 30,000 people. The census population estimates for 2008 and projected population for 2040 according to the Texas State Demographer are also shown in Figure 2.

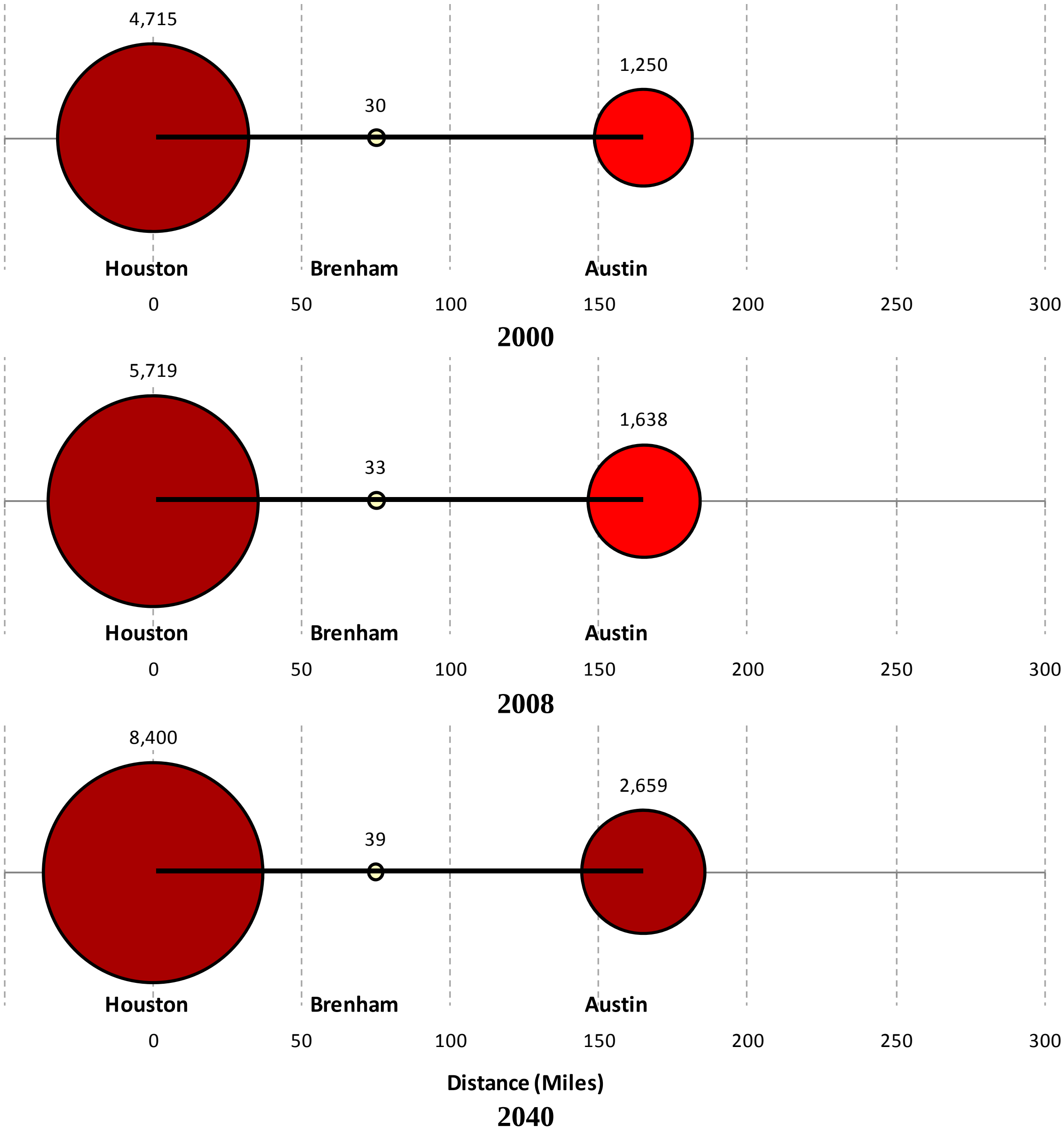
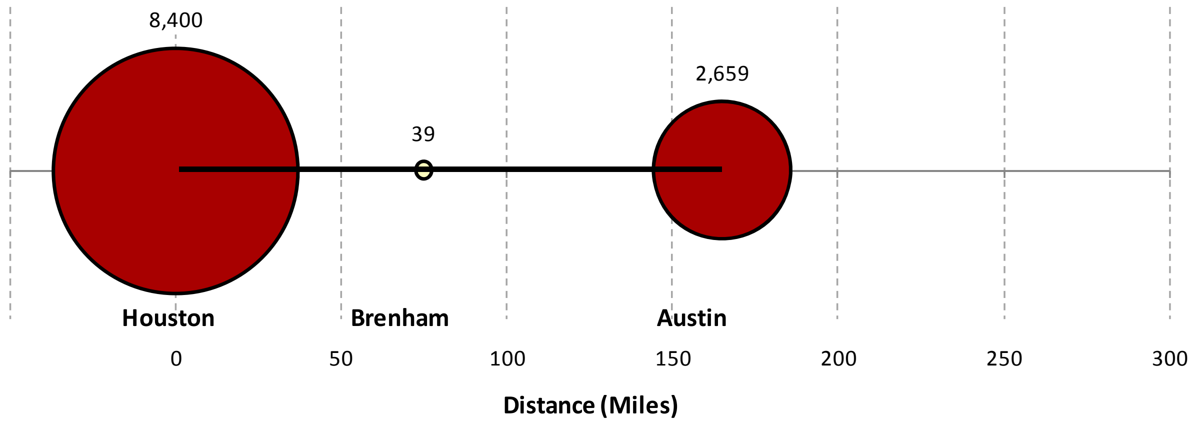
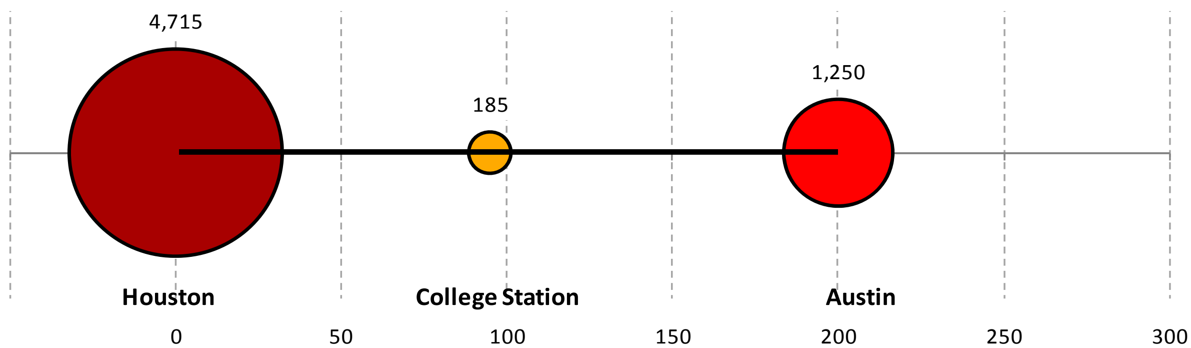


