MONTGOMERY 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 Montgomery County and it's economy by providing key data points on the economy, demographics, and other useful information.

Montgomery County Boundaries

- **Montgomery County**
- **Other counties**
- ● **Top 4 cities**
- — **Major roads**

County Seat: Conroe
Largest City: The Woodlands
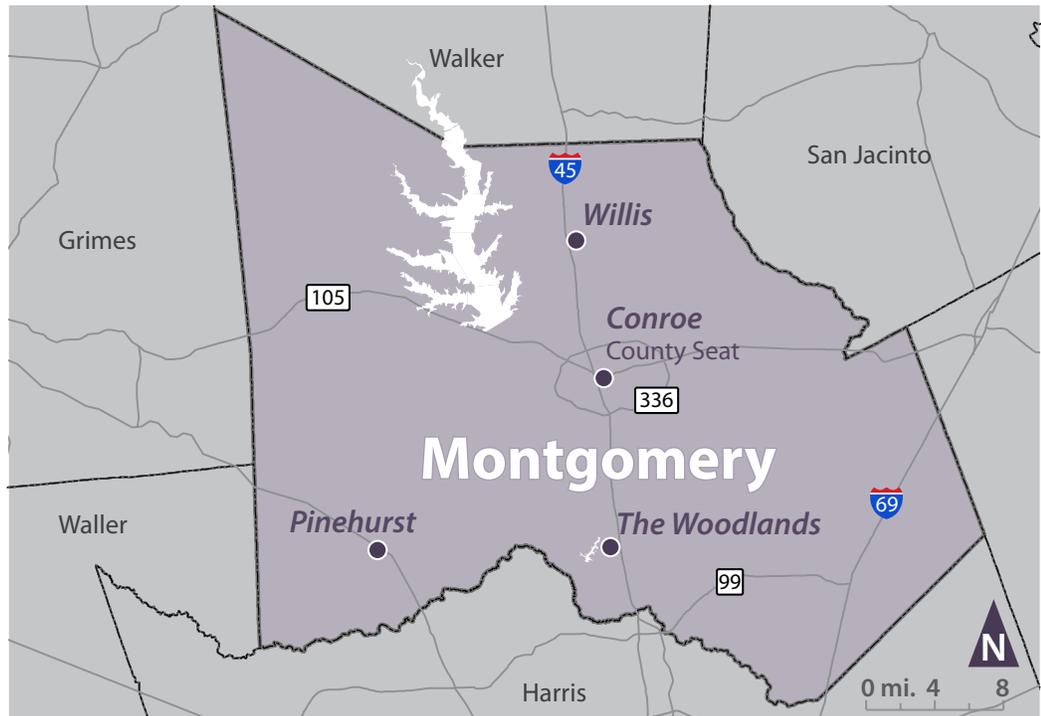
Montgomery County Overview

Montgomery County's population grew 323 percent from 127,000 in 2006 to 538,000 residents in 2015. Population is expected to more than double, to 1,183,000 by 2040. The county seat, Conroe, was the United States' fastest growing city in 2016 with a population of 82,286 and a 7.8 percent annual population increase. The story of the county's urbanization began in the mid-1970s with the creation of The Woodlands, a master planned community, that grew from a population of 8,443 in 1980 to an estimated 109,679 in 2010. It is now the largest community in the county. Other communities in Montgomery County with populations over 1,000 include Cut and Shoot, Magnolia, New Caney, Oak Ridge North, Panorama Village, Patton Village, Pinehurst, Porter, Roman Forest, Shenandoah, Splendora, Willis, and Woodbranch. The Woodlands, Pinehurst, Porter, and New Caney are unincorporated; 81 percent of residents live in unincorporated Montgomery County. Montgomery County is on the southern range of the east Texas piney woods. Its major watersheds include Spring Creek to the south, the west fork of the San Jacinto and its impoundment Lake Conroe in the center, and Caney/Peach Creek watersheds to the east.

