GALVESTON COUNTY ECONOMIC RESILIENCE PROFILE

Contents

Introduction

Economic resilience is the ability to withstand and prevent disruptions to the economy. The most common types of disruptions include downturns in the economy or in a key industry; the exit of a major employer; and natural or man made disasters.

Creating a resilient economy requires the ability to anticipate risk, evaluate how risk can impact economic assets, and build the capacity to respond to disruptions.

This profile is intended to provide an overview of the factors affecting the future growth, development and resilience of Galveston County and its economy by providing key data points on the economy, demographics, and other useful information.

Galveston County Boundaries

Galveston County

Other counties

● Top 4 cities

— Major roads

County Seat: Galveston
Largest City: League City
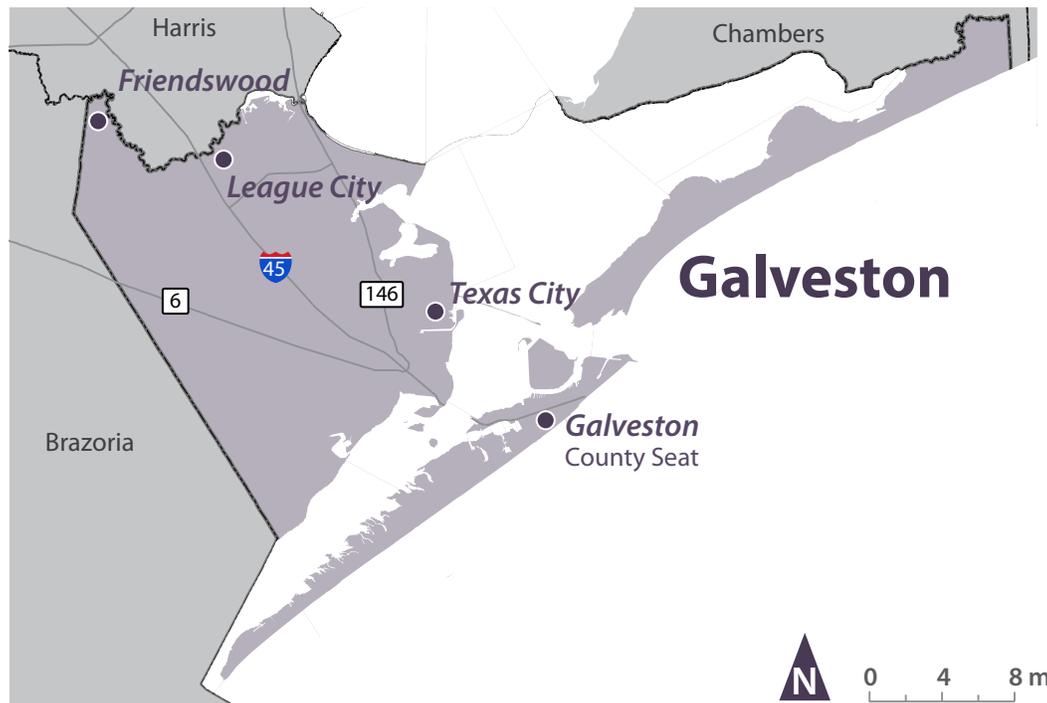
Galveston County Overview

Galveston County, on the Texas Gulf Coastal Plain; includes Galveston Island, Galveston Bay, the mainland, Pelican Island, and the Bolivar Peninsula. Fifty-seven percent of the county is water (including Galveston Bay) , and its waterways are a crucial factor in its economic development. Home to the Port of Galveston and the Port of Texas City, Galveston County's economy rests on the twin pillars of maritime-related activities and the petrochemical industry. The Port of Galveston has an annual economic impact of slightly more than $3 billion and provides more than 3,330 jobs. It is served by two railroads: Union Pacific and Burlington Northern Santa Fe. The Port of Texas City has a direct business revenue of $6.4 billion and provides more than 6,758 direct jobs. The county's petrochemical complexes include two petroleum refineries, five organic chemical plants, and two plastics materials and resin manufacturing companies. The agricultural sector is relatively small, producing $8.25 million annually, with 89,554 acres under cultivation.

Tourism (over six million visitors per year), retail sales (over $4 billion annually), healthcare (home of the University of Texas Medical Branch with over 11,000 employees), and educational services are also important sectors of the economy. Galveston County has become increasingly more developed and urbanized, with 93.9 % of the population living in urban areas as of the 2010 U.S. Census. The 2016 U.S. Census estimates Galveston County's population at 329,431, and the population is projected to grow to 475,000 residents by 2040. Galveston County includes the cities of Bayou Vista (1,612), Clear Lake Shores (1,194), Dickinson (20,074), Friendswood (28,065), Galveston (50,550), Hitchcock (7,805), Jamaica Beach (1,065), Kemah (2,000), La Marque (16,457), League City (100,117), Santa Fe (13,205), and Texas City (48,262); along with the village of Tiki Islands (1,049). Its major transportation corridors include Interstate 45, State Highway 3, State Highway 6, State Highway 87, and State Highway 146.

Residents enjoy a farmers' market in Seabrook.