Figure 2. Houston to Austin Corridor Population and Distance in 2000, 2008 Estimates, and Projected 2040 (population in thousands)

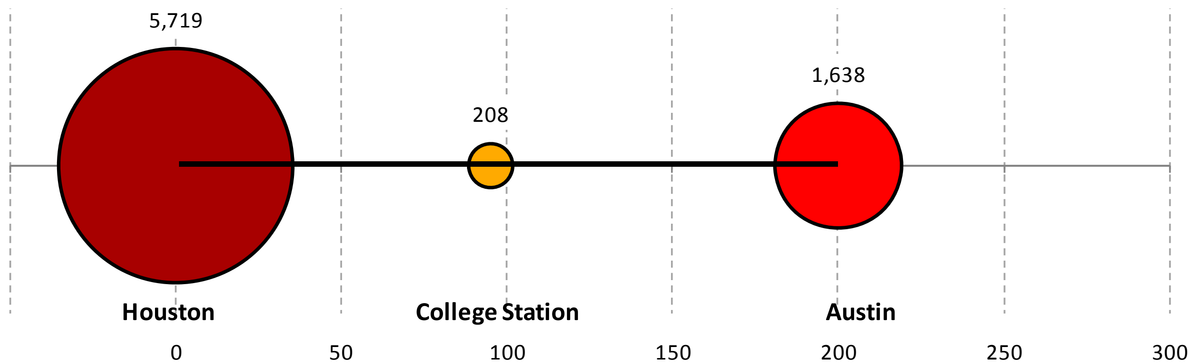


2040

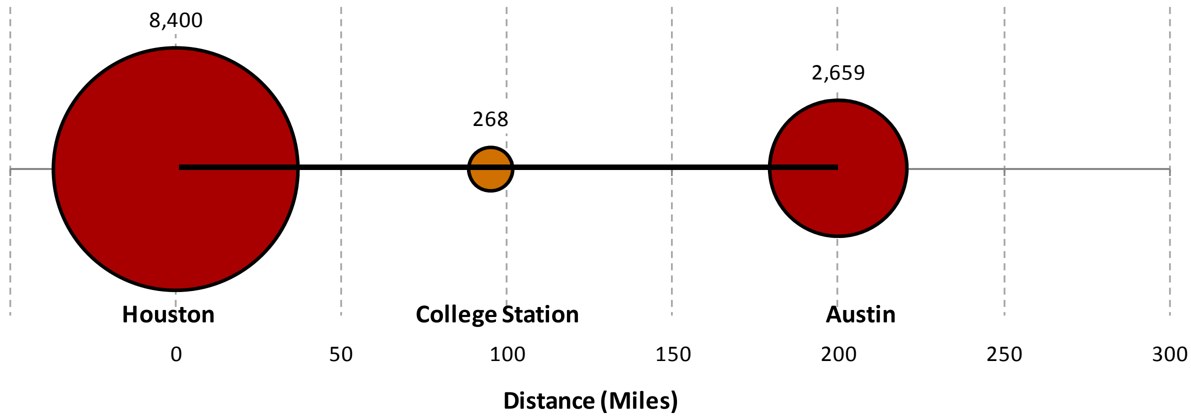
Figure 2 provides a similar view of relative population center size and distance with a routing through College Station. The corridor would be approximately 200 miles in length with a total of three Metropolitan CBSA's. According to the 2000 census, the Houston CBSA contained over 4.7 million people; the Austin CBSA contained over 1.2 million people; and the Brenham CBSA contained 30,000 people. The census population estimates for 2008 and projected population for 2040 according to the Texas State Demographer are also shown in Figure 3.



2000



2008



2040

Figure 3. Houston to Austin Corridor Population and Distance in 2000, 2008 Estimates, and Projected 2040 (population in thousands)

MARKET POTENTIAL

This section demonstrates several demographic and roadway travel statistics for the Houston to Austin corridor in order to exhibit the relative need for rail in the corridor. Projected population numbers are based on estimates developed by the Texas State Demographer, while the roadway information comes from the TxDOT's Road–Highway Inventory Network (RHiNo) database and the FHWA Freight Analysis Framework database.

Population, Economic Activity, and Special Generators:

The Houston to Austin corridor along US 290 has two major Metropolitan Core Based Statistical Areas (CBSAs) for end points and also passes through the Brenham Micropolitan CBSA and, if routed through College Station/Bryan connects three Metropolitan CBSAs. The total population along the US 290 corridor CBSAs is 5.9 million people, as measured in 2000, and is expected to reach 11.0 million people by 2040 as shown in Table 33. Most of the growth is anticipated in the two urban centers at the ends of the corridor, however slower, but still substantial, growth is projected to occur at smaller intermediate urban locations. The population per mile is expected to almost double from 36,782 people per mile along the corridor in 2000 to 68,086 people per mile in 2040 for the primary US 290 corridor.

A noticeable trend along the corridor is the growth in the expected population over 65 years of age. In 2000, the percentage of the total corridor population over 65 years of age was

7.7 percent, while in 2040 that percentage is expected to be increase to 18.3 percent of the total corridor population. While similar growth trends for this age group are anticipated on other Texas corridors, this growth rate represents an important potential market segment for rail ridership in the Houston to Austin corridor.