Although Montgomery County is largely residential (the majority of Montgomery County residents work in neighboring Harris County), Montgomery County's economy has grown in pace with its residential development. The Woodlands area has become an employment center and home to two Fortune 500 company headquarters. Business services are the largest employment cluster, with approximately 18,000 employees. Many of these jobs are related to the support activities for oil and gas operations. Retail, healthcare, distribution, and manufacturing are important private sector employers. Retail trade comprised 12 percent of employment in 2014, and retail sales totaled $6.3 billion in 2012. Several major national retailers have distribution centers in Montgomery County. Healthcare is a growing sector of the economy as many of the institutions based in the Texas Medical Center have opened or are planning to open hospitals in Montgomery County. Many of the county's estimated 24,000 manufacturing jobs are related to oil field services, comprising 9 percent of the county's employment. The county's annual agricultural production was estimated to be $23.8 million in 2012, with half of the market value in livestock sales and half in crop sales.
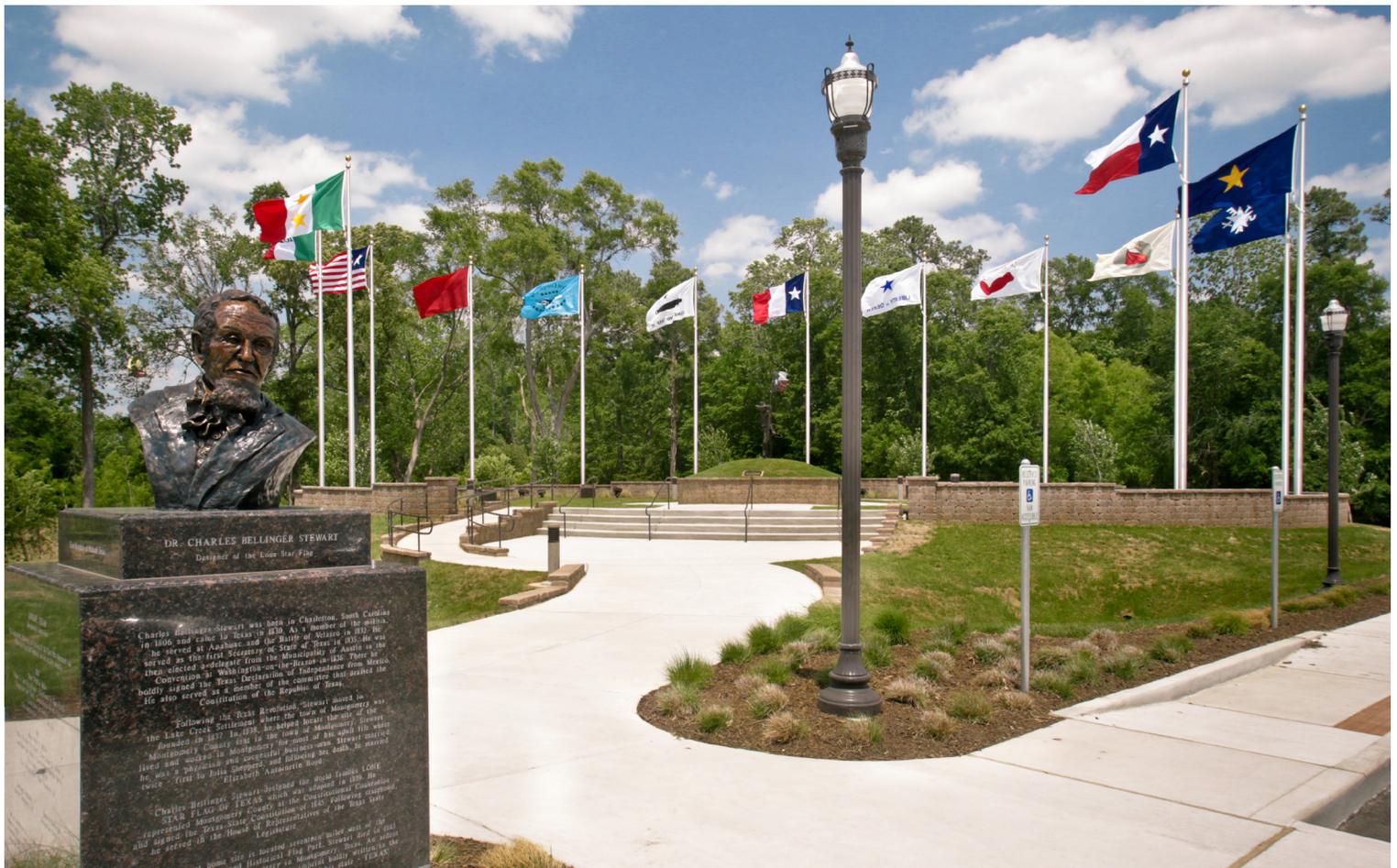
The City of Conroe developed the Lone Star Monument and Historical Flag Park to promote historical knowledge that Montgomery County is considered the birthplace of the Texas flag.

Recent Disruptions to the Economy

Montgomery County's inland location shields it from the worst ravages of hurricanes in the Gulf of Mexico; but Hurricane Harvey caused flooding in the county and dropped over 30 inches of rain in three days. The storm displaced 1,200 Montgomery County residents. The total damage from the storm is still being calculated. Hurricane Harvey was the third significant flooding event in three years; Montgomery County homes and businesses flooded during the 2015 Tax Day and 2016 Memorial Day floods. Hurricane Ike in 2008 had winds that gusted to 80 miles-per-hour, downing powerlines across the county, especially in the south and east.

The price of a barrel of oil dropped from over $100 in 2014 to under $30 in 2016. This negatively affected employment in the sector, with The Woodlands losing approximately 1,000 jobs. Office vacancy grew from .5 percent in 2012 to 11 percent in 2017. The negative effects were greatly reduced by the growth of healthcare jobs, which have doubled with the opening and expansion of acute care hospitals. Total employment in 2014 was estimated to be 153,042 and was estimated to be 166,508 in 2016 which increased since the downturn in oil. The Great Recession (2008-2012) caused unemployment to spike at 8 percent in January 2010, but high oil prices protected the county's economy from some of the worst impacts. Conversely, the Texas drought of 2010-2012 caused damage to tourism and recreation as the water level of Lake Conroe fell. Wildfires became a risk, and the drought caused ranchers to sell livestock at low prices due to the high price of feed. Municipalities experienced increased maintenance costs from cracked pipes and shifting roadbeds.

Economic Resilience Strategies

The flooding caused by Hurricane Harvey, which followed two other significant flooding events, caused Montgomery County officials to consider its drainage infrastructure and the potential impacts of flooding on the county. As the county's population continues to grow, mobility issues are becoming more pressing; average commute times are higher than the state and region.

Recommendations

Montgomery 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.