Recent Disruptions to the Economy

With sustained winds of 110 miles per hour and a 22-foot storm surge, 2008's Hurricane Ike devastated Galveston County. The City of Galveston was declared uninhabitable following the storm. The Bolivar Peninsula was submerged by the storm surge, and entire communities were swept away. The communities of Bayou Vista and Jamaica Beach were also nearly destroyed (FEMA's 2008 Hurricane Ike Impact Report contains a more detailed accounting of the destruction). Hurricane Ike occurred months before 2008's Great Recession, and the twin blows caused unemployment to spike by 2% from August to October of 2008.

In 2017, Hurricane Harvey caused significant damage across the county due to flooding. The effects from Harvey are still being assessed, and economic impacts are being tallied. The damages caused by Harvey are still being assessed. Initial FEMA estimates indicate nearly all of the homes in Hitchcock were reported as destroyed or damaged. The cities of Bayou Vista, Dickinson, Hitchcock, and Jamaica Beach, the Village of Tiki Island, and unincorporated communities along the Bolivar and San Leon peninsulas reported significant damage. Galveston's petrochemical industry largely avoided negative effects in the collapse in the price of a barrel of oil in 2014-2016, when prices plummeted from over $100 dollars a barrel to less than $30. The industry is largely based in refining crude oil and natural gas into other industrial products and fuels and remains profitable even during a downturn in price.

Economic Resilience Strategies

Galveston County's location along the Gulf of Mexico is both its economic strength (the basis for its petrochemical and maritime industries) and a source of vulnerability from storms. Implementing an effective barrier to storm surges could protect residents, businesses, and properties against much of the negative consequences of a hurricane. Hurricanes Ike and Harvey impacted petrochemical production, causing major plants to cease operations following the storm. Galveston's petrochemical complexes need a constant source of energy to maintain production; some of the plants generate their own power, while others are tied to the electrical grid.

Recommendations

Galveston County's economy will be better able to withstand, avoid, and recover from disruptions if it is able to:
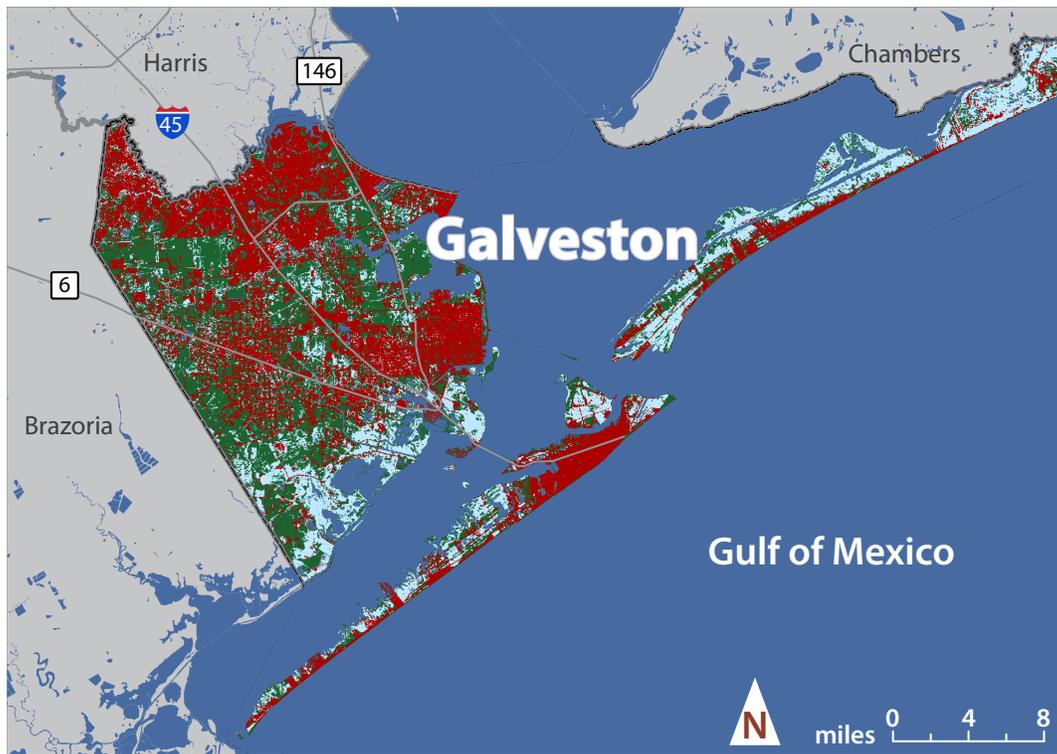
Explore the potential funding mechanisms for creating a structural solution to provide protection from storm surge in Galveston County.

Implement the Corps of Engineers study of the Texas City Hurricane Flood Protection Project to improve the current levee system to provide protection from a Category 5 hurricane.
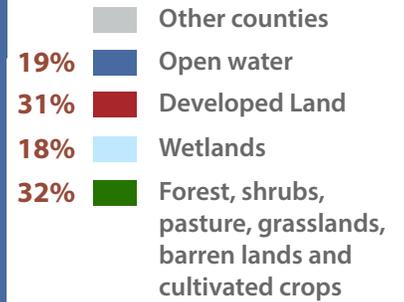
Create a standing committee to address issues to enhance the resilience of the petrochemical complexes in Galveston County.

Investigate strategies for better coordinated countywide flood control strategies.

Land Use and Demographics

Galveston County Land Use

		Other counties
19%		Open water
31%		Developed Land
18%		Wetlands
32%		Forest, shrubs, pasture, grasslands, barren lands and cultivated crops

The county's location on the Galveston Bay and the Gulf of Mexico are crucial to it's economy; this increases its vulnerability to storm events. Galveston and Galveston County has been largely urbanized, and has significant wetlands along the coast.

Population Growth Forecast

Galveston County grew by 65% from 1980 to 2015 and is expected to reach 475,000 residents by 2040.

475,000

2015
322,000

196,000

1980 1990 2000 2010 2020 2030 2040
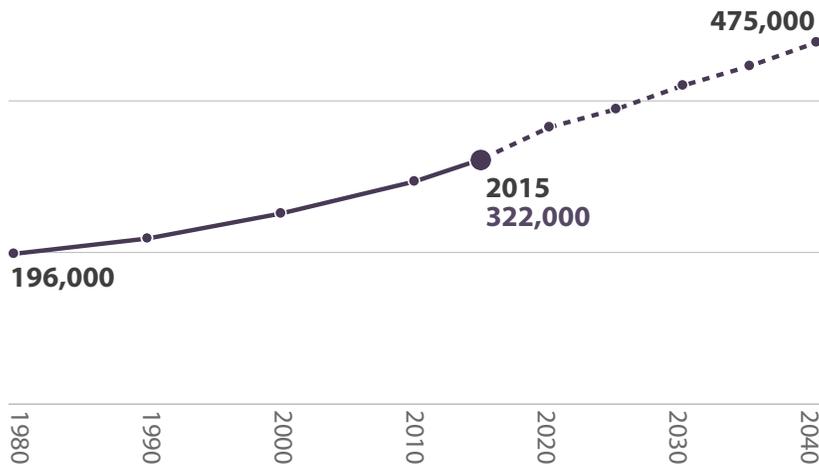
Top 10 City Populations

The City of League City is Galveston County's largest incorporated municipality.

100,117	League City*
50,550	Galveston
48,262	Texas City
28,065	Friendswood*
20,074	Dickinson
16,457	La Marque
13,025	Santa Fe
7,805	Hitchcock
2,000	Kemah
1,612	Bayou Vista

*The municipality spans multiple counties. Only the population residing in Galveston County is shown here.
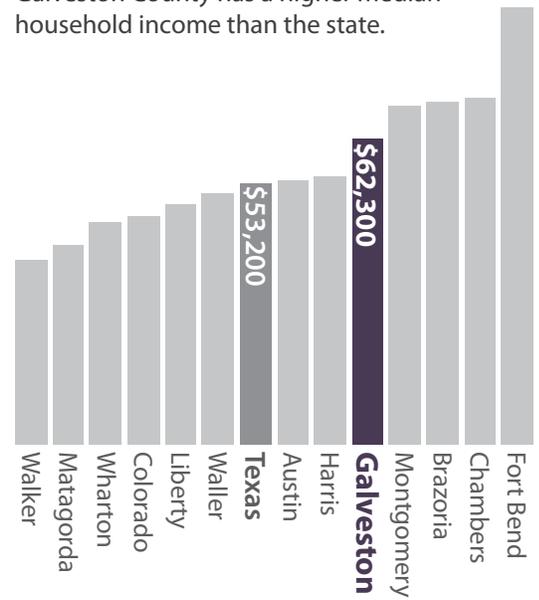
Land Use and Demographics

Residents Per Square Mile
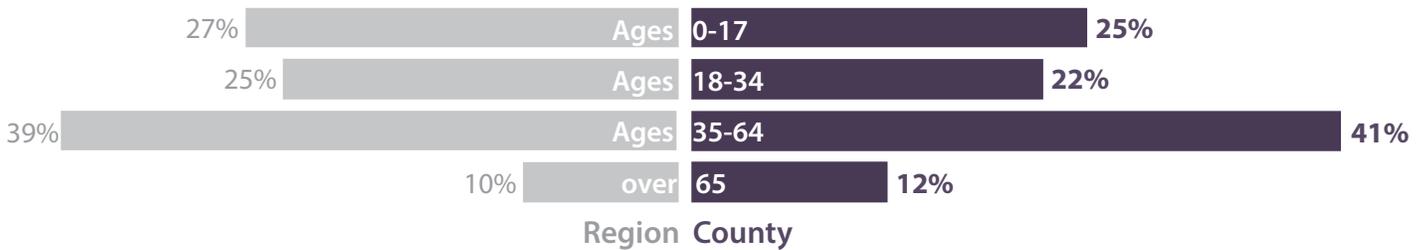Galveston County is the more dense than the region as a whole.

2,590
890
560
20

Colorado
Matagorda
Wharton
Austin
Chambers
Liberty
Waller
Walker
Brazoria
Region
Montgomery
Fort Bend
Galveston
Harris
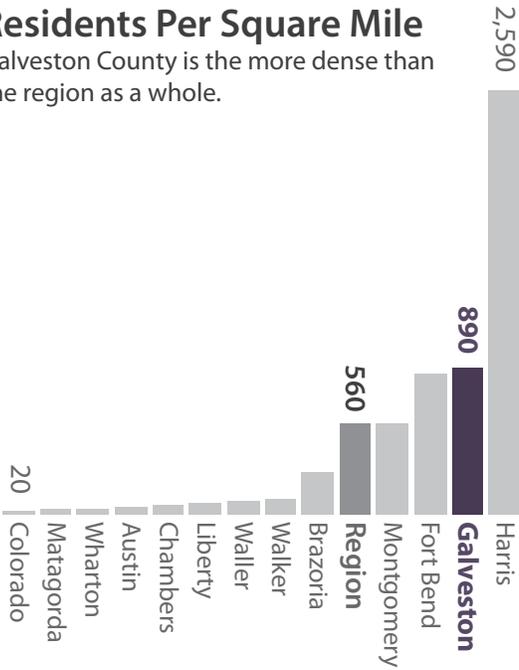
Median Household Income
Galveston County has a higher median household income than the state.

$62,300
$53,200

Walker
Matagorda
Wharton
Colorado
Liberty
Waller
Texas
Austin
Harris
Galveston
Montgomery
Brazoria
Chambers
Fort Bend

Age
Galveston County has a similar age profile as the region as a whole.

Region	Ages	County
27%	Ages 0-17	25%
25%	Ages 18-34	22%
39%	Ages 35-64	41%
10%	over 65	12%

Region **County**

Poverty Rate
Galveston County has a lower rate of poverty than the region and state.

	Overall	Children (under 18)	Seniors (65 and over)
County	14%	20%	8%
Region	16%	23%	10%
Texas	17%	25%	11%
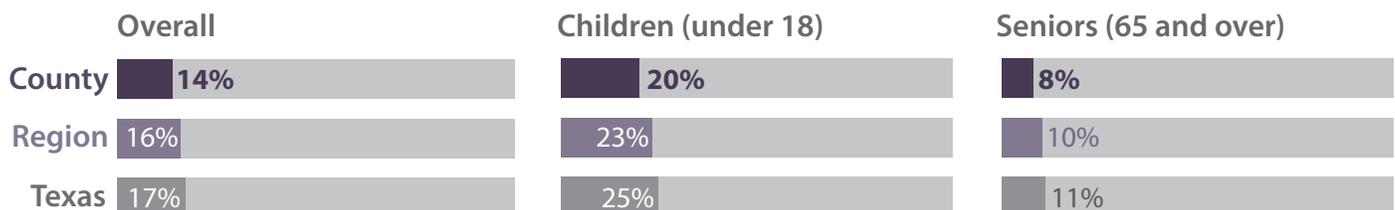
Housing

## Building Permits Issued

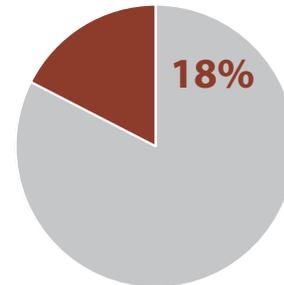Single-family construction is declining in the past few years while multi-family permits remain intermittent.

3100

**Single Family
2200 units**

900

**Multi-Family
30 units**

40

170

1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016

Housing Tenure

Galveston County has a higher rate of homeownership than the region or the state.

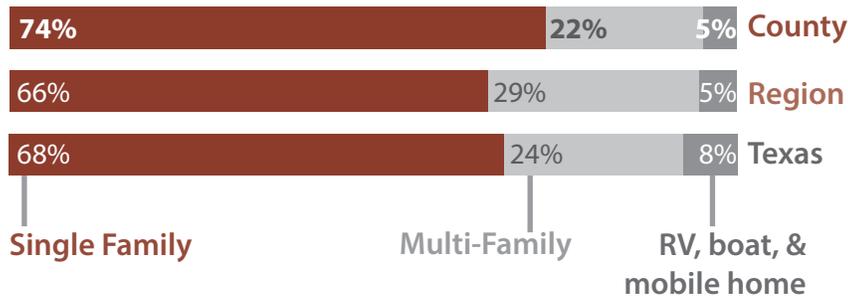|	
Owners 67% **Renters 33%**	**County**
61% 39%	**Region**
62% 38%	Texas
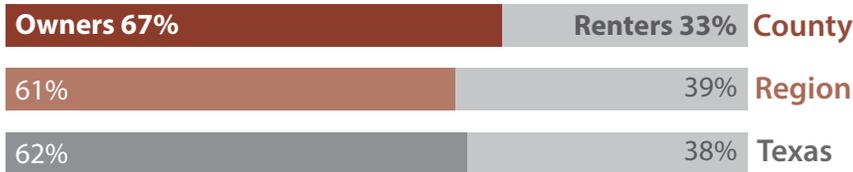
Vacant Housing Units

Around 18% of Galveston County's housing units are vacant.

18%

Housing Type

Galveston County's homes are mostly single-family residences.

74% **22%** **5%**	**County**
66% 29% 5%	**Region**
68% 24% 8%	Texas

Single Family **Multi-Family** **RV, boat, & mobile home**

Living Costs

Galveston County households spend 54% of their income on transportation and housing.

30% **Housing**

24% **Transportation**
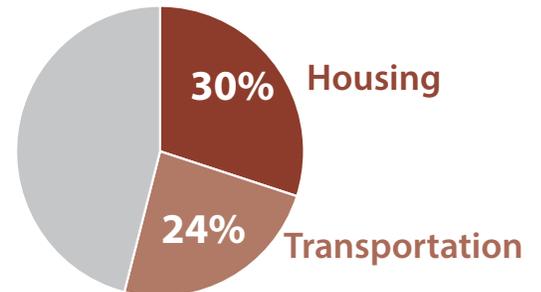
Economy

Top Industries by Percent of Overall Jobs

The Educational Services industry employs a much larger portion of Galveston County workers than any other industry, at nearly one quarter of all county employment in both 2002 and 2014.

