3 Existing Conditions

This chapter presents information regarding existing conditions along or near the US 190/I-10 corridor including major area highways, railroads, transportation demand, environmental, and demographic and socioeconomic characteristics. To facilitate reporting and analysis efforts, the study corridor is divided into four corridor sections shown in **Figure 3-1**. These sections include:

- **I-10**: New Mexico state line to US 190/I-10 split near the town of Iraan
- **West US 190**: US 190/I-10 split near Iraan to US 281 in the town of Lampasas
- **Central US 190**: US 281 in Lampasas to I-45 in the City of Madisonville
- **East US 190:** I-45 in Madisonville to the Louisiana state line

Figure 3-1 Study Corridor Sections

Table 3-1 describes the general characteristics of the US 190/I-10 study by corridor section including their lengths and the TxDOT Districts, Texas counties, MPOs, and cities traversed. The cities served by the US 190/I-10 corridor are shown in **Figure 3-2**. There are five cities with a population of more than 20,000 persons including El Paso, Killeen, Temple, Bryan/College Station and Huntsville. Cities with a population of 5,000 to 20,000 persons include Fort Stockton, Brady, Lampasas, Cameron, Livingston, and Jasper.

The study corridor traverses nine TxDOT Districts, three MPOs (El Paso, Killeen-Temple and Bryan-College Station) and 34 counties.

Table 3-1 General Corridor Characteristics

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)
Length	307 miles	254 miles	175 miles	158 miles
TxDOT Districts	El Paso and Odessa	San Angelo and Brownwood	Austin, Waco, and Bryan	Lufkin and Beaumont
MPOs	El Paso	None	Killeen-Temple and Bryan/College Station	None
Counties	Culberson, El Paso, Hudspeth, Jeff Davis, Reeves, and Pecos	Concho, McCulloch, Crockett, Kimble, Menard, San Saba, Schleicher, Sutton, Tom Green, Lampasas, and Pecos	Bell, Brazos, Burleson, Burnet, Coryell, Grimes, Leon, Milam, Robertson, Lampasas, and Madison	Grimes, Jasper, Newton, Polk, San Jacinto, Trinity, Tyler, Walker, and Madison
Cities	Anthony, El Paso, Fort Stockton, and Van Horn	Brady, Eldorado, Iraan, Lampasas, Lometa, Menard, Richland Springs, and San Saba	Belton, Bryan, Buckholts, Cameron, Copperas Cove, Harker Heights, Hearne, Kempner, Killeen, Kurten, Lampasas, Rogers, Wixon Valley, Madisonville, Nolanville, Milano, and Temple	Huntsville, Jasper, Livingston, Newton, Onalaska, Point Blank, and Woodville

Source: CDM Smith Team, 2008

Figure 3-2 Corridor Cities

3.1 Major Area Highways

The study corridor intersects and/or connects to numerous interstate and US highways. **Table 3-2** includes data for major intermodal facilities, evacuation routes, military facilities, rail connections, and parallel highway facilities within and connecting to the corridor.

Table 3-2 Major Transportation Connections and Facilities

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)
Major Facilities	I-20; Ports of Entry along Mexico border	Port of Corpus Christi (via I-10/I-37)	I-35; I-45; Port of Corpus Christi (via I-35/I-37)	LA 8/28; Port of Beaumont (via US 287/US 69)
Evacuation Routes	NA	NA	Hurricane Evacuation: US 190 (Hearne to Bryan) US 190/I-45 (Madisonville to Huntsville); Connecting Routes: US 281, I-35, SH 21, and SH 6	Connecting Routes: I-45, US 59, SH 146, US 69/US 287, FM 92, US 96, and SH 87
Military Facilities	Fort Bliss and Biggs Army Airfield (18,000 personnel)	NA	Fort Hood and Robert Gray Army Airfield (52,000 personnel)	Fort Polk (East of Louisiana state line – 8,000 personnel)
Rail	Rail Connectivity to Port of Los Angeles; UP between NM/ El Paso and Alpine; Texas Pacifico Railroad between Alpine and Fort Stockton west of US 190	Texas Pacifico between Fort Stockton and Santa Ana; BNSF Railway between Santa Ana and Lampasas	BNSF between Lampasas and Conroe	BNSF between Conroe and Kirbyville; Timber Rock Railroad between Kirbyville and Merryville, LA
Distance to Parallel Facilities	I-20: 0 to 75 miles	I-10: 0 to 123 miles; I-20: 85 to 105 miles	I-10: 65 to 98 miles; I-20: 110 to 137 miles	I-10: 60 to 81 miles; I-20: 110 to 121 miles

Source: CDM Smith Team, 2008

Major highway facilities connecting to the US 190/I-10 corridor include the following three interstate highways and 15 US highways:

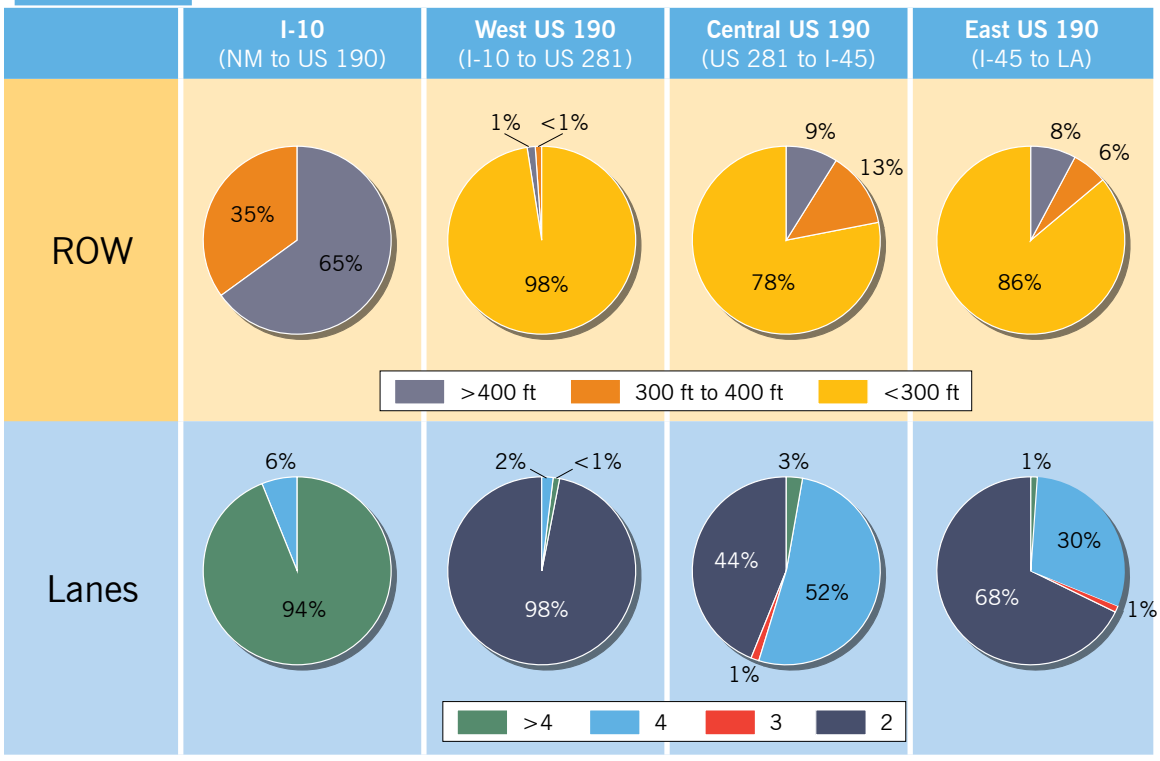
Interstates	US Highways				
I-20	US 54	US 79	US 67	US 69	US 87
I-35	US 183	US 285	US 59	US 277	US 96
I-45	US 62	US 77	US 385	US 287	US 281

Major east-west parallel interstates, as shown in Table 3-2 and Figure 3-1, include I-10 (West, Central and East US 190 Sections) and I-20 (all sections). The distance from the study corridor centerline to I-20 varies from 0 miles where I-10 and I-20 converge to 137 miles in the Bryan area. The distance between I-10 and US 190 varies from 0 miles at their convergence to 123 miles in the San Saba area.

National and statewide roadway initiatives throughout the study corridor include the National Highway System (NHS), Strategic Highway Network (STRAHNET), and Texas Trunk System. Approximately 60 percent of the study corridor is part of the NHS in Texas, 50 percent is part of the STRAHNET system, and 60 percent is part of the Texas Trunk System.

Roadway characteristics of US 190 and I-10 were obtained from TxDOT's Roadway Highway Inventory Network (RHINO) database and field reconnaissance conducted along the study corridor as part of this project. The typical highway sections in terms of number of travel lanes and ROW width were identified. The number of travel lanes was summarized into categories of greater than four lanes, four lanes, three lanes, and two lanes. The ROW widths were summarized into greater than 400 feet, 300 to 400 feet, and less than 300 feet. These attributes are shown by percent of the corridor by section in **Figure 3-3**.

Figure 3-3 Roadway Characteristics by Corridor Section



3.2 Intermodal Facilities

Intermodal facilities within and near the study corridor that may affect the operation and need for improvements include ports, airports, military installations, and roadways, which are discussed in the following paragraphs.

3.2.1 Ports

The Ports of Beaumont and Corpus Christi are vital military deployment ports and are heavily utilized by the military bases along the US 190/I-10 study corridor.

The Port of Beaumont, the second largest US military port in the world[1], is located 85 miles east of Houston and 270 miles west of New Orleans. As of 2007, approximately 48 percent of military cargo shipped to Iraq and Afghanistan passed through the Port of Beaumont. BNSF, UP, and KCS railways serve the Port of Beaumont as do the following major roadways: I-10, US 90, US 69, US 96, and US 287. Recent rail capacity improvements allow the Port of Beaumont to handle up to 300 rail cars per day.

The Port of Corpus Christi, the sixth largest port in the US[2], is approximately 150 miles southeast of San Antonio and 200 miles southwest of Houston. The Port of Corpus Christi receives service from three rail carriers including BNSF, Texas Mexican Railway Company, and UP. Major highways near the Port of Corpus Christi include I-37, US 181 and US 77.

3.2.2 Airports

The locations of commercial and general aviation airports along the US 190/I-10 corridor are shown in **Figure 3-4**. There are three commercial airports that serve the study corridor including El Paso International Airport, Killeen-Fort Hood Regional Airport, and Easterwood Airport in College Station. El Paso International is the largest commercial airport which is served by six airlines. Other airports along the study corridor include those located in Waco, Woodville, Bryan, Brownwood, Georgetown, and Temple.

1 http://www.portofbeaumont.com, accessed 02/16/12
2 http://www.portofcorpuschristi.com, accessed 02/16/12

Figure 3-4 Commercial and General Aviation Airports

3.3 Military Installations

The study corridor is an essential military deployment and inter-base travel route. Two US Army bases are within the US 190/I-10 corridor study area and include Fort Hood (Central US 190 Section) and Fort Bliss (I-10 Section). US 190 provides connectivity from Fort Hood to Temple, Killeen, and I-35. I-10 connects Fort Bliss to the western US, I-20, and the strategic ports in Corpus Christi and Beaumont. Rail service is provided by UP to Fort Bliss, and Fort Hood is served by BNSF. A third US Army base, Fort Polk, is located east of the study corridor in western Louisiana, just north of US 190.

Fort Hood is the nation's largest active duty military base and is home to 52,000 soldiers and 70,000 dependents. Fort Hood's economic impact on Texas in 2007 was estimated at $10.9 billion statewide[3], and is the largest single location employer in the State of Texas – with more than 12,000 civilian employees and contractors (US Army, 2008). Fort Hood is approximately 300 miles from the Port of Beaumont. BNSF has a direct rail line from Fort Hood to the Port of Beaumont.

Fort Bliss is home to 9,300 personnel and 15,300 dependents and is currently undergoing an expansion which will add 21,000 new personnel and 30,000 dependents to the base by 2013[4]. Fort Bliss is approximately 830 miles from the Port of Beaumont and connected by UP.

Fort Polk is home to approximately 8,000 soldiers and is the only Army facility that has the mission to both train and deploy combat troops[5]. Fort Polk is 125 miles from

3 http://www.killeenchamber.com/fthood/economicimpact, accessed 02/16/12
4 http://www.elpasotexas.gov/econdev/fortbliss.asp, accessed 2/16/12
5 http://www.globalsecurity.org/military/facility/fort-polk.htm, accessed 03/18/09

the Port of Beaumont so cargo from Fort Polk is often carried via the roadways in addition to rail. Fort Polk is not presently served by rail, but a north-south KCS route runs just to the west of the base.

It is estimated that 80 percent of the deployment volumes through the Port of Beaumont originate from Fort Hood and Fort Bliss, with the majority originating from Fort Hood. The additional 20 percent comes from other forts located throughout the US.

The location of major military installations, deployment ports along the Gulf Coast and major highways connecting these facilities are shown in **Figure 3-5**. The study corridor connects with major strategic and trade ports in Corpus Christi via I-35 and I-10/I-37 and Houston via I-45/I-10. There is no direct interstate connection from the corridor to the Port of Beaumont; however, the port is accessible via US 96 and US 287. The I-10 Section of the corridor connects the international trade and border crossings at El Paso/Ciudad Juarez, Mexico and Laredo/Guadalupe, Mexico via I-35.

Figure 3-5 Major Forts and Deployment Ports

3.4 Transportation Demand

An evaluation of the existing traffic volumes, level-of-service (LOS), and crash data was conducted for the study corridor. A summary of these evaluations are provided in this section.

3.4.1 Traffic Volumes

Based on 2007 traffic volumes, the Average Annual Daily Traffic (AADT) on I-10 from the New Mexico state line to US 190 ranges from 3,500 vehicles per day (vpd) near Fort Stockton to 189,100 vpd in El Paso. The AADT range on US 190 from I-10 to the Louisiana state line is 300 vpd near Menard to 80,400 vpd on I-35 in Temple. This yields an AADT range for the entire corridor of a minimum of 300 vpd to a maximum of 189,100 vpd.

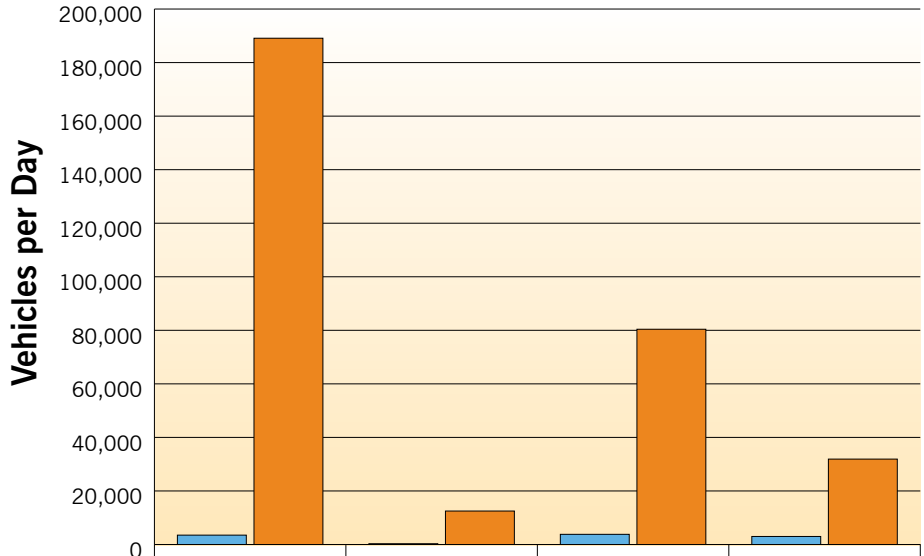
The range of truck volumes along I-10 is 2,100 trucks per day near Fort Stockton to 15,700 trucks per day in El Paso, with truck volumes along US 190 ranging from 100 trucks per day near Menard to 16,900 trucks per day on I-35 in Temple. **Figures 3-6** and **3-7** provide daily total traffic and truck volume ranges, and average truck percentage by corridor section.

US 190 Entering Killeen

3.4.2 Level-of-Service

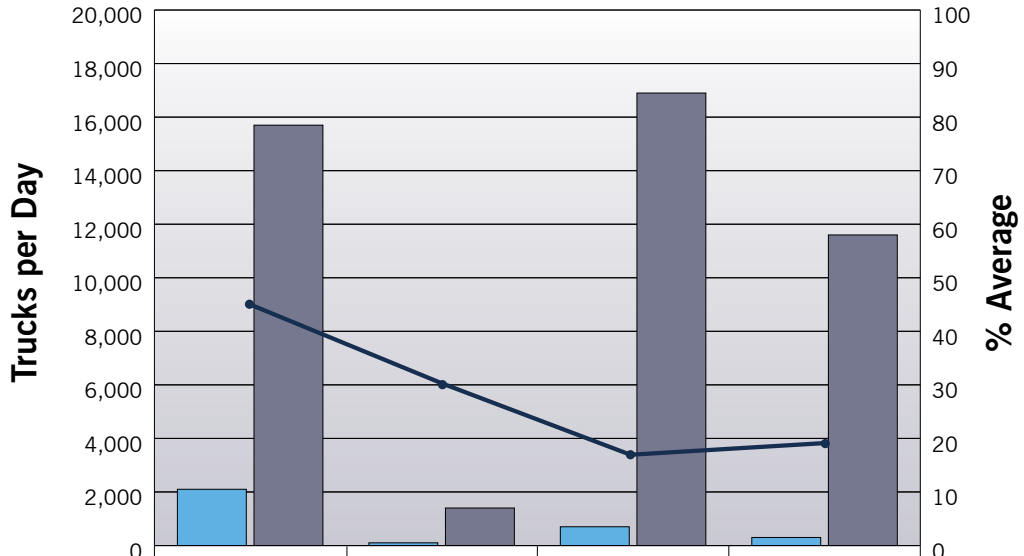
Level-of-service (LOS) is a qualitative measure of traffic operating conditions on a roadway. The calculations are based on Highway Capacity Manual (HCM) methodologies specific to the different roadway types. The LOS of a roadway is rated using quantitative traffic operations measures such as speed, delay and density.

Figure 3-6 2007 Daily Traffic Volumes by Corridor Section



	I-10	West US 190	Central US 190	East US 190
Minimum	3,500	300	3,800	3,000
Maximum	189,100	12,500	80,400	31,900

Figure 3-7 2007 Daily Truck Volumes and Percent Trucks by Corridor Section

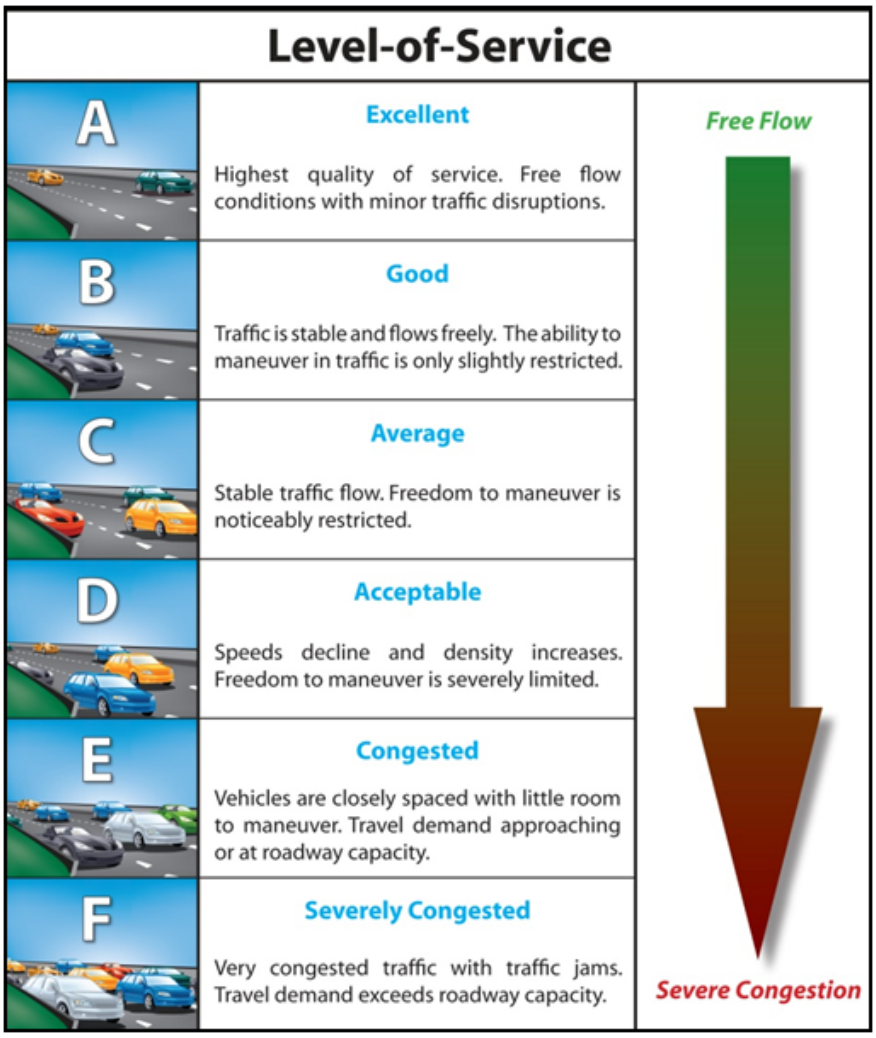


	I-10	West US 190	Central US 190	East US 190
Minimum	2,100	100	700	300
Maximum	15,700	1,400	16,900	11,600
% Average	46	30	17	19

LOS ratings, illustrated in **Figure 3-8**, range from A to F where A is the best level of service, E represents operations with traffic volumes near the capacity of the roadway, and F represents congested operations where traffic exceeds roadway capacity. LOS C-D is generally considered acceptable traffic operation.

For purposes of this study, LOS results were grouped into three categories based on adjacent pairs of level of service (A-B, C-D, and E-F). A roadway operating at level of service A or B typically has no need for improvement. At level of service C or D, there may be traffic operational issues that warrant minor improvements such as turn lanes, medians, or access management. At level of service E or F, congestion occurs and more significant improvements are needed to improve service.

Figure 3-8 Level-of-Service Diagram



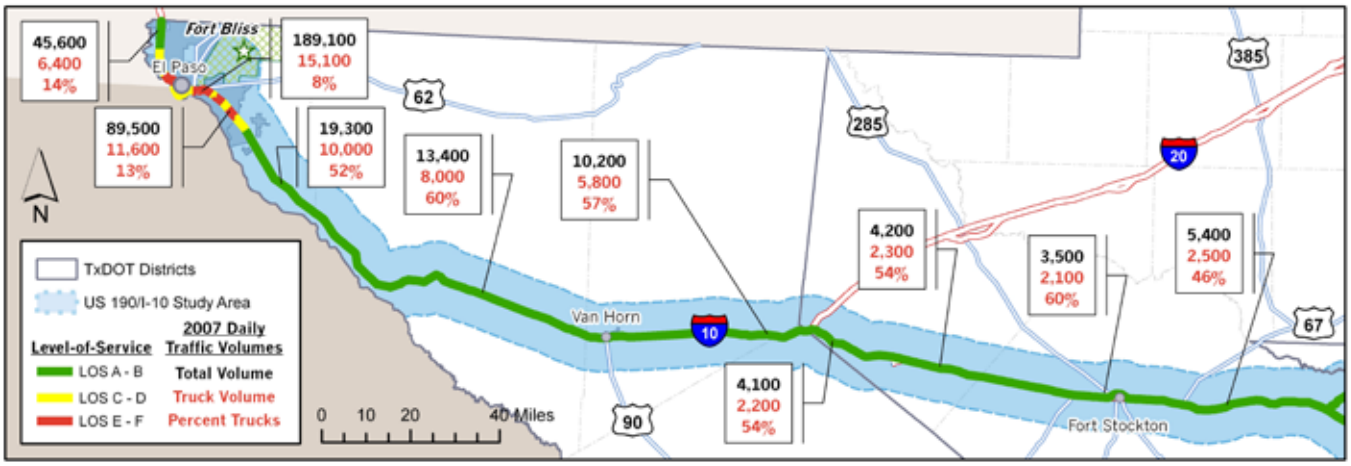
Source: CDM Smith, 2009

Existing traffic operations on roadways in the corridor are summarized in **Figures 3-9** to **Figure 3-12**. The figures show the 2007 traffic volumes and LOS along each corridor section grouped into LOS A-B, LOS C-D, and LOS E-F.