Develop comprehensive flood control plans for every watershed in the county.

Revisit development standard and clarify the Municipal Utility District's responsibilities in drainage and flood control.

Continue to support business diversification and small business development efforts.

Investigate the costs and benefits of emerging mobility technologies including electrification, rideshare, and automated vehicles along with high capacity transit.

Land Use and Demographics
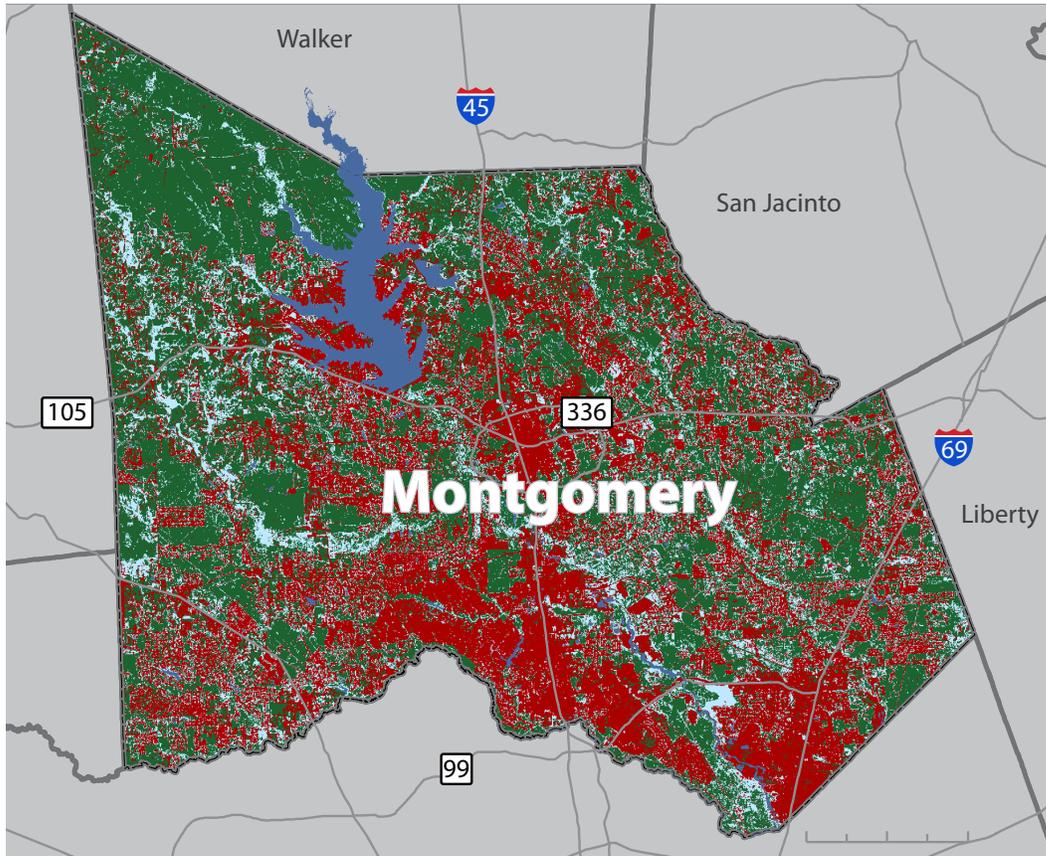
Montgomery County Land Use

	Other counties
3%	Open water
34%	Developed Land
17%	Wetlands
47%	Forest, shrubs, pasture, grasslands, barren lands and cultivated crops

The south of Montgomery County has urbanized rapidly over the past three decades.

Population Growth Forecast

Montgomery County grew by 323% from 1980 to 2015 and is expected to reach 1,183,000 residents by 2040.
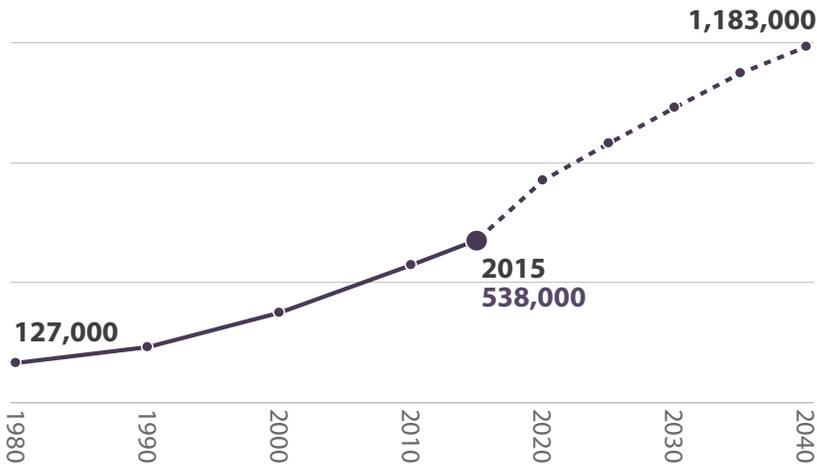
Top 10 City Populations

The City of Conroe is Montgomery County's largest incorporated municipality.