Educational Services **25%**

22% Educational Services

Accommodation & Food Services

13% Accommodation & Food Services

Accommodation & Food Services **10%**

Retail Trade **10%**

11% Retail Trade

Health Care & Social Assistance **9%**

10% Health Care & Social Assistance

2002

2014
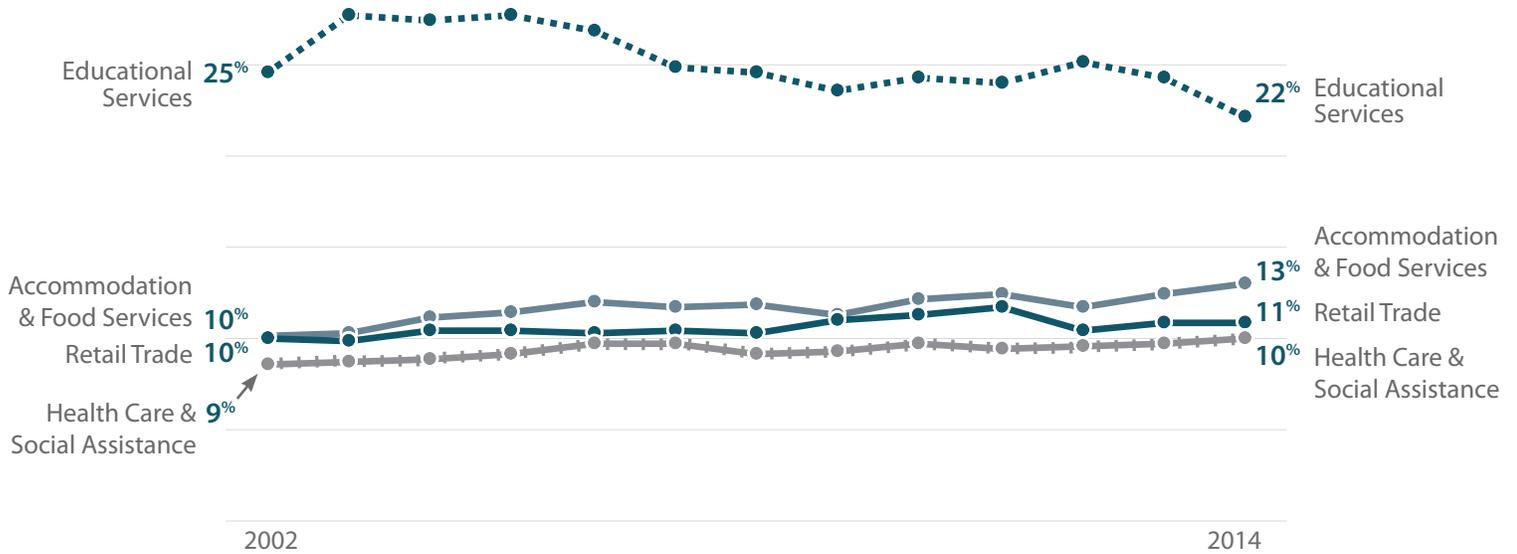
Unemployment Rate

Galveston County's unemployment mirrors national trends, and was higher than the nation in 2016.

9.6%

9.1%

5.1%

County 5.3%

4.6%

Nation 4.9%

2006 2008 2010 2012 2014 2016
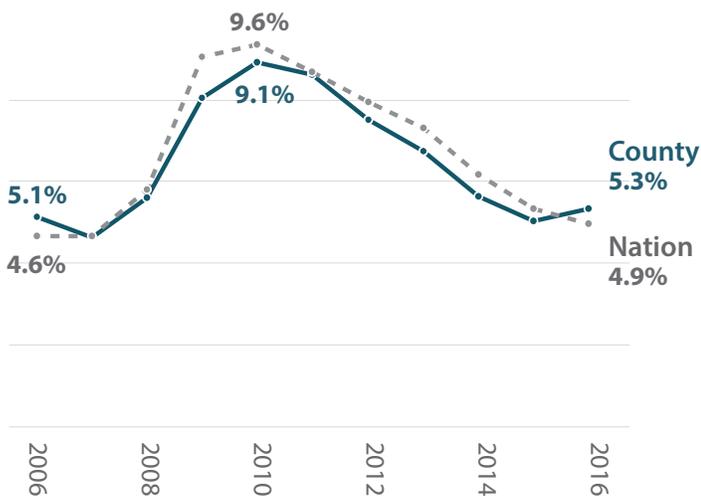
Earnings of Residents

Around 53% of Galveston County residents earn more than $40,000 annually, a similar percentage to the region.