Over 150,000 employment establishments along the corridor in 2005 employed over 2.5 million persons. The number and nature of employment growth that could be served by a HrSR or HSR service would be an important part of the analysis undertaken by this study. The Austin and Houston areas are also home to major university systems such as the University of Texas at Austin and the University of Houston. If the College Station route is chosen, Texas A&M University would also be linked by the corridor. Several additional smaller public and private universities and colleges also lie along the corridor. The total higher education enrollment for the corridor in 2006 was 173,438 students not including Texas A&M which would add another 45 to 50 thousand additional students.

Table 3. Houston to Austin via US 290 Demographic Data from TxDOT Project 0-5930

Data Element	Houston to Austin
Population	
2000	5,995,543
2040	11,098,155
Population per Mile*	
2000	36,782
2040	68,086
Population – Over 65 Years of Age	
2000	463,114
2040	2,031,180
Employment	
No. of Employees (2005)	2,593,949
No. of Employer Establishments (2005)	151,395
Total Public or Private University Enrollment (Fall 2006)	173,438

*Calculation using corridor length = 163 miles

Corridor Travel Patterns: Commercial Air Carrier Service

The existing commercial airports within the Houston to Austin corridor include Austin-Bergstrom International Airport (AUS), Easterwood Field Airport (CLL), Houston's William P. Hobby Airport (HOU), and Houston George Bus Intercontinental Airport (IAH). The air service market distance between HOU and AUS is 148 miles, between CLL and IAH is 74 miles and between IAH and AUS is 140 miles. In 2006, the total number of air trips between Houston and Austin is 217,520, which is a 6.9 percent decrease compared to 1996.

Between 1996 and 2008, specific indices for the air travel demand for Houston to Austin corridor are shown in Table 2.

Table 2. Air Travel Demand for Corridor Houston-Austin from 1996 to 2008

Year	Number of Flights	Number of Passengers	Number of Seats	Load Factor
1996	15,439	1,176,925	1,942,879	0.61
2008	12,032	1,128,924	1,652,443	0.68
1996-2008 (Annual % change)	-1.70%	-0.31%	-1.15%	0.98%

Air carrier data for the Houston-Austin corridor in the original intercity corridor evaluation in project 0-5930 did not include College Station Easterwood Field (CLL). Including 2008 air passenger activity at CLL, 16,606 flights traversed the Houston-Austin corridor, carrying 1,185,437 passengers with a load factor of 0.67.

In 2006, the average number of scheduled flights per day on the corridor between Houston and Austin was 35 flights per day. Houston to College Station averaged approximately 45 flights per day. In Texas, nearly 71 million passengers were enplaned in 2007 and the number is expected to grow more than 104 million per year by 2025. Houston George Bus Intercontinental and Houston's William P. Hobby airports are among the four biggest airports in Texas that along with Dallas/Fort Worth International, and Dallas Love Field accounted for 81 percent of the total enplanements in 2007.

Corridor Travel Patterns: Highway

The heavily traveled US 290 route carried over 36,000 vehicles per day in 2006, as a result of a 3.44 percent annual growth between 1997 and 2006 as shown in Table 5. Figure demonstrates the 10-year growth in traffic for the Houston to Austin corridor. The projected AADT levels, derived from the FHWA FAF database, are expected to reach over 109,000 vehicles per day in 2035—an almost three-fold increase.

The overall weighted average V/C ratio for the corridor in 2002 was 0.60, with a 1.0 representing a roadway at capacity. The sections located in or near Austin and Houston are the most traveled, while the vast majority of the corridor located in rural areas. The 2035 projected V/C ratio worsens to an expected value of 1.68. This is shown in the 2002 and 2035 estimated corridor average speed over the corridor on US 290 dropping from 52 mph in 2002 to only 29 mph in 2035 based on these numbers. Finally, the percent trucks along the corridor was 10.95 percent in 2002 and is forecast to increase slightly to 11.25 percent in 2035. Since the AADT is forecast to almost triple, this means that the number of trucks will do the same in order to keep its same relative percentage.

Table 5 shows the highway travel statistics and Figure 4 shows the ten-year weighted AADT trend.