As shown in these figures, LOS C-D occurs in the urban areas and some rural areas of the corridor including sections of I-10 in El Paso; sections of US 190 in Brady and Richland Springs; sections between Killeen and Milano; US 190/I-45 from Madisonville to Huntsville; from Onalaska to Livingston; in Woodville; and in Newton.

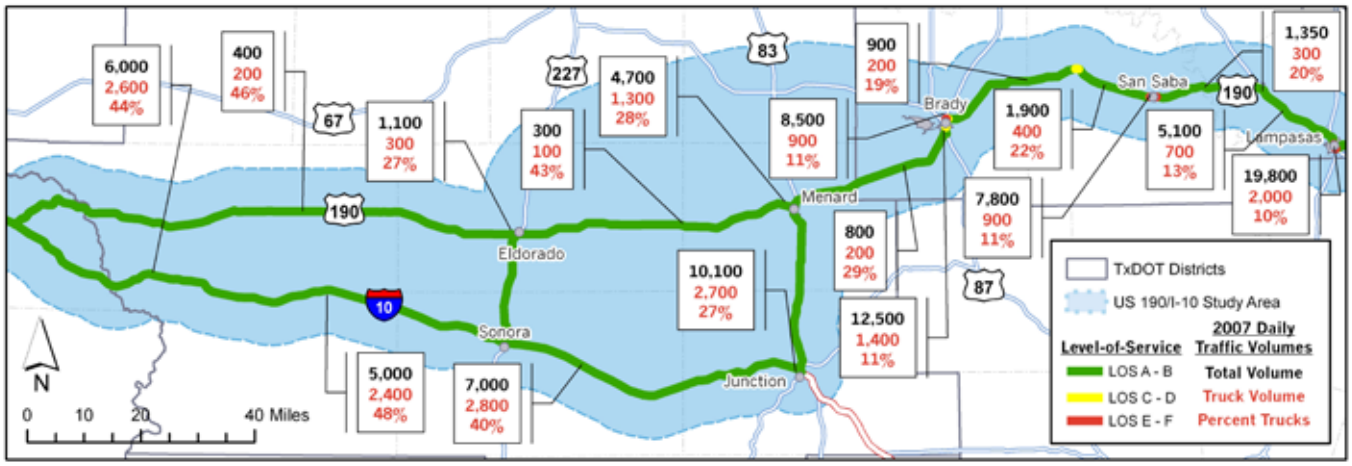
LOS ranges of E-F occur exclusively in the urban areas including El Paso, Brady, San Saba, Lampasas, sections between Copperas Cove and Killeen, Temple, and through Madisonville. Additional areas of congestion are also experienced along some sections of US 190 in Huntsville, Onalaska, Livingston, Woodville, and Jasper.

Figure 3-9 I-10 Section Current Travel Demand and Level-of-Service



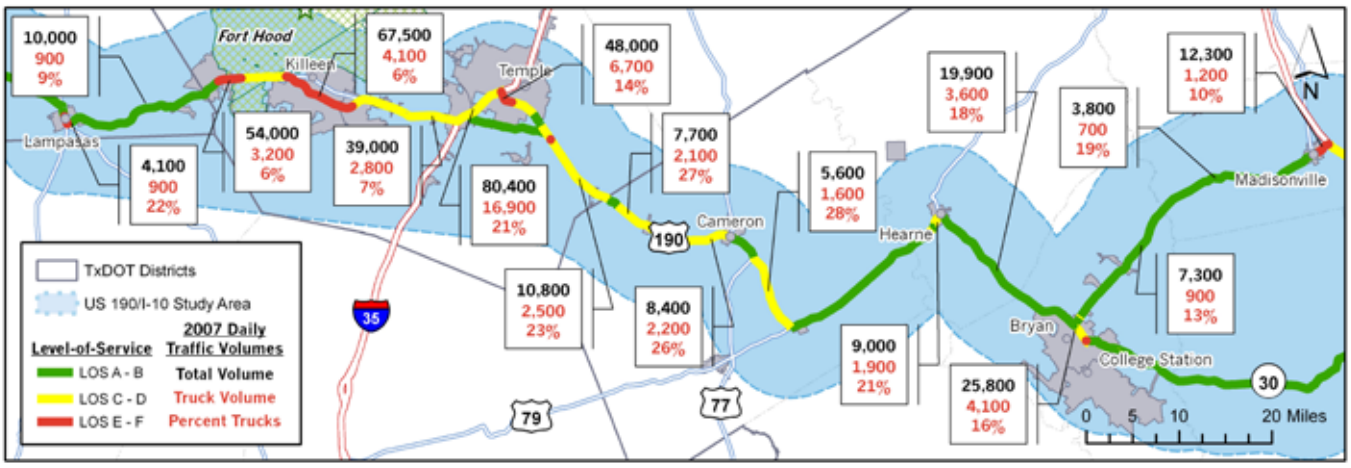
Sources: ESRI base map data 2008, TXDOT 2007 RHINO Traffic Data, CDM Smith

Figure 3-10 US 190 West Section Current Travel Demand and Level-of-Service



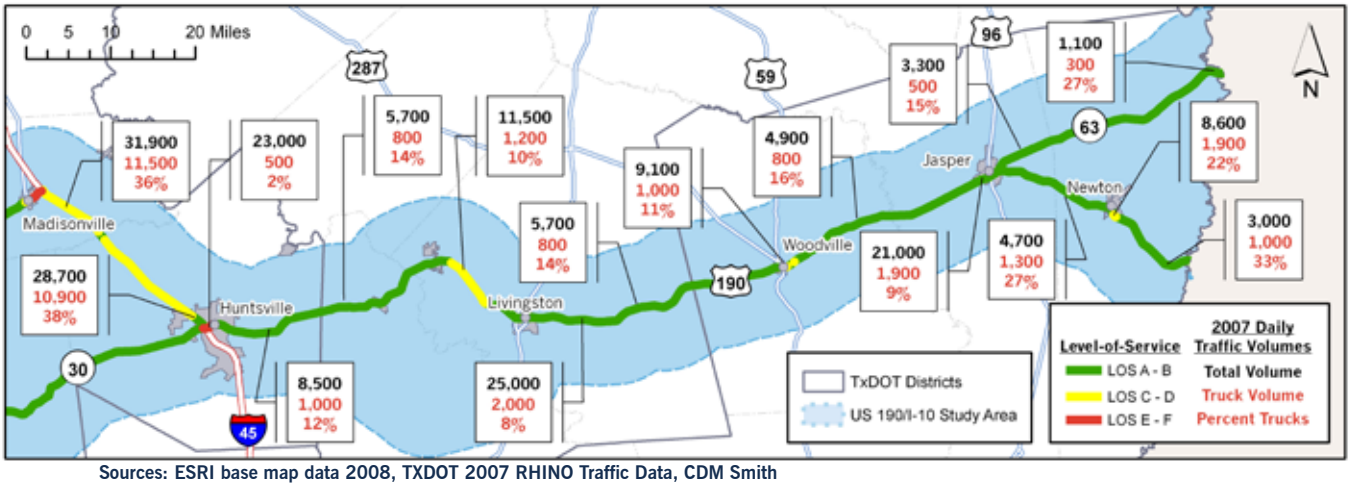
Sources: ESRI base map data 2008, TXDOT 2007 RHINO Traffic Data, CDM Smith

