



## Economic Development History of Interstate 27 in Texas<sup>[1]</sup>

### 1 Interstate 27: The Roadway

#### 1.1 Project Length/Location

Interstate 27 is a north-south highway, which traverses the northern Panhandle and High Plains of Texas. The economy is based on cattle, cotton, grain, and petroleum.

I-27 is 124 miles long. The southern endpoint is at 82<sup>nd</sup> Street in Lubbock in Lubbock County. The northern terminus is at Interstate 40 in Amarillo in Potter County. Interstate 27 is one of 13 two digit two-digit interstate highways that are continuous and do not cross a state boundary.

The map shows the location of I-27. According to the latest U.S. Office of Management and Budget designations, I-27 traverses two metropolitan areas, Lubbock and Amarillo, and one micropolitan area, Plainview (Hale County).<sup>[2]</sup> Counties in metropolitan statistical areas (MetSAs) are lightly shaded on the map. Lubbock County is the Lubbock MetSA. The Amarillo MetSA consists of Potter and Randall counties.



#### 1.2 Details of Construction

The Amarillo and Lubbock Districts of the Texas Department of Transportation (Tx DOT) constructed I-27 from the mid-1970s to 1992. In many sections it replaced U.S. 87; in others, U.S. 87 remains as a parallel highway. The total cost was \$453.4 million.

Before the U.S. Department of Transportation added I-27 to the Interstate Highway System in 1968, Tx DOT constructed the "Canyon E-Way" (U.S. 60/U.S. 87) from Amarillo southward toward Canyon in the late 1950s and early 1960s.<sup>[3]</sup> It was engineered for 45 miles-per-hour traffic. Although they required an exception to interstate design standards, many of these highway structures (including short on- and off-ramps) were later incorporated into I-27.

Construction on I-27 began in the Tx DOT Lubbock District in 1975, from North Loop 289 in Lubbock to the town of New Deal.<sup>[4]</sup> The Tx DOT Amarillo District completed its portion of I-27 on December 5, 1986, when a 23.6-mile section opened from 13 miles south of Amarillo to Happy near the Randall-Swisher County line.

Originally I-27 was to terminate at Loop 289 north of Lubbock; by 1976 Loop 289 south of downtown was officially adopted as its endpoint. The Lubbock District finished the urbanized 6½ mile-segment between North Loop 289 to 82<sup>nd</sup> Street (just south of South Loop 289) in the early 1990s. The final section of I-27, from 19<sup>th</sup> Street to 54<sup>th</sup> Street in Lubbock, opened in September 1992.

The I-27/I-40 interchange and portions of I-27 in Amarillo were re-built in the late 1990s and early 2000s. Most of I-

27 is a four-lane freeway. I-27 is now six lanes through most of Amarillo; Tx DOT plans to widen the segment from Western Street to Canyon to six lanes. In 2001-02, Tx DOT renovated the rest stops on I-27 between Hale Center and Abernathy in Hale County for \$5 million.

Proposals to extend I-27 south of Lubbock to I-20 and beyond have been considered and shelved in recent years [see *Lubbock to I-10/Amarillo North Route Study* (1996)]. Some advocates assert that they have gained new life with the proposed "Ports-to-Plains Corridor" that would link Mexico and Denver via Lubbock and Amarillo.

Tx DOT has constructed frontage/service roads beside many highways. A recent study of Texas highway frontage roads stated, "[I]t may be that such a policy has generated suburban sprawl in rural areas because of ease of access." [5] Along most of its length, I-27 is paralleled on both sides by frontage roads. They are one-way in the Amarillo District; many are two-way in the Lubbock District. Since developers do not bear the expense of building access roads, the frontage roads may facilitate highway-side construction. Businesses consider "I-27" addresses to be highly recognizable.

### 1.3 Reasons for Project Development

The Federal Highway Act of 1968 authorized the addition of 1500 miles to the Interstate Highway System. In December 1968, the U.S. Bureau of Public Roads (now the Federal Highway Administration) authorized the addition of I-27 to the system. The primary goal was to provide Lubbock with interstate access. Lubbock was one of three cities of its size that did not have an interstate highway. On January 21, 1969, the Texas Highway Commission designated U.S. 87 as I-27 from I-40 in Amarillo to U.S. 62 in Lubbock. [6] George Mahon, local congressman and chairman of the House Appropriations committee from 1964 to 1979, was instrumental in I-27 receiving funding during its formative years.

Before I-27 was constructed, U.S. 87, a four-lane divided highway, seemed, to some, to adequately handle traffic in the Lubbock-Amarillo corridor and continues to run parallel to I-27 in some stretches (e.g., from Canyon to Happy in Randall County and for approximately 16 miles in Swisher County). In some sections of the I-27 corridor, there are effectively ten highway lanes: four on U.S. 87, four on the I-27 main line, and the two I-27 frontage road lanes.

### 1.4 Traffic Counts

Table 1 shows annual average daily traffic (AADT) on selected segments of the main north-south highway from Lubbock to Amarillo from 1959 to 2002. Trucks account for a high percentage of traffic on rural stretches of I-27.

Until recently, the highest traffic volume on I-27 occurred on the section immediately south of the I-40 junction in Amarillo. Now the section immediately north of South Loop 289 in Lubbock has the most traffic [7]. In percentage terms, the largest annual increases in traffic in the I-27 corridor occurred from 1959 to 1969, the decade before the I-27 project was announced. Traffic volume rapidly increased through Lubbock after the sections of I-27 through the downtown area were completed in 1992.

**Table 1: Average Daily Traffic on Main Road between Lubbock and Amarillo (now I-27): 1959-2002**

| Community | Location        | 1959* | 1969   | 1980   | 1990   | 2002   | Compounded Average Annual Growth Rate |         |         |           |
|-----------|-----------------|-------|--------|--------|--------|--------|---------------------------------------|---------|---------|-----------|
|           |                 |       |        |        |        |        | 1959-69                               | 1969-80 | 1980-90 | 1990-2002 |
| Lubbock   | S of S Loop 289 | 3,770 | 10,900 | 14,200 | 16,400 | 22,000 | 11.2%                                 | 2.4%    | 1.5%    | 2.5%      |
| Lubbock   | N of S Loop 289 | 5,560 | 14,280 | 24,000 | 28,000 | 61,000 | 9.9%                                  | 4.8%    | 1.6%    | 6.7%      |
| Lubbock   | N of N Loop 289 | 7,030 | 10,100 | 10,900 | 14,600 | 30,000 | 3.7%                                  | 0.7%    | 3.0%    | 6.2%      |
| Hale Co.  | S of FM 54      | 3,310 | 6,370  | 7,100  | 9,200  | 10,700 | 6.8%                                  | 1.0%    | 2.6%    | 1.3%      |
|           | N of Texas      |       |        |        |        |        |                                       |         |         |           |

|          |                               |       |        |        |        |        |      |      |      |      |
|----------|-------------------------------|-------|--------|--------|--------|--------|------|------|------|------|
| Tulia    | 86                            | 3,640 | 4,940  | 6,000  | 6,200  | 6,300  | 3.1% | 1.8% | 0.3% | 0.1% |
| Happy    | N of Randall-Swisher Co. Line | 3,060 | 4,170  | 4,600  | 6,200  | 8,100  | 3.1% | 0.9% | 3.0% | 2.3% |
| Amarillo | 45th Ave. to Jct. I-40        | 8,710 | 20,410 | 41,000 | 46,000 | 57,000 | 8.9% | 6.5% | 1.2% | 1.8% |

\*Locations of count locations approximately match those for later years. Some roads, including Loop 289, did not exist in 1959.

Source: Texas Department of Transportation, District Traffic Maps.

## 2 The I-27 Corridor/Panhandle/South Plains

### 2.1 Physical Features of I-27 Corridor

The I-27 region is in the "High Plains" region of North America.<sup>[8]</sup> The High Plains contain the black earth soils that underlay most of the hard winter wheat region of the United States. Wheat and sorghum (cattle feed) are major crops north of Plainview; the southern part of the I-27 corridor is cotton country. In areas of low rainfall or broken topography (such as west of the I-27 corridor or south of Lubbock), crops yield to grazing range. Major natural gas and oil reserves are underneath the Amarillo area<sup>[9]</sup>.

Most of the I-27 corridor is in the northern Texas "Panhandle," (as opposed to the western Texas Panhandle where El Paso is located. Amarillo is considered to be in the Panhandle; Lubbock is in the "South Plains." One source identifies the Palo Duro Canyon in Randall County as the dividing line between the "Panhandle High Plains" and "South Plains."<sup>[10]</sup> Palo Duro is reputedly the second-longest canyon in the U.S. after Arizona's Grand Canyon.

### 2.2 The Panhandle/South Plains Highway Network

I-27 and I-40 are the only interstate highways in the Panhandle/South Plains region of Texas. I-40 is a major east-west freeway, linking North Carolina, Tennessee, Arkansas, Oklahoma, the Texas Panhandle, New Mexico, Arizona, and California. I-27 and I-40 intersect in Amarillo; the nearest large cities on I-40 are Albuquerque, N.M. and Oklahoma City.

A network of U.S. highways serves the region. U.S. 87 continues I-27 north of Amarillo and south of Lubbock; it also parallels I-27 in various places. U.S. 60 extends northeast of Amarillo; U.S. 287 runs to the southeast. U.S. 60 runs southwest from Canyon towards Clovis, N.M. U.S. 70 is an east-west highway through Plainview. In the Lubbock area, U.S. 84 runs northwest southeast outside of the city and north south within the city. U.S. 62 is an east-west highway within Lubbock and northeast southwest outside of the city.

Amarillo and Lubbock are among the smallest U.S. cities that have loop highways constructed around them. State Loop 289 around Lubbock is grade-separated. Built from 1960 to 1972, it is 26 miles long. When Loop 289 was built, it was in a rural area. Now development extends behind the highway, especially in southwestern Lubbock. The 1964 *Lubbock Urban Transportation Plan* recommended development of east-west and north-south expressways through the downtown area. Completed through Lubbock in 1992, I-27 serves as the north-south expressway. In 2004, construction began on the Marsha Sharp Freeway, the east-west expressway. Signed as U.S. 82, it will run from West Loop 289 to I-27 north of downtown Lubbock.

Loop 335 around Amarillo is not grade-separated and only a two-lane road in most sections. It is nearly 41 miles long. Its last section, in northwestern Amarillo, opened in 1999.

In 1920, the Ozark Trail, an unpaved highway network from Arkansas and Missouri to New Mexico, was routed through Swisher County on an east-west alignment. The first highway paved by the Texas Highway Department in the Lubbock area was in the I-27 corridor.<sup>[11]</sup> The department paved a section of Highway 9 (later U.S. 87) north

and south of Plainview in Hale County in 1929. The section from Lubbock to Abernathy was first paved in 1931.

### 2.3 Interstate 27 Communities

**Lubbock County:** The city of Lubbock (2000 population: 200,000) is the commercial center of the South Plains region of Texas. It provides retail, medical, and other services to a vast, sparsely populated territory encompassing western Texas and eastern New Mexico. Texas Tech University is in Lubbock. Reese Air Force Base closed in western Lubbock in 1997; it is being re-developed as Reese Technology Center.

The 1997 Census of Agriculture found that Lubbock ranked eighth among U.S. counties in cotton production (up from 54<sup>th</sup> in 1992). One quarter of U.S. cotton is grown within a 100-mile radius of Lubbock.<sup>[12]</sup> It was the 93<sup>rd</sup> largest cattle county in 1997.

I-27 begins south of Loop 289 at 82<sup>nd</sup> Street in Lubbock and heads northward through the central business district. The freeway divides the eastern, industrial part of the city from its more prosperous western side. It crosses north Loop 289 and passes Lubbock International Airport and the town of New Deal. I-27 exits into Hale County near Abernathy.

**Hale County:** Interstate 27 passes around the western side of Plainview (2000 population: 22,000), the largest city and only significant retail cluster between Lubbock and Amarillo. Several industrial plants are in Plainview, including Excel Beef Packers (opened 1971) and Azteca Milling, a tortilla corn mill (opened 1990). A peanut processing plant is under construction at a former sausage factory; it will distribute nationally. In 1986, Wal-Mart opened a distribution center of nearly one million square feet at a Plainview site personally selected by chain founder Sam Walton; it serves stores as far away as Arizona and Colorado. United States Fiberglass opened a swimming pool factory along I-27 in 2001.

According to Census Journey-to-Work data, an increasing number of Hale County residents commute to jobs in Lubbock County (Hale-to-Lubbock: 660 workers in 1980, 1334 workers in 2000) and vice versa (Lubbock-to-Hale: 397 workers in 1980; 789 workers in 2000). I-27 has facilitated this labor mobility.

In 1997, Hale was the ninth-largest cotton-producing county in the U.S.; it ranked 53<sup>rd</sup> for cattle production. Hale was the largest sorghum producer in Texas in 2003.<sup>[13]</sup>

**Swisher County:** I-27 passes near Tulia and Happy. The population of Swisher County has declined due to agricultural consolidation and mechanization. Swisher ranked tenth among U.S. counties in 1997 for cattle and 71<sup>st</sup> for cotton. It is a significant wheat and sorghum grower.

From 1980 to 2000, the number of workers who commuted within Swisher County declined from 3,370 to 2,403. I-27 enabled longer journeys to work; commute trips from Swisher to three I-27 corridor counties nearly doubled from 1980 to 2000: Hale (325 to 536), Randall (74 to 120), and Potter (19 to 80). A mere 18 people commuted from Swisher to Lubbock in 2000.

**Randall County:** Canyon (2000 population: 13,000) is the largest city entirely within Randall County. It is named for Palo Duro Canyon, a state park that is accessed via I-27. West Texas A&M University is located in Canyon. The southern portion of Amarillo is in Randall County.

Randall was the 31<sup>st</sup>-largest cattle-producing county in the U.S. in 1997. Wheat and sorghum are grown there.

**Potter County:** Amarillo (2000 population: 174,000) is the economic center of the Texas Panhandle region, with a high concentration of retailers that serve a large market area. Most of Amarillo, including its central business district, is located in Potter County. Westgate Mall, the only regional shopping center in the northern Texas Panhandle, opened beside I-40 in western Amarillo in 1982.

Meatpacking is a major employer in Amarillo; one-quarter of the nation's beef supply is processed in the area.<sup>[14]</sup> Petroleum extraction (especially natural gas) is also a major industry. The Panhandle Field is said to be the largest-volume natural gas field in the United States; one source says that Amarillo has the world's largest<sup>[15]</sup> natural gas development. <sup>[16]</sup> The helium mining industry has decreased in significance since the federal government privatized

local operations in the late 1990s. The Pantex Plant, the only nuclear weapons assembly and disassembly facility in the U.S., is located 17 miles (27 km) northeast of Amarillo. Bell Helicopter opened a helicopter assembly plant near the international airport in northeastern Amarillo in 1999.

Amarillo was founded in 1887 when the Fort Worth & Denver City Railway was constructed through the region. The Burlington Northern & Santa Fe Railway serves the city today. Rail transportation is critical for receipt of out-of-state grain destined for cattle feed lots in the Panhandle/South Plains region.

Less than one mile of I-27 is located in Potter County. The highway terminates at I-40 near the Potter-Randall County line. The roadway continues northward into downtown Amarillo via U.S. 60, 87, and 287, a series of four one-way streets. North of downtown the highway becomes U.S. 87 and continues northward to Dumas, Texas.

### 3. Socioeconomic Trends in the I-27 Corridor

#### 3.1 Population

Table 2 shows that the population of the I-27 corridor increased more slowly than the state and national growth rates both before and after the freeway was completed in 1992 (the I-27 project was announced in 1969; construction began in the TX DOT Lubbock District in 1975). Swisher County continued to lose population after I-27's completion, but the rate slowed from a compounded average annual loss of 1.3 percent from 1975 to 1992 to a loss of 0.4 percent per year from 1992 to 2002. Population growth rates in Lubbock, Hale, and Potter counties increased after the highway's completion.

**Table 2: Population: 1969-2002**

| County                | 1969           | 1975           | 1992           | 2002           | Compounded Average Annual Growth Rate |             |             |
|-----------------------|----------------|----------------|----------------|----------------|---------------------------------------|-------------|-------------|
|                       |                |                |                |                | 1969-75                               | 1975-92     | 1992-2002   |
| Lubbock               | 179,684        | 198,420        | 227,237        | 247,465        | 1.7%                                  | 0.8%        | 0.9%        |
| Hale*                 | 40,314         | 36,678         | 35,276         | 35,762         | -1.6%                                 | -0.2%       | 0.1%        |
| Swisher*              | 10,869         | 10,364         | 8,336          | 8,048          | -0.8%                                 | -1.3%       | -0.4%       |
| Randall               | 53,189         | 62,085         | 92,061         | 106,412        | 2.6%                                  | 2.3%        | 1.5%        |
| Potter                | 106,774        | 93,366         | 100,671        | 115,649        | -2.2%                                 | 0.4%        | 1.4%        |
| <b>I-27 Corridor</b>  | <b>390,830</b> | <b>400,913</b> | <b>463,581</b> | <b>513,336</b> | <b>0.4%</b>                           | <b>0.9%</b> | <b>1.0%</b> |
| <b>Texas</b>          | 11,045,000     | 12,568,182     | 17,759,738     | 21,736,925     | 2.2%                                  | 2.1%        | 2.0%        |
| <b>United States</b>  | 201,298,000    | 215,456,585    | 256,514,224    | 287,973,924    | 1.1%                                  | 1.0%        | 1.2%        |
| <b>Non-Metro TX</b>   | 2,133,751      | 2,289,964      | 2,656,742      | 2,927,874      | 1.2%                                  | 0.9%        | 1.0%        |
| <b>Non-Metro U.S.</b> | 38,926,788     | 41,706,866     | 45,729,110     | 49,182,854     | 1.2%                                  | 0.5%        | 0.7%        |

\*Indicates counties that are classified as non-metropolitan by the U.S. Office of Management and Budget in 2004.

Source: Bureau of Economic Analysis

#### 3.2 Employment

As seen in Table 3, total full-time and part-time employment has grown faster in the I-27 corridor since the freeway was completed. Employment growth accelerated in Lubbock, Hale, Swisher, and Potter counties, but decelerated in Randall County. The highest growth rate from 1992 to 2000 was in Potter County, which is more influenced by I-40 than by I-27. Swisher County consistently had the lowest employment growth rates; I-27 bypasses its largest towns. The Texas and U.S. employment growth rates exceeded the I-27 corridor in the eight years after the highway was finished.

**Table 3: Full-Time and Part-Time Employment: 1969-2002**

| County                | 1969              | 1975              | 1992               | 2000               | Compounded Average Annual Growth Rate |             |             |
|-----------------------|-------------------|-------------------|--------------------|--------------------|---------------------------------------|-------------|-------------|
|                       |                   |                   |                    |                    | 1969-75                               | 1975-92     | 1992-2002   |
| Lubbock               | 79,684            | 99,819            | 129,961            | 151,754            | 3.8%                                  | 1.6%        | 2.0%        |
| Hale*                 | 15,203            | 17,644            | 17,532             | 19,777             | 2.5%                                  | 0.0%        | 1.5%        |
| Swisher*              | 5,088             | 5,281             | 3,979              | 4,106              | 0.6%                                  | -1.7%       | 0.4%        |
| Randall               | 9,626             | 12,022            | 29,475             | 35,591             | 3.8%                                  | 5.4%        | 2.4%        |
| Potter                | 55,500            | 70,572            | 76,503             | 102,037            | 4.1%                                  | 0.5%        | 3.7%        |
| <b>I-27 Corridor</b>  | <b>165,101</b>    | <b>205,338</b>    | <b>257,450</b>     | <b>313,265</b>     | <b>3.7%</b>                           | <b>1.3%</b> | <b>2.5%</b> |
| <b>Texas</b>          | <b>5,005,233</b>  | <b>5,608,097</b>  | <b>8,087,909</b>   | <b>12,244,699</b>  | <b>1.9%</b>                           | <b>2.2%</b> | <b>5.3%</b> |
| <b>United States</b>  | <b>91,057,200</b> | <b>98,432,500</b> | <b>116,056,700</b> | <b>166,758,800</b> | <b>1.3%</b>                           | <b>1.0%</b> | <b>4.6%</b> |
| <b>Non-Metro TX</b>   | <b>894,417</b>    | <b>972,485</b>    | <b>1,256,221</b>   | <b>1,423,457</b>   | <b>1.4%</b>                           | <b>1.5%</b> | <b>1.6%</b> |
| <b>Non-Metro U.S.</b> | <b>15,994,931</b> | <b>17,366,057</b> | <b>22,505,521</b>  | <b>25,495,489</b>  | <b>1.4%</b>                           | <b>1.5%</b> | <b>1.6%</b> |

\*Indicates counties that are classified as non-metropolitan by the U.S. Office of Management and Budget in 2004.

Source: Bureau of Economic Analysis

### 3.3 Personal Income

Real per capita personal income in all of the I-27 counties is lower than in Texas as a whole and the U.S. Per capita income growth was slower in all of the I-27 counties than the state and nation both before and after the highway's completion in 1992. Income in both non-metropolitan counties, Hale and Swisher, exceeded the non-metro Texas level in many years.

**Table 4: Real Per Capita Personal Income: 1969-2002**

| County   | 1969      | 1975      | 1992      | 2002      | Compounded Average Annual Growth Rate |         |           |
|----------|-----------|-----------|-----------|-----------|---------------------------------------|---------|-----------|
|          |           |           |           |           | 1969-75                               | 1975-92 | 1992-2002 |
| Lubbock  | \$ 12,013 | \$ 14,857 | \$ 20,226 | \$ 24,236 | 3.6%                                  | 1.8%    | 1.8%      |
| Hale*    | \$ 10,944 | \$ 14,741 | \$ 17,476 | \$ 21,237 | 5.1%                                  | 1.0%    | 2.0%      |
| Swisher* | \$ 14,936 | \$ 17,041 | \$ 23,171 | \$ 25,579 | 2.2%                                  | 1.8%    | 1.0%      |
| Randall  | \$ 15,276 | \$ 19,057 | \$ 24,913 | \$ 24,236 | 3.8%                                  | 1.6%    | -0.3%     |
| Potter   | \$ 11,162 | \$ 16,226 | \$ 19,224 | \$ 23,325 | 6.4%                                  | 1.0%    | 2.0%      |

|                       |                  |                  |                  |                  |             |             |             |
|-----------------------|------------------|------------------|------------------|------------------|-------------|-------------|-------------|
| <b>I-27 Corridor</b>  | <b>\$ 12,196</b> | <b>\$ 15,872</b> | <b>\$ 20,783</b> | <b>\$ 23,843</b> | <b>4.5%</b> | <b>1.6%</b> | <b>1.4%</b> |
| <b>Texas</b>          | \$ 13,308        | \$ 15,984        | \$ 22,040        | \$ 28,076        | 3.1%        | 1.9%        | 2.4%        |
| <b>United States</b>  | \$ 15,189        | \$ 17,166        | \$ 24,299        | \$ 29,881        | 2.1%        | 2.1%        | 2.1%        |
|                       |                  |                  |                  |                  |             |             |             |
| <b>Non-Metro TX</b>   | \$ 11,063        | \$ 13,453        | \$ 17,511        | \$ 21,123        | 3.3%        | 1.6%        | 1.9%        |
| <b>Non-Metro U.S.</b> | \$ 11,566        | \$ 13,931        | \$ 18,644        | \$ 22,587        | 3.1%        | 1.7%        | 1.9%        |

\*Indicates counties that are classified as non-metropolitan by the U.S. Office of Management and Budget in 2004.

Source: Bureau of Economic Analysis (adjusted with National Implicit Price Deflators for Personal Consumption Expenditures)

### 3.4 Industry Mix

Table 5 shows the non-farm employment by industry in the I-27 corridor (sum of the five I-27 counties) in selected years from 1969 to 2000. The growth rate for total non-farm employment has increased since completion of I-27. The fastest-growing sector before 1992 was Mining; the fastest-growing sector after completion of I-27 was Finance/Insurance/ Real Estate (the 1992-2000 growth rates for Mining and Construction are unavailable due to data confidentiality restrictions).

I-27 may have helped to attract Transportation/Public Utilities and Retail Trade jobs to the corridor counties. The growth rates for those sectors increased after the highway was completed.

Farm employment has decreased since 1969. Whereas one in sixteen full-time workers were employed on farms in 1969, just one in fifty worked on farms in 2000.

**Table 5: Farm & Non-Farm Employment by Industry in the I-27 Corridor: 1969-2002**

| Industry Sector                 | 1969           | 1975           | 1992           | 2000           | Compounded Average Annual Growth |              |             |
|---------------------------------|----------------|----------------|----------------|----------------|----------------------------------|--------------|-------------|
|                                 |                |                |                |                | 1969-75                          | 1975-92      | 1992-2000   |
| Ag. Services/Forestry/Fishing   | 1,433          | 2,296          | 3,304          | 4,501          | 8.2%                             | 2.2%         | 3.9%        |
| Mining                          | 2,305          | 2,748          | 5,480          | NA             | 3.0%                             | 4.1%         | NA          |
| Construction                    | 8,437          | 13,449         | 11,872         | NA             | 8.1%                             | -0.7%        | NA          |
| Manufacturing                   | 14,516         | 19,456         | 19,953         | 19,957         | 5.0%                             | 0.1%         | 0.0%        |
| Transportation/Public Utilities | 10,922         | 12,269         | 12,566         | 14,909         | 2.0%                             | 0.1%         | 2.2%        |
| Wholesale Trade                 | 12,541         | 14,940         | 15,360         | 15,943         | 3.0%                             | 0.2%         | 0.5%        |
| Retail Trade                    | 29,896         | 37,209         | 49,401         | 62,491         | 3.7%                             | 1.7%         | 3.0%        |
| Finance/Insurance/Real Estate   | 11,877         | 15,621         | 16,788         | 27,236         | 4.7%                             | 0.4%         | 6.2%        |
| Services                        | 33,135         | 42,640         | 72,931         | 96,549         | 4.3%                             | 3.2%         | 3.6%        |
| Government/Gov't Enterprises    | 28,650         | 35,332         | 44,826         | 44,914         | 3.6%                             | 1.4%         | 0.0%        |
| <b>Total Nonfarm Employment</b> | <b>153,712</b> | <b>195,960</b> | <b>252,481</b> | <b>307,408</b> | <b>4.1%</b>                      | <b>1.5%</b>  | <b>2.5%</b> |
|                                 |                |                |                |                |                                  |              |             |
| <b>Total Farm Employment</b>    | <b>11,389</b>  | <b>9,378</b>   | <b>4,969</b>   | <b>5,857</b>   | <b>-3.2%</b>                     | <b>-3.7%</b> | <b>2.1%</b> |
| Farm as % of Full-Time          |                |                |                |                |                                  |              |             |

|            |      |      |      |      |    |    |    |
|------------|------|------|------|------|----|----|----|
| Employment | 6.9% | 4.6% | 1.9% | 1.9% | NA | NA | NA |
|------------|------|------|------|------|----|----|----|

Source: Bureau of Economic Analysis

Table 6 compares the corridor, state, and national industry mix derived from total nonfarm employment before and after I-27 was completed. Retail Trade accounts for a large and growing share of employment in the I-27 corridor because Lubbock, Plainview, and Amarillo are trading centers for the rural areas of north Texas and eastern New Mexico. Nearly one-quarter of non-farm employees work in the retail industry in Hale County (Plainview). Most of the major new retail establishments in the I-27 corridor have been constructed along I-27 and I-40.

The I-27 corridor is slightly more Services-intensive than Texas as a whole. This may be because of the large medical centers in Lubbock that serve a vast region. Mining employment is more significant in the corridor than in the nation, but smaller than in Texas as a whole.

Manufacturing accounts for a much smaller percentage of I-27 corridor employment than in Texas or the U.S. Although Manufacturing's percentage has declined, Manufacturing employment in the I-27 corridor has remained stable over the past twenty-five years at around 20,000, as seen above in Table 5.

**Table 6: Industry Sectors As Percent of Total Nonfarm Employment: 1969-2002**

| Industry Sector                 | 1969          |               |               | 1992          |               |               | 2000          |               |               |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                                 | Corridor      | Texas         | U.S.          | Corridor      | Texas         | U.S.          | Corridor      | Texas         | U.S.          |
| Ag. Services/Forestry/Fishing   | <b>0.9%</b>   | 0.7%          | 0.6%          | <b>1.3%</b>   | 1.1%          | 1.1%          | <b>1.5%</b>   | 1.3%          | 1.3%          |
| Mining                          | <b>1.5%</b>   | 2.9%          | 0.8%          | <b>2.2%</b>   | 2.9%          | 0.7%          | <b>NA</b>     | 1.9%          | 0.5%          |
| Construction                    | <b>5.5%</b>   | 6.4%          | 5.1%          | <b>4.7%</b>   | 5.6%          | 5.0%          | <b>NA</b>     | 6.7%          | 5.8%          |
| Manufacturing                   | <b>9.4%</b>   | 16.4%         | 23.6%         | <b>7.9%</b>   | 10.8%         | 13.7%         | <b>6.5%</b>   | 9.5%          | 11.7%         |
| Transportation/Public Utilities | <b>7.1%</b>   | 5.7%          | 5.5%          | <b>5.0%</b>   | 5.2%          | 4.8%          | <b>4.8%</b>   | 5.9%          | 5.0%          |
| Wholesale Trade                 | <b>8.2%</b>   | 5.8%          | 4.7%          | <b>6.1%</b>   | 5.2%          | 4.9%          | <b>5.2%</b>   | 5.0%          | 4.6%          |
| Retail Trade                    | <b>19.4%</b>  | 16.4%         | 15.4%         | <b>19.6%</b>  | 17.2%         | 16.9%         | <b>20.3%</b>  | 16.8%         | 16.6%         |
| Finance/Insurance/Real Estate   | <b>7.7%</b>   | 6.7%          | 6.8%          | <b>6.6%</b>   | 7.3%          | 7.6%          | <b>8.9%</b>   | 8.2%          | 8.1%          |
| Services                        | <b>21.6%</b>  | 19.9%         | 19.2%         | <b>28.9%</b>  | 28.5%         | 29.6%         | <b>31.4%</b>  | 30.4%         | 32.4%         |
| Government/Gov't Enterprises    | <b>18.6%</b>  | 19.2%         | 18.2%         | <b>17.8%</b>  | 16.1%         | 15.8%         | <b>14.6%</b>  | 14.4%         | 14.0%         |
| <b>Total Nonfarm Employment</b> | <b>100.0%</b> |

Source: Bureau of Economic Analysis

### 3.5 Business Establishments

The numbers of business establishments in each I-27 corridor county, Texas, and the U.S. in selected years from 1964 to 2001 are presented in Table 7. The Census Bureau defines an "establishment" as "a single physical location at which business is conducted or services or industrial operations are performed." It is not necessarily identical to a company or enterprise, which may consist of one or more establishments. Before 1974, the Census Bureau used "reporting units" as the unit of measurement. The definition of "establishment" has changed since it was first adopted in 1974, most significantly in 1983. Although reporting unit and establishment data are not directly comparable from year-to-year, they can be used to compare relative levels of economic activity in various

communities because the definitional changes were uniformly implemented nationwide.

Table 7 begins with 1964 because the Canyon E-Way between Amarillo and Canyon had been completed but the formal announcement of the I-27 project in 1968 was yet to occur. Construction of I-27 commenced in the Lubbock District in 1975. The base year for the index is 1992 because the last section of I-27 opened then. The most recent available data are for 2001.

The index section of Table 7 shows that most I-27 corridor counties have gained reporting units/business establishments at a slower rate than Texas and the U.S. as a whole since the highway's completion. Only Randall County has exceeded the national growth rate since 1992. Randall has also experienced the greatest growth rate for number of establishments. As stated above, the north-south freeway between Amarillo and Canyon (incorporated in I-27) opened in the early 1960s, contributing to Amarillo's growth in Randall County. Many businesses were established in Potter County during the oil and gas boom of the 1970s and early 1980s; a large number closed after energy prices declined in the mid-1980s. As in non-metropolitan counties throughout the country, Hale and Swisher, have lost many business establishments since the 1960s as local citizens have increasingly worked and shopped in distant communities.

**Table 7 Business Establishments: 1964-2001**

| County               | Reporting Units* | Establishments* |               |               |               | Index (1992=100.0) |             |              |              |              |
|----------------------|------------------|-----------------|---------------|---------------|---------------|--------------------|-------------|--------------|--------------|--------------|
|                      | 1964             | 1975            | 1986          | 1992          | 2001          | 1964               | 1975        | 1986         | 1992         | 2001         |
| Lubbock              | 4,146            | 4,709           | 5,982         | 6,059         | 6,508         | 68.4               | 77.7        | 98.7         | 100.0        | 107.4        |
| Hale**               | 949              | 855             | 894           | 858           | 825           | 110.6              | 99.7        | 104.2        | 100.0        | 96.2         |
| Swisher**            | 288              | 228             | 206           | 187           | 164           | 154.0              | 121.9       | 110.2        | 100.0        | 87.7         |
| Randall              | 411              | 878             | 1,453         | 1,716         | 1,978         | 24.0               | 51.2        | 84.7         | 100.0        | 115.3        |
| Potter               | 3,137            | 3,090           | 3,870         | 3,474         | 3,615         | 90.3               | 88.9        | 111.4        | 100.0        | 104.1        |
| <b>I-27 Corridor</b> | <b>8,931</b>     | <b>9,760</b>    | <b>12,405</b> | <b>12,294</b> | <b>13,090</b> | <b>72.6</b>        | <b>79.4</b> | <b>100.9</b> | <b>100.0</b> | <b>106.5</b> |
| <b>Texas</b>         | 194,581          | 252,496         | 399,150       | 412,326       | 473,868       | 47.2               | 61.2        | 96.8         | 100.0        | 114.9        |
| <b>United States</b> | 3,457,722        | 4,114,262       | 5,806,973     | 6,317,690     | 7,095,302     | 54.7               | 65.1        | 91.9         | 100.0        | 112.3        |

\*Data are not comparable across all years because of definitional changes. In 1974, the Census Bureau changed from a "reporting unit" concept to establishment-based data. The definition of "active" establishments changed in 1983.

\*\* Indicates counties that are classified as non-metropolitan by the U.S. Office of Management and Budget in 2004.

Source: Bureau of the Census, *County Business Patterns*.

### 3.6 Property Value Changes

Median home values are a measure of property values in a particular region. Table 8 compares median values of owner-occupied non-condominium housing units in the I-27 counties, Texas, and the U.S. from 1980 to 2000. Home values in all I-27 counties were below the national median values in all years; only Randall County exceeded the Texas median value in any year. No county exceeded the national growth rate; homes in Potter County appreciated faster than the Texas average in both the 1980s and '90s. Randall County homes exceeded the Texas appreciation rate in the 1990s.

**Table 8 Median Value of Specified Owner-Occupied Non-condominium Housing Units: 1980-2000**

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|

| Location             | 1980   | 1990   | 2000    | Compounded Average Annual Growth Rate |           |
|----------------------|--------|--------|---------|---------------------------------------|-----------|
|                      |        |        |         | 1980-90                               | 1990-2000 |
| Lubbock              | 38,400 | 54,500 | 69,100  | 3.6%                                  | 2.4%      |
| Hale                 | 27,500 | 39,000 | 53,800  | 3.6%                                  | 3.3%      |
| Swisher              | 25,600 | 34,200 | 38,200  | 2.9%                                  | 1.1%      |
| Randall              | 45,400 | 64,800 | 93,500  | 3.6%                                  | 3.7%      |
| Potter               | 24,400 | 39,100 | 54,400  | 4.8%                                  | 3.4%      |
| <b>Texas</b>         | 39,100 | 59,600 | 82,500  | 4.3%                                  | 3.3%      |
| <b>United States</b> | 47,300 | 79,100 | 119,600 | 5.3%                                  | 4.2%      |

Source: Bureau of the Census (current dollars)

## 4. I-27: Economic Development Trends

Texas has special taxes dedicated to economic development efforts. Under the Development Corporation Act, voters in Texas cities can adopt economic development sales and use taxes at rates ranging from one-eighth of one percent to one percent. The tax is primarily intended for manufacturing and industrial development; cities may use the revenue to acquire or construct land, buildings, equipment, facilities, targeted infrastructure, and improvements for related purposes. Amarillo and Hale Center are among the cities in the I-27 corridor that have adopted this tax.

### 4.1 Ports-to-Plains Corridor: Mexico to Denver via I-27

Currently, perhaps the most-discussed transportation issue in the I-27 corridor is the proposed "Ports-to-Plains Corridor," which may become a four-lane divided highway from Mexico to Denver. The 1998 Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) and subsequent federal legislation identified "Ports-to-Plains" as the 38<sup>th</sup> "High Priority Corridor" on the National Highway System. All of the potential routes through Texas, New Mexico, Oklahoma, and Colorado include the current I-27. The four state departments of transportation are jointly creating a Development and Management plan. If the plan is fully implemented truck traffic on I-27 would increase substantially. The political and business community in the I-27 corridor generally support the "Ports-to-Plains Corridor" concept because of its purported economic development potential. The project may require twenty to forty years to complete. The 2001 *Ports-to-Plains Feasibility Study* concluded that a continuous four-lane highway was not feasible along the entire corridor from Mexico to Denver.<sup>[17]</sup>

Tx DOT is considering construction of a network of "Trans-Texas Corridor" super-highways across the state.<sup>[18]</sup> Within corridors 1000 to 1200 feet wide, a six-lane vehicle highway, a separate four-lane truck highway, a freight railroad, a high-speed passenger railroad, and a utility easement would be constructed. Although one is proposed for the I-27 corridor, it is not considered a "Priority Corridor."

### 4.2 Lubbock County: Growth Turns Northward

Before I-27 was completed in 1992 through Lubbock, the city was growing to the west and southwest. The State Loop 289 highway, finished in 1972, directed growth to the city's periphery. As land prices have increased in southwestern Lubbock, developers are increasingly turning to the city's north side and the I-27 corridor for new projects. Lubbock International Airport (ILA) operates Interport Trade Center, a commercial/industrial center between the airport and I-27 on the city's north side. In lieu of a rail spur, ILA spent a \$1.27 million federal Economic Development Administration grant on road and other infrastructure improvements. Interport's first major tenant, Tyco International, opened a fire sprinkler plant there in 2003. Within Loop 289, a \$6-8 million truck stop opened on 4<sup>th</sup> Street near I-27 in 1999.

In 2004, construction began on the first residential subdivision in thirty years in the town of Abernathy, along I-27 in

northern Lubbock County, The impetus was the new industry and accompanying jobs on the northern side of Lubbock.[19] The short commute via I-27 will be a major selling point.

### 4.3 Hale County: New Industries for Plainview

The Plainview/Hale County Industrial Foundation owns three industrial parks on I-27. The Industrial Foundation played a significant role in attracting the retail distribution center and corn mill in the 1980s.[20] It recently attracted a peanut processor and a pallet company. The Industrial Foundation is trying to site a cottonseed crusher, dairy businesses, an ethanol producer, and a meat radiating company in Plainview. State prisons have located in Hale County as part of its economic development campaign.

Plainview has the only significant cluster of retail establishments in the I-27 corridor outside of the Amarillo area and Lubbock[21] .

### 443 Swisher County: Tulia Bypassed

Swisher County has attracted few new businesses in recent years. I-27 bypasses Tulia, its largest town, by about one mile. A truck stop opened at the I-27/Highway 86 interchange near Tulia in September 1988. Along with a motel built in the mid-1990s, these are the Tulia area's only visible benefits from the existence of I-27.

The president of the Tulia Chamber of Commerce says that the lack of through traffic coupled with the general decline of America's rural communities have prevented Tulia from reaching its potential.[22] The Chamber president says that Tulia was a "self-contained" community in the decades after World War II, with shoe sellers, pharmacies, and three department stores. Now the major retail centers in Amarillo and Lubbock are respectively 45 minutes and one hour away via I-27. Today the whole of Swisher County has just one grocery store. (Briscoe County, directly east of Swisher, has none.) The supermarket in Plainview is said to have lost business after the Wal-Mart Supercenter opened.

U.S. 87 runs along the western edge of Tulia, an area known locally as "the West End." Before I-27 diverted through traffic from U.S. 87, the West End had many healthy commercial enterprises. Now those grocery stores, service stations, motels, and other businesses are struggling or closed[23] .

Agricultural issues are also affecting Tulia's economy. The chamber president says that effects of the U.S. Department of Agriculture's Conservation Reserve Program have reverberated through the local economy. As increasing acreage has been taken out of cultivation, less money has been spent locally on seeds, implements, and implement supplies, including tires and oil[24] . On a positive note in the farm sector, dairy is a growing industry in the Panhandle, a region long known for its beef cattle. Tulia has attempted to attract related industries, such as cheese factories.

### 4.5 Randall & Potter Counties: Amarillo & Canyon Melding Together

I-27 is viewed as an intra-regional freeway in Randall County, with commute traffic between Amarillo and Canyon. The cities are growing towards each other to the point that a strip of development along I-27 will soon connect them. Since the "Canyon-E" Expressway (now part of I-27) opened in the early 1960s, Amarillo has built towards the southwest along the highway.[25] The Hunsley Hills residential development on the northern side of Canyon and the recent movie theater (Hollywood 16 - opened 1998), hotel, and miniature golf course (Sports World - opened June 2001) projects at the I-27/Hollywood Road interchange in south Amarillo are examples of how the gap between the communities is shrinking.[26]

Development is also occurring in Amarillo along Loop 335, especially its western interchange with I-40 (Soncy Road), where a movie theater and retail complex has been constructed in recent years. Debate has continued for many years about Loop 335 widening and access restrictions.

## 5. I-27 Summary

Interstate 27 has tied the cattle and cotton country of the Texas High Plains into the Interstate Highway System. I-27

ended Lubbock's isolation from the interstate highway grid. It has facilitated the transport of agricultural products to market. Communities throughout the corridor have gained new businesses, including distribution centers and agricultural processing plants, which were partially attracted by the presence of I-27. More than a decade after its completion, I-27 is helping the north Lubbock area to realize its economic development potential. The highway is controversial in small towns and among critics who believe that U.S. 87 provided adequate north-south capacity in the region. If the Port-to-Plains Corridor is developed to the extent it's advocates hope, the existing I-27 could become a vibrant conduit for trade between Mexico and western Great Plains/Rocky Mountain region of the United States.

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[1] This report was prepared by Jack Faucett Associates, Inc. of Bethesda, Md. under contract with the Federal Highway Administration (Martin Weiss, principal official for the Economic Development Highway Initiative). Jason Bezis and Kristin Noyes were the primary authors, with assistance from Justine Lam, Paul Nguyen, and Jessica Bonardi. The consultant team of JFA acknowledges the active participation and assistance of local development districts and other local and regional agencies for completion of this case study. Specific individuals from these entities are footnoted throughout this document.

[2] The U.S. Office of Management and Budget defines metropolitan and micropolitan statistical areas based on Census Bureau data. Each metropolitan statistical area (MetSA) must have at least one urbanized area of 50,000 or more inhabitants. Each micropolitan statistical area (MicSA) must have at least one urban cluster of at least 10,000 but less than 50,000 populations. The county (or counties) in which at least 50 percent of the population resides within urban areas of 10,000 or more population, or that contain at least 5,000 people residing within a single urban area of 10,000 or more population, is identified as a "central county" (counties). Additional "outlying counties" are included in the MetSA or MicSA if they meet specified requirements of commuting to or from the central counties.

[3] Texas Highway Commission Minute Order 44248 of July 2, 1958 designated U.S. 87 from U.S. 60 in Canyon to Amarillo as a "controlled access highway" under the provisions of H.B. 179, 55<sup>th</sup> Legislature. The expressway was constructed in three segments from two miles north of Canyon to 45<sup>th</sup> Avenue in Amarillo. The acceptance dates ranged from November 1959 to January 1961.

[4] "Lubbock gets an interstate," *80 Years of Service the TxDOT Way* (1997 insert to the *Lubbock Avalanche-Journal* by TxDOT Lubbock District).

[5] Kara Kockelman, et. al., Center for Transportation Research, University of Texas at Austin, *Frontage Roads in Texas: Legal Issues, Operational Issues, and Land Use Distinctions* (2000), p.4.

[6] Minute Order 61859.

[7] For many years, the section of I-27 (or U.S. 87 when it was the corridor's main highway) with the lowest traffic volume was in southern Randall County between Canyon and Happy. Now the I-27 segment with the lowest flow is north of Tulia in Swisher County. I-27 traffic volumes are somewhat depressed in these areas because U.S. 87 remains as a parallel roadway; AADT was below 1,000 on most parallel segments of U.S. 87 in 1990.

[8] <http://www.tshaonline.org/> ("High Plains," "Llano Estacado")

[9] More specifically, the I-27 corridor lies in the "Llano Estacado" (Staked Plains), the southern portion of the High Plains. One of the largest tablelands on the continent, it is demarcated on the north by the Canadian River valley and on the east by the Caprock escarpment; the Rolling Plains region is on the other side of the Caprock. The "Llano" runs into New Mexico on the west and to the Big Spring area on the south. It is generally flat and treeless. The natural vegetation is short grass, which once supported herds of southern buffalo.

[10] *Texas: A Guide to the Lone Star State*, pp. 8-9 (1969).

[11] Penny Mason, "Growth of District 5 mirrors history of region," *80 Years of Service the TxDOT Way* (1997 insert to the *Lubbock Avalanche-Journal* by TxDOT Lubbock District).

[12] Jennifer S. Cowley and Dana M. Pechacek, "Real Estate Market Overview 2001: Lubbock," Texas A&M

University Real Estate Center, "Major Industries" section. See <http://recenter.tamu.edu/mreports01/lubbock.html>.

[13] Texas Agricultural Statistics Service, *County Estimates* (2003).

[14] Jennifer S. Cowley, "Real Estate Market Overview 2001: Amarillo," Texas A&M University Real Estate Center, "Major Industries" section. See <http://recenter.tamu.edu/mreports01/amarillo.html>.

[15] possibly meaning acres of interconnected wells

[16] Jennifer S. Cowley, "Real Estate Market Overview 2001: Amarillo," Texas A&M University Real Estate Center, "Major Industries" section. See <http://recenter.tamu.edu/mreports01/amarillo.html>.

[17] *Ports to Plains Feasibility Study: Executive Summary* (June 2001), p. 16.

[18] Texas Department of Transportation, *Crossroads of the Americas: Trans Texas Corridor Plan* (June 2002).

[19] Telephone interview with Mike Cypert, city manager, Abernathy, Texas, July 13, 2004.

[20] Telephone interview with Grady L. Elder, Jr., executive director, Plainview/Hale County Industrial Foundation, July 2004.

[21] . In July 2004, a 203,000 square-foot Wal-Mart Supercenter opened on an I-27 frontage road near Plainview, replacing a 90,000 square-foot store in another part of the city. It is a prototype for the chain. Other businesses, including a strip shopping center and a national chain restaurant, are planned for nearby locations.

[22] Telephone interview with Lana Barnett, president of Tulia Chamber of Commerce, September 9, 2004.

[23] The Tulia chamber president said that many business establishments do not close immediately due to economic hardship because the proprietors have usually covered their fixed costs. So long as they can cover their variable costs, they remain open. The closures often occur when the proprietors retire and are unable to find buyers who can afford the equipment, mortgage, and other capital costs. Consequently, a change such as traffic diversion due to a new highway can take many years before effects are fully felt in a community with many small businesses. Although Tulia's grain elevator is a highway landmark, the town's distance from I-27 causes motorists unfamiliar with the area to be unaware of Tulia's existence, the chamber president said. She said that a highway access issue may be hampering Tulia's development. Exit 77, the first Tulia interchange from southbound I-27, has a curve that local drivers dislike. To avoid this curve, many take the preceding exit (Exit 82/Ranch Road 214) and drive several miles on the I-27 frontage road to reach Tulia.

[24] According to the chamber president, the farmers are paid by the CRP, but do not spend the proceeds locally. Now just one implement company, one tire company, and one oil company remain in Tulia. In addition, the declining water table has affected farms within Tulia's market area, as irrigated crops are replaced with less-valuable dry land crops. These matters are compounding Tulia's challenges.

[25] Jennifer S. Cowley, "Real Estate Market Overview 2001: Amarillo," Texas A&M University Real Estate Center, Urban Growth Patterns section. See <http://recenter.tamu.edu/mreports01/amarillo.html>.

[26] To some extent, the new theater displaced existing movie screens in the Amarillo area. A few months after the Hollywood 16 opened, a twin-screen theater in an older part of the city closed. *Amarillo Daily News*, June 15, 1998.

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