

WALLER 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.

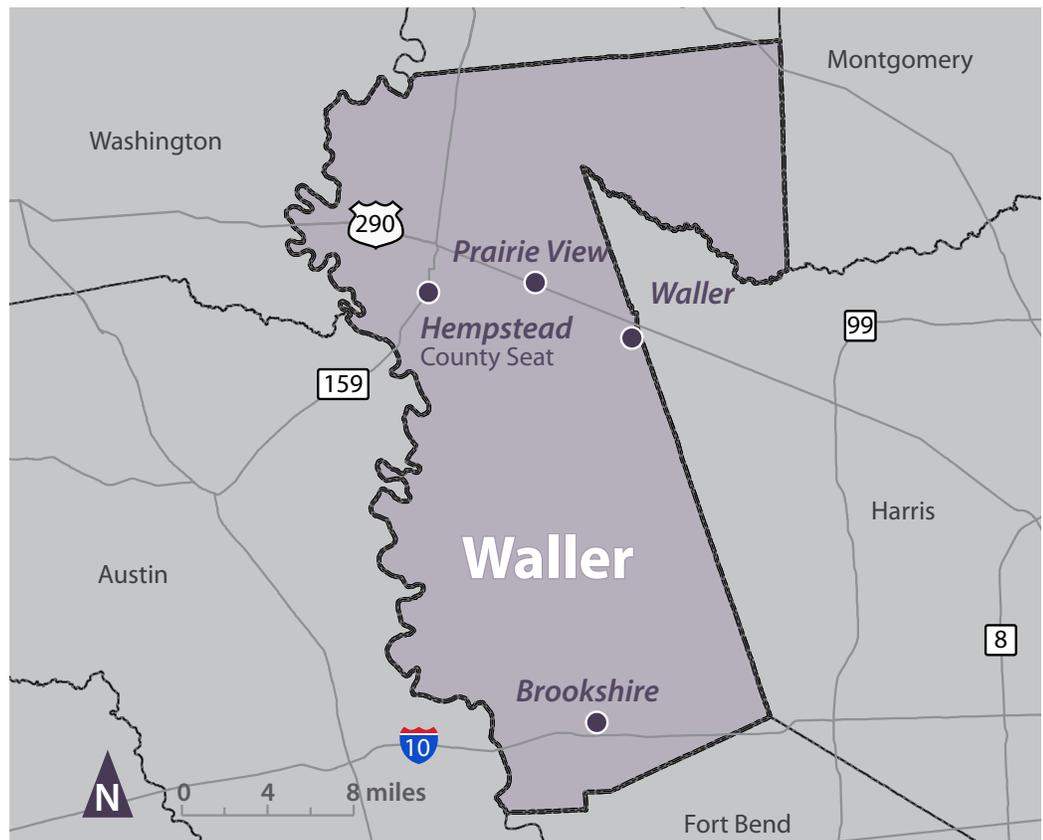
Creating a resilient economy requires the ability to anticipate risk, evaluate how risk can impact economic assets, and build the capacity to respond to disruptions.

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

Waller County Boundaries

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

County Seat: Hempstead
Largest City: Hempstead



Waller County Overview

The majority of Waller County is in the Texas Gulf Coastal Plain, and the northern 20% is a rolling timberland¹. The Brazos River defines the county's western boundary, and its landscape is typified by hardwood bottomland forest. The Spring Creek-Buffalo Bayou watersheds provide drainage for the eastern portion of the county, and the Austin-Oyster Creek watersheds provide drainage to the southern portion of the county. Waller County's 2016 estimated population of 50,115 represents a growth rate for 146% between 1980 and 2015². The population is expected to grow to 120,000 by 2040³. Hempstead is the county seat and largest community with an estimated population of 5,770, which is followed closely in population size by Prairie View, with an estimated population of 5,576⁴. Other communities in the county include Brookshire (4,702), Katy (1,156), Pattison (472), Pine Island (988), and Waller (1,880). Nearly half of the population of Waller County (22,661) resides in unincorporated areas. Major transportation corridors in the county include Interstate 10 and U.S. Highway 90 in the southern end. State Highways 290 and 6 cross in Hempstead, in the north-central portion of the county. The county is served by the Union Pacific Railroad⁵.

Waller County's economy has transitioned from an agricultural economy to manufacturing and distribution sectors as primary employers. Nearly one quarter of the population is employed in the manufacturing sector⁶. Educational services are the second largest employment sector. The City of Prairie View is home the Prairie View A&M, a land-grant, Historically Black University that is part of the Texas A&M system. Prairie View A&M had an enrollment of 8,762 in 2016, making it the largest population center in the county when in session⁷. Available land along the Interstate 10 corridor has made Waller County a growing center of distribution and food processing for the Houston metropolitan area. Waller County has a strong cluster (a geographic concentration of interconnected businesses) in the oil and gas sector⁸. The agricultural sector remains significant. The market values of agricultural products sold in 2012 was \$91,677,000; of that 77% was crop sales and 23% is livestock sales⁹. Cattle, rice, nursery crops, aquaculture, corn, hogs, poultry, hay, and watermelons are the chief agricultural products of Waller County¹⁰.



The City of Waller has taken steps to enhance its identity and amenities.

Recent Disruptions to the Economy

Hurricane Harvey caused flooding across Waller County, where it was especially damaging to the southern half of the county. Interstate 10 acted as a barrier to the natural drainage patterns, causing flood waters to back up in the areas north of the freeway. The flooding from Harvey primarily affected residential areas. Many homes in the portion of the City of Katy that is in Waller County flooded, along with other repetitive loss structures in the county. The total damages to Waller County from Hurricane Harvey are still being assessed. The 2015 Memorial Day Flood and the 2016 Tax Day Flood also caused damage in Waller County. Typically, Waller County is more affected by riverine flooding than sheet flooding. Rainfall upriver from Waller County can cause the Brazos River to break its banks and flood properties. Given the prominence of the oil and gas services sector, the county's economy did unexpectedly well during 2014-2016's collapse in the prices of a barrel of oil. The businesses in this sector have grown accustomed

to the boom and bust nature of the industry, and although some were forced to lay-off employees, only a few smaller enterprises closed their doors. The Great Recession caused unemployment to spike to 9.6% in 2009, equal to the national rate of unemployment at the time.

Economic Resilience Strategies

Waller County's multiple flood events over the past few years, along with the growth that is forecast for the county, is causing the county to consider how it wants to develop in the future. The majority of recent residential development in the region has been largely to the north and west of Harris County, and large master-planned residential communities are anticipated to crossover into Waller County in the future. Waller County needs to plan for the eventuality of both flooding events and future development. Waller County is developing a reservoir, and opportunities to use this facility for flood control should be examined.

Recommendations

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

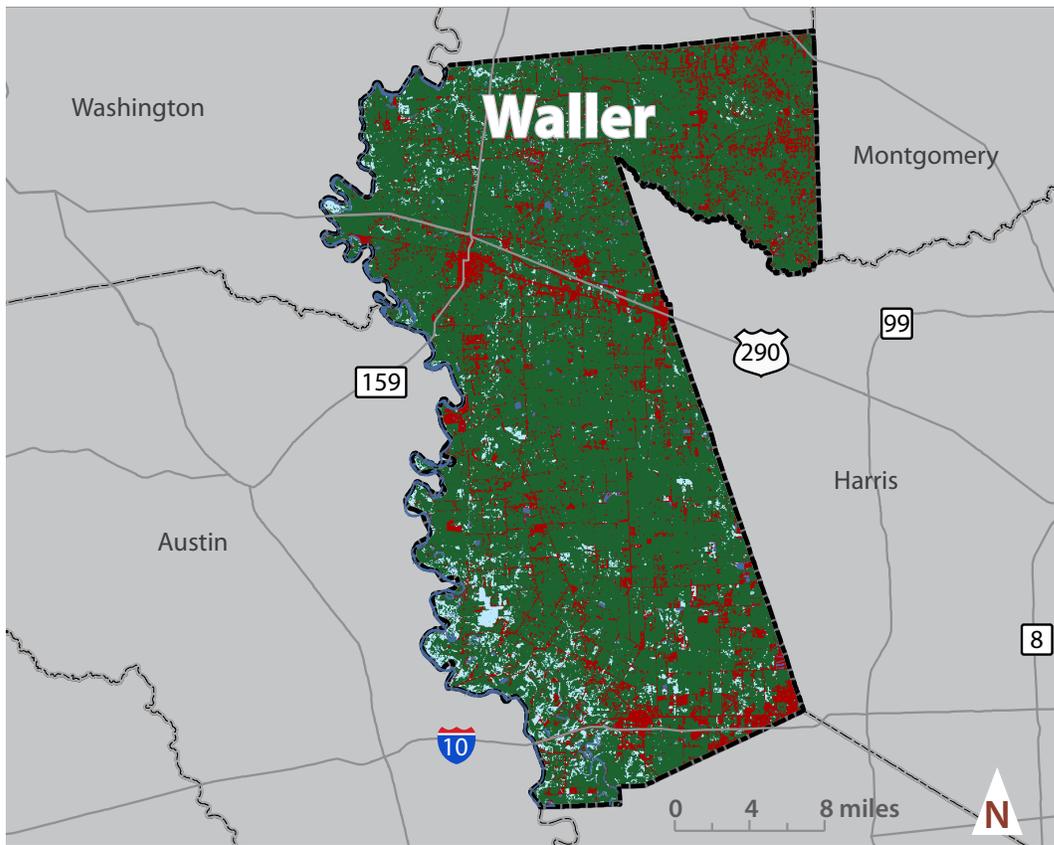
Investigate structures for better coordinated countywide flood control strategies.

Create and implement a county-level flooding, drainage, and stormwater management plan to improve drainage during floods and other weather events.

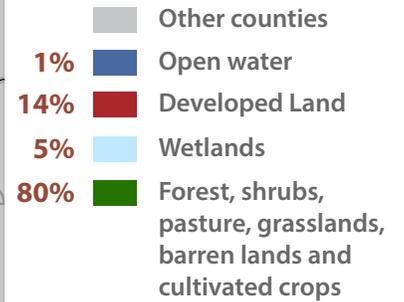
Review development codes to prepare for upcoming influx of residential development.

Continue efforts to create an agglomeration economy around air-conditioning manufacturing.

Land Use and Demographics



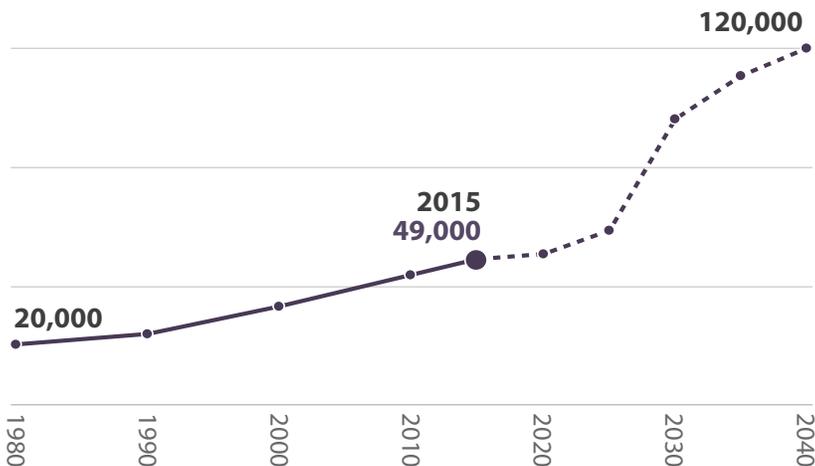
Waller County Land Use



Waller County is largely rural but has a growing population and is experiencing development along I-10 and SH 290.

Population Growth Forecast

Waller County grew by 146% from 1980 to 2015 and is expected to reach 120,000 residents by 2040.



Municipal Populations

The City of Hempstead is Waller County's largest incorporated municipality.

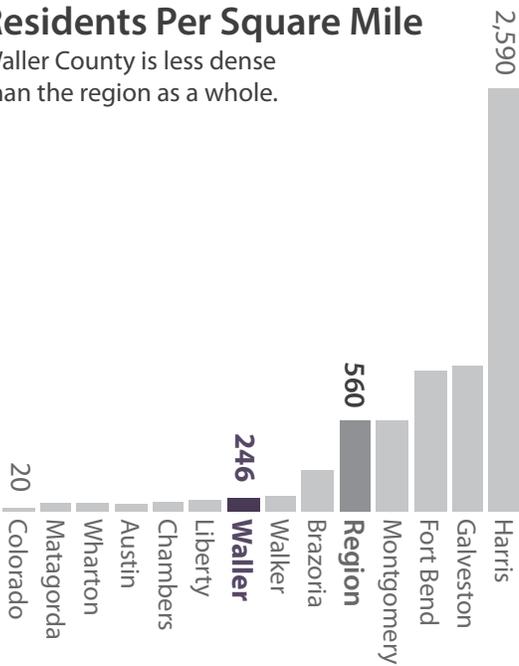
- 7,457 Hempstead
- 6,442 Prairie View
- 5,233 Brookshire
- 2,278 Waller*
- 1,100 Pine Island
- 560 Pattison
- 1,507 Katy*
- 25,538 Unincorporated

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

Land Use and Demographics

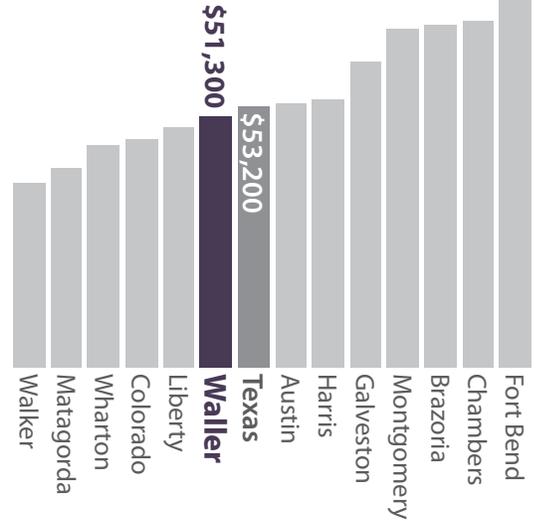
Residents Per Square Mile

Waller County is less dense than the region as a whole.



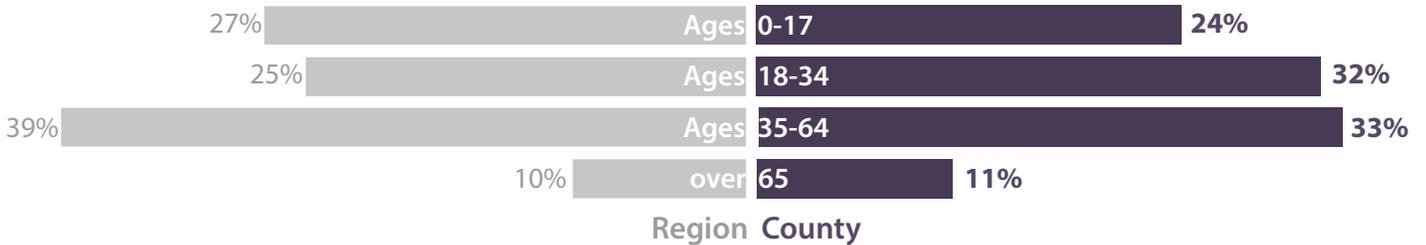
Median Household Income

Waller County has a similar median household income as the region.



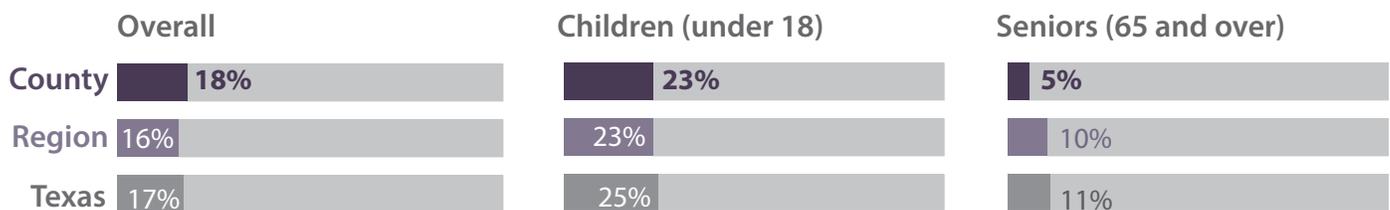
Age

Waller County has a higher portion of 18-34 year olds than the region.



Poverty Rate

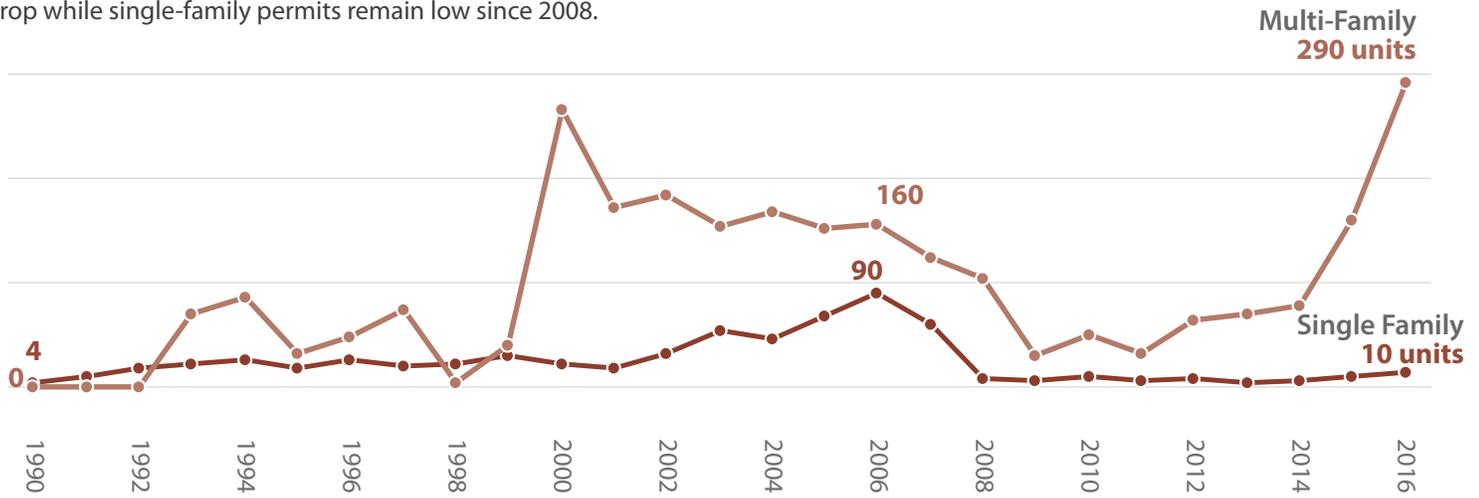
Waller County has a higher rate of poverty than the region, but a lower rate for seniors.



Housing

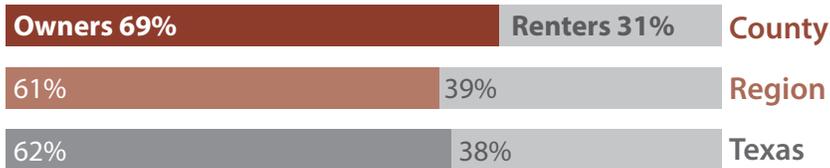
Building Permits Issued

Multi-family construction is rapidly rising after a post-2000 drop while single-family permits remain low since 2008.



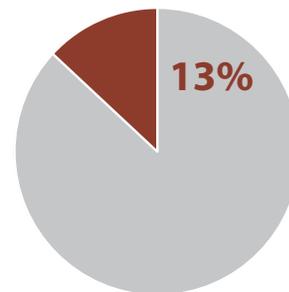
Housing Tenure

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



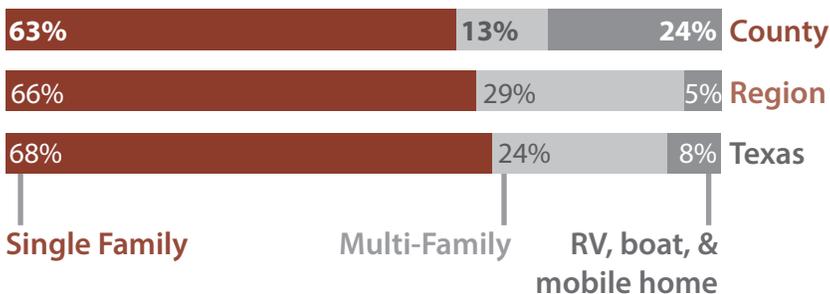
Vacant Housing Units

Around 13% of Waller County's housing units are vacant.



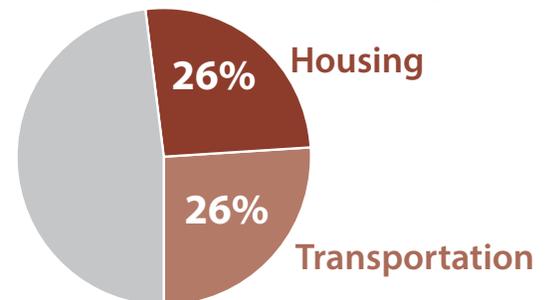
Housing Type

Waller County has a higher rate of RV, boat and mobile homes than the region.



Living Costs

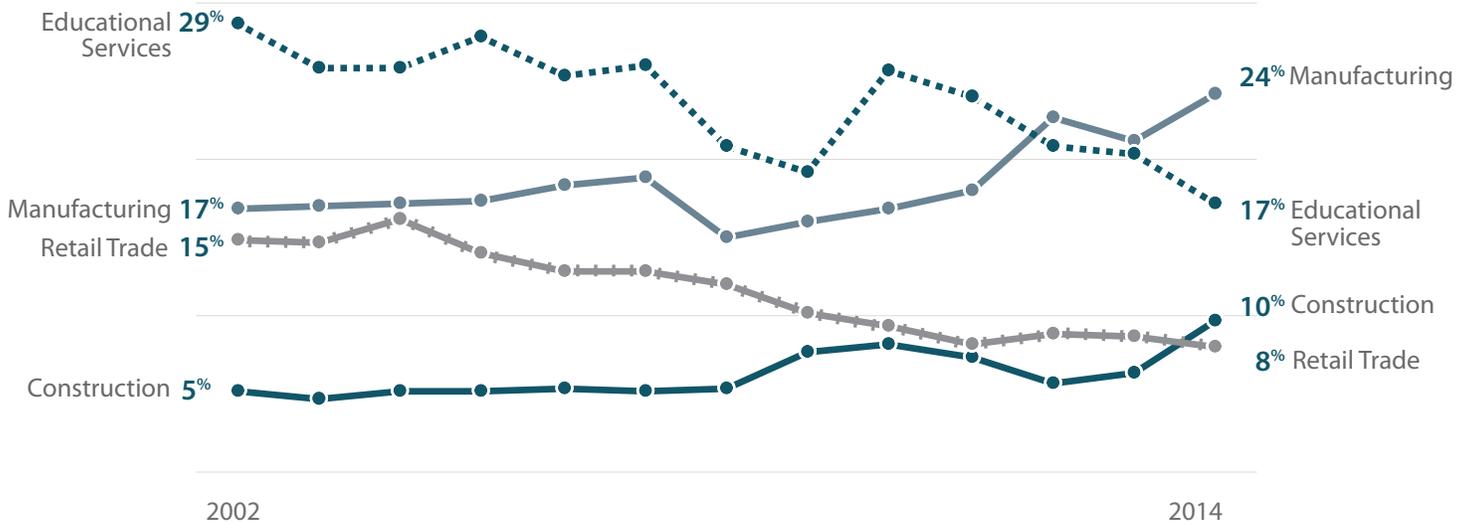
Waller County households spend 52% of their income on transportation and housing.



Economy

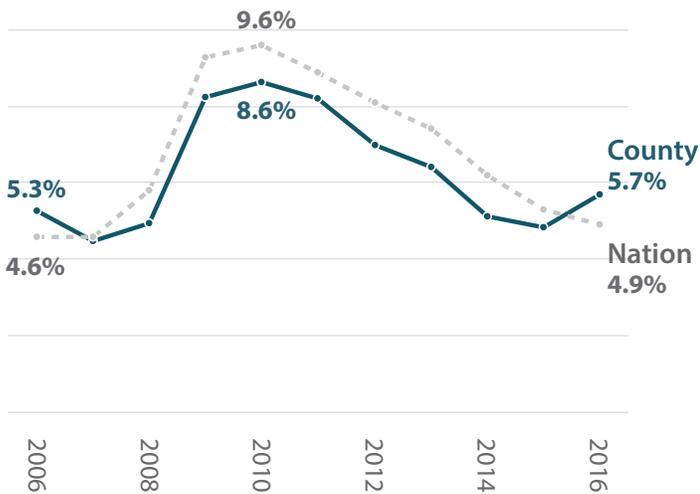
Top Industries by Percent of Overall Jobs

Manufacturing has replaced Educational Services as the industry with the highest employment in Waller County. The Manufacturing industry employed one-quarter of Waller County's workers in 2014, up from 17% in 2002.



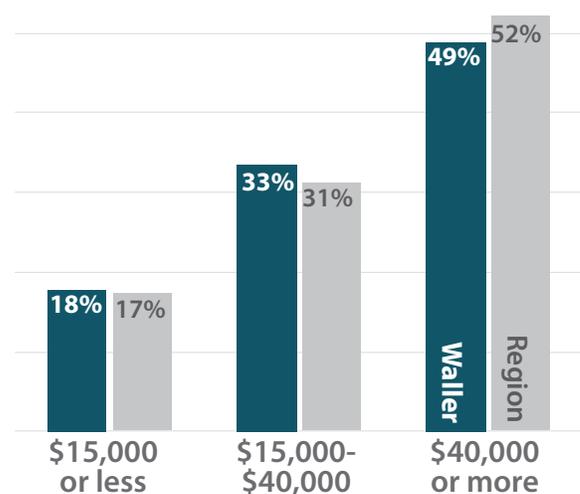
Unemployment Rate

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



Earnings of Residents

Nearly 50% of Waller County residents earn more than \$40,000 annually, a lower percentage than the region.



Education, Hazard Risks, and Commute

Median Earnings by Educational Attainment

A Waller County resident with a graduate or professional degree makes, on average, \$32,100 more than a resident with less than a high school education annually.



Educational Attainment

A lower percentage of Waller County residents have a bachelor's degree or more than the region and state.

Less than High School

County 22%

Region 18%

Texas 18%

High School or Equivalent

County 31%

Region 24%

Texas 25%

Some College or Associate's

County 28%

Region 28%

Texas 29%

Bachelor's Degree or More

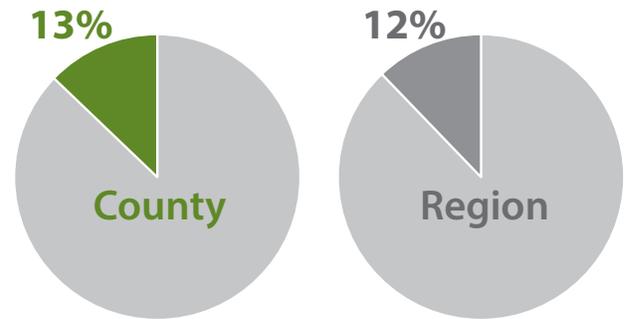
County 19%

Region 30%

Texas 28%

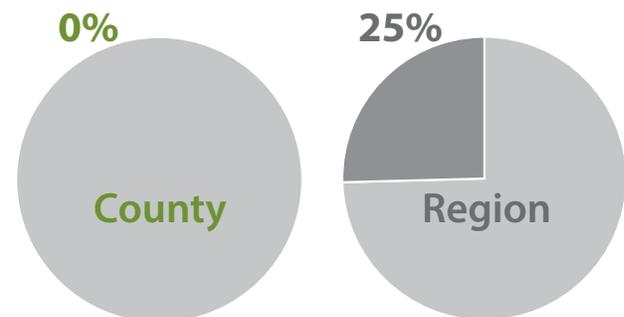
Residents in 100-year Floodplain

A similar percentage of Waller County residents live in a 100-year floodplain as the region.



Residents in Hurricane Evacuation Zone

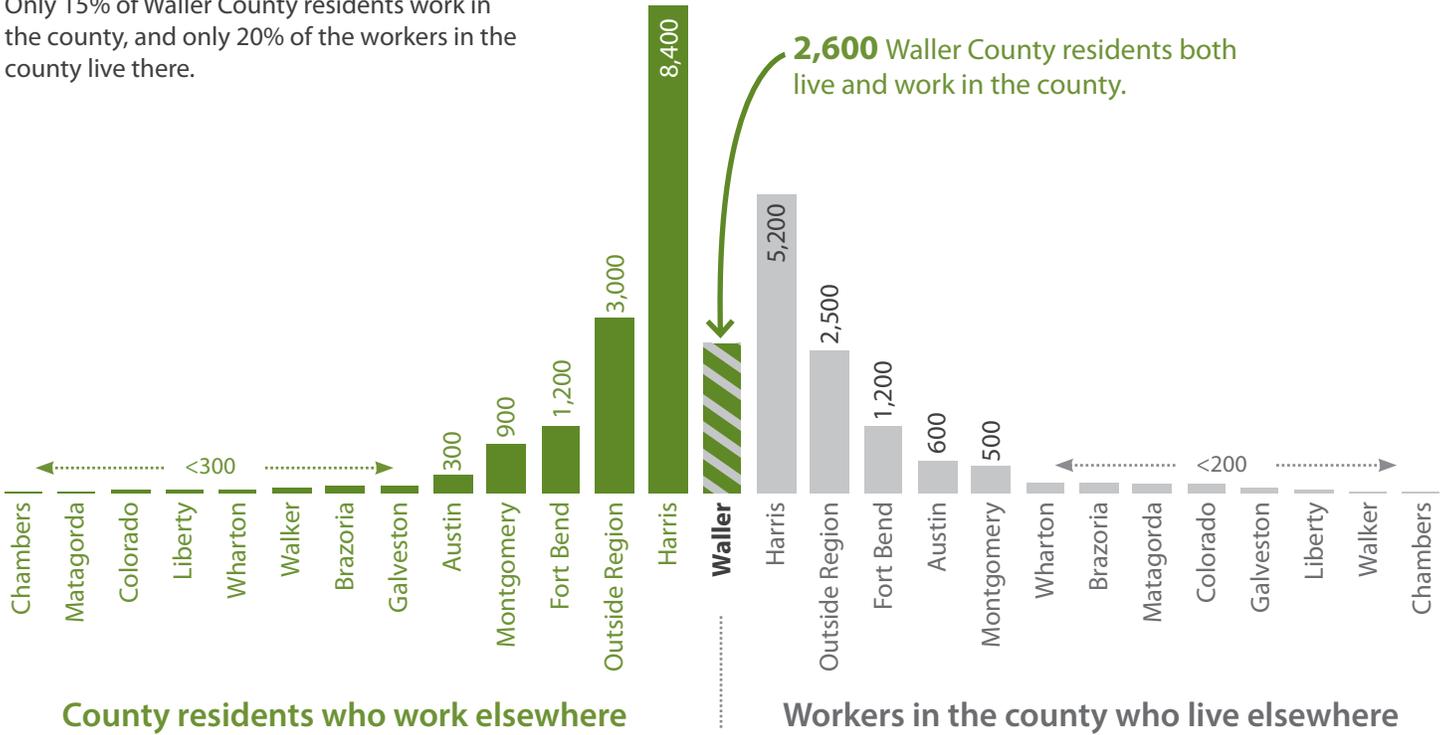
No Waller County residents live in a hurricane evacuation zone, as opposed to 25% of the region's residents.



Education, Hazard Risks, and Commute

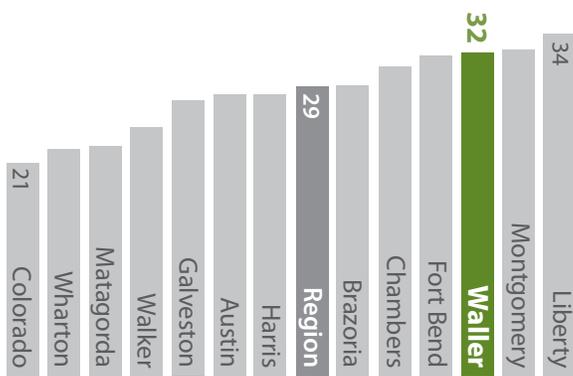
Workers' Job & Home Destinations

Only 15% of Waller County residents work in the county, and only 20% of the workers in the county live there.



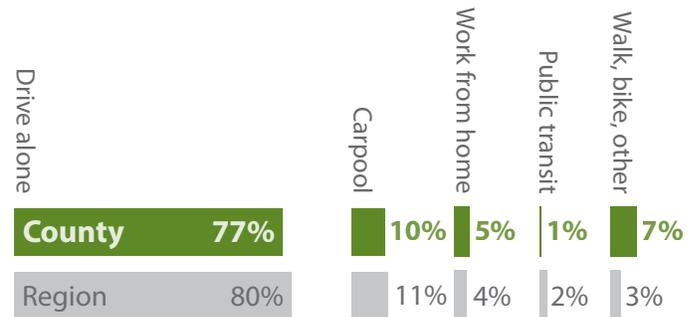
Mean Commute to Work (minutes)

Waller County workers have a longer average commute than the region as a whole.



Commute Mode to Work

A lower percentage of Waller 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.

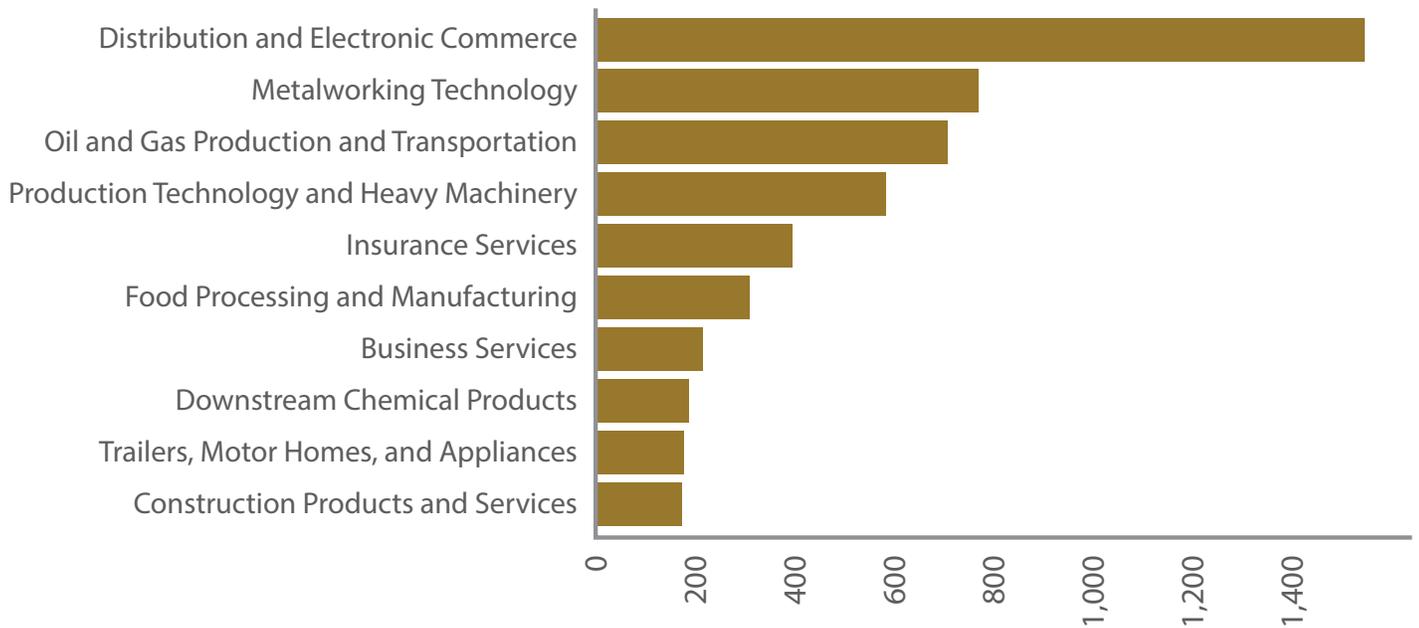
Traded v. Local Clusters

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 Waller County's employment by each cluster. It is based on 2014 data from the U.S. Census.



Local Planning

These plans highlight efforts in Waller County to plan for disaster recovery and economic resiliency.

Waller County Hazard Mitigation Plan



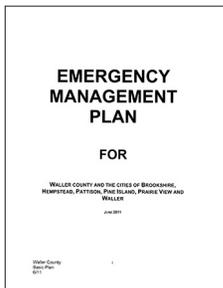
Waller County is currently developing a Hazard Mitigation Plan for release in 2019. Waller County participated in the 2011 Update of the Regional Hazard Mitigation Plan. The Regional Hazard Mitigation plan was created in 2006 by the Houston-Galveston Area Council, the Texas Division of Emergency Management, 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 six mitigation actions for Waller County:

- Implement water smart awareness/education program.
- Purchase emergency generators for groundwater wells and drainage pumps in City of Waller.
- Implement Ready, Set, Go program in wildfire urban interface areas and increase education with Emergency Service Districts to promote better public wildfire awareness.
- Coordinate with local fire departments to assist in acquiring grants for specialized portable wildfire fighting equipment and portable storage tankage.
- Construct safe room for EOC with emergency generator to maintain services at critical facility.
- Conduct flood outreach and education campaign by distributing information at public buildings, townhall meetings, and other speaking engagements

Waller County Emergency Plan



The Waller County Emergency Plan outlines Waller County's approach to emergency operations in the county and the cities of Prairie View, Waller, Pine Island, Pattison, and Brookshire. It provides guidance for emergency management activities and an overview of methods of mitigation, preparedness, response, and recovery. The plan includes an

examination of hazard occurrences. It examines vulnerabilities but is not focused on the economy and how to recover after a disruption.

Hempstead Livable Centers Study



The Hempstead Livable Centers Study provides recommendations for the Downtown Hempstead area in the City of Hempstead. This study should be used by community leaders to better understand new concepts and strategies to increase social, physical, and cultural opportunities for its residents, business owners, visitors, and

other stakeholders. The framework for new development creates destinations that are accessible by walking, bicycling, and using public transportation. The plan contains economic development goals identified as part of the planning process, including the following: identify role of downtown and projects that complement economic development happening in other key nodes and locations in Hempstead; and create a balanced and diverse funding strategy for CIP projects and investments. The plan also contains numerous recommendations to help implement the goals. The plan does not examine how the town can be resilient to an economic shock.

Waller Livable Centers Study



This plan for the City of Waller is part of the Livable Centers initiative, designed to forge a new growth strategy in light of the expected growth of the region. The plan has a number of intended outcomes including the following: reconciling

regional mobility goals and local planning objectives; community identity and place-making, promoting a proactive approach to growth; and promoting economic development. The plan examines Waller's economic conditions, including occupied and vacant commercial real estate. The plan acknowledges draining and flooding as a problem within the study area. The city contains approximately 545 acres of floodplain. The plan acknowledges creating an urban center will increase the imperviousness, thereby creating additional stormwater runoff.

Data Sources

Waller County Overview

1. Texas State Historical Association
2. U.S. Census
3. Houston-Galveston Area Council
4. U.S. Census
5. Houston-Galveston Area Council
6. U.S. Census
7. Prairie View A&M
8. US Cluster Mapping
9. USDA Census of Agriculture
10. Texas State Historical Association

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.