82,286	Conroe
6,370	Willis
6,291	Houston*
3,167	Oak Ridge North
2,876	Shenandoah
2,333	Panorama Village
1,985	Magnolia
1,964	Splendora
1,893	Patton Village
1,870	Roman Forest

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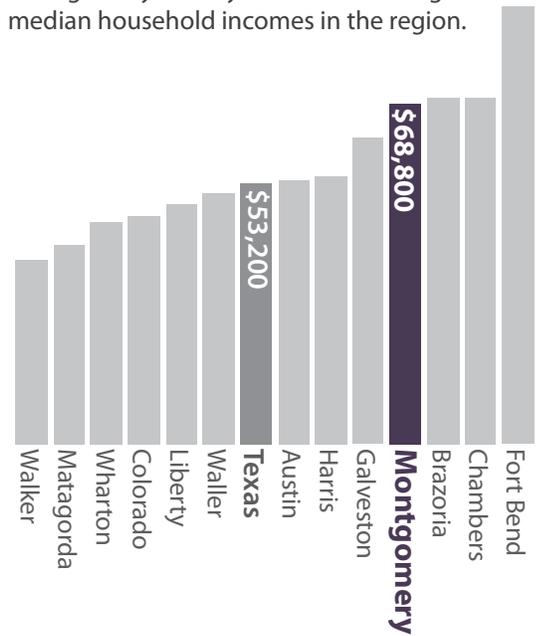
Land Use and Demographics

Residents Per Square Mile

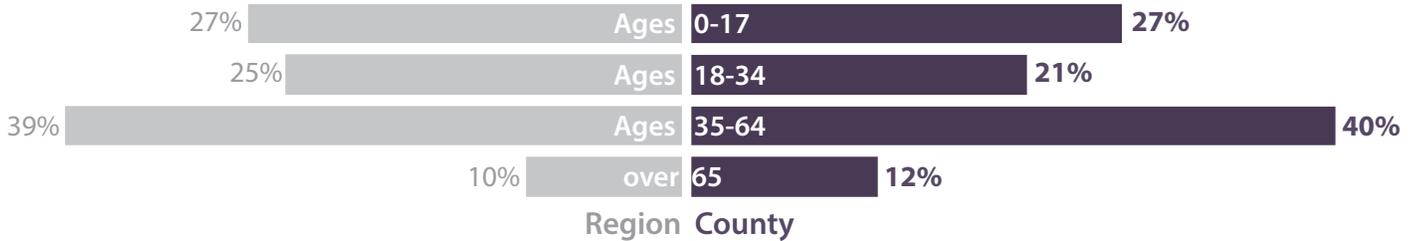Montgomery County has about the same population density as the region.

2,590

560

565

20

Colorado
Matagorda
Wharton
Austin
Chambers
Liberty
Waller
Walker
Brazoria
Region
Montgomery
Fort Bend
Galveston
Harris
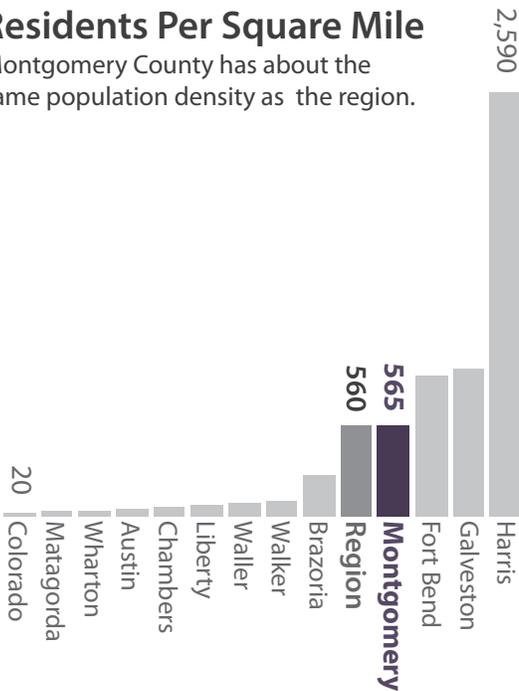
Median Household Income

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

$53,200

$68,800

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

Age

Montgomery County has a similar age profile as the region.

Region		County
27%	Ages 0-17	27%
25%	Ages 18-34	21%
39%	Ages 35-64	40%
10%	over 65	12%

Region   County

Poverty Rate

Montgomery County has a lower rate of poverty than the region, particularly for children.

Overall

County	12%
Region	16%
Texas	17%

Children (under 18)

County	17%
Region	23%
Texas	25%

Seniors (65 and over)

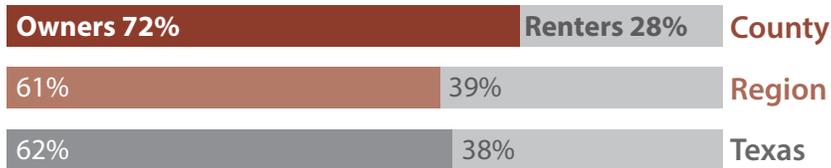| County | 8% |
| Region | 10% |
| Texas | 11% |
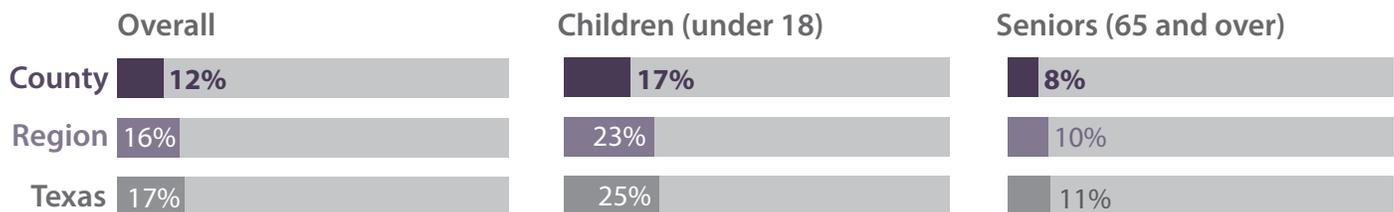
Housing

Building Permits Issued

Single-family construction started declining in 2014 after a rise since 2010. Multi-family permits followed a similar pattern.
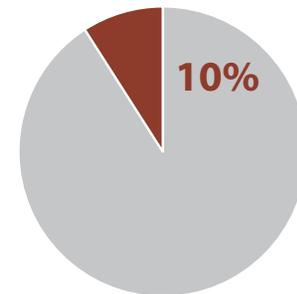
7,600

Single Family
4,200 units

Multi-Family
1,400 units

1,400

50
0

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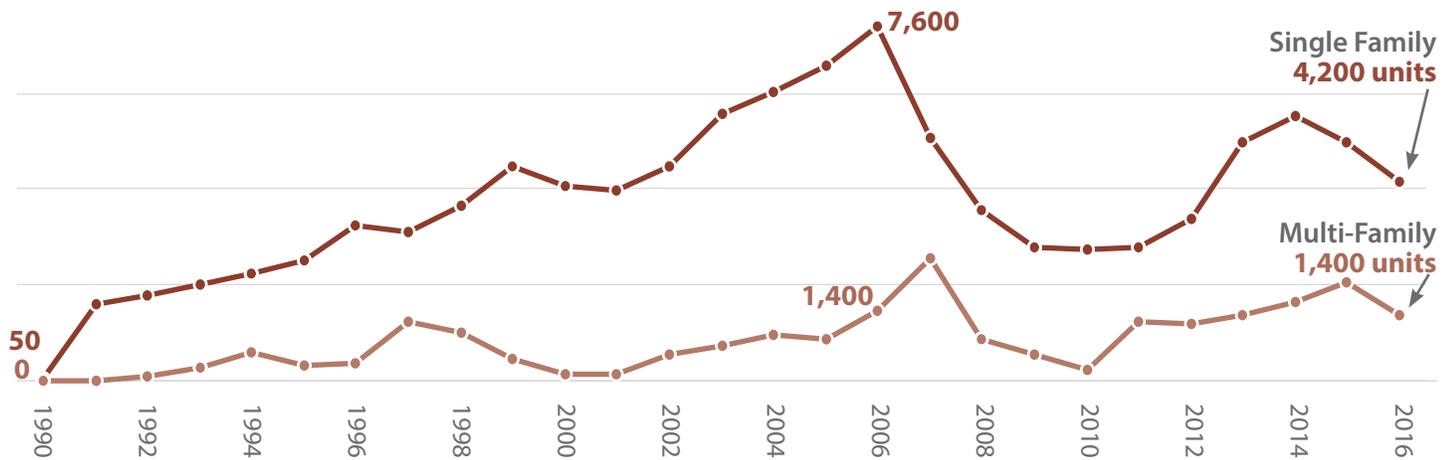
Housing Tenure

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

Owners 72%	**Renters 28%**	**County**
61%	39%	**Region**
62%	38%	Texas

Vacant Housing Units

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

10%

Housing Type

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

70%	**15%**	**14%**	**County**
66%	29%	5%	**Region**
68%	24%	8%	Texas

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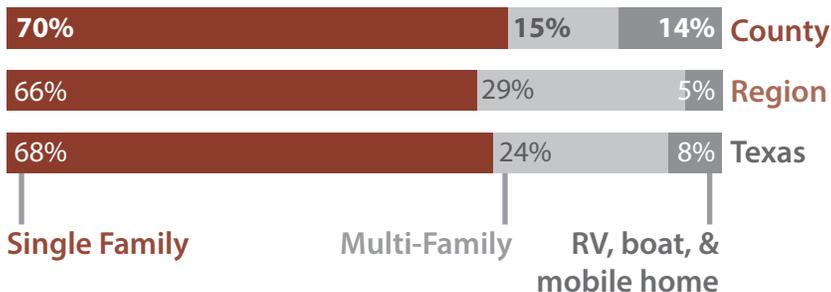
Living Costs

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

25% Transportation

31% Housing
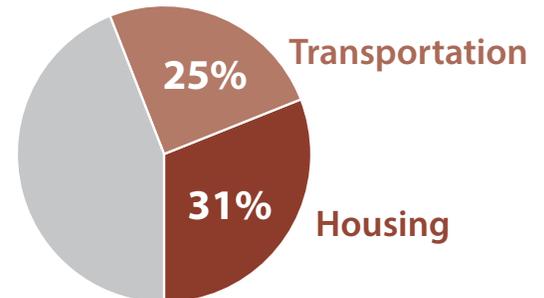
Economy

Top Industries by Percent of Overall Jobs

Employment in Montgomery County diversified between 2002 and 2014. While the Manufacturing and Construction industries declined as a percentage of overall jobs, they still employed about the same number of workers.

Retail Trade **17%**

Educational Services **11%**

Health Care & Social Assistance **9%**

Accommodation & Food Service **8%**

12% Retail Trade

12% Educational Services

11% Health Care & Social Assistance

11% Accommodation & Food Service

2002

2014
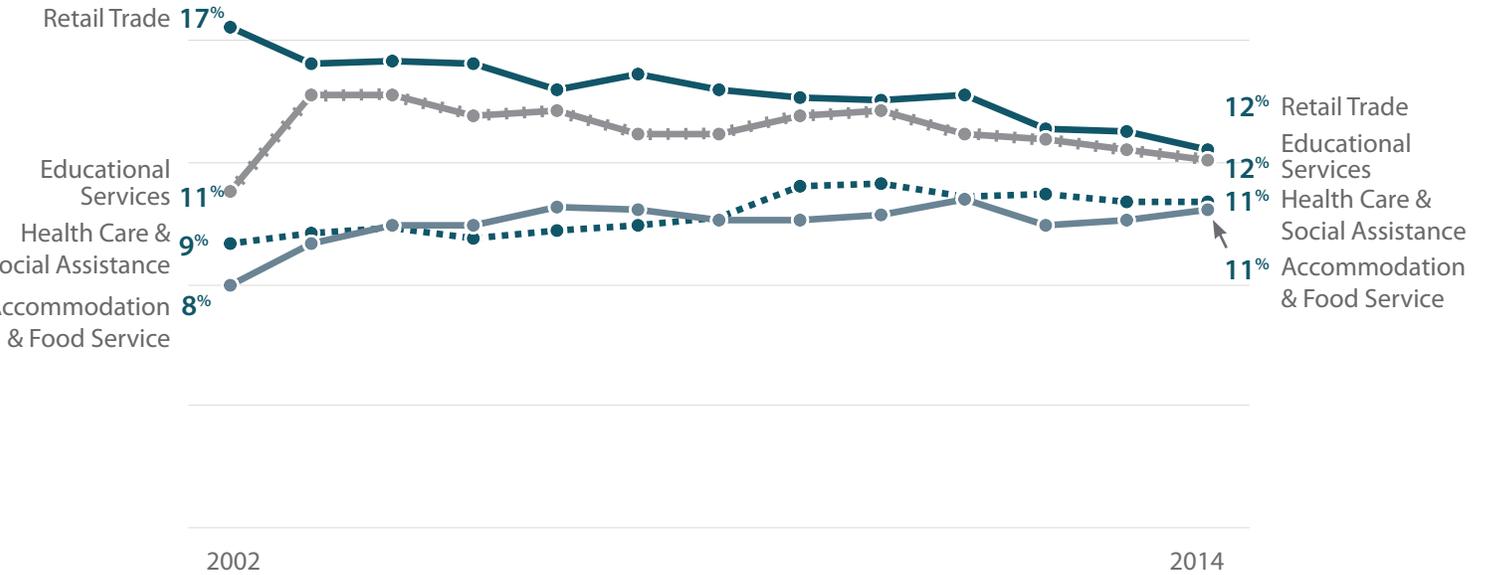
Unemployment Rate

Montgomery County's unemployment has recently been lower than the national average, until 2016.

9.6%

7.5%

4.6%

4.4%

County 4.9%

Nation 4.9%

2006 2008 2010 2012 2014 2016
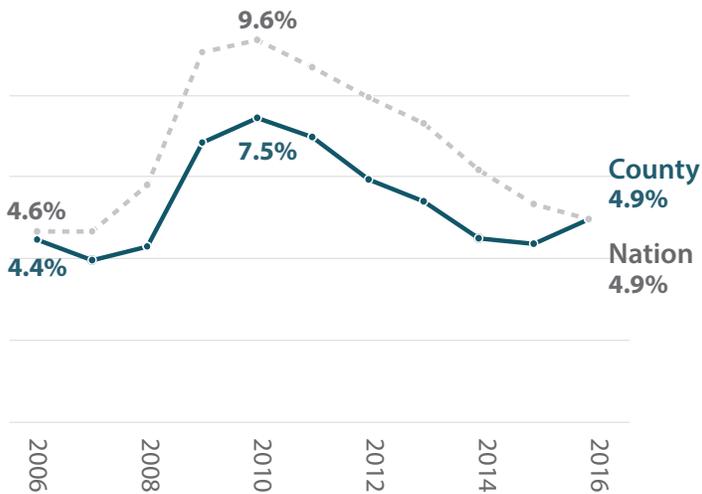
Earnings of Residents

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

56%
52%

27% **31%**

16% **17%**

Montgomery

Region

$15,000 or less

$15,000-$40,000

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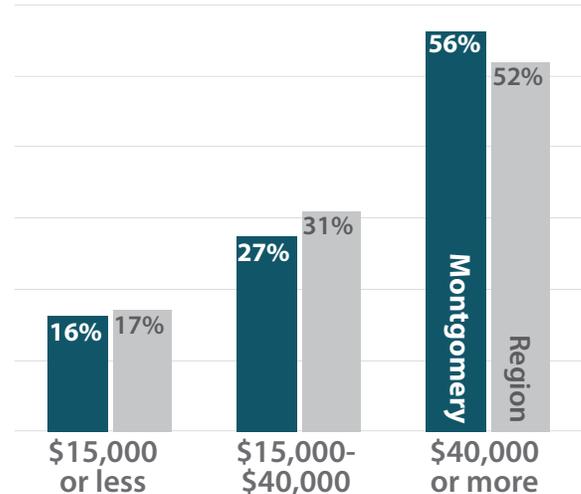
Education, Hazard Risks, and Commute

Median Earnings by Educational Attainment

A Montgomery County resident with a graduate or professional degree makes, on average, $59,000 more than a resident with less than a high school education annually.
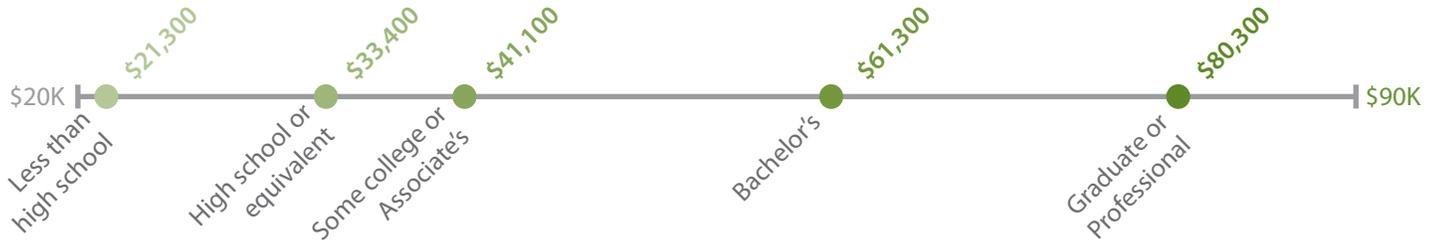
$20K — $21,300 (Less than high school) — $33,400 (High school or equivalent) — $41,100 (Some college or Associate's) — $61,300 (Bachelor's) — $80,300 (Graduate or Professional) — $90K

Educational Attainment

A higher percentage of Montgomery County residents have a bachelor's degree or higher than the region and state.

Less than High School
- County **14%**
- Region 18%
- Texas 18%

High School or Equivalent
- **24%**
- 24%
- 25%

Some College or Associate's
- **30%**
- 28%
- 29%

Bachelor's Degree or More
- **32%**
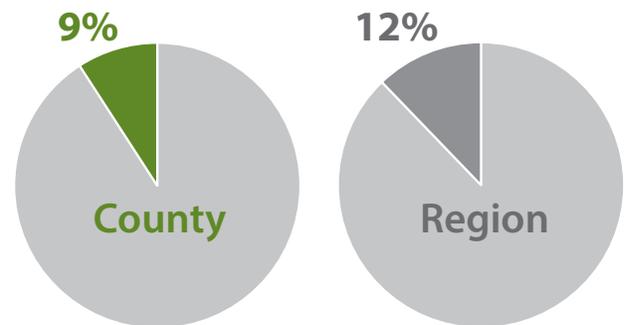- 30%
- 28%

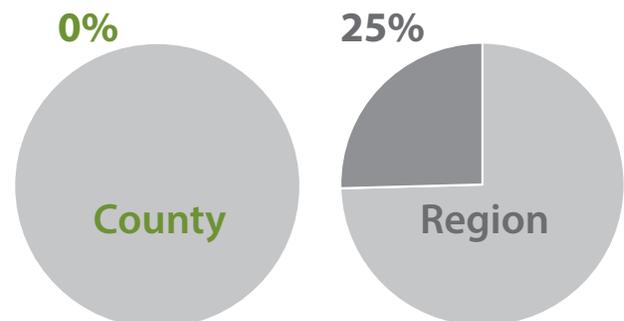## Residents in 100-year Floodplain

A lower percentage of Montgomery County residents live in a 100-year floodplain than tahe region.

9% County

12% Region

Residents in Hurricane Evacuation Zone

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

0% County

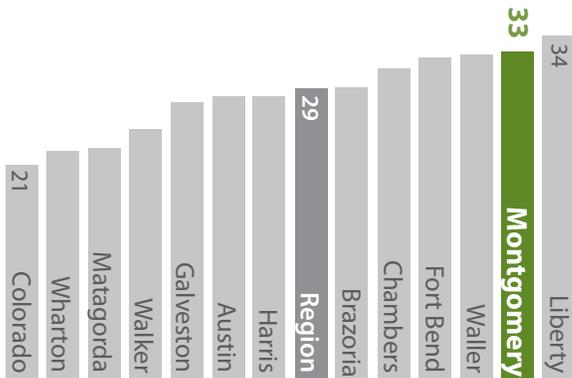**25%** Region

Education, Hazard Risks, and Commute

Workers' Job & Home Destinations

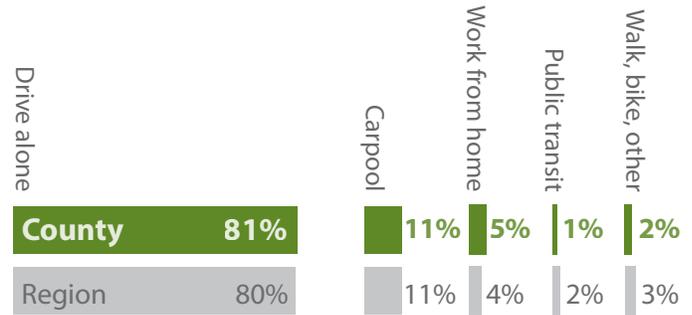Only 31% of Montgomery County residents work in the county, and only 42% of the workers in the county live there.

48,000 Montgomery County residents both live and work in the county.

County residents who work elsewhere

Matagorda	Colorado	Wharton	Austin	Chambers	Waller	Liberty	Galveston	Brazoria	Walker	Fort Bend	Outside Region	Harris
<500	<500	<500	<500	<500	<500	1,100	1,500	1,800	2,200	4,000	27,600	103,200

Montgomery 48,000

Workers in the county who live elsewhere

Harris	Outside Region	Fort Bend	Liberty	Walker	Brazoria	Galveston	Waller	Chambers	Austin	Wharton	Matagorda	Colorado
48,000	25,500	3,100	2,400	1,900	1,600	1,500	800	<500	<500	<500	<500	<500

Mean Commute to Work (minutes)

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

Colorado	Wharton	Matagorda	Walker	Galveston	Austin	Harris	Region	Brazoria	Chambers	Fort Bend	Waller	Montgomery	Liberty
21							29					**33**	34

Commute Mode to Work

Montgomery County workers have a similar commute split as the rest of the region.

	Drive alone	Carpool	Work from home	Public transit	Walk, bike, other
County	**81%**	**11%**	**5%**	**1%**	**2%**
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 67%   Traded 33%

Employment by Cluster

This bar graph demonstrates Montgomery County's employment by each cluster. It is based on 2014 data from the U.S. Census, and does not reflect the closing of BAE Systems and its impacts on the local economy.
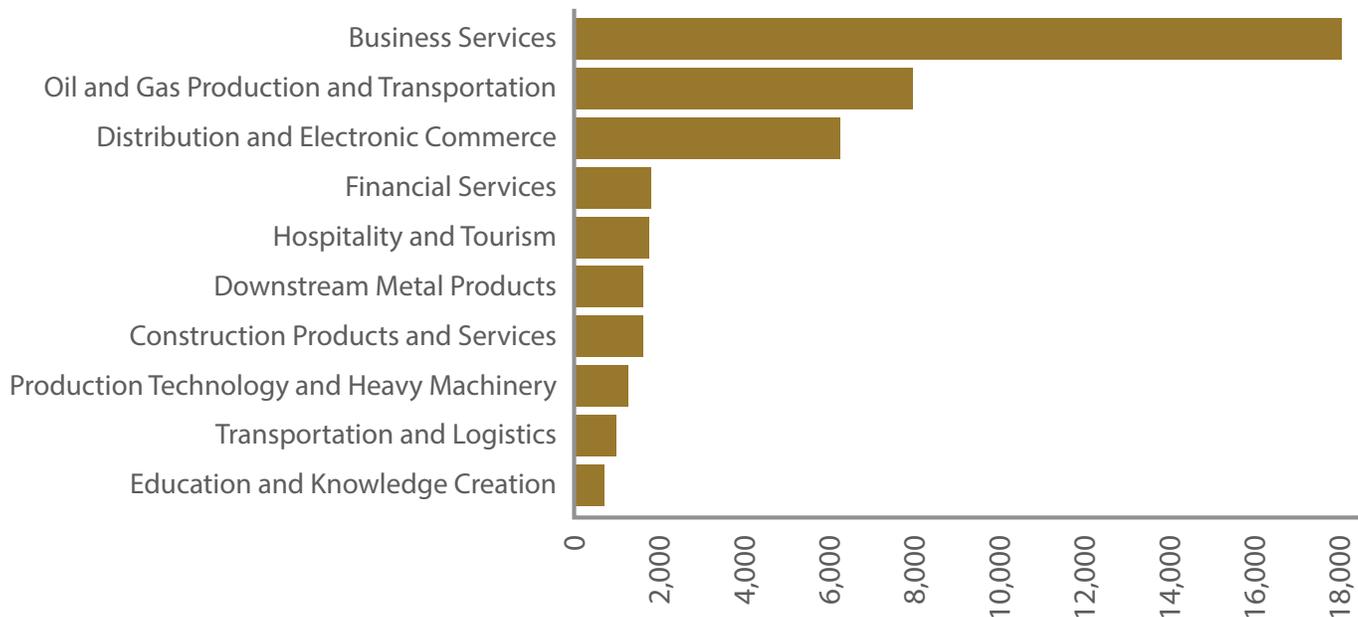
Local Planning

This plan highlights efforts in Montgomery County to plan for disaster recovery and economic resiliency.

Montgomery County Hazard Mitigation Plan

Montgomery County is currently developing a Hazard Mitigation Plan for release in 2019. Montgomery 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 four mitigation actions for Montgomery County:

- Maintain mobile alternate care sites and associated resources necessary for deployment.
- Implement Ready Set Go Educational Program Implement Ready, Set, Go Educational Program.
- Participate in CRS workshop hosted by H-GAC.
- Reduce hazardous fuels in ditches in county right of way to lessen the threats and impacts from wildfires, droughts and floods.

Data Sources

Brazoria County Overview

1. Houston-Galveston Area Council
2. U.S. Census Bureau
3. Texas Association of Counties
4. U.S. Census Bureau
5. U.S. Cluster Mapping
6. U.S. Census
7. DATA USA
8. Workforce Solutions
9. USDA Census of Agriculture

Recent Disruptions to the Economy

10. Community Impact Newspaper
11. National Weather Service
12. Workforce Solutions
13. Federal Reserve Bank of Saint Louis

Economic Development Strategies

14. Data USA
15. The Cynthia & George Mitchell Foundation

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.