53% Liberty   **52%** Region

18%   **17%**

29%   **31%**

$15,000 or less

$15,000-$40,000

$40,000 or more
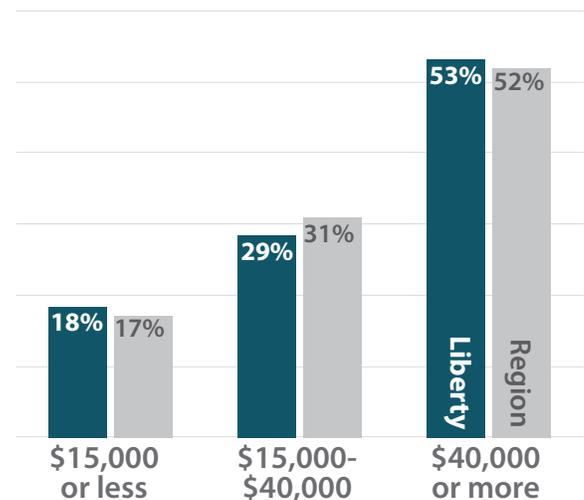
Education, Hazard Risks, and Commute

## Median Earnings by Educational Attainment

A Galveston County resident with a graduate or professional degree makes, on average, $52,400 more than a resident with less than a high school education annually.
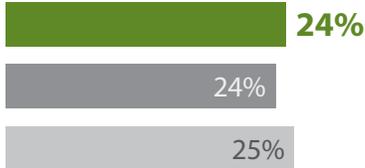
$10K ●—— $80K

- **$19,100** — Less than high school
- **$29,500** — High school or equivalent
- **$40,100** — Some college or Associate's
- **$59,600** — Bachelor's
- **$71,500** — Graduate or Professional

Educational Attainment

A lower percentage of Galveston County residents have completed a bachelor's degree or higher than the region and state.
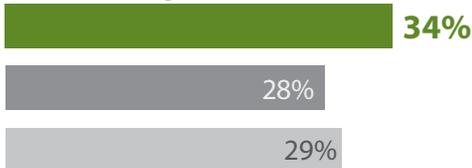
Less than High School
- 12%
- 18%
- 18%
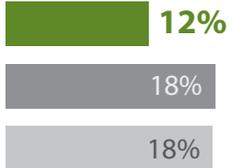
High School or Equivalent
- 24%
- 24%
- 25%

Some College or Associate's
- 34%
- 28%
- 29%

Bachelor's Degree or More
- 29%
- 30%
- 28%
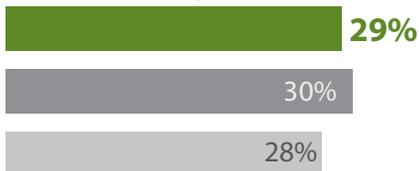
Residents in 100-year Floodplain

A larger percentage of Galveston County residents live in a 100-year floodplain than the region.
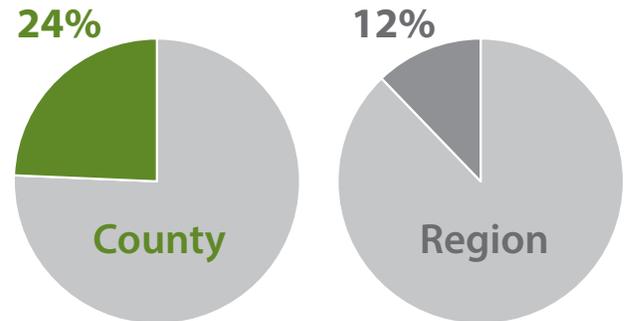
24% County

12% Region

Residents in Hurricane Evacuation Zone

Nearly all Galveston County residents live in a hurricane evacuation zone, as opposed to 25% of the region's residents.

99% County

25% Region

Education, Hazard Risks, and Commute

Workers' Job & Home Destinations

Only 37% of Galveston County residents work in the county, and 53% of the workers in the county live there.
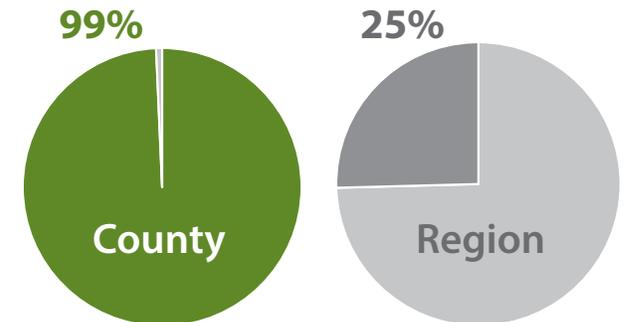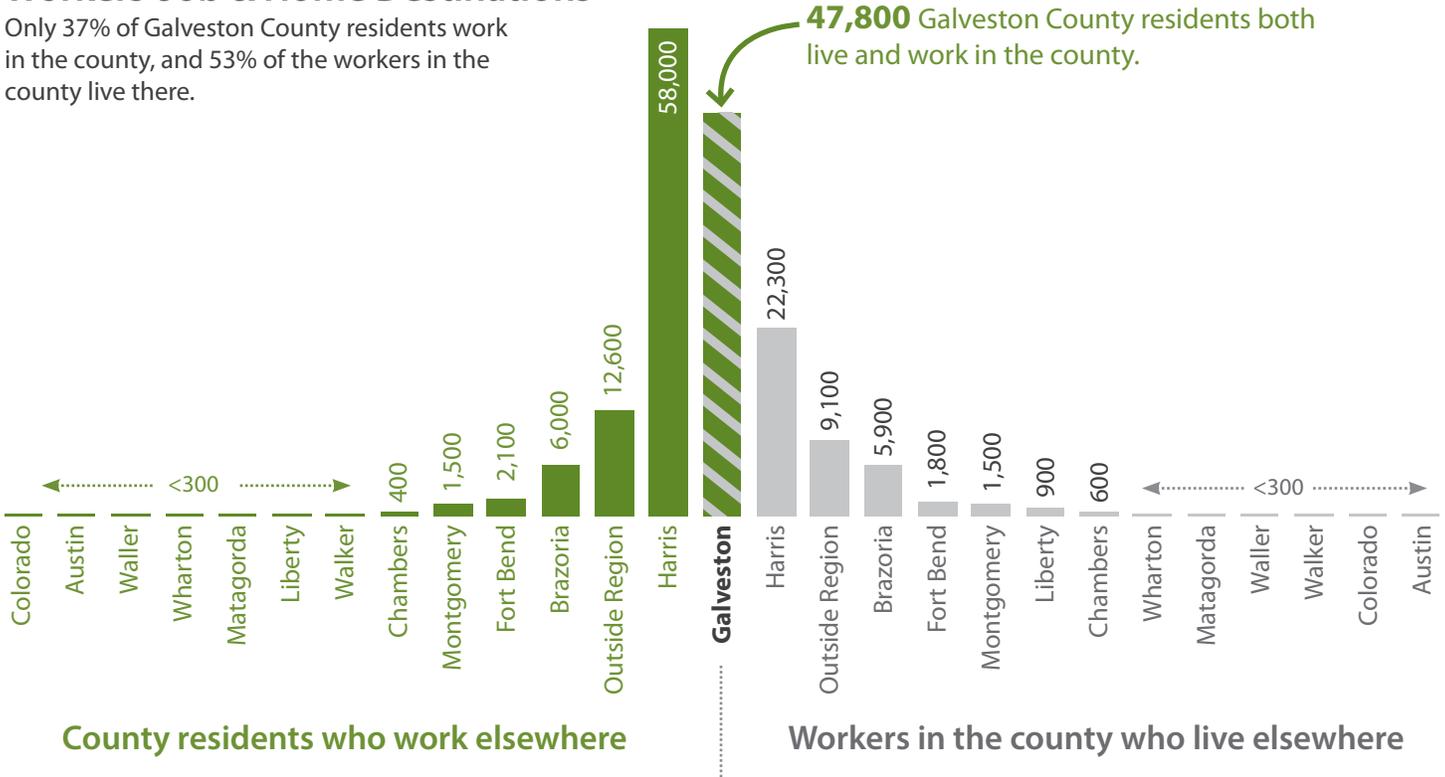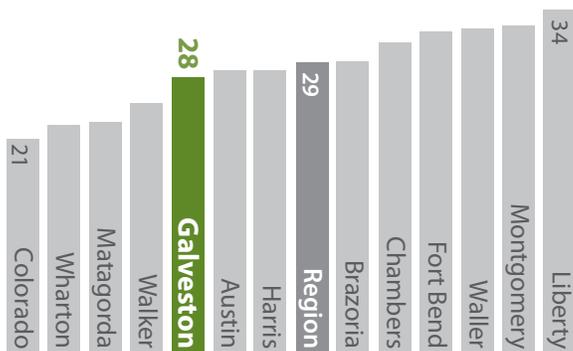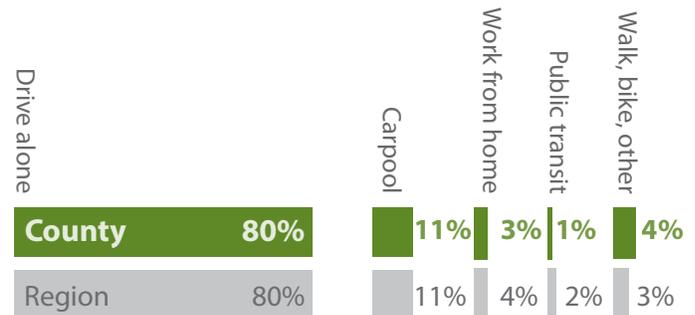
47,800 Galveston County residents both live and work in the county.

County residents who work elsewhere

County	Value
Colorado	<300
Austin	<300
Waller	<300
Wharton	<300
Matagorda	<300
Liberty	<300
Walker	<300
Chambers	400
Montgomery	1,500
Fort Bend	2,100
Brazoria	6,000
Outside Region	12,600
Harris	58,000

Galveston

Workers in the county who live elsewhere

County	Value
Harris	22,300
Outside Region	9,100
Brazoria	5,900
Fort Bend	1,800
Montgomery	1,500
Liberty	900
Chambers	600
Wharton	<300
Matagorda	<300
Waller	<300
Walker	<300
Colorado	<300
Austin	<300

Mean Commute to Work (minutes)

Galveston County workers commute for about the same amount of time as the region as a whole.

County	Minutes
Colorado	21
Wharton	
Matagorda	
Walker	
Galveston	**28**
Austin	
Harris	
Region	29
Brazoria	
Chambers	
Fort Bend	
Waller	
Montgomery	
Liberty	34

Commute Mode to Work

Galveston County workers have a similar commute mode split as the region.

	Drive alone	Carpool	Work from home	Public transit	Walk, bike, other
County	80%	11%	3%	1%	4%
Region	80%	11%	4%	2%	3%

Economic Clusters

A cluster is a concentration of related businesses that make the area more competitive in those industries. Clusters exist where a set of related industries in a given location reach critical mass. Clusters enhance productivity and spur innovation by bringing together technology, information, specialized talent, competing companies, academic institution, and other organizations.

Traded clusters are groups of related industries that serve markets beyond the region in which they are located. Local clusters, in contrast, consist of industries that serve the local market. They are prevalent in every region of the country, regardless of the competitive advantages of a location.