Figure 3-11 US 190 Central Section Current Travel Demand and Level-of-Service



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

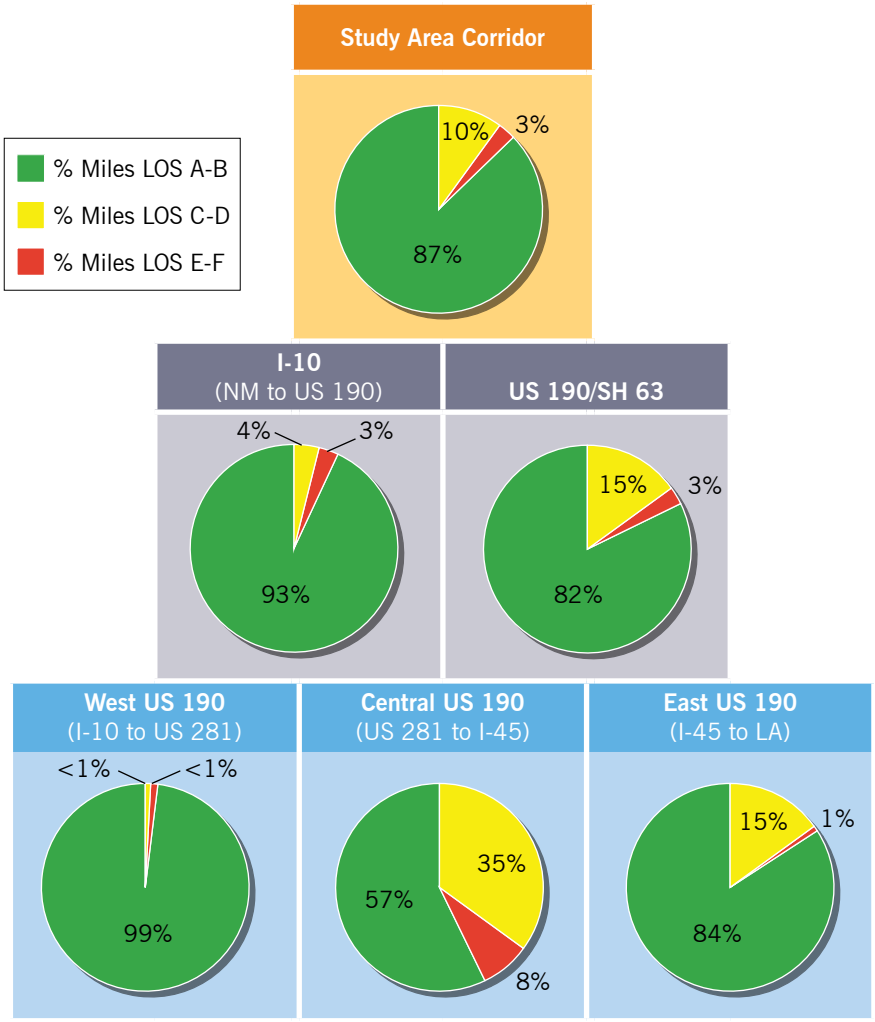
Figure 3-12 US 190 East Section Current Travel Demand and Level-of-Service



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

Figure 3-13 shows the percentage of the entire corridor, the I-10 portion, the US 190/ SH 63 portion, then each of the study sections operating within these LOS groups.

Figure 3-13 Existing Level-of-Service



3.4.3 Crash Evaluation

Available crash data along the study corridor was used to compare the roadway's actual crash rate averaged over four years (2006 - 2009) to the statewide crash rate for a similar highway (based on functional classification and number of lanes). The evaluation of crash data for each corridor section indicated the crash rate was above the statewide average in and east of Fort Stockton, sections between Iraan and Eldorado, in Temple, Madisonville, and between Onalaska and Livingston. The average crash rates for the I-10/US 190 corridor are shown in **Figures 3-14** to **3-17**.

Figure 3-14 I-10 Section Crash Rate

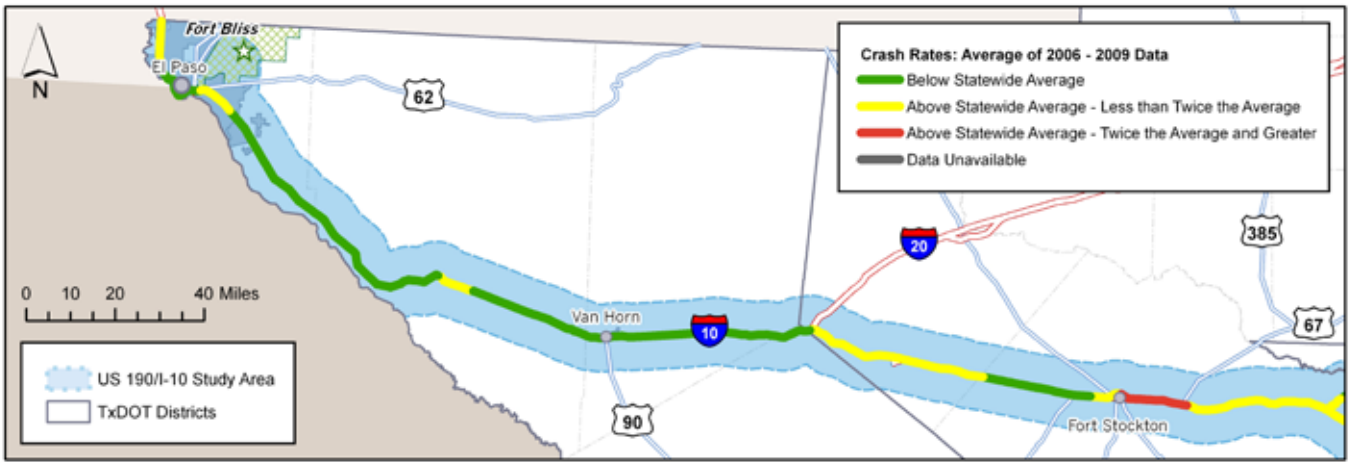


Figure 3-15 West US 190 Section Crash Rate

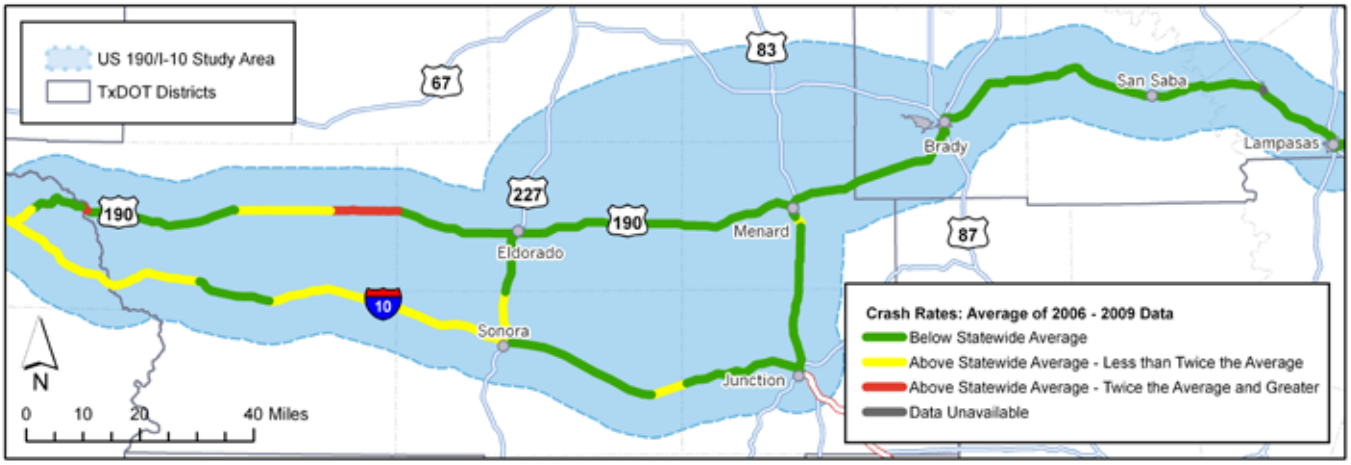


Figure 3-16 Central US 190 Section Crash Rate

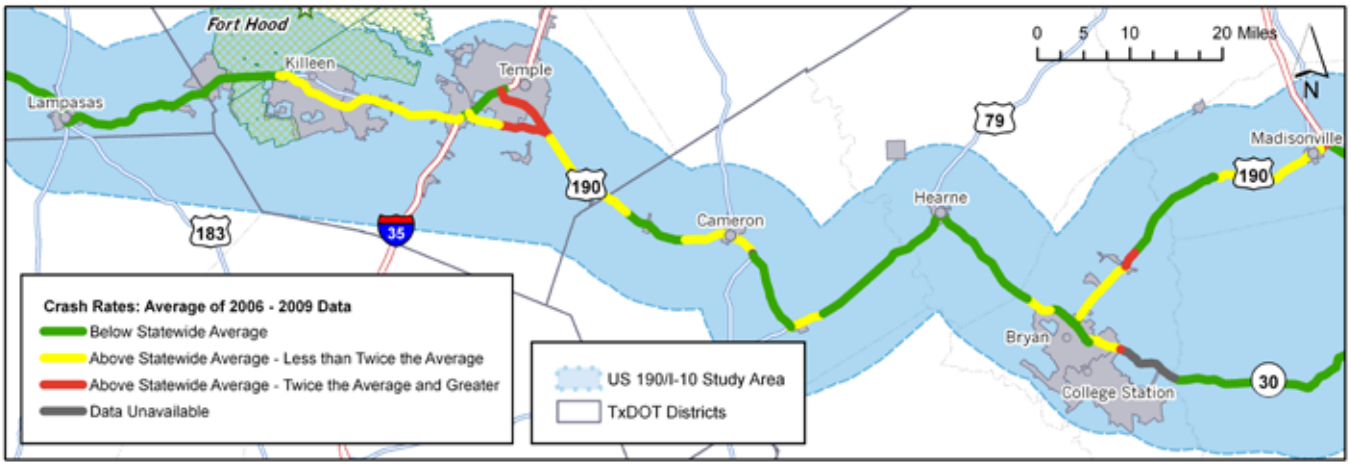
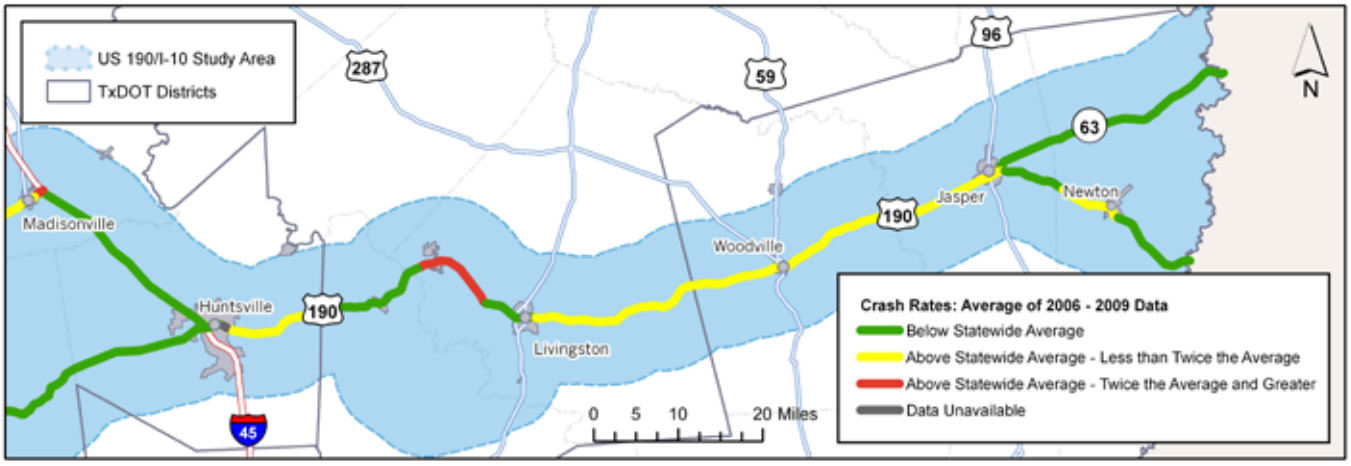


Figure 3-17 East US 190 Section Crash Rate

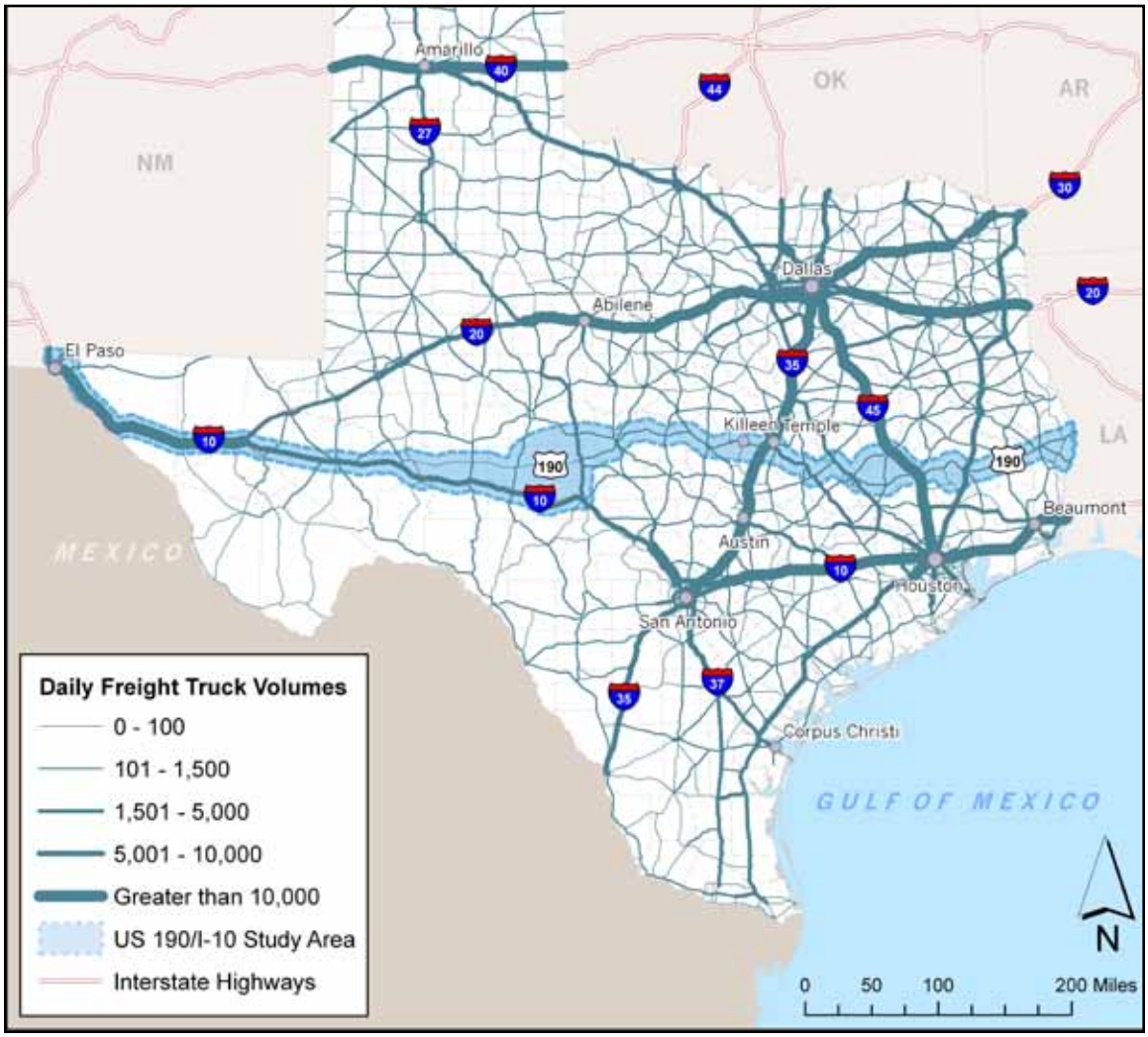


3.5 Truck Traffic and Freight Flow Analysis

The freight flow analysis was based on year 2003 TRANSEARCH, which is a national database of freight travel patterns organized by commodity type. **Figure 3-18** illustrates current daily truck volumes predicted by the TRANSEARCH data. US 190 carries less than a half percent of total statewide truck freight flow and has minimal influence on existing east-west freight movement. I-10 and I-20 parallel the US 190 corridor. Freight flows from two representative segments along I-10 and I-20 were selected for comparison with US 190 west of Brady (US 87/US 283). These include I-20 west of Abilene and I-10 east of San Antonio. These competing routes carry about ten times more freight than US 190.

Considering existing truck traffic as one measure to rank the importance of the corridor, the demand on US 190 has to grow by at least tenfold to about 50 million tons per year or about 9,000 trucks per day to carry the equivalent tonnage of I-10 and I-20. These two interstate highways outperform US 190 because they are nationally designated truck routes[6] consisting of high-speed divided freeways that extend from the east coast to the west coast of the US and pass near major metropolitan areas and port facilities.

Figure 3-18 Daily Truck Volumes



Source: 2003 TRANSEARCH

6 Under the Surface Transportation Assistance Act (STAA) of 1982, nationally designated truck routes are designated for use by dimensioned commercial vehicles.

Of the 80 million tons of daily freight demand on I-10 east of El Paso, 24 million tons are known to be transported through Texas, while the remaining 56 million tons have an origin, destination, or both inside Texas (this includes intra-state trips between El Paso and eastern Texas). The 24 million tons that are 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, but US 190 cannot easily attract trips between Texas and other states because there are few intrastate freight destinations within the corridor travel shed. Thus the current Interstate Highways and other roads provide the most direct routes for these freight trips.

The actual amount of interstate freight demand that might use an upgraded US 190/I-10 corridor would be influenced by how well an eastern 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 largest freight flows with one terminus in Texas are connected to the Houston metropolitan area, which favors use of I-10 as the most direct route. These freight flows are due to both the population of the Houston area as well as the additional freight generated due to the Port of Houston.

3.6 Existing Rail Conditions

There is no rail line that precisely parallels US 190 across Texas. However, a rail line, composed of track segments of various railroads, generally parallels US 190 from Merryville in western Louisiana to El Paso in west Texas (refer to **Figure 3-19**). The railroads and rail line segments making up this line are listed in **Table 3-3** along with an estimate of rail volumes.

Figure 3-19 Existing Rail Line Segments

Table 3-3 Railroads Paralleling US 190

Railroad	From	To	Route Miles	Track		Trains per Day
				Mainline	Sidings	
Timber Rock	De Ridder	Kirbyville	38.4	Single	NA	1
BNSF	Kirbyville	Silsbee	31.4	Single	5	5
BNSF	Silsbee	Cleveland	57.3	Single	4	7
BNSF	Cleveland	Navasota	66.8	Single	2	7
BNSF	Navasota	Somerville	28.1	Single	1	7
BNSF	Somerville	Temple	76.7	Single	9	30
BNSF	Temple	San Angelo Jct. (1)	155.4	Single	12	15
Texas Pacifico	San Angelo Jct. (1)	Alpine	300.1	Single	13	2
UP	Alpine	Sierra Blanca	128.5	Single	12	14
UP	Sierra Blanca	El Paso	87.8	Single	7	32
Total			**970.5**			

Notes: (1) Santa Anna

The rail route that generally parallels US 190 is 970 miles long and is made up of segments belonging to four different railroads: Timber Rock Railroad, BNSF, Texas Pacifico Railroad, and UP. It should be noted that the Gulf, Colorado, and San Saba Railway between Lometa and Brady (a distance of 67.5 miles) is a shortline partner with BNSF. The eastern terminus of the route is in De Ridder, Louisiana. At that location, the Timber Rock Railroad connects with the KCS north-south line, running from Lake Charles in the south, through Shreveport to the Mid-West. The western terminus is in El Paso, which continues on the UP to Los Angeles. It also connects to a north-south BNSF line to Belen, New Mexico (south of Albuquerque), and then to BNSF's major east-west transcontinental route. Track configurations are entirely single track with sidings which allow trains operating on single track mainline to pass each other. The theoretical maximum practical capacity of a single track with sidings every 10 miles is approximately 36 trains per day. Major rail facilities connecting the military installations along the study corridor to the designated deployment ports on the Gulf Coast are also shown in Figure 3-19. Major rail facilities connecting the forts and ports are shown in **Table 3-4**.

Table 3-4 Railroads Connecting Forts and Ports

Fort	Port	Rail
Fort Bliss	Port of Beaumont	UP
Fort Bliss	Port of Corpus Christi	UP
Fort Hood	Port of Beaumont	BNSF
Fort Hood	Port of Corpus Christi	BNSF/UP
Fort Polk	Port of Beaumont	KCS
Fort Polk	Port of Corpus Christi	UP

3.7 Existing Environmental Conditions

The environmental analysis primarily relied on existing Geographic Information System (GIS) and Geographic Information System Screening Tool (GISST) data supplemented by inventory information obtained during field reconnaissance. Additional data pertaining to demographic and socioeconomic conditions along the corridor were obtained from Woods and Poole, Texas Workforce Commission (TWC), and the US Census Bureau.

3.7.1 GISST Data Evaluation

The following GISST datasets were utilized for the existing conditions descriptions of the study corridor. These datasets were selected based on uniform availability throughout the study area and their applicability during any future NEPA phase of project development.

- Ecologically Significant Stream Segments
- Wetlands
- Air Quality
- Wildlife Habitat
- Hazardous Waste
- Threatened and Endangered Species
- Managed Lands
- Agricultural Lands

The results of the GISST data analysis are summarized by category and location in **Table 3-5**.

Table 3-5 Summary of Existing Environmental 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)
Ecologically Significant Streams	2 including Little Aguja Canyon* and Leon Creek**	6 including Pecos River, Live Oak Creek, two segments of San Saba River, South Llano River, and Colorado River	2 including Rocky Creek and Little River	8 including Nelsons Creek, Hammons Creek, East Fork San Jacinto River, Menard Creek, Sandy Creek, Beech Creek, Angelina River, and Neches River
Wetlands	No areas > 20% coverage	No areas > 20% coverage	– Navasota River (between Bryan and Madisonville) > 50% coverage – Bedias Creek (Trinity River tributary, upstream of Lake Livingston)	– Neches River north and south of B.A. Steinhagen Lake (between Tyler and Woodville) – Sabine River at the Texas/Louisiana border
Air Quality	El Paso County is in non-attainment for CO and PM-10			
Wildlife Habitat	Majority ≥ 50% coverage except for portions of El Paso, between I-10 and Texas/Mexico border, and few areas west of Fort Stockton	– Majority ≥ 50% coverage – Small areas around Eldorado, Junction, Eden, Menard, and San Saba < 50% coverage	– Least coverage – Portion of area between US 281 and I-35 mostly > 50% coverage except for areas around Lampasas and Killeen – Area just east of I-35 and portion from Hearne to Madisonville < 50% coverage	Majority ≥ 50% coverage except for areas around Madisonville and Huntsville on I-45

Note:
*Little Aguja Canyon contains only known location of endangered plant, Little Aguja pondweed
**Leon Creek bears substantial population of endangered fish, Pecos Gambusia

Table 3-5 Summary of Existing Environmental Conditions (Continued)

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)
Hazardous Waste	– 1 location between El Paso and Van Horn – 1 location near Van Horn – 1 location in Balmorhea and Saragosa area – Few locations in Fort Stockton area and between Fort Stockton and I-10/ US 190 junction	– Most sites indicate one industry/land area in 1 km2 – 1 site at I-10/ US 190 junction (indicating 4 or more industries/ land areas in 1 km2) – Generally scattered with more sites near towns	– Largest concentration of sites near Bryan and College Station – Groupings of listed sites in Killeen, Belton, Temple, and Hearne	Sites are scattered; areas with multiple sites are Woodville and Jasper
Threatened & Endangered Species	– 7 non-adjacent 1-km locations in El Paso – 5 non-adjacent 1-km locations and 1 location which includes 2 km^2 in Balmorhea and Saragosa area – 1 site on I-10 west of Fort Stockton – 3 sites north of Fort Stockton – 1 site on I-10 just west of US 67/I-10 interchange	– 3 1-km sites near Iraan – 1 site along and 1 site adjacent to US 190. – Several sites near Junction – 1 site west of Menard on US 190 – 1 site between Menard and Brady	– Small scattering of sites in Kemper/ Copperas Cove/ Killeen area – Few 1-km sites south of Hearne – Few sites between Bryan and the Navasota River	– Few 1-km sites south of Madisonville – Larger area west of Huntsville – Few locations on east of Lake Livingston – Few sites scattered near Woodville – 2 sites along SH 63
Managed Lands	Large portion around El Paso comprised of Fort Bliss, Franklin Mountains State Park, Balmorhea State Park, and Fort Stockton	– South Llano River State Park is largest site – Several small sites indicated in Iraan, Senora, Eldorado, Eden, and just south of US 190 between Eldorado and Menard – Few larger areas depicted in Brady and Lampasas	– Large portion near Killeen, which is mostly Fort Hood, Belton Lake and Stillhouse Hollow Lake – Additional areas are depicted in Cameron, Rockdale, Hearne, and Bryan.	– Several large areas including Sam Houston National Forest and Lake Livingston (between Huntsville and Lake Livingston) – Big Thicket National Preserve south of US 190 between Livingston and Woodville with other portions included south of B.A. Steinhagen Lake – B.A. Steinhagen Lake

Table 3-5 Summary of Existing Environmental Conditions (Continued)

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)
Agricultural Lands	– Concentrations between I-10 and Texas/Mexico border (along Rio Grande) – Small groupings near Van Horn (Balmorhea and Saragosa area) and west of Fort Stockton	– Two larger areas > 50% coverage between Eden and Brady and near San Saba – Smaller concentration areas located near Eldorado, Junction, Menard, and between Brady and San Saba	– Line along Lampasas River > 50% coverage – Majority of area between I-35 and I-45 ≥ 50% coverage	– Along I-45 at Madisonville and Huntsville and between Lake Livingston and the city of Livingston > 50% coverage – Majority of other land < 50% coverage

3.7.2 Demographic and Socioeconomic Characteristics

The existing demographic and socioeconomic characteristics within the study corridor, including population, environmental justice populations (percent minority and percent economically distressed), and employment were documented. The findings are summarized in **Table 3-6**.

Table 3-6 Summary of Demographic and Socioeconomic Characteristics

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 (1970 – 2007)[1]	398,700 (1970) 770,000 (2007) 1.79% CAGR[2]	127,600 (1970) 178,200 (2007) 0.91% CAGR	313,000 (1970) 697,600 (2007) 2.19% CAGR	125,400 (1970) 257,000 (2007) 1.96% CAGR
2008 Unemployment	6.9%	4.4%	5.1%	6.5%
Per Capita Income (2005)	$22,998	$26,683	$27,622	$22,735
Housing (PPH)[3]	3.2	2.6	2.6	2.5
Percent Minority (2000)	18% Anglo 3% Black 78% Hispanic 1% Other	63% Anglo 3% Black 33% Hispanic 1% Other	64% Anglo 16% Black 16% Hispanic 3% Other	72% Anglo 18% Black 9% Hispanic 1% Other
Minority Populations[4]	High minority populations: – near El Paso – El Paso County – between I-10 and Texas/Mexico border – near Van Horn – Balmorhea – Saragosa	Large minority population areas: – on I-10 just east of I-10/US 190 Junction – north of I-10 near Sonora – on US 190 between Iraan and Eldorado – around Eldorado	Higher minority populations near Killeen, Calvert, Hearne, and Bryan	Higher minority populations: – between Madisonville and Lake Livingston – near Woodville, Jasper, and Newton along US 190 – along most of SH 63 between Jasper and TX/LA border
2000 Poverty Estimates[1] (% of Pop./HH)[5]	23.3% individuals 20.6% families	15.6% individuals 12.5% families	15.0% individuals 11.0% families	15.6% individuals 13.3% families
Economically Stressed Households[6] (earning less than $15,000 annually)	– Majority of area between I-10 and Texas/Mexico border > 27.6% – Large area near Van Horn range from 45% to 55% – Areas near Balmorhea and Saragosa > 55% – Area in and around Fort Stockton ranges from 27% to 55%	– Half of section has few areas > 55% – Remaining half ranges from 27% to 45% – Higher concentrations around Eldorado, Eden, Brady, northwest of Brady, and southwest of San Saba	– Few areas between Lampasas and I-35 > 27% – Majority of area east of I-35 ranges from 27% to 45% – Cameron, Calvert, Hearne and College Station have areas with concentrations > 45%	– Majority of section > 27% – Around Woodville, Jasper and along SH 63 > 55%

Note:
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.
2. CAGR – Compound Annual Growth Rates
3. PPH - Person per household
4. GISST data identifies areas with Minority Populations (all other persons other than White non-Hispanic) > 47.6%.
5. % of Pop./HH - Percent of population/households
6. GISST data identifies Economically Stressed or low income areas as households earning $15,000 or less annually.

Based on the evaluation, the findings of the demographic and socioeconomic characteristics are as follows:

Population: Between 1970 and 2007, the fastest growing section of the corridor was Central US 190 followed by East US 190, I-10, and West US 190. The study corridor encompasses or affects 33 Texas counties. In 2007, the total population of all counties in the study corridor was 1,826,900 or 7.6 percent of the Texas 2007 population (23,948,800) (Woods and Poole, 2007). According to the US 2007 American Community Survey, several urbanized clusters and areas with populations greater than 20,000 lie within and 30 miles adjacent to the corridor centerline. These nine areas include El Paso (606,913), Killeen (112,434), Temple (54,514), Georgetown (58,330), Waco (122,222), College Station (80,315), Bryan (72,015), Huntsville (37,747), and Conroe (52,516).

Onalaska Bridge Across Lake Livingston

Employment: Per Texas Workforce Commission (TWC), unemployment in the study corridor in December 2008 was 47,500 persons (5.9 percent) compared to 5.7 percent in Texas. In comparison, unemployment for the same period in the study area sections ranged from 4.4 percent (West US 190) to 6.9 percent (I-10). Employment sectors

for each study area section are similar with trade, transportation, and utilities and education and health services being the largest.

Income: According to TWC, the 2005 per capita personal income was $25,025 in the study corridor and $32,460 in Texas. In comparison, the 2005 per capita income for the study area sections ranged from $22,735 (East US 190) to $27,622 (Central US 190).

Housing: According to the US 2000 Census the average household size was 2.8 persons per household in the study corridor and 2.7 in Texas. The average household size for study area sections ranged from 2.5 persons per household (East US 190) to 3.2 (I-10).

Minority: The Central US 190 Section is the most ethnically diverse. Based on projections, Hispanic is the fastest growing ethnic category for each study area section.

Economically Stressed: The highest poverty rates occur in the I-10 Section while the lowest rates occur in the Central US 190 Section.