

COUNTY ECONOMIC OUTPUT TRENDS

COUNTY ECONOMIES 2020

ISSUE BRIEF | FEBRUARY 2020

NACo's MISSION

Strengthen America's counties.

NACo's VISION

Healthy, safe and vibrant counties across America.

ABOUT NACo

The National Association of Counties (NACo) strengthens America's counties, serving nearly 40,000 county elected officials and 3.6 million county employees. Founded in 1935, NACo unites county officials to:

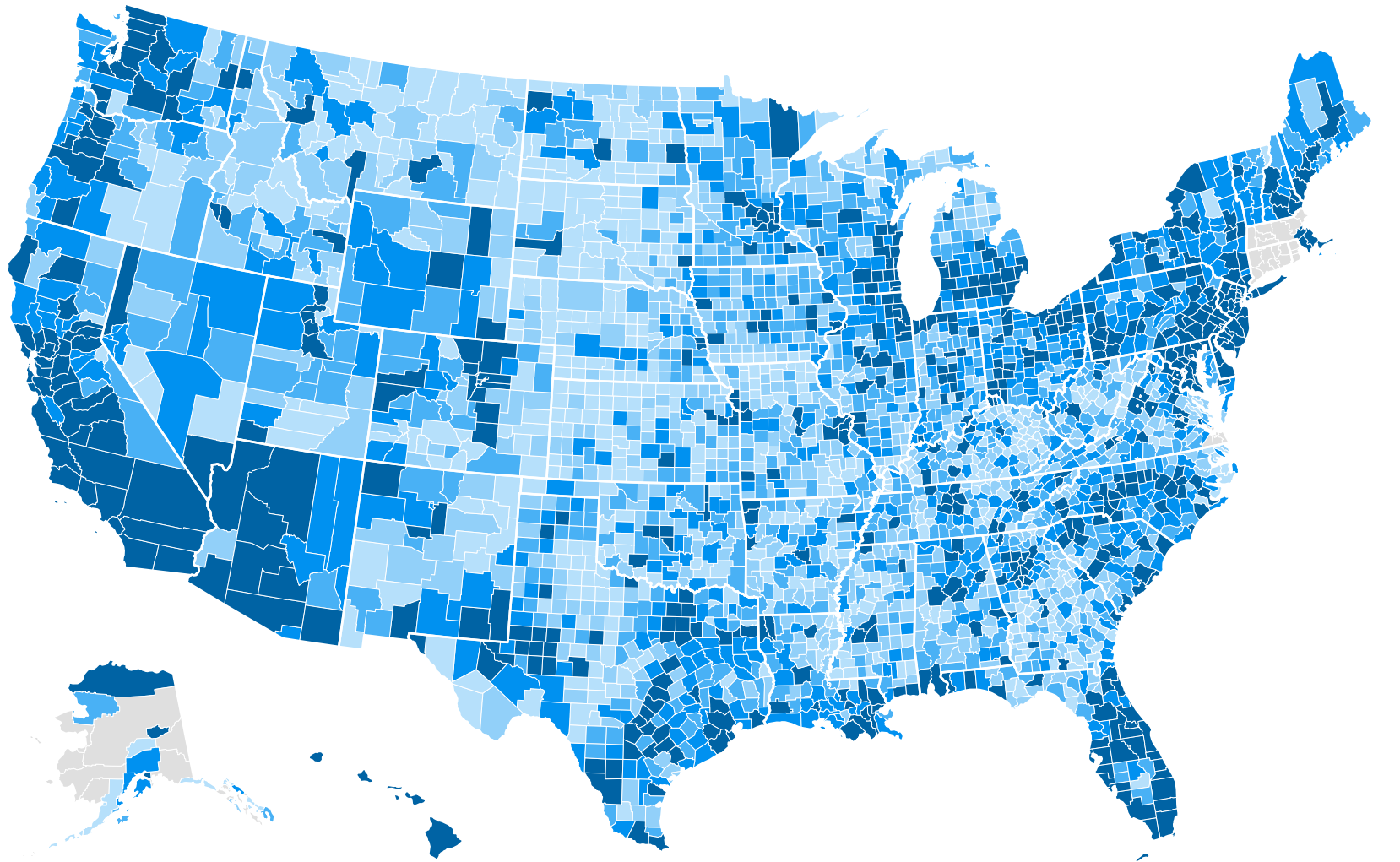
- **Advocate county priorities** in federal policymaking
- **Promote exemplary county policies** and practices
- **Nurture leadership skills** and expand knowledge networks
- **Optimize county and taxpayer resources** and cost savings, and
- **Enrich the public's understanding** of county government.

TABLE OF CONTENTS

GROSS DOMESTIC PRODUCT MAP	4
<i>County economies generated \$17.7 trillion in economic output in 2018.</i>	
BACKGROUND: WHAT IS GDP?	5
<i>Economic output is an important indicator used to measure economic productivity and growth.</i>	
PER-CAPITA ECONOMIