# State Of the Community Report: Liberty County, Texas

# **Liberty County: Background**

Liberty County, Texas is located in southeastern Texas and part of the Houston metropolitan area. The County is bisected by the Trinity River from North to South and US Highway 90 from East to West. The County has a very strategic location, along the Trinity River, allowing access to the Port to the South, and along US Highway 90, connecting Houston to Beaumont.

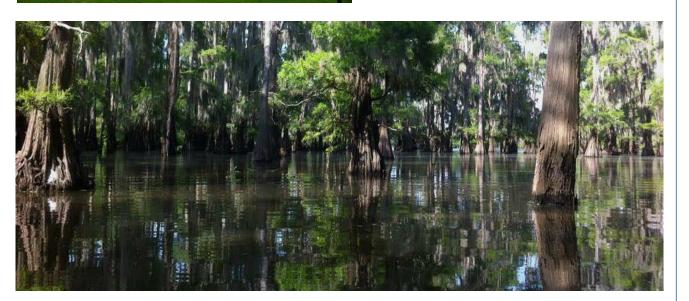






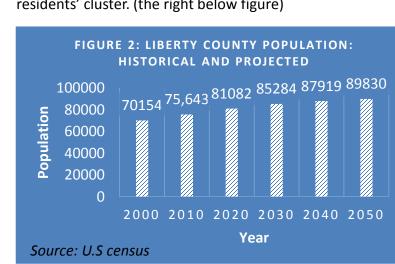
The County was officially formed in 1836 as part of the Republic of Texas. The City of Liberty was annexed in 1837 and made the county seat. Originally, the County was much larger, encompassing all of what is currently Tyler County and parts of what later became Hardin, Chambers, San Jacinto, and Polk counties. The County's early development focused on agriculture, especially timber production, since timber could be floated down the Trinity River to Houston-area ports. In 1901, oil production began and has continued since. Many other minerals are found within the County, including: lignite, iron ore, sulfur, brick clay, salt, lime, glass sand,

Soil within the County is very high quality and between 40 and 50 percent of the and is considered to be prime agriculture and. Soil types include sandy, sandy loam, sandy, and black waxy, characteristics of being located near the exas coast. The subtropical climate is also characteristic of the County's coastal ocation, with very high humidity levels and average rainfall around 51 inches. emperature varies throughout the year from between about 40 to 94 degrees



# Demographics

The population of Liberty County is clustered around the two major cities: the City of Liberty in the central of the county, and in the City of Cleveland, in the northwest of the county. With the growth the population, according to the projected density in 2035, another city in Liberty County, Dayton, would become another residents' cluster. (the right below figure)

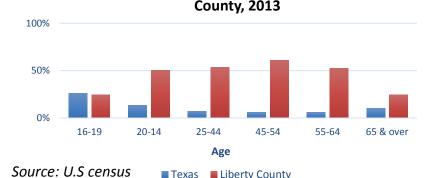


#### Figure 3: Population Growth Rate

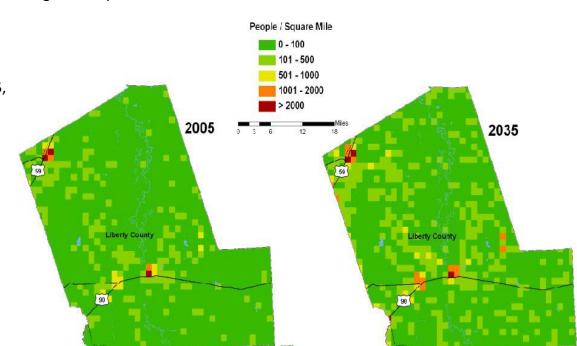
	Population in 2000	Population in 2010	Growth Rate
Liberty County	70,154	75,643	7.82%
H-GAC Area	4,854,454	6,087,133	25.39%
State of Texas	20,851,820	25,145,561	20.59%

The population age between 45 is the main of group of both Texas and Liberty County. The older age is much smaller than the younger. When compared the old age between different genders, the proportion of old females is higher than males. Although the main structure is similar between Texas and Liberty County, the age between 20-30 year-old is a slightly smaller than the average level.

Figure 7: Unemployment Rate in Texas and Liberty



Based on the figure 7, it is obvious that the unemployment of Liberty County is far behind that of Texas, especially in the young



Source: H-GAC

Figure 1: Population Densities

According to the population historical and projected (the figure below), the residents of the county raises increasingly and stably. It keeps to raise by 2,000 to 5,000 for each decade.

In terms of the growth rate of population, Liberty County falls far behind the average of the whole county and the neighborhood area. The growth rate of the state (20.59%) is about three times as that of Liberty County (7.82%).

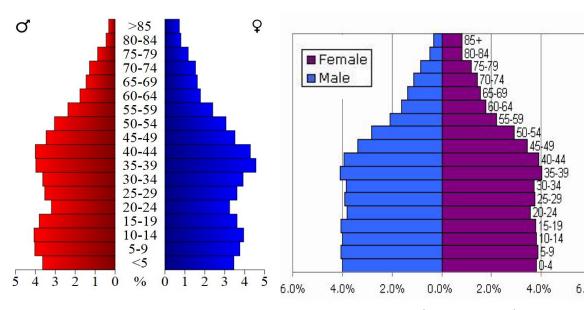


Figure 5: Population Pyramid, 2010, TX Figure 4: Population Pyramid, 2010,

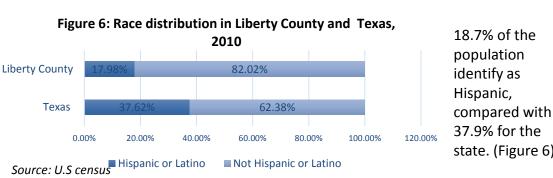


Figure 7.1: Riverine flood hazard zone map for Liberty County

Figure 7.2: Potential hurricane wind speed for 100 and 500 year events

Figure 7.3: Hurricane Ike Impact, Liberty County, 2008

Figure 7.4: Wildfire risk and area of concern in Liberty County

# Housing

Liberty County has developed slowly, over the course of many generations. The housing stock has grown at a similar rate to population, with expedited growth following World War II. Housing growth peaked in the 1990's and since has slowed significantly. Overall residential growth trends are in line with patterns for the state of Texas, with slight variations in the 1990's. In the 1990's, there was a large increase in both the number of housing units being ——Texas built and the number of occupants moving into housing units, as can be \_\_\_\_\_\_us seen in Figures 4.1 and 4.2. The number of occupants moving into housing units peaked in the period from 2000 to

The majority of the housing stock in the County is owner occupied, at around 80%. The value for owner occupied housing units is lower than the state average, with the median value at about \$85,000, as can be seen in Figure 4.1.1. Owner occupied housing has a very low vacancy rate of 1 perfect and is affordable., with only about a quarter of owner occupied households being housing cost burdened. Renter occupied housing unit costs are also below both state and national rates, with a median monthly rent of \$731, as can be seen in Figure 4.2.1. Rental housing is less affordable than owner occupied, but still more affordable than state and national comparisons.

Figure 4.2.1, Rental Housing Cost in Liberty

less than \$200 to \$300 to \$500 to \$750 to \$1,000 \$1,500

Monthly Rent

County, Texas (U.S. Census).

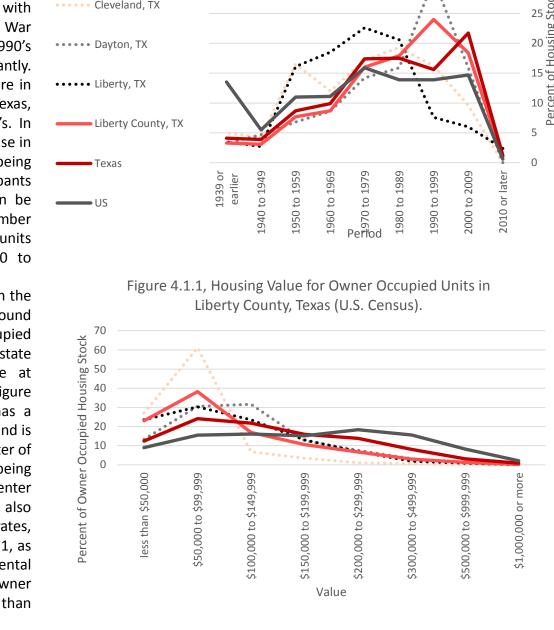
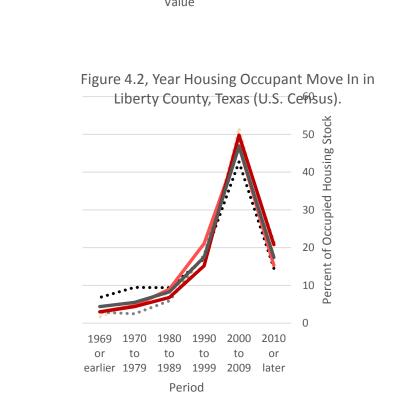


Figure 4.1, Housing Age in Liberty County, Texas (U.S. Census).



### **Economy**

Health care and social assistance

Transportation and warehousing

Health care and social assistance

Accommodation and food services

Administrative and support and waste

management and remediation services

Accommodation and food services

Retail trade

Manufacturing

Retail trade

Figure 1: Top 5 industries of Liberty County

Figure 2: Top 5 industries of Texas

share	NAICS	LQ (2013)	LQ (2	
20.46%	Agriculture, forestry, fishing	10.47	7.96	
14.34%	and hunting			
10.11%	Construction	1.66	1.19	
9.11%	Other services (except public	1.63	1.36	
6.91%	administration)			
	Retail	1.61	1.72	

Manufacturing

share

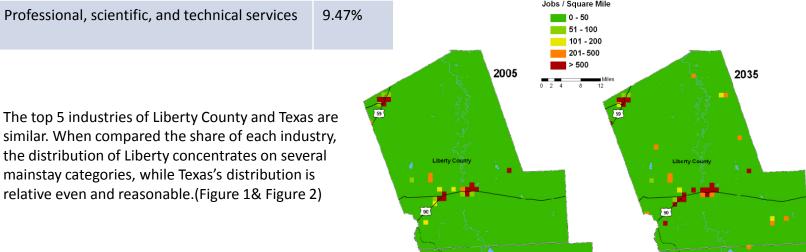
9.64%

Figure 3: Top 5 Location Quotients of Liberty County

1.56

The location quotients show that Liberty County has advantage in agriculture, forestry, fishing and hunting. Extremely concentration on Agriculture, Forestry, Fishing and Hunting is an economical problem and risk for Liberty

Figure 3: Job densities of Liberty County



Based on the map of employment densities for Liberty County in 2005 in figure 3, the employment within Liberty County concentrates on the three major cities – Liberty City, Cleveland City, and Dayton city, similar to population distribution. The projection of job density in Liberty County for 2035 shows the same pattern.

The top 5 industries of Liberty County and Texas are

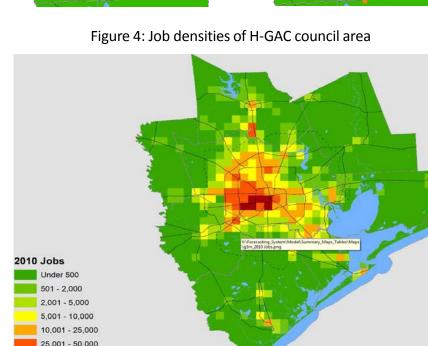
similar. When compared the share of each industry,

the distribution of Liberty concentrates on several

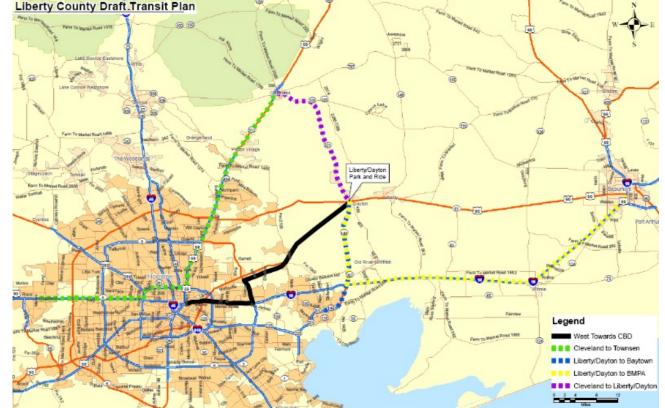
mainstay categories, while Texas's distribution is

relative even and reasonable. (Figure 1& Figure 2)

When the comparison extends to the H-GAC area (the neighborhood area), Figure 4 shows the employment distribution of H-GAC council area shows that the amount of employment in City of Houston far exceeds the around counties. The higher the density, the closer to the city center.



# **Transportation**



Liberty County is located to the Northeast of Houston proper and has two major roadways that serve the Houston metropolitan area, as can be seen in Figure 7.1. US Highway 90 serves as a major route eastern from downtown Houston towards Beaumont and Louisiana. Interstate Highway 69 radiates northeast from downtown Houston and continues north as US Highway 59 through many east Texas communities before crossing state boundaries near

Texas Department of Transportation has several ongoing projects occurring in the county, such as the pervious replacement of the old Highway 3 bridge, which can be seen in Figure 7.2 Most projects are minor, however, there is a major project underway to widen a five-mile stretch of US Highway 90. Additionally, there is a regional plan for the construction of Grand Parkway as the third loop around the Houston metropolitan area. Segments H and I-1 Figure 7.3, are 37 miles long and expected to be constructed partially within the County. This would increase mobility and growth within the County and encourage

economic development

### Figure 7.1, Regional look at transportation (H-GAC).

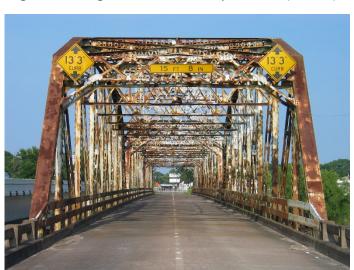


Figure 7.2, The old Highway 3 Bridge, crossing the Trinity River (Texas Freeway).

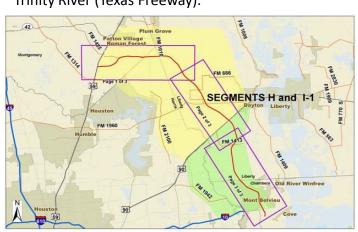


Figure 7.3, Map of Grand Parkway segments H and I-1 (The Grand Parkway Association).

## **Environment**

Over the period of time hurricanes, floods, severe storms, wildfires and freezing have identified the major disturbances for this County (Table 7.1). They have caused the most damages for the County. To analyze the hazard vulnerability part of this report all of the facts has been taken from Houston-Galveston area council Hazard Mitigation Plan (H-GAC HMP) 2011 update, September 4, 2012 and Liberty County Hurricane Ike impact report.

Liberty County has experienced two types of floods such as riverine and coastal flood due to its geographic settings. Riverine flooding poses a serious threat to Liberty County and heavy rainfall events has caused flash flooding. Any future development should consider the flood zone map of this County (Fig 7.1)

#### Hurricanes

From 1983 to 2008 this area has attacked by four major hurricane hits and experienced a lot of damages. However, local and city authority of this County should consider and analyze the previous hurricane events before taking any future development decision. Figure 7.2 shows the potential hurricane winds that could affect the study area assuming 100- and 500- year wind events. Figure 7.3 shows the Hurricane Ike Impact of Liberty County.

#### Wildfire Risk

The Texas Forest Service has conducted wildfire risk assessment for the seven Counties including Liberty County (Fig 7.4). It identified 'Areas of Concern' based on the Wildfire Susceptibility Index (WFSI)

#### **Summary of the Potential Hazard**

It is evident from the findings of this Risk Assessment by Houston-Galveston area council Hazard Mitigation Plan 2011 that the hazards posing the greatest threat to the Liberty County are Floods, hurricanes and tropical storms, tornadoes, and excessive heat and freezing. Those are the threats that should be taken into consideration for future development decision.

Table 7.1: Major disasters in Liberty County

County	Year	Disaster Number	DEM Incident Type	Presidential Declaration	SBA Declaration			
Liberty	rty 2008 1791 DR Hurricane		Hurricane	Yes	Yes			
Liberty	2007	1709 DR	Severe Storms, Tornadoes, and Flooding	Yes	Yes			
Liberty	2006	1624 DR	Extreme Wildfire Threat	Yes	No			
Liberty	2005	1606 DR	Hurricane	Yes	Yes			
Liberty	2002	1439 DR	Severe Storms, Tornadoes	Yes	Yes			
Liberty	2001	1379 DR	Tropical Storm	Yes	Yes			
Liberty	2000	3259	Flood	No	Yes			
Liberty	1998	1257 DR	Flood	Yes	Yes			
Liberty	1994	1041 DR	Flood	Yes	Yes			
Liberty	1992	937 DR	Flood	Yes	Yes			
Liberty	1991	930 DR	Flood	Yes	Yes			
Liberty	1990	863 DR	Flood	Yes	Yes			
Liberty	1989	828 DR	Flood	Yes	Yes			
Liberty	1989	836 DR	Hurricane	Yes	Yes			
Liberty	1983	2091	Flood	No	Yes			
Liberty	1983	2115	Freeze	No	Yes			
Liberty	1983	689 DR	Hurricane	Yes	Yes			

# **Local Capacity**

Table Key  HMP: Hazard Mitigation Plan  DRP: Disaster Recovery Plan  CLUP: Comprehensive Land Use Plan  FMP: Floodplain Management Plan  SMP: Stormwater Management Plan  EOP: Emergency Operations Plan  COOP: Continuity of Operations Plan  REP: Radiological Emergency Plan  SARA: SARA Title III Emergency Response Plan  TRANS: Transportation Plan					RE HP ZO SO FD NF CR	CIP: Capital Improvements Plan (that regulates infrastructure in hazard areas) REG-PL: Regional Planning HPP: Historic Preservation Plan ZO: Zoning Ordinance SO: Subdivision Ordinance FDPO: Flood Damage Prevention Ordinance NFIP: National Flood Insurance Program CRS: Community Rating System BC: Building Codes													
Jurisdiction <sup>1</sup>	HMP	DRP	CLUP	FMP	SMP	EOP	G000	REP	SARA	TRANS	CIP	REG-PL	НРР	0Z	8	FDPO	NFIP	CRS	8
Liberty County	1			1	✓	<b>√</b>	✓		<b>√</b>	1	<b>√</b>	1			<b>√</b>	1	✓		
City of Ames	1					1		ĺ				1			1				1
City of Cleveland	<b>✓</b>			1		✓	1	1		1					1	1	1		1
City of Daisetta	1			1		1		İ	1			1					1		
City of Dayton	1		1	1	<b>✓</b>	1				1	<b>✓</b>	1			1	✓	1		1
City of Dayton Lakes <sup>2</sup>	1	İ															1		
City of Devers	1																		
City of Hardin	1	İ						İ									1		
City of Kenefick <sup>2</sup>	1																		
City of Liberty	1	1		İ		1		1	1			1			1		1		1
City of North Cleveland <sup>2</sup>	1																		
City of Plum Grove <sup>2</sup>	1																1		

### **SWOT**

H-GAC MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

HOYC URS

D 15 30 BO Kilometers

0 125 2.5 S 7.5 10

Economy-wide Ike Impact

### (S)trengths

US Highway 90 is a major connection

- between Houston and Beaumont
- Trinity River
- Quality farmland
- Quality high school education
- Hazard mitigation upgrade program

# (W)eaknesses

- Many people are employed outside of the County
- No comprehensive land use plan • No disaster recovery plan
- No zoning ordinances
- No historic preservation plan

### (O)ppurtunities

 Increase job opportunities within the county Lots of open space for development

- High growth rate
- Grand Parkway Segments Changing population dynamics

### (T)hreats

 Economy is very limited to agriculture and oil/gas

- Increasing unemployment rate
- Changing population dynamics
- High risk of flooding and hurricane related hazards

# Recommendations

Based upon the current state of the community and the strengths, weaknesses, opportunities, and threats identified in this report, a list of recommendations were developed in order to encourage resiliency for the County of Liberty. Our recommendations are as follows:

- Develop a countywide strategic plan to guide cohesive development
- Encourage municipalities within the County to adopt zoning ordinances and comprehensive plans
- Take precautions to prepare for hazards, both before and after the event
- Develop a countywide Disaster Recovery Plan
- Encourage diversity in economy
- Evaluate future housing needs to meet changing county demographics
- Establish environmental conservation program to protect the Trinity River and areas
- of wetlands and forestry







## References

- Houston-Galveston area council, Regional hazard plan 2011 update, September 4, 2012 (http://videos.h-
- gac.com/CE/hazard/2011-Hazard-Mitigation-Plan.pdf) mitigation http://www.fws.gov/uploadedImages/Region 2/NWRS/Zone 1/Trinity River/Images/ChampionLake ChuckGonzalez 950x348.jp
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- http://www.censusscope.org/us/s48/chart\_age.html The data of U.S census