

CHAMBERS COUNTY ECONOMIC RESILIENCE PROFILE

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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.

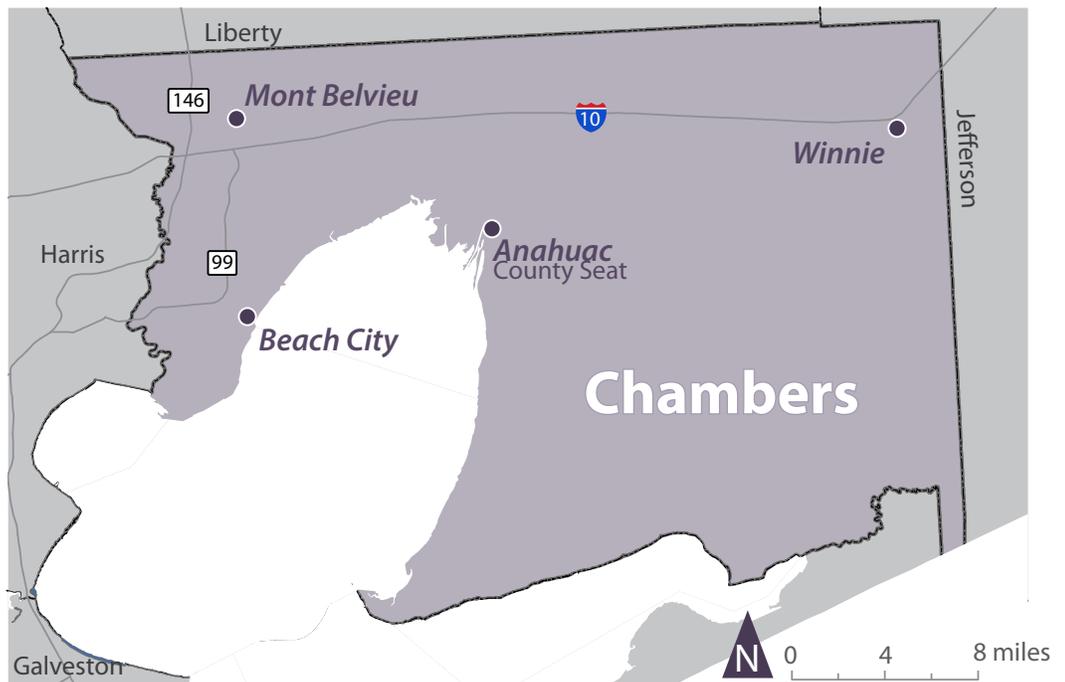
Creating a resilient economy requires the ability to anticipate risk, evaluate how risk can impact economic assets, and build the capacity to respond to disruptions.

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

Chambers County Boundaries

- Chambers County
- Other counties
- Top 4 cities
- Major roads

County Seat: Anahuac
Largest City: Mont Belvieu



Chambers County Overview

Chambers County is separated from Harris County to the west by the Cedar Bayou, the county lies on the Galveston and Trinity bays. Chambers County is economically divided between the communities and petrochemical complexes west of the Trinity River that are part of the Houston metropolitan region and the largely rural areas east of the Trinity River. West of the Trinity River are the communities of Baytown (4,138), Beach City (2,614), Cove (510), Mont Belvieu (5,584), and Old-River Winfree (1,190)¹. Anahuac with a population of 2,339, is the county seat; Anahuac is the only incorporated community east of the Trinity River, although Winnie (3,254)/Stowell (1,756) area is an important population center. Chambers County is crossed by IH 10, which provides the only major crossing of the Trinity River. Other major highways include State Highways 61, 65, 99, and 146. Union Pacific provides rail service to the county. According to U.S. Census estimates, Chambers County's population has nearly doubled since 1990 to nearly 40,000, and most of that economic and population growth has occurred in western portion of the county.

Liquefied petroleum gas production and ancillary

businesses are the primary economic drivers for the county. Baytown is home to a 3,400-acre ExxonMobile campus. ChevronPhillips has the world's largest polyethylene plant on more than 1,200 acres in Baytown, and Covestro has a 1,650-acre facility that employs over 2,000 workers. (While Baytown is largely in Harris County, the economic cluster extends into Chambers County.) The Cedar Crossing Industrial Park is the fifth largest industrial park in the world, at 15,000 acres. It is home large distribution centers for retailers including Walmart, Home Depot, and IKEA. The western portion of Chambers County has seen an increase in residential construction and retail establishments as the number of jobs continues to rise.

The economy in the eastern portion of Chambers County is largely agricultural, along with a regionally significant fishery. The agricultural economy contributes \$25.6 million annually; of that 59% was in crop sales and 41% in livestock sales. Chambers County is the fifth largest rice producer in the State of Texas. Many landowners are enrolled in the Conservation Reserve Program, which compensates farmers for taking their land out of production, government payments totaled \$3,018,000 in 2012. Hunting and outdoor recreation are also economically important to eastern Chambers County.



Hunting, outdoor recreation, and eco-tourism are important economic drivers in Eastern Chambers County.

Recent Disruptions to the

The storm surge and winds generated by Hurricane Ike (2008) caused severe flooding and wind damage across the county; a 17-foot storm surge covered 25% of the county in water. Much of the infrastructure in Chambers County sustained significant damage, including utilities, fire protection, and healthcare facilities. Saltwater contaminated water wells as far as 10 miles inland; severely impacting agricultural production and fisheries.

Chambers County's fisheries were impacted by the Texas drought of 2010-2012 which caused salinity in Galveston Bay to spike. The drought also increased the wildfires (much of the County's marsh and pastureland was especially susceptible to the drought conditions) and reduced the price for cattle. The 2014-2016 downturn in oil prices did not impact the economy in Chambers County as much as it did elsewhere in the region, as the petrochemical refining industry continued to expand to accommodate the increased production of domestic shale gas generated through fracking technology.

Hurricane Harvey demonstrated Chambers County's ongoing vulnerability to flooding. The impacts of the devastation it created are still being assessed, hundreds of homes and businesses were flooded throughout the county. Addressing how to prevent widespread damage from future

events, and how to prevent this type of flooding in future developments will be critical to enhancing the county's resilience.

Economic Resilience Strategies

Chambers County underwent a visioning and planning process as part of Hurricane Ike recovery and created its *Long Term Community Recovery Plan* (2009). The work focused on Trinity Bay restoration, community development, infrastructure, economics and industry, education, and health care and emergency services. The plan identified drainage projects needed to enhance the county's resilience to storms and the need for workforce training for the petrochemical industry.

The petrochemical complexes in western Chambers County are not protected by a levee system, but rely on the reduced impacts of the inland location, structural solutions to storm surge and flooding would enhance the resilience of these complexes. Western Chamber County's growth is constrained by its non-attainment status under the Clean Air Act.

Eastern Chambers County does not have sites available with sufficient infrastructure to attract industry. Small businesses and residents are hampered by low access to high-speed internet in eastern Chambers County.

Recommendations

Chambers County's economy will be better able to withstand, avoid, and recover from disruptions if it is able to:

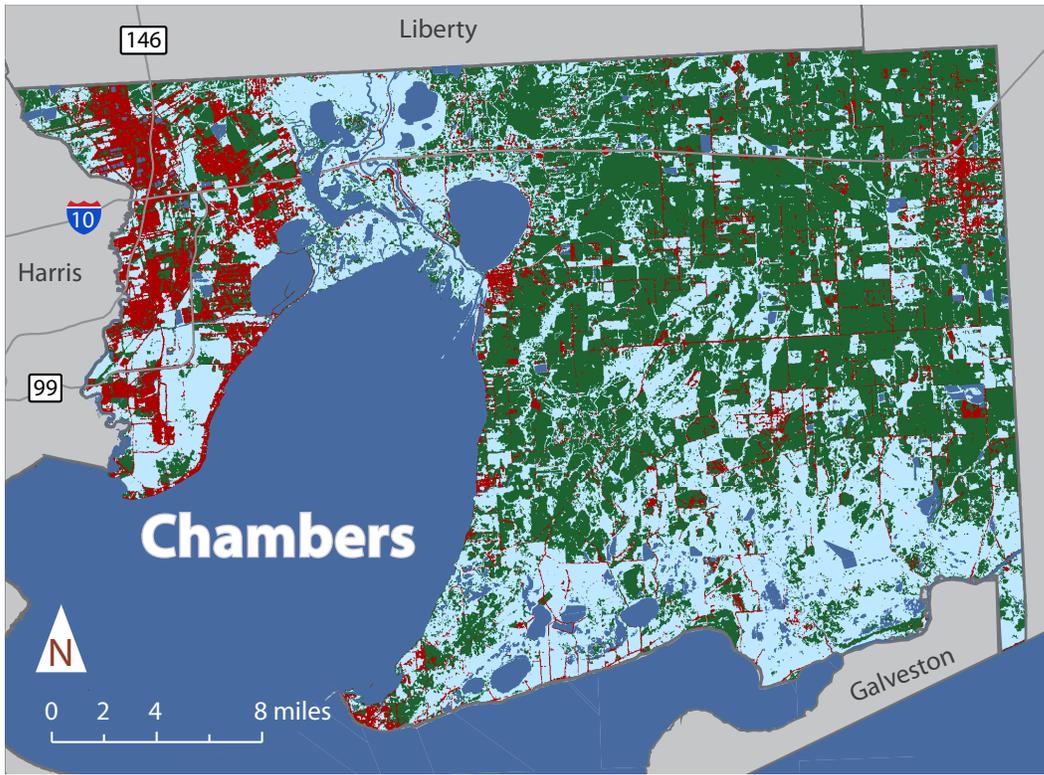
Develop a business park in eastern Chambers County to enhance economic opportunities.

Improve Chambers County's air-quality through voluntary actions and participation in regional air quality efforts.

Investigate strategies for better coordinated county-wide flood control strategies.

Enhance broadband connectivity in eastern Chambers County.

Land Use and Demographics



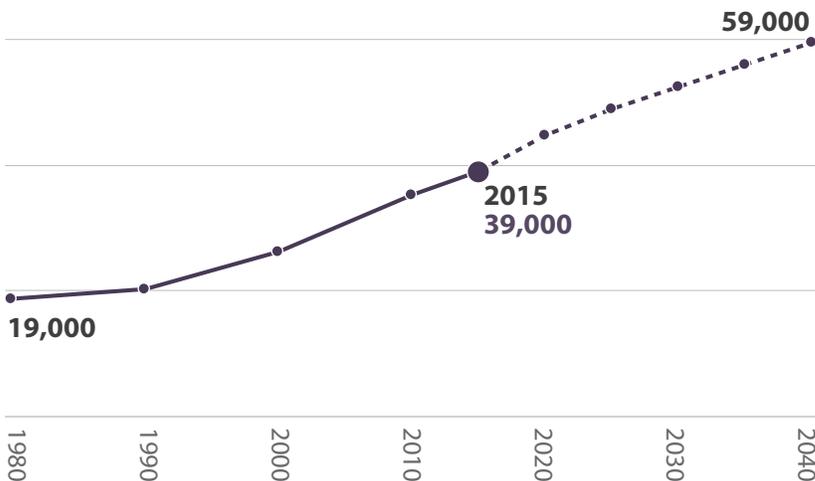
Chambers County Land Use

- Other counties
- 6%** Open water
- 11%** Developed Land
- 39%** Wetlands
- 44%** Forest, shrubs, pasture, grasslands, barren lands and cultivated crops

In the above map, the predominance of wetlands in Chambers County is demonstrated, along with the predominance of urbanized areas to the west of the Trinity River.

Population Growth Forecast

Chambers County grew by 110% from 1980 to 2015 and is expected to reach 59,000 residents by 2040.



Municipal Populations

The City of Mont Belvieu is Chambers County's largest incorporated municipality.

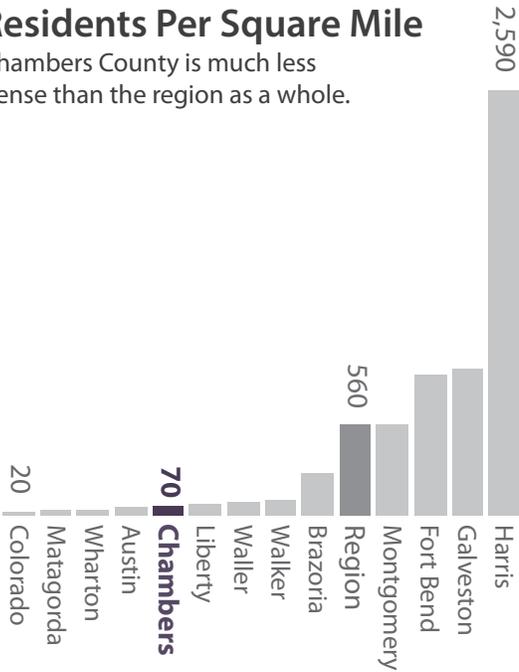
- 5,584 Mont Belvieu
- 4,138 Baytown*
- 2,614 Beach City
- 2,339 Anahuac
- 1,190 Old River-Winfree*
- 510 Cove
- 23,524 Unincorporated

*The municipality spans multiple counties. Only the population residing in Chambers County is shown here.

Land Use and Demographics

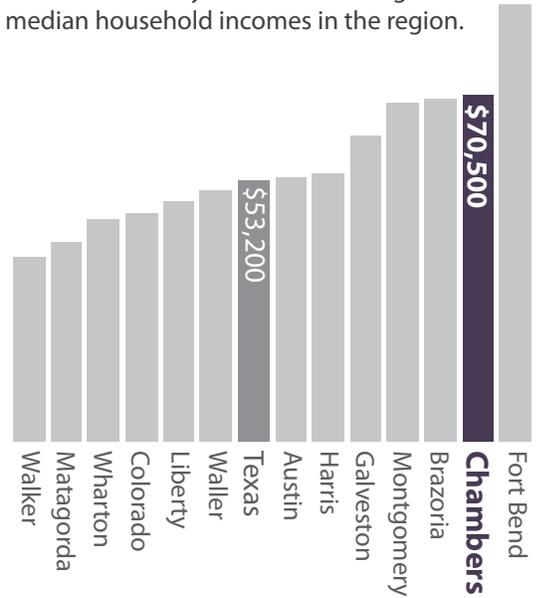
Residents Per Square Mile

Chambers County is much less dense than the region as a whole.



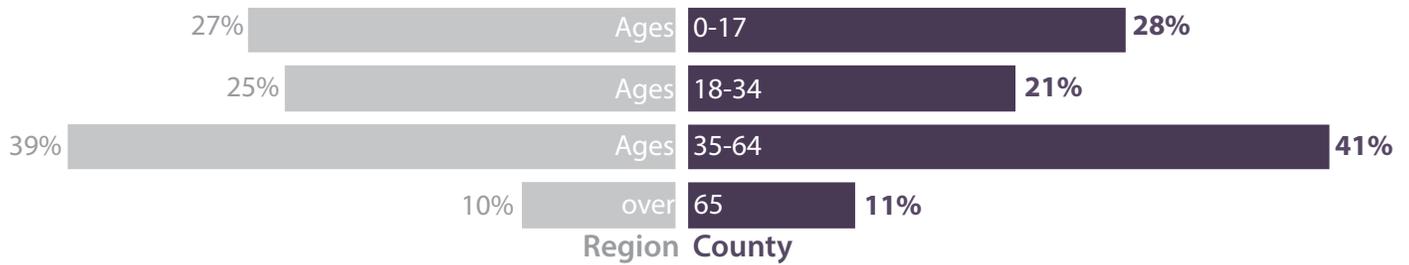
Median Household Income

Chambers County has one of the highest median household incomes in the region.



Age

Chambers County has a similar age profile as the region.



Poverty Rate

Chambers County has a lower rate of poverty for the general population and for children, but a higher rate for seniors.



Housing

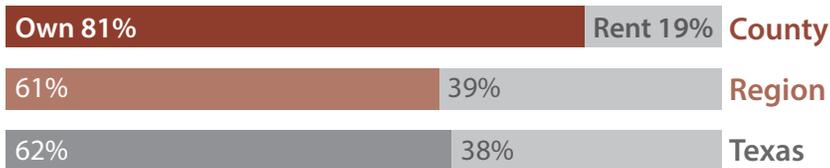
Building Permits Issued (units)

Single-family construction has not returned to its 2004 high and multi-family construction has been flat since 2009.



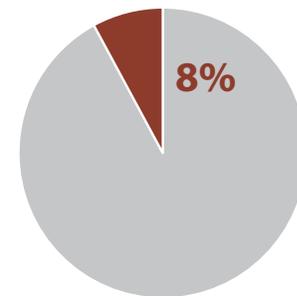
Housing Tenure

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



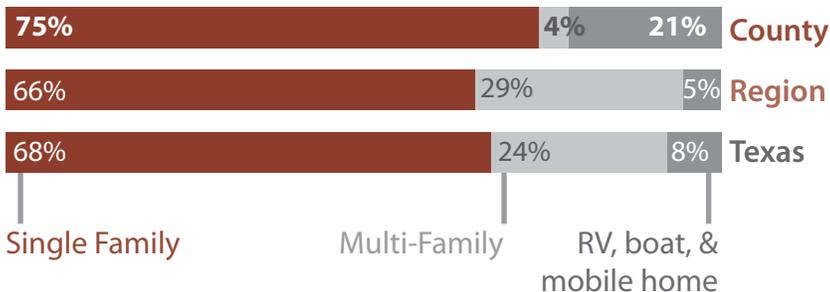
Vacant Housing Units

Around 10% of Chambers County's housing units are vacant.



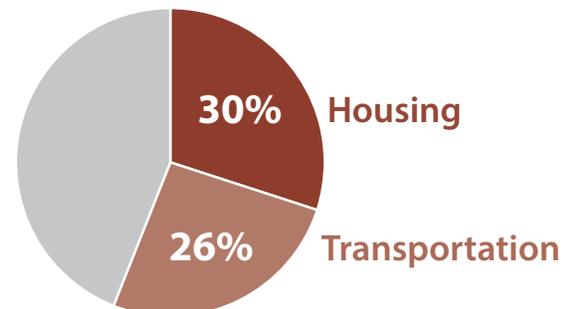
Housing Type

Chambers County has a low portion of multi-family homes and a high portion of RV, boat, and mobile homes.



Living Costs

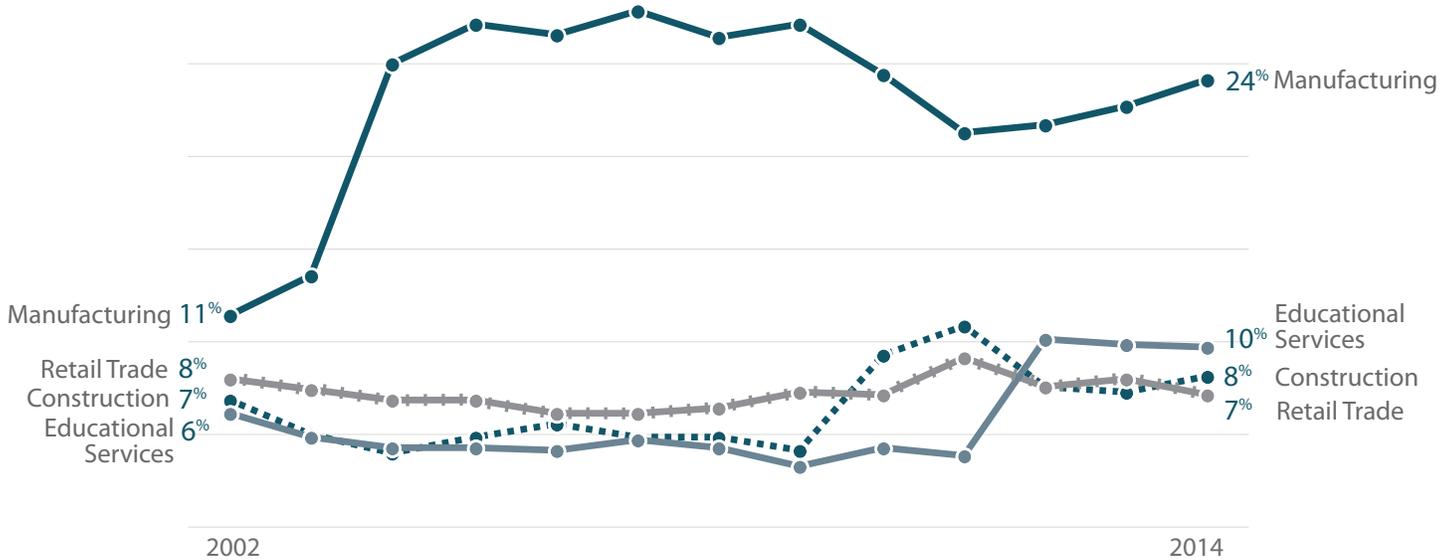
Chambers County households spend 56% of their income on transportation and housing.



Economy

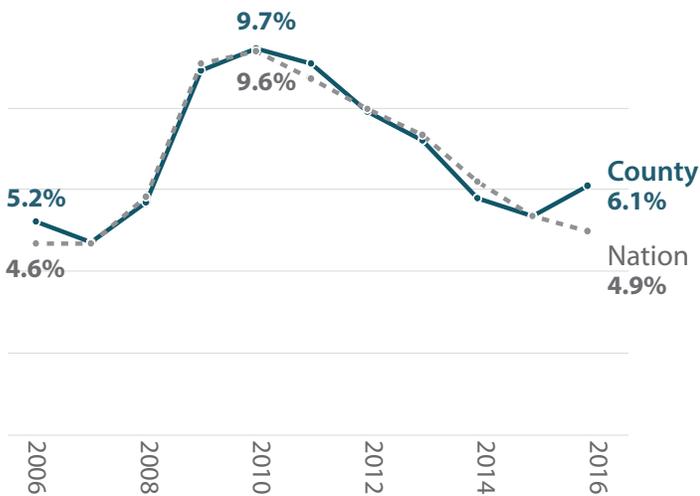
Top Industries by Percent of Overall Jobs

The Manufacturing industry employs a much larger portion of Chambers County workers than any other industry, at nearly one quarter of all county employment, up from 11% in 2002.



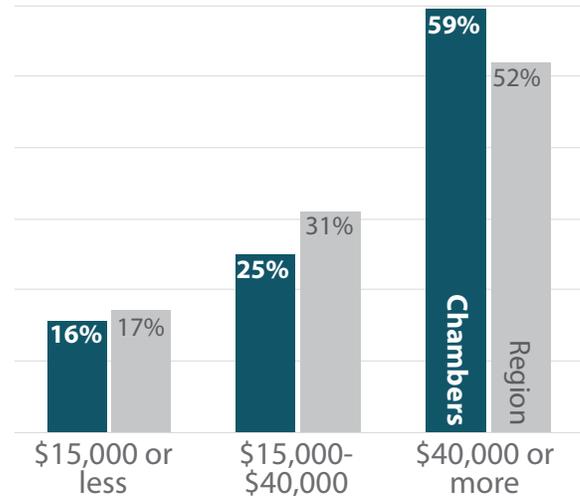
Unemployment Rate

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



Earnings of Residents

Nearly 60% of Chambers County residents earn more than \$40,000 annually, a higher percentage than the region.



Education, Hazard Risks, and Commute

Median Earnings by Educational Attainment

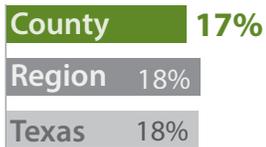
A Chambers County resident with a graduate or professional degree makes, on average, \$40,500 more than a resident with less than a high school education annually.



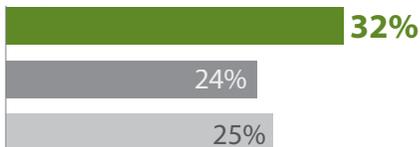
Educational Attainment

A lower percentage of Chambers County residents have completed a bachelor's degree the region and state.

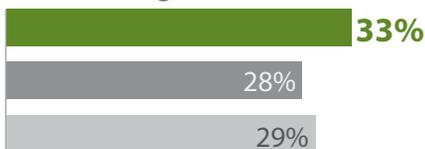
Less than High School



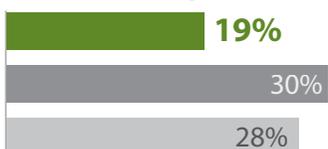
High School or Equivalent



Some College or Associate's

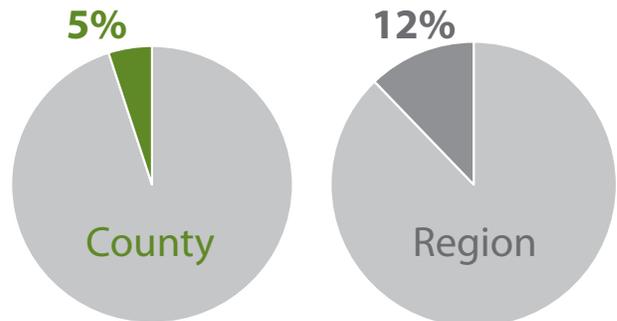


Bachelor's Degree or More



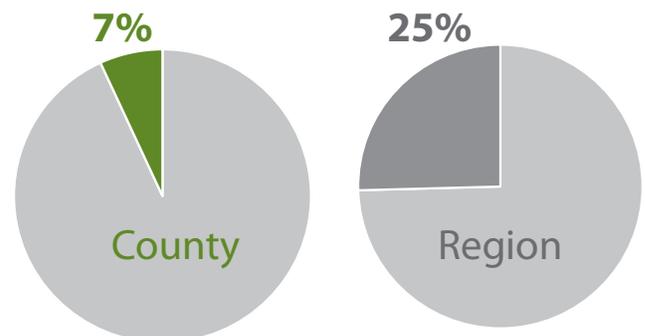
Residents in 100-year Floodplain

A smaller percentage of Chambers County residents live in a 100-year floodplain than the region.



Residents in Hurricane Evacuation Zone

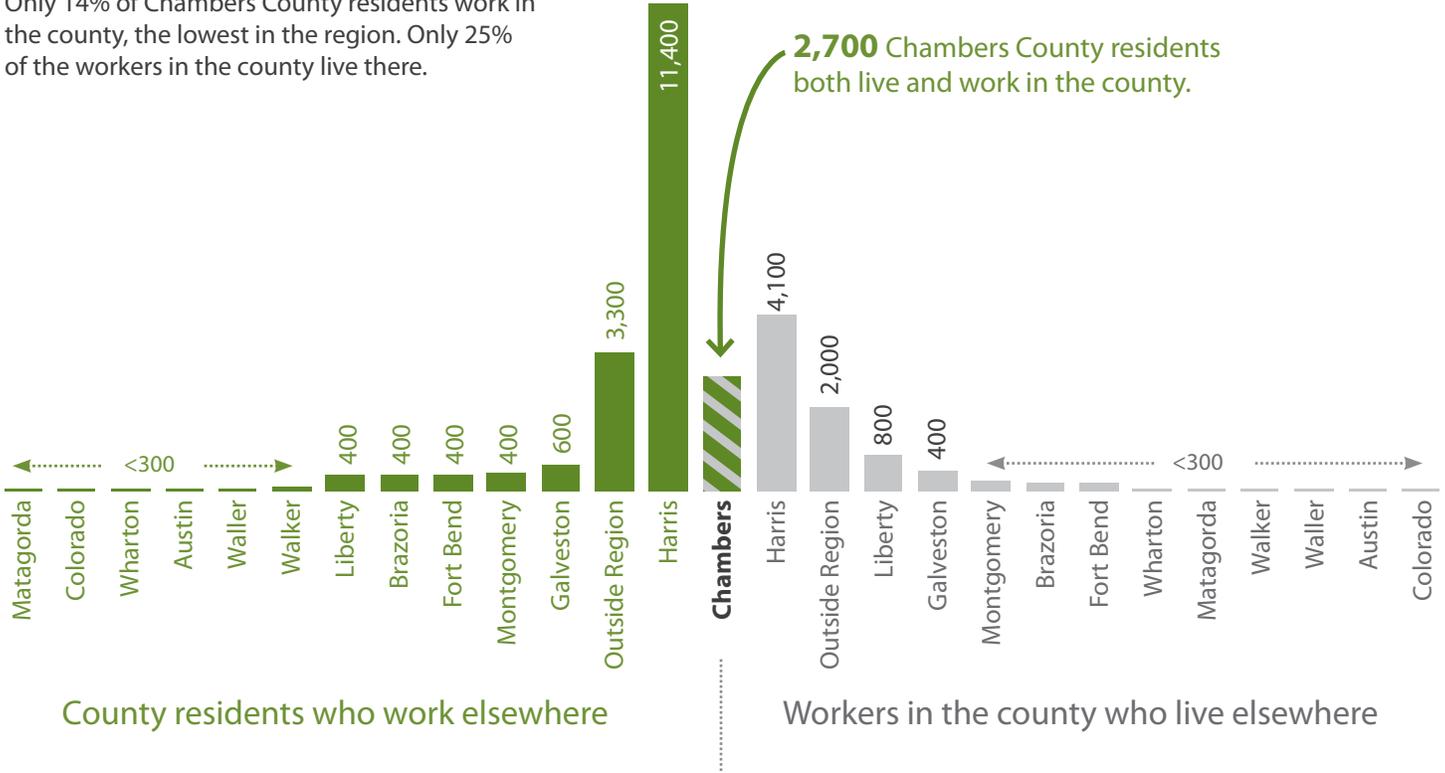
Fewer than 10% of Chambers County residents live in a hurricane evacuation zone, as opposed to 25% of the region.



Education, Hazard Risks, and Commute

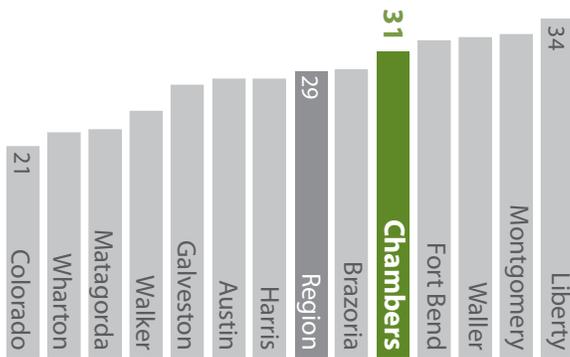
Workers' Job & Home Destinations

Only 14% of Chambers County residents work in the county, the lowest in the region. Only 25% of the workers in the county live there.



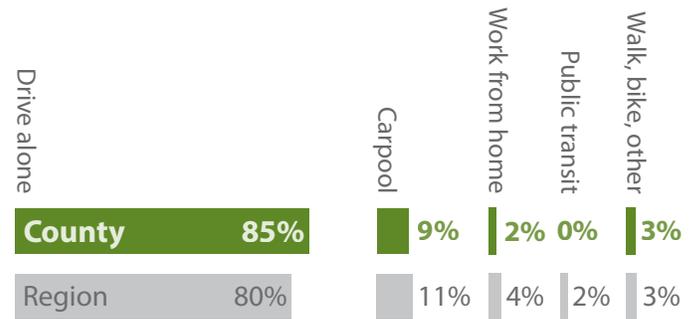
Mean Commute to Work (minutes)

Chambers County workers commute for more time than the region as a whole.



Commute Mode to Work

A higher percentage of Chambers County workers drive to work compared to the region as a whole.



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.

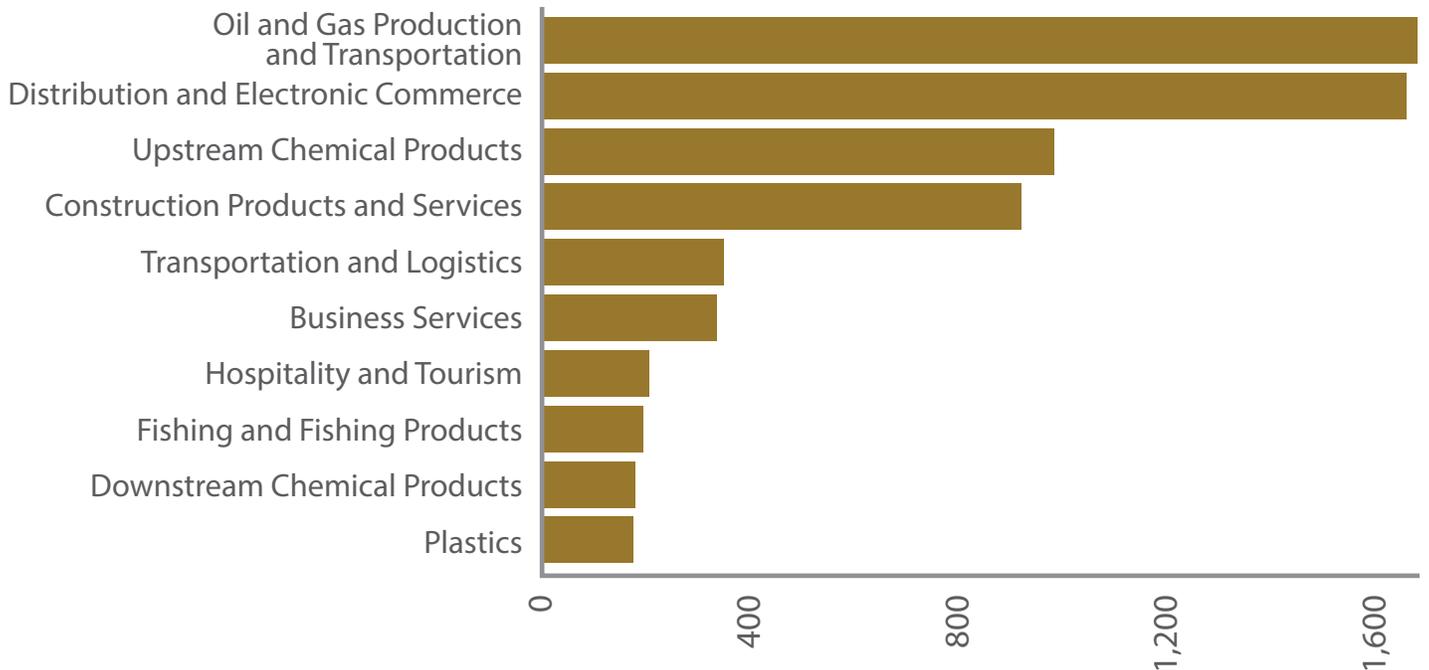
Traded v. Local Clusters

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.



Employment by Cluster

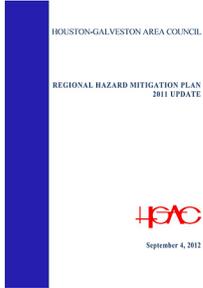
This bar graph demonstrates Chambers County's employment by each cluster. It is based on 2014 data from the U.S. Census.



Local Planning

This plan highlights efforts in Chambers County to plan for disaster recovery and economic resiliency. The economic elements of the plans are identified.

Chambers County Hazard Mitigation Plan



Chambers County is currently developing a Hazard Mitigation Plan for release in 2019. Chambers County participated in the 2011 Update of the Regional Hazard Mitigation Plan. The Regional Hazard Mitigation plan was created in 2006 by the Houston-Galveston Area Council, the Texas

Division of Emergency Management, and 85 local governments. The comprehensive plan identifies regional hazards and vulnerabilities, and includes over 300 mitigation projects that could be implemented within the region.

The plan identified two mitigation actions for Chambers County:

- Install siren system countywide to inform the public of imminent hazards.
- Retrofit windows in EOC to protect against severe winds.

Data Sources

Chambers County Overview

1. U.S. Census
2. U.S. Census
3. Houston-Galveston Area Council
4. U.S. Census
5. Baytown-West Chambers County Economic Development Foundation
6. Baytown-West Chambers County Economic Development Foundation
7. Baytown-West Chambers County Economic Development Foundation
8. USDA Census of Agriculture
9. USDA Census of Agriculture

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.