Traded v. Local Clusters

This diagram demonstrates the county's split between the traded and local sectors of the economy, based on 2014 data from the U.S. Census.

Local 72%   Traded 28%

Employment by Cluster

This bar graph demonstrates Galveston County's employment by each cluster. It is based on 2014 data from the U.S. Census.

- Oil and Gas Production and Transportation
- Hospitality and Tourism
- Business Services
- Distribution and Electronic Commerce
- Water Transportation
- Insurance Services
- Construction Products and Services
- Upstream Chemical Products
- Financial Services
- Transportation and Logistics

0   1,000   2,000   3,000   4,000

Local Planning

These plans highlight efforts in Galveston County to plan for disaster recovery and economic resiliency. The economic elements of the plans are identified.

Galveston Disaster Recovery Plan
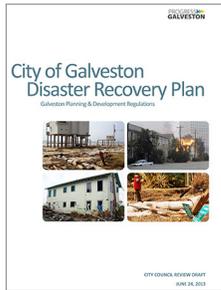
The City of Galveston Disaster Recovery Plan focuses on actions Galveston will take to accelerate the pace of rebuilding following a disaster event. The plan is designed to build on rather than repeat preparedness, mitigation, and emergency response recommendations in plans and reports prepared by the City and local stakeholder groups. This plan identifies steps necessary for reestablish economic activities after a disaster. This plan focuses on recovery after a disaster. Economic resilience elements focus on pre-disaster planning and mitigation & preparation as well. The document outlines several best practices for Economic Resilience, including a comprehensive disaster communication plan.

Other local plans that include economic development and economic resilience elements include:

- Clear Lake Shores Strategic Plan
- Dickinson Comprehensive Plan

- Friendswood FM528 Strategy
- Friendswood Hazard Mitigation Plan
- Friendswood Parks and Open Space Plan
- Friendswood Vision 2020
- Galveston Comprehensive Plan
- Galveston County Hazard Mitigation Plan
- Galveston Design Guidelines
- Galveston Erosion Response Plan
- Galveston Historic Sites
- Galveston Livable Centers Study
- Galveston Parks, Recreation, and Open Space Plan
- Galveston San Jacinto Plan
- Galveston Thoroughfare Plan
- Galveston Sustainable Return on Investment Case Study
- League City Growth and Development Report
- League City Local Mitigation Plan
- League City Main Street Implementation Plan
- Santa Fe Master Plan 2002
- Texas City Goals 100 Strategic Plan
- Texas City Strategic Plan 2012-2017
- Texas City Vision 2020 Comprehensive Plan

Data Sources

Galveston County Overview

1. U.S. Census Gazetteer Files

2. TxDOT's 2014 Texas Port Report

3. Ibid.

4. USDA 2012 Census of Agriculture

5. The Economic Impact of Tourism on Galveston Island, Texas, 2015 Analysis

6. Texas Almanac

7. UTMB Health Data Reference Card

8. Houston-Galveston Area Council Projection

Recent Disruptions to the Economy

9. Hurricane Ike Impact Report

10. Bureau of Labor Statistics

11. FEMA

12. FEMA

Graphics

County Boundaries Map. Houston-Galveston Area Council, 2017.

County Land Use Map. Houston-Galveston Area Council, 2017.

Population Growth Forecast. Houston-Galveston Area Council, 2017.

Residents Per Square Mile. Houston-Galveston Area Council, 2017.

Age. U.S. Census Bureau, 2011-2015 American Community Survey, 5-Year Estimates, Table B01001.

Median Household Income. U.S. Census Bureau, 2011-2015 American Community Survey, 5-Year Estimates, Table S2503.

Poverty Rate. U.S. Census Bureau, 2011-2015 American Community Survey, 5-Year Estimates, Table S1701.

Building Permits Issued. U.S. Census Bureau, Building Permits Survey, 1990-2015.

Housing Tenure. U.S. Census Bureau, 2011-2015 American Community Survey, 5-Year Estimates, Table DP04.

Vacant Housing Units. U.S. Census Bureau, 2011-2015 American Community Survey, 5-Year Estimates, Table DP04.

Housing Type. U.S. Census Bureau, 2011-2015 American Community Survey, 5-Year Estimates, Table DP04.

Living Costs. Center for Neighborhood Technology 2013 H+T® Index.

Top Industries by Percent of Overall Jobs. U.S. Census Bureau, 2002-2014, OnTheMap Application, Longitudinal-Employer Household Dynamics Program.

Unemployment Rate. U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, 2006-2016.

Earnings of Residents. U.S. Census Bureau, 2014, OnTheMap Application, Longitudinal-Employer Household Dynamics Program.

Median Earnings by Educational Attainment. U.S. Census Bureau, 2011-2015 American Community Survey, 5-Year Estimates, Table B20004.

Educational Attainment. U.S. Census Bureau, 2011-2015 American Community Survey, 5-Year Estimates, Table S1501.

Residents in 100-year Floodplain. Houston-Galveston Area Council, 2017.

Residents in Hurricane Evacuation Zone. Houston-Galveston Area Council, 2017.

Workers' Job & Home Destinations. U.S. Census Bureau, 2014, OnTheMap Application, Longitudinal-Employer Household Dynamics Program.

Mean Commute to Work (minutes). U.S. Census Bureau, 2011-2015 American Community Survey, 5-Year Estimates, Table S0802.