4 Future Conditions

This chapter describes major improvements planned along US 190, I-10, and other major highways within the study corridor as well as projected transportation (traffic, rail, and freight) and demographic conditions for the study roadways. It should be noted that when the study was reinstated in October 2010 the projected socioeconomics conditions, crash history, and traffic were re-evaluated with more recent data to ensure that the projections developed for these components in August 2009 were still valid. Based on the evaluation of the updated information, it was determined that these projections were still valid.

4.1 Planned Improvements

There are numerous planned improvements along highways in the US 190/I-10 corridor. Statewide planning programs were reviewed to identify these proposed projects. **Appendix A** contains the individual projects listed in the following plans.

Texas Statewide Long Range Transportation Plan 2035 (SLRTP) – The SLRTP is the 24-year blueprint for the transportation planning process that guides the collaborative efforts between TxDOT, local and regional decision makers, and all transportation stakeholders on reaching a consensus on needed transportation projects and services. This plan provides an inventory and addresses the need for improvements to the state's transportation system-roadways, pedestrian and bicycle facilities, transit, freight and passenger rail, airports, waterways and ports, pipelines, and intelligent transportation systems (ITS). The SLRTP is not a listing of specific planned projects, however, it does contain an analysis of potential improvement corridors.

The Texas Highway Trunk System is a planned network of four-lane divided rural highways to improve rural mobility, connect major activity centers, and provide access to ports of entry into Texas. This system complements and includes the 3,233-mile Interstate Highway System. The analysis of the Texas Highway Trunk System in the SLRTP defines corridors as having either Design Criteria Needs (meaning the roadway section is less than four-lane divided), having Capacity Needs, or having both. The SLRTP classifies most of US 190 from Cameron to Jasper as being a Design Criteria Needs Segment, Capacity Needs Segment, or both. US 190 from Menard to Copperas Cove is classified as being a Design Criteria Needs Segment.

Texas Rural Transportation Plan 2035 (TRTP) ***(Ongoing Study to be Completed June 2012)*** – The TRTP will focus on rural areas of the state and transportation projects that connect users in rural areas to urban markets, jobs, and services. As

a component of the SLRTP, the TRTP will provide a blueprint for the development of a safer, more efficient and less congested transportation network between population centers. An element of the TRTP will include a ranking/prioritization of added capacity highway projects that are planned and not currently included in the Unified Transportation Plan (UTP). This ranking will include projects along the US 190/I-10 Corridor as shown in Appendix A and noted as "Draft TRTP." Results will not be finalized until the adoption of the plan in summer of 2012. The projects identified include roadway widening, construction of grade separations, addition of passing lanes, and new location relief routes.

2012 Unified Transportation Program (UTP) – The Texas Transportation Commission and TxDOT use the UTP as a 10-year plan to guide transportation project development and construction. As such it is a listing of projects that are planned to be constructed and/or developed within the next 10 years. The commission approves the UTP and authorizes those projects for development. Project development includes activities such as preliminary engineering work, environmental processes, ROW acquisition, and design. The projects identified include interchange improvements and bridge replacements.

Statewide Transportation Improvement Program (STIP) – The STIP is the state's 4-year capital improvement program, which includes the MPO and Rural TIPs, and contains all phases of transportation projects to be built during the 4-year period. Projects must be consistent with the state and metropolitan long-range plans. The STIP includes financial summary tables to demonstrate fiscal constraint. The projects include new location relief routes, roadway widening, interchange improvements, and construction of grade separations.

US 190 in San Saba

4.2 Projected Demographic Conditions

Population and percent minority were projected for the study corridor for Year 2040. This information is presented in **Table 4-1**. From 2007 to 2040, the fastest growing section of the corridor is expected to be I-10 followed by Central US 190, East US 190, and West US 190. By 2040, Hispanics are projected to have the greatest percent increase in each of the corridor sections.

Table 4-1 Projected Demographic Conditions

Category	I-10 (NM to US 190)	West US 190 (I-10 to US 281)	Central US 190 (US 281 to I-45)	East US 190 (I-45 to LA)
Population Growth (2007 – 2040)[1]	770,000 (2007) 1,268,200 (2040) 1.52% CAGR	178,200 (2007) 218,400 (2040) 0.62% CAGR	697,600 (2007) 1,045,700 (2040) 1.23% CAGR	257,000 (2007) 364,200 (2040) 1.06% CAGR
Percent Minority (2040)	6% Anglo 2% Black 90% Hispanic 2% Other	47% Anglo 3% Black 49% Hispanic 1% Other	48% Anglo 18% Black 28% Hispanic 6% Other	68% Anglo 17% Black 15% Hispanic 1% Other

1. Counties may be overlapped by two or more sections; therefore, section poverty estimates include county data that may also be in other sections and will not be cumulative to Study Area County totals.

4.3 Future Transportation Conditions

The following sections describe projected conditions for traffic, rail, and freight (trucks) along and adjacent to the US 190 corridor.

4.3.1 Projected Travel Demand

This section provides a summary of projected traffic volumes and LOS along the study corridor.

The travel demand forecasts for the US 190/I-10 Feasibility Study were developed using the TxDOT Statewide Analysis Model (SAM) which was used to model the estimated traffic volumes on the E+C network. The historical growth trend information from the RHINO database was also used in determining forecasts. The SAM is a multimodal statewide travel demand model that forecasts both passenger trips and truck volumes.

For the traffic projections, the entire study corridor was divided into 96 sections. However, reported results are summarized into fewer, larger sections to maintain a high-level view of the analysis. The smaller section results will become important when localized improvements are being evaluated.

Projected Traffic Volumes

Because traffic varies across the different sections, the forecast results are summarized as weighted average daily traffic (ADT) volumes. Minimum and maximum traffic volume ranges are also provided. Based on the historic year (2007) and forecast year (2040) traffic volume data, an average compound annual growth rate (CAGR) from 2007 to 2040 was calculated for comparative purposes. **Table 4-2** summarizes these traffic volumes for years 2007 and 2040.