Table 5. Houston to Austin Highway Travel Patterns via US 290

Data Element	DFW to Houston
% Annual Growth in Average Corridor AADT (1997-2006)	3.44%
Average Corridor AADT 2006 2035 (FAF forecast)	 36,441 vehicles per day 109,037 vehicles per day
Average Volume-to-Capacity Ratio 2002 2035 (FAF forecast)	 0.60 1.68
Average Speed 2002 2035 (FAF forecast)	 52 mph 29 mph
Average % Trucks 2002 2035 (FAF forecast)	 10.95% 11.25%

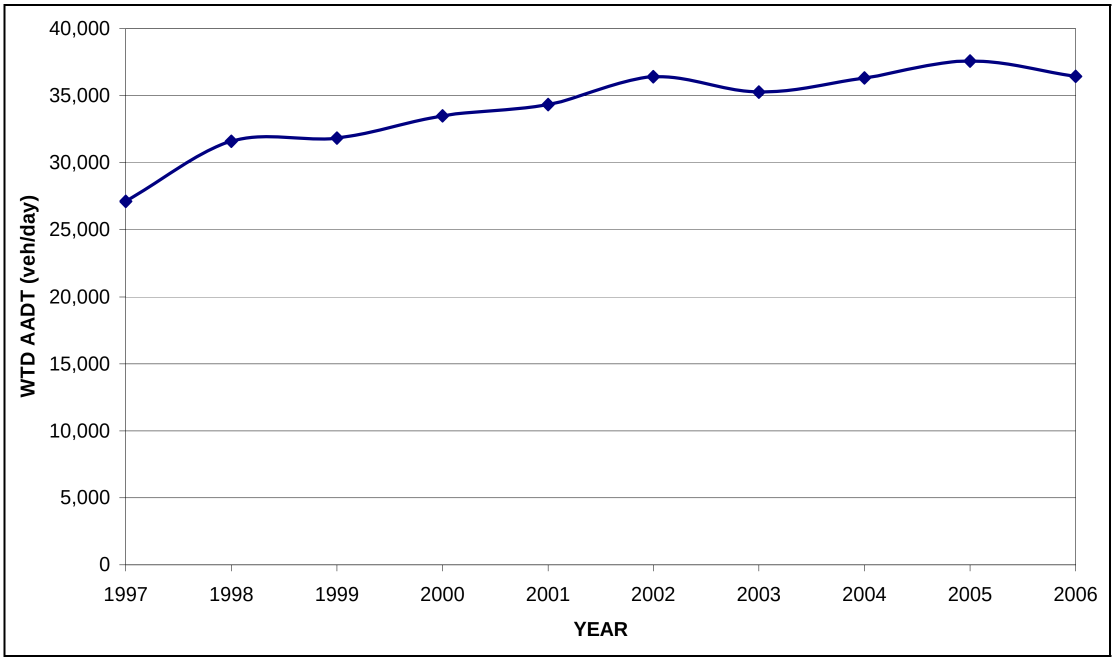


Figure 4. Houston to Austin via US 290 10-Year Weighted AADT, 1997-2006

PASSENGER RAIL, BUS TRANSIT, AIR SERVICES, AND FREIGHT RAIL

The following sections summarize the existing transit and freight rail services and routes in the study corridor area.

Existing Intercity Passenger Rail Service

No existing passenger rail service is currently available directly on this corridor. The Amtrak Sunset provides service between Houston to San Antonio three days a week and the Texas Eagle serves Austin daily on a north-south route between San Antonio and Chicago, IL. Capital Metro began its Austin Commuter Rail Red Line service in March 2010 serving Austin and several smaller suburbs to the north of the city. Several studies have been completed in the last decade regarding development of commuter rail service over a roughly 100-mile corridor between Austin and San Antonio. More recent studies have examine commuter rail possibilities on both the east end of the proposed study corridor and along US 290 between Hempstead, TX and Houston. These projects are in various stages of development. This route could potentially serve as a heavily used hurricane evacuation route for the Houston area as Austin is designated as a primary evacuation area for the Houston population when threatened by tropical weather systems.

Existing Bus Service

Greyhound Lines, Inc. runs one bus daily between Houston and Prairie View, TX—approximately 40 miles on the western end of the corridor. The Kerrville Bus Company provides interlined service with Greyhound four times daily between Houston and Austin on US 290, and one time daily linking Houston and Austin via I-10 and US 71 (rather than US 290). Arrow Trailways of Texas runs an indirect route one time daily over parts of the proposed study corridor. It serves one trip per day both between Waco and Killeen and between Killeen and Houston.

Intermodal Facilities

Intermodal faculties include passenger train stations, bus stops/stations, transit centers and other facilities that could potentially become intermodal facilities if market demands and development allows. On the Houston to Austin Corridor, specific facilities are as follows:

- Austin Greyhound Station
- Austin Amtrak Station
- Bryan Greyhound Station
- CARTS Central Terminal in Austin
- Houston Amtrak thruway bus station
- Houston Greyhound Station
- Round Rock CARTS intermodal facility
- Planned or proposed: Houston Northern Intermodal Facility

Transit Agencies

The corridor of Houston to Austin goes through two planning regions. There are seven existing transit agencies connecting to the corridor, namely:

- Capital Metropolitan Transit Authority - Austin, Texas (Capital Metro)
- Capital Area Rural Transportation System (CARTS)
- Gulf Coast Center's Connect Transportation
- Fort Bend County Transit
- Metropolitan Transit Authority of Harris County Houston Texas (METRO)
- The District (Brazos Transit)

Existing Freight Rail Operations

There is no existing direct freight rail line between Houston and Austin. There are two relatively direct existing freight rail routes between Houston and Austin. Both involve utilizing the BNSF rail line to Sealy, TX from Houston. At Sealy, the UP line from Sealy to Smithville would be traversed. At Smithville, trains could go either north to Taylor through Bastrop, then southwesterly to Austin, or, continue west from Smithville through Lockhart to San Marcos, then north to Austin. Table 6 represents the current train volumes provided by the Class I railroads and as determined through various freight rail mobility studies conducted by TxDOT. Future train volumes per rail line segment are based on a 3% annualized growth rate.

Table 6. Freight Rail Segment Density and Rail Volumes

Segment	Current Volume (trains per day)	Projected 2035 Volume (trains per day)	Growth (trains per day)	Percent Growth	Segment Density (MGTM/Mi)
Houston to Sealy	30-35	75-85	45-50	140-150	50-55
Sealy to Smithville Smithville to Taylor	10-15 5-10	30-40 20-30	20-25 15-20	150-200 200-300	20-25 5-10
Taylor to Austin	25-30	60-75	35-45	140-150	30-35
Smithville to San Marcos	5-10	20-30	15-20	200-300	5-10
San Marcos to Austin	25-30	60-75	35-45	140-150	30-35

Table 7 shows the current (2007) and future (2035) levels-of-service along the existing freight rail corridor as stated in the *National Rail Freight Infrastructure Capacity and Investment Study (2007).*

Table 7. Current and Future Levels-of-Service

Segment	Current LOS	Future LOS - Unimproved	Future LOS - Improved
Houston to Sealy	D	F	A, B, C
Sealy to Taylor	A, B, C	E	A, B, C
Taylor to Austin	A, B, C	F	A, B, C

On the proposed study corridor linking Houston and Austin, several current and former freight rail segments exist. The Capital Metropolitan Transportation Authority (Capital Metro) in Austin owns a rail line that travels parallel to US 290 from Llano, TX (west of Austin) to Giddings, TX approximately 50 miles east of the city. Capital Metro acquired the line from the City of Austin and has recently begun operating commuter rail service over segments of the line within the urban core. A 2008 study by Capital Metro recommended future development of another commuter rail line along this segment as far as Elgin, TX; however, significant investments would be required to bring the tracks in this segment into repair for any type of passenger rail service.

Between Giddings and Hempstead, TX there are approximately 50 miles of abandoned railroad corridor where the tracks have been removed and the ROW has reverted largely to adjacent landowners. Segments between Hempstead and Brenham, TX were abandoned in 1961 and 1962, while the segment between Brenham and Giddings was abandoned in 1979. From Hempstead into Houston, the Union Pacific Railroad (UP) owns and operates its Eureka Subdivision parallel to US 290 between Hempstead and Houston. UP has expressed willingness to explore commuter rail service in this corridor during past studies by both TxDOT and the Houston-Galveston MPO, but HrSR and/or HSR may not be compatible with their freight operations in this corridor. The study is needed to make that determination and to consider other possible entry routes into the Houston urban area.

ENVIRONMENTAL QUALITY

Currently Designated Nonattainment Areas in Texas for All Criteria Pollutants

As of January 06, 2010, the eight counties in the Houston area (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller) are designated as severe nonattainment for 8-Hr Ozone by the EPA. In central Texas, the Austin-Round Rock area and the San Antonio area signed Early Action Compact (EAC) agreements with the EPA in 2004 to avoid being designated non-attainment areas. The Austin-Round Rock area demonstrated attainment in 2004 and San Antonio did so in 2008. The two areas engage in continuous efforts to maintain air quality conformity while the threat of not achieving it is always looming, especially in light of significant urban growth. EPA proposals to change the defined limits for measuring various pollutants also put the Austin area at risk of entering non-attainment. Figure 5 shows the Texas non-attainment areas.

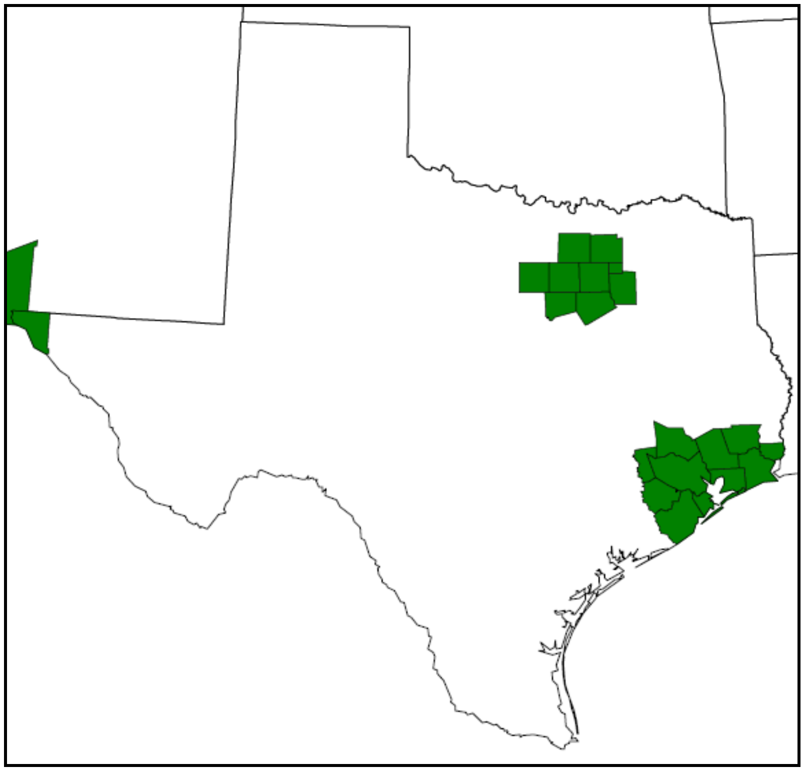


Figure 5. Texas Counties Designated "Nonattainment" for Clean Air Act's National Ambient Air Quality Standards (NAAQS)

There are tangible air quality and congestion management benefits that accrue to the public from the existence of the rail services and to the highway users in the form of improved traffic flow on the existing roadway system. Intercity passenger rail service is shown to have an impact on congestion, and thus pollution, when targeted to areas where roads are at or near their design capacity. As more traffic uses these roads, travel time increases sharply and the delays are felt by all travelers. An intercity rail line that parallels US 290 would potentially alleviate highway traffic.

Rail adds capacity to the regional transportation system without the disruption and expense of highway expansion. Moreover, increasing rail capacity is as simple as adding another rail car or providing more frequent service.

According to Will Kempton, Director of the California Department of Transportation, in testimony provided to the House Committee on Transportation and Infrastructure, "Intercity passenger rail is estimated to use at least 15 percent less energy on a per passenger mile basis than the airlines and 21 percent less than the automobile." Mr Kempton also noted that "the average intercity train produces 60 percent fewer CO2 emissions on a per passenger mile basis than the average auto and about half the green house gas emissions of an airplane."

A viable intercity rail system would also benefit the environment by limiting urban sprawl and concentrating development in close proximity to the rail lines.

Vehicles are a primary source of ozone-forming and greenhouse gas emissions in Central Texas, a region struggling to comply with federal air quality standards. Intercity high speed passenger rail will benefit air quality in Central Texas by providing a viable, fuel efficient option to automobile or air travel, thereby reducing vehicle congestion, fuel consumption and emissions on interregional highways, as well as air traffic congestion and related emissions at airports. There is considerable passenger travel between cities in Central Texas. While alternatives to single occupant vehicle travel are available in the major cities, there are little to no viable alternatives available between cities, leading to increased congestion and air pollution. Intercity passenger rail would remove vehicles from the road, reducing emissions and improving travel conditions for the vehicle trips that remain. Improvements in technology have had a considerable effect on the reduction of air pollution (emissions from new vehicles have declined over time as emission controls and fuel efficiency have improved). Further improvements in fossil-fuel burning vehicle emissions will, however, have less significant impacts.

According to the Competitive Enterprise Institute, throughout the metro areas in the nation, vehicle miles of travel are predicted to increase at a much higher rate than population growth. Therefore, in order to reduce criteria pollutants, even though we have cleaner vehicles, we must reduce vehicle miles of travel. Reduction in the growth of vehicle miles of travel requires behavioral changes rather than solely relying on improvements in technology. The challenge is to reduce the length of most trips and to identify and implement strategies to encourage walking, bicycling and transit use, including intercity passenger rail.

The following reference the reality of the environmental benefits noted by intercity passenger rail on a local level and nationally:

- According to the California based Sonoma – Marin Area Rail Transit's (SMART) Environmental Impact Report, SMART will prevent at least 30 million pounds of greenhouse gases from entering the atmosphere each year by removing 5,300 car trips daily from North Bay roads.
- Nationally, The Center for Clean Air Policy and the Center for Neighborhood Technology estimate that completion of a national high-speed rail network would reduce car travel by 29 million trips and air travel by nearly 500,000 flights annually. Additionally, they estimate that a national high-speed rail network would reduce global warming pollution by 6 billion pounds, the equivalent of taking almost 500,000 cars off the road.
- Concerning energy savings, intercity passenger rail could reduce our dependence on oil. According to a February 9, 2010 article by U.S. PIRG, the federation of state Public Interest Research Groups (PIRGs), "On average, an Amtrak passenger uses 23 percent less energy per mile than an airplane passenger, 40 percent less than a car passenger, and 57 percent less than a passenger in an SUV or pickup truck."

LIVABLE COMMUNITIES

The basis of any effective planning effort rests primarily on a determination of the area's base year demographics (population, household size, employment, household income, and land use) and future projections of these demographics. For the future years, various federal and state government data sources were used for the population and employment forecast totals in five year increments to the year 2035.

The Federal Highway Administration (FHWA) sees scenario planning as an enhancement of, not a replacement for, the traditional transportation planning process. It enables communities and transportation agencies to better prepare for the future. Scenario planning highlights the major forces that may shape the future and identifies how the various forces might interact, rather than attempting to predict one specific outlook. As a result, regional decision makers are prepared to recognize various forces to make more informed decisions in the present and be better able to adjust and strategize to meet tomorrow's needs.

MULTI-MODAL PLANNING PROCESS

The MPO's typically address all types of transportation modes when considering its long range plan. Planning for the future transportation needs of the MPO regions require a comprehensive look at the current transportation system, future demographics, and the anticipated available funding for the area for transportation projects. For example, the San Antonio metropolitan area's economy and environment depend heavily on the condition and efficient performance of the regional transportation system. Recognizing the mobility needs of the community and addressing those needs will eventually lead to improvements in the economy and quality of life.

The MPO's and their partner agencies look at all modes of transportation, including: bicycle and pedestrian facilities, public transportation systems and roadway needs