Table 4-2 Traffic Forecasts

Corridor Section	Limits	2007 ADT Weighted	2040 ADT Weighted Average			Calculated CAGR 2007-2040 (Average)
			Min	Max	Forecast	
I-10	NM to I-20	33,500	18,000	337,200	65,600	2.1%
	I-20 to US 190	4,600	8,800	11,000	9,500	2.3%
	US 190 to US 83	6,300	9,400	21,000	11,700	1.9%
West US 190	I-10 to US 83	700	1,500	6,000	1,800	2.9%
	US 83 to US 281	2,200	3,600	22,400	5,800	3.0%
Central US 190	US 281 to I-35	32,000	6,100	119,300	52,600	1.2%
	I-35	74,600	99,400	119,700	113,900	1.1%
	I-35 to I-45	10,900	10,600	59,300	25,500	2.5%
East US 190	I-45	31,300	77,100	83,500	80,100	2.9%
	I-45 to LA	7,300	5,100	28,400	11,200	1.3%
	SH 63: US 190 Split to LA	1,600	2,000	5,500	2,500	1.4%

Sources: TxDOT, 2007 and CDM Smith Team, 2009.

Traffic volumes are projected to increase at an average compound annual growth rates ranging from 1.5 percent to three percent along the corridor between 2007 and 2040. I-10 is projected to have a two percent increase, West US 190 a three percent increase, Central US 190 is projected to increase from one to 2.5 percent, and East US 190 is projected to increase from 1.5 to three percent. Most of the traffic congestion (LOS E–F) by 2040 is projected to occur along I-10 around El Paso from the New Mexico state line to south of the city; in Brady, San Saba, and Lampasas in the West US 190 Section; from Copperas Cove to Cameron, Hearne, and Bryan in the Central US 190 Section; and along I-45 and the Livingston area in the East US 190 Section.

Projected Level-of-Service

Using the travel demand forecasts, future traffic conditions along the study corridor were evaluated by conducting capacity/LOS analyses. **Figure 4-1** illustrates the percentage of corridor sections in the study area operating at LOS A-B, LOS C-D, and LOS E-F in 2040. With the projected increase in traffic volume by 2040, the percentage of overall US 190/I-10 study corridor operating at unacceptable LOS E-F increases from three percent in 2007 (refer to Figure 3-9 for existing LOS) to 14 percent in 2040, with the I-10 Section increasing from three to 10 percent and US 190 sections increasing from three to 18 percent. The Central US 190 Section shows the highest increase in LOS E-F operations within the study area from eight percent in 2007 to a high of 41 percent in 2040. It should be noted that this section of the study corridor includes I-35 and I-45. The East US 190/SH 63 Section shows 16 percent increase in LOS E-F by 2040 which is contributed mainly due to the congestion occurring along I-45 and in the Livingston area. Projected year 2040 and existing (2007) traffic volumes and level-of-service along the study corridor in the four corridor sections are provided in **Figures 4-2** through **4-5**.

Figure 4-1
Level-of-Service (2040)

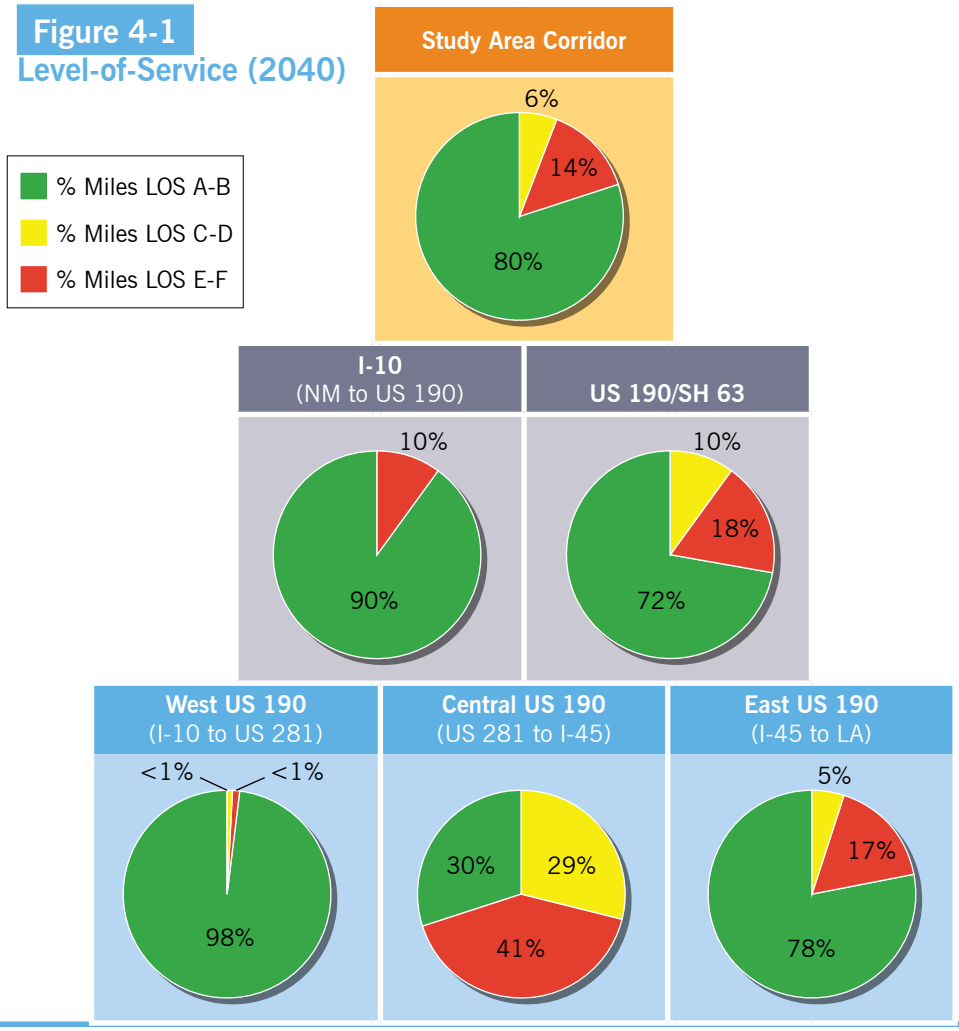
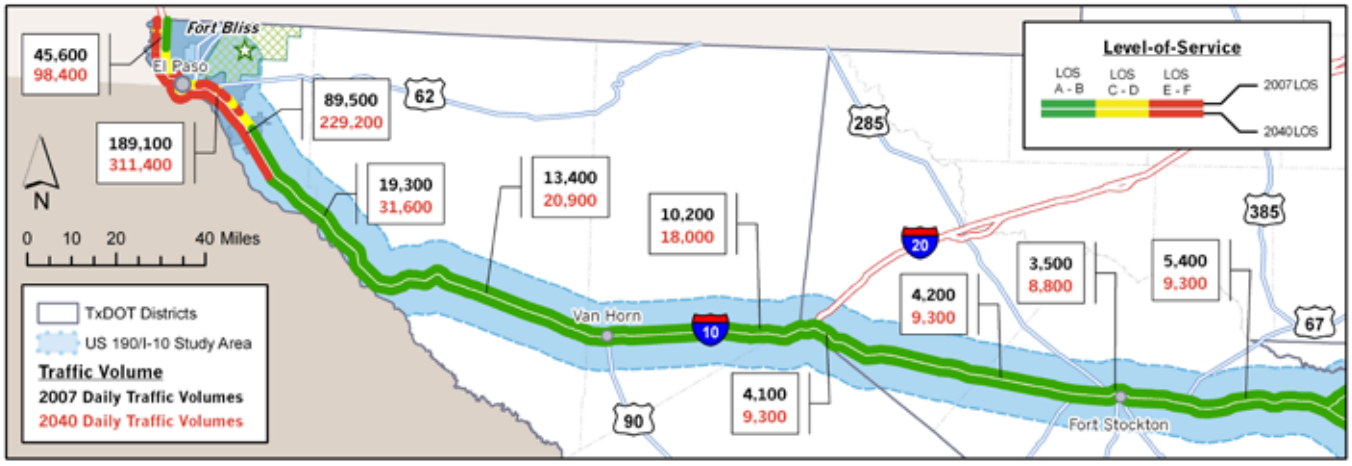
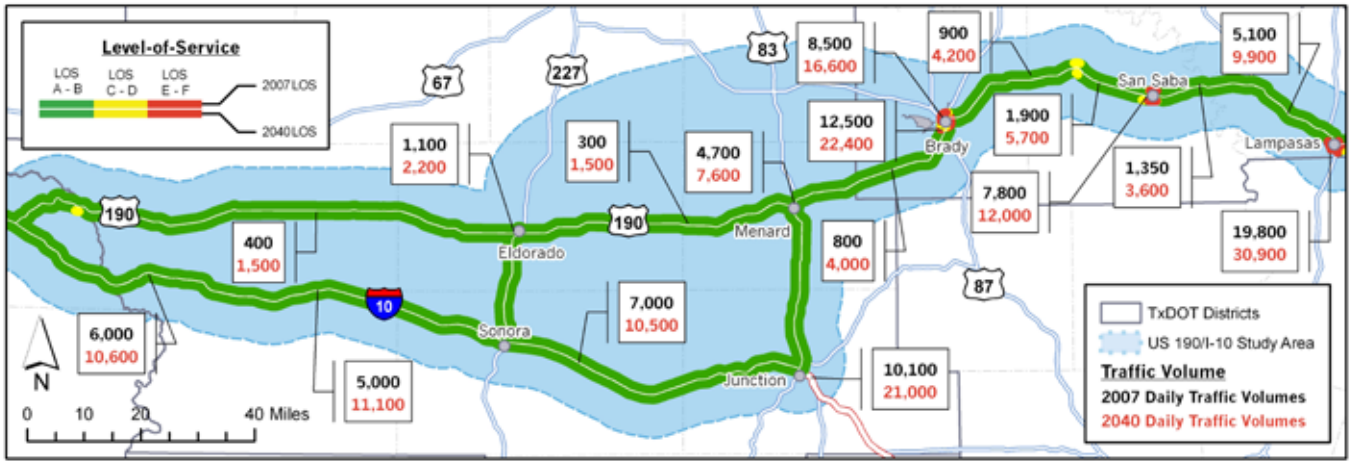


Figure 4-2 I-10 Current and 2040 Travel Demand and Level-of-Service



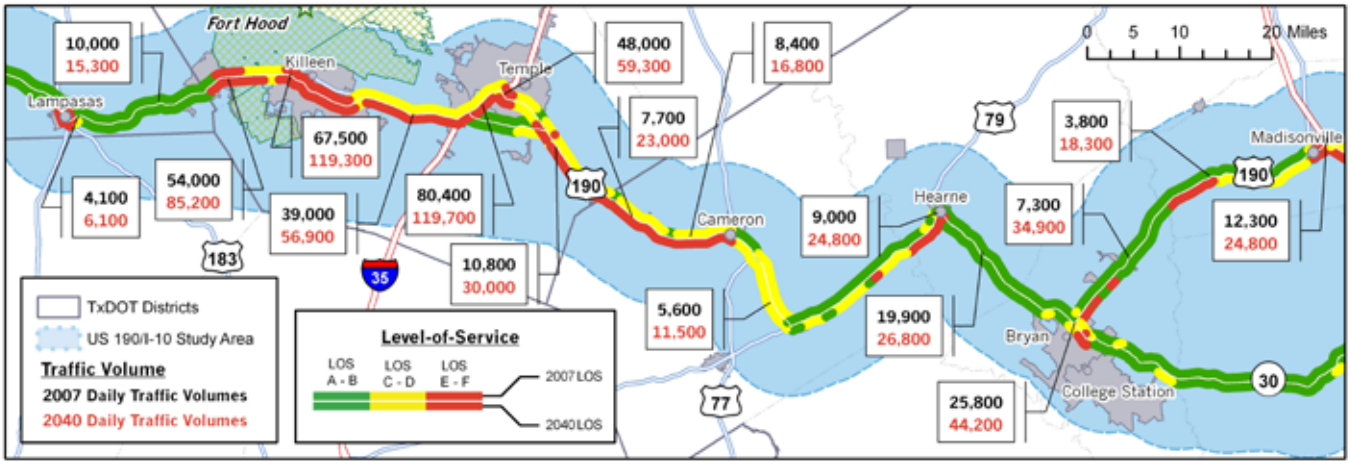
Sources: ESRI base map data 2008, TXDOT 2007 RHINO Traffic Data, CDM Smith

Figure 4-3 US 190 West Current and 2040 Travel Demand and Level-of-Service



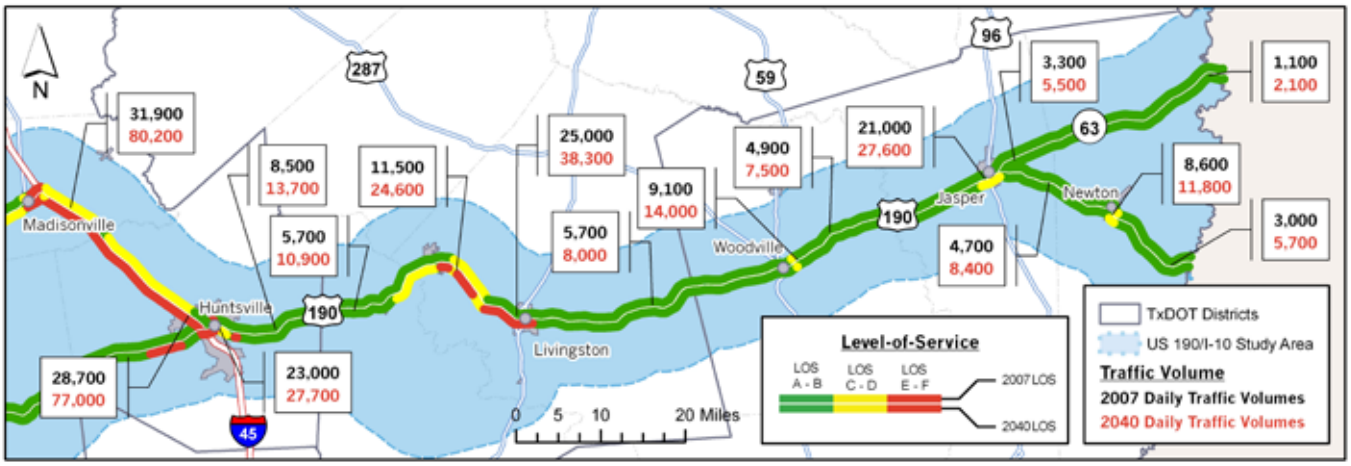
Sources: ESRI base map data 2008, TXDOT 2007 RHINO Traffic Data, CDM Smith

Figure 4-4 US 190 Central Current and 2040 Travel Demand and Level-of-Service



Sources: ESRI base map data 2008, TXDOT 2007 RHINO Traffic Data, CDM Smith

Figure 4-5 US 190 East Current and 2040 Travel Demand and Level-of-Service



Sources: ESRI base map data 2008, TXDOT 2007 RHINO Traffic Data, CDM Smith

Additional Lanes Needed by 2040

Locations were identified along the US 190/I-10 corridor where additional capacity would be needed to effectively serve the forecasted 2040 travel demand. Additional lanes projected to be needed by 2040 compared to the existing number of travel lanes along the study corridor are shown in **Figure 4-6**. Added capacity was assumed to be needed at locations where the LOS degraded below LOS D. Within the study corridor, additional capacity needs were identified between the Killeen area to US 59 in Livingston. Also, additional capacity is needed along I-10 in the El Paso metropolitan area. Currently, there are plans to widen I-10 in various sections in El Paso. However, since this is a highly urbanized area, future traffic needs were not identified in El Paso as part of this feasibility study.

Figure 4-6 2040 Additional Capacity Needs

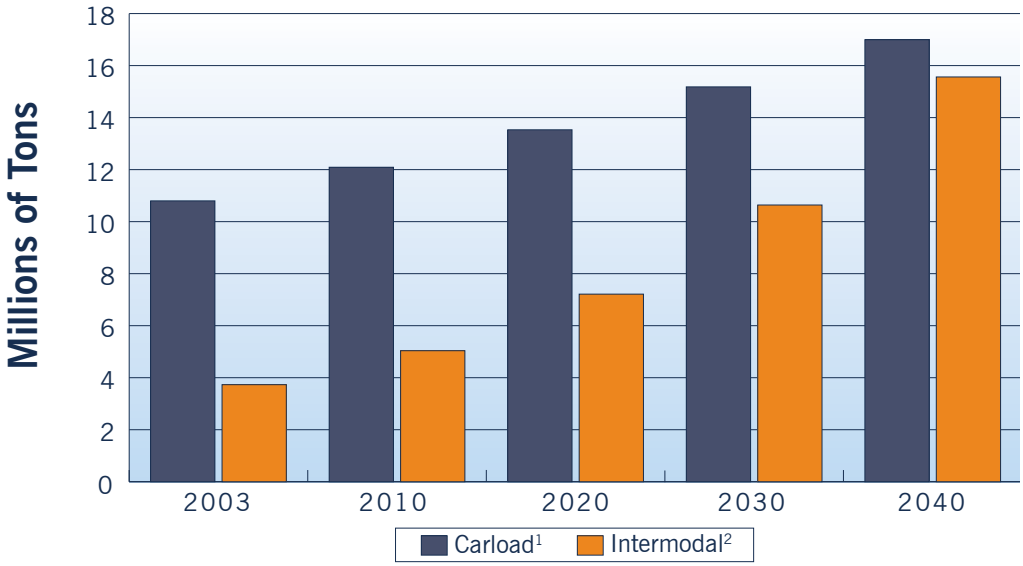
4.3.2 Projected Rail Conditions

This section presents the projected rail conditions in and around the corridor, and discusses anticipated growth of the military bases and ports along the corridor which include Fort Bliss, Fort Hood, Fort Polk, Port of Beaumont, and Port of Corpus Christi as they pertain to rail.

Rail Tonnage

Rail serves as a vital link in the goods movement supply chain and is best known for its ability to move large volumes of goods over long distances. Using the Surface Transportation Board's (STB) Private Rail Waybill data provided with the 2003 Global Insight's TRANSEARCH data for Texas (as provided by TxDOT), and other available information, a freight profile of the study rail corridor is shown in **Figure 4-7**. Overall, freight growth in the corridor is expected to average 2.2 percent annually through 2040, with the majority of rail cargo being moved by carload trains. In 2010, 70 percent of the tonnage was moved by carload trains and 30 percent by intermodal trains. By 2040, however, the share of intermodal traffic will increase, accounting for nearly 49 percent of the total traffic. This anticipated increase of intermodal traffic is due to the quicker transit times and overall ease when using this method.

Figure 4-7 Rail Corridor Tons Forecast



Notes: (1) Carload traffic includes boxcars, flatcars, hoppers, gondolas, and other specialized cars. These trains move a diverse range of commodities such as chemicals, food products, metals, auto parts, waste, scrap, etc.
(2) Intermodal trains move containers of 20, 40, 48, and 53 feet with goods. These freight containers are designed and constructed to be used interchangeably in two or more modes of transport.
(3) In generating the cargo forecasts in 2040, the tonnages in 2003 and 2035 are interpolated, assuming a linear growth between 2003 and 2030.
Source: 2003 Global Insight's TRANSEARCH data for Texas

Military Shipment Statistics

The mode share of military cargo shipped by Fort Hood and Fort Bliss to the Ports of Beaumont and Corpus Christi is shown in **Table 4-3**. While rail is the dominant mode to ship military cargo from Fort Bliss or Fort Polk to the ports, rail freight accounts for less than one percent of the military cargo shipped by Fort Hood to the ports.

Table 4-3 Mode Share of Military Shipments

	Port of Beaumont/Port of Corpus Christi			
	During Every Day Business or Regular Deployments		When Deployment/Redeployments are Accelerated	
	Truck	Rail	Truck	Rail
Fort Bliss	20%	80%	40%	60%
Fort Hood	Over 99.9%	Less than 0.1%	Over 99.9%	Less than 0.1%
Fort Polk	25%	75%	NA	NA

Note: NA = Not Available
Source: Developed by CDM Smith, 2011

Table 4-4 presents rail cargo and military shipment statistics for the Ports of Beaumont and Corpus Christi.

Table 4-4 Rail Cargo and Military Shipments Handled by Seaports

	Port of Beaumont	Port of Corpus Christi
Rail Cargo		
2010 Rail Tonnage[1]	2,500,000	1,430,000
Annual Growth Rate over the Past Five Years	5%	INA[2]
Expected Annual Growth Rate Over Next 10 or 20 Years	3.5% - 5%	INA[2]
Military Shipments		
Peak Year of Military Shipments	2003	2003
Share of Military Shipments before Peak Year	1%	INA[2]
Share of Military Shipments after Peak Year	8% - 10%	35%
Share of Military Shipments in 2010	10%	5%

Notes: (1) estimated assuming 110 tons per car (2) INA = information not available
Source: Developed by CDM Smith, 2011

According to the American Association of Port Authorities, the Port of Beaumont ranked fourth in the United States by cargo tonnage in 2010. The major commodities moving through the port are petroleum and petroleum products. Other important commodities include chemicals and related products, bulk grains (various kinds of grains, mainly wheat), metal articles (primarily steel products), and military cargo.[1] Most of the tonnage growth at the port is from the movement of grain. Port activity has also been significantly impacted by the growth of project cargo,[2] in particular, wind turbines. In 2006, the port handled approximately 300 wind turbines which are one of the port's most promising areas of growth.[3] The western part of Texas along the study corridor consists of a number of wind farms, also known as wind plants.

The Port of Beaumont is the busiest military port in the United States and the headquarters of the U.S. Army's 842nd Transportation Battalion, which specializes in port logistical activity. The spike in military shipments at the port began in 2003,

1 U.S. Army Corps of Engineers. Waterborne Commerce Statistics of the United States, 2008. Part 5 – National Summaries.
2 Project cargo refers to items which are too large or too heavy to fit into a container such as manufacturing equipment, air conditioners, factory components, generators, wind turbines, and military equipment.
3 Center for Transportation Research (CTR). Report 0-5538-P2. Containerization and Related Trends at Texas Deep Water Ports. Harrison, R., Hutson, N., and Prasad, V., October 2007

increasing from 25,000 tons annually (in previous years) to 250,000 tons in 2003. Almost all of the military cargo handled by the port in recent times went to Iraq and Afghanistan. In 2010, the port processed approximately 220,000 tons of military cargo.

The Port of Corpus Christi is the sixth largest port in the U.S. In 2008, 76.8 million tons of cargo passed through the port.[4] The major commodity moving through the port is petroleum products, principally crude oil and gasoline. It accounts for 85 percent of the port's tonnage. Other important commodities include bulk petroleum coke, ores and minerals, military equipment, and general cargo including wind turbine components.

As experienced by the Port of Beaumont, the spike in military shipments at the Port of Corpus Christi began in 2003 with military cargo representing 35 percent of its total cargo. Military shipments moving through the port slowed down after 2003. Currently, the port receives military shipments on a quarterly basis. The cargo is primarily going to Fort Bliss, Fort Hood, and Fort Polk. In 2010, the rail yard at the port handled between 12,000 and 14,000 cars. Assuming 110 tons per car,[5] this represents nearly 1.4 million rail tonnage of military shipments handled by the port in 2010.

As previously mentioned, the Port of Beaumont is a major shipper of military cargo in the U.S., and the Port of Corpus Christi is used as an overflow port for the Port of Beaumont by the U.S. military. While the Port of Beaumont houses a battalion responsible for moving military cargo by sea to forces around the world, the Port of Corpus Christi does not house permanent military personnel to handle military shipments. As a result, the role of Port of Corpus Christi as a military port has diminished. Interviews with military and port personnel indicate that the U.S. Army is also utilizing the Port of Port Arthur (in close proximity to the Port of Beaumont) as a strategic military port. During military deployments, Fort Polk ships approximately 300 rails cars to the Port of Beaumont in a period lasting between four to five days. This surge in rail shipments represents nearly 33,000 tons of military cargo.

Rail Constraints and Planned Improvements

Due to the intermodal nature of military shipments, preserving national transportation infrastructure and connections between modes (road/rail/water)

4 U.S. Army Corps of Engineers. Waterborne Commerce Statistics of the United States, 2008. Part 5 – National Summaries.

5 Standard cargo capacity for rail (bulk car) used in the report A Modal Comparison of Domestic Freight Transportation Effects on the General Public. Final Report. Prepared for the U.S. Maritime Administration and the National Waterways Foundation. Prepared by the Texas Transportation Institute. December 2007. Amended March 2009.

to efficiently facilitate military deployments requires cooperation among federal, state, and local transportation agencies and transportation providers. These key freight stakeholders need to continue to work together to address infrastructure needs and improvements as they relate to the movement of military cargo.

Specific rail constraints and bottlenecks that hinder the movement of military shipments between forts and ports are:

- Rail congestion in the Houston area
- The bridges over the Gracitas Creek (6.2 miles south of Vanderbilt, Texas) and the Colorado River (1.1 miles north of Buckeye, Texas) which cannot accommodate 286,000 pound loaded car weights
- Inadequate rail infrastructure at the Port of Beaumont and Port of Corpus Christi
- Insufficiency of flat railcar and correct rail equipment to transport military cargo

Funding requested by TxDOT for the fiscal years (FY) 2012-2013 includes freight rail improvements in the Houston region. Funding (approximately $13 million) was secured in late 2011 for a Congestion Mitigation Air Quality project by the Houston-Galveston Area-Council (H-GAC). This project consists of installing 3,900 feet of second track at the crossing of a BNSF line with a UP line just to the east of the Hardy Toll Road in Houston to eliminate this pinch point.

The Port of Corpus Christi Authority and the Brownsville Navigation District jointly applied for the Transportation Infrastructure Generating Economic Recovery (TIGER II) grants for the South Texas Region Rail Capacity Expansion project to complete rail capacity infrastructure improvements in rural South Texas.[6] This project, at a cost of approximately $16.5 million, unfortunately did not receive funding. The project would have reconstructed the bridges over the Gracitas Creek and the Colorado River and improved 31 smaller structures to comply with 286,000-lb rail car standards on the Angleton Subdivision tracks.

Rail yard improvements at the Port of Corpus Christi will increase rail capacity eight-fold by 2040 (from 12,000 cars in 2010 to 100,000 cars in 2040). However, the role of Port of Corpus Christi as a military port has diminished. The U.S. Army removed the reserve unit there so the port does not have permanent military personnel to

6 Texas Department of Transportation. Texas Rail Plan. October 2011. Prepared by the Center for Transportation Research (CTR), University of Texas at Austin and Cambridge Systematics.

handle the military cargo received by the port. Inputs from interviews indicate that the U.S. Army is building up Port of Port Arthur which is near the Port of Beaumont.

BNSF Railroad

Recent capacity improvements at the Port of Beaumont include an expansion project, completed in December 2011, which increased the capacity of the rail yard from 100 cars per day to 300 cars per day (i.e., from one unit train per day to three unit trains per day). The project also included additional uploading ramps. Increasing energy prices and constraints on the trucking industry could create incentives for greater reliance on rail for intermodal movements, especially for military cargo that moves by rail. However, it should be noted that Port of Beaumont has begun experiencing a gradual decrease in rail cargo as more cargo is beginning to be transported by truck. The rail constraints and bottlenecks that hinder the movement of military shipments between forts and ports, along with increasing rates by railroads, could explain this trend by making trucks more available and more affordable. Inputs from interviews suggest that it is too early to tell if this is a short- or long-term trend.

Inputs from interviews also indicated the need for increased capacity on KCS tracks in Leesville and 7,200-foot siding restrictions on the UP Brownsville Subdivision between Placedo and Robstown. The limited siding length on the UP Brownsville Subdivision prevents operating larger trains. Currently, KCS is assessing the impacts of increasing the siding length through intensive studies and modeling by its internal Network Services Department. To this point KCS has not come to a conclusion as to economic viability and financial payback of this project.

Traditionally, large railroads such as UP, BNSF, and KCS have been relied upon to build capacity as needed to accommodate growing traffic base. As an example, UP is in the midst of a major capital program to double track the “Sunset Route,” which is the UP line between El Paso and Los Angeles. Rail line capacity is added through a range of activities, such as building new passing sidings, extending existing passing

sidings, improving turnouts, double tracking, and improving roadbed geometry. Because railroads are seen to provide public benefits, such as removing freight from congested highways, states are increasingly looking to public-private partnerships, whereby states and/or the federal government help to fund rail line improvements.

Projected Rail Level-of-Service

Projected 2040 rail volumes were compared to current capacity to determine operating deficiencies. This is done by assigning a LOS grade based upon the volume/capacity ratio. LOS grades are described in **Table 4-5**.

Table 4-5 Level-of-Service Grade

LOS Grade	Description	Volume/ Capacity Ratio
A, B, C	*Below Capacity* - Low to moderate train flows, can accommodate maintenance, recover from incidents or accidents	Below 0.7
D	*Near Capacity* – Heavy train flow, moderate ability to accommodate maintenance, recover from incidents or accidents	0.7 to 0.8
E	*At Capacity* – Very heavy train flow and little ability to accommodate maintenance, recover from incidents or accidents.	0.8 to 1.0
F	*Above Capacity* – Unstable flows, service break-down conditions	Above 1.0

Source: 2007 National Rail Freight Infrastructure Capacity and Investment Study

Projected rail LOS in 2040 is shown on **Figure 4-8**. The results of this analysis suggest that by 2040 rail segments that are expected to be operating above capacity without improvements will be located between El Paso and Alpine, McNeil and San Antonio, San Antonio and Flatonia, Flatonia and Houston, west to Spofford and San Antonio, and on UP tracks near Beaumont.

Figure 4-8 Rail Corridor LOS – 2040

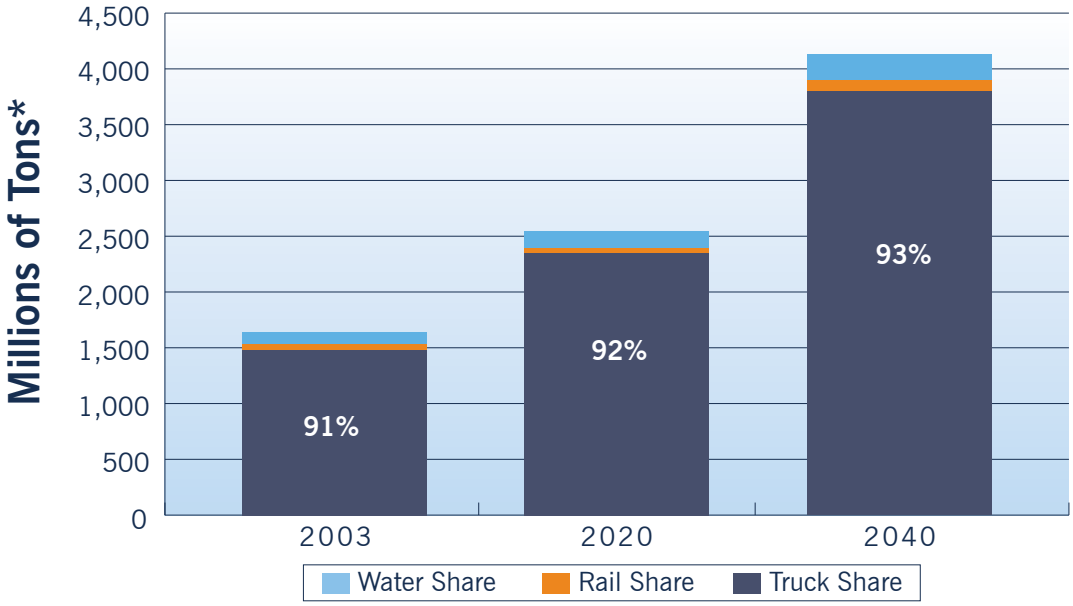
4.3.3 Projected Freight (Truck) Traffic

Changes in freight logistics practices have had a significant impact on the Texas transportation network as well as the state's economy. Although the distribution of truck traffic and freight flows is highly influenced by national and international trade, 52 percent of the 2003 freight tonnage in Texas started and ended within the state. In 2003, this intra-Texas freight tonnage generated about 64 percent of total statewide truck trips. Consistent with the existing conditions truck traffic and freight flow analysis, the 2040 freight evaluation is based on 2003 TRANSEARCH data provided by TxDOT.

Figure 4-9 shows the 2040 freight flows by mode of transportation in tons. Statewide annual freight movement is expected to increase from 1.7 billion tons in 2003 to 4.1 billion tons in 2040, or about four percent per year. This rate is more than double the

1.37 percent average annual population growth rate estimate from W&P population forecasts for Texas. This comparison emphasizes Texas' role as a "crossroads" of freight activity on a continental scale.

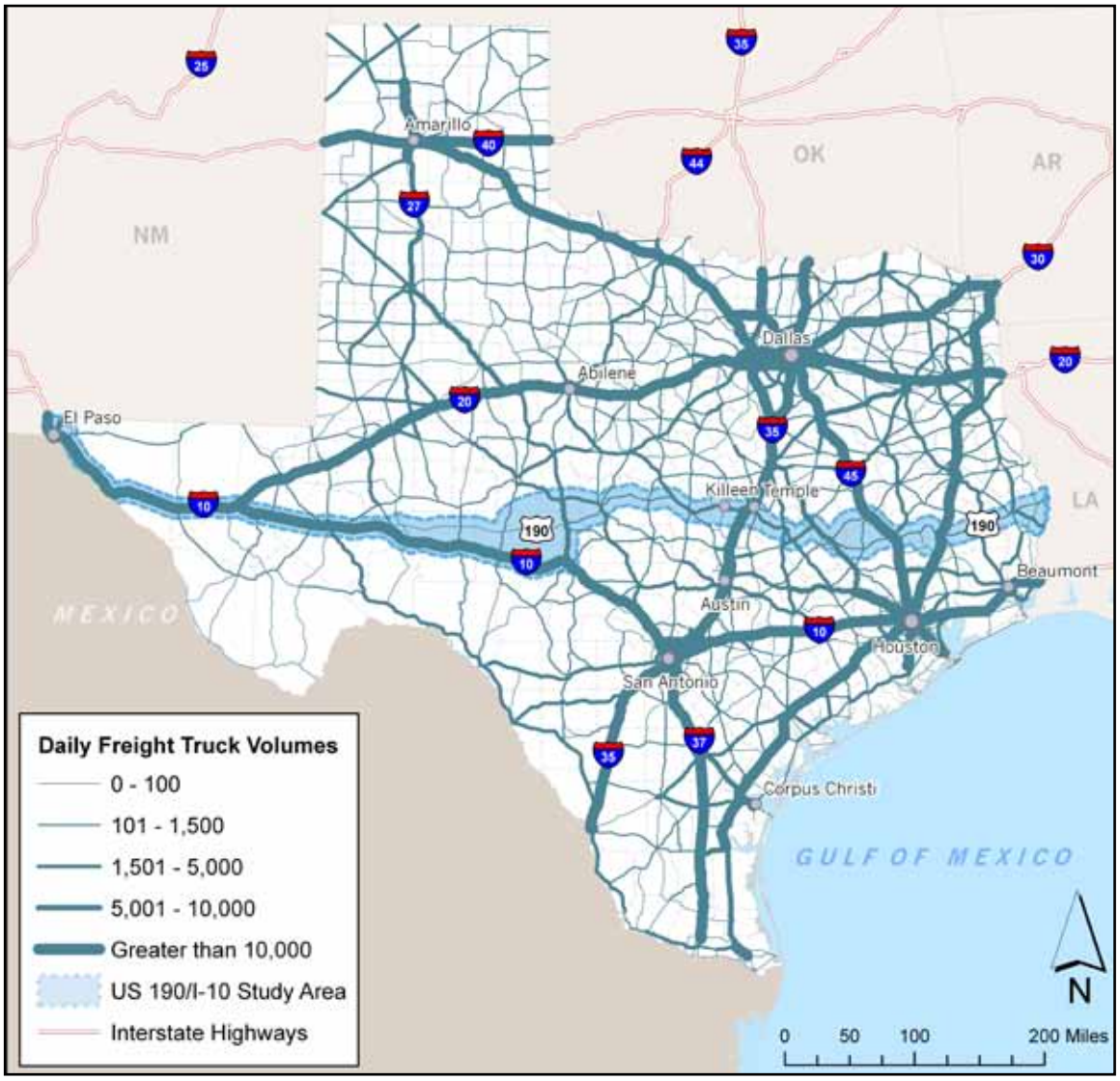
Figure 4-9 Statewide Annual Freight Tons Movements by Transport Mode



* All origins and destinations pass through Texas
Source: 2003 TRANSEARCH

Figure 4-10 illustrates Year 2040 daily truck volume forecasts. Similar to base year daily freight truck flow patterns, interstate highways including I-10, I-20, I-35, and I-45 carry the largest truck traffic in the study corridor. In addition to the interstate highways, US 287 between Amarillo and the Dallas/Fort Worth area and US 59 between Victoria and Texarkana carry large freight truck demand volumes as well.

Figure 4-10 2040 Daily Trucks Volumes on Texas Highways



On a statewide basis, the projected modal share of freight carried by truck will continue to grow from 91 percent in 2003 to 93 percent in 2040. The projected growth in internal/external freight flows and through-Texas freight flows indicate that longer distance freight flows will grow at twice the rate of state population growth. This reinforces previous observations that Texas is a "crossroads" of trade on a continental scale. Longer distance freight flows are expected to increase the share of statewide freight travel on longer through routes such as I-10, and most likely include an increase in intermodal flows that statistically appear as internal/external flows. The internal end of the latter flows are more often connected to major US ports of entry including the Port of Houston, Laredo, and potentially

other inland intermodal ports such as south Texas (Hidalgo and Cameron Counties), Corpus Christi and evolving inland ports in San Antonio (Bexar County).

Freight flows carried by truck on I-10 east of El Paso are projected to grow from 80 million tons per year in 2003 to 127 million tons per year in 2020 and to 277 million tons in 2040. Most of this growth is expected to follow I-10 across the entire state, especially to the inland and sea ports along the Gulf Coast and Mexican border. Little growth in freight demand is expected along I-20 from the I-10 split to Fort Worth.

Of the 277 million tons of daily freight demand on I-10 east of El Paso expected in 2040, 87 million tons are expected to be transported through Texas, while the remaining 190 million tons are expected to have an origin, destination, or both inside Texas (this includes intra-state trips between El Paso and eastern Texas). The 87 million tons that are projected to be transported through Texas could be viewed as a potential maximum freight demand that would use an interstate-class highway along US 190 if it existed today. This would amount to a volume of approximately 13,000 trucks per day.

US 190 West of Madisonville

Most sections of US 190 that carry higher truck volumes are concurrent with other regional roadways. These include the US 183, SH 36, US 79, and SH 6 overlaps. Otherwise, the forecasts do not indicate strong freight demand along the US 190 corridor as a result of in-corridor freight traffic generation. Only the US 190 Section from Lometa (US 183 northwest split) to Bryan (SH 6 south split) carries consistently higher freight demand levels than other sections. Forecast daily freight truck volumes on this section are as high as 7,000 per day in 2040. Forecasted volumes on most other sections do not exceed 1,500 per day in 2040. It must be noted that these forecasts do not assume that US 190 has been upgraded to an Interstate-class

highway. Thus higher volumes could be expected if such an improvement was made. Estimates of the potential increases will be evaluated as part of the alternatives analysis portion of this corridor study.

The actual amount of interstate freight demand that might use an upgraded US 190 corridor would be influenced by how well an extension of US 190 east of Texas would connect to major freight origins and destinations in eastern states. Currently, locations in Louisiana, Georgia, and Florida are major termini for most of the external freight flows in the corridor east of Texas. Most freight flows to the west of Texas have a terminus in California. Arizona is a distant second for western freight flows. The existing I-10 provides direct access to most western state destinations.

The projected future conditions of these different components (demographics, rail, truck, etc.) were used in the evaluation of both the Preliminary and Conceptual Alternatives as discussed in subsequent chapters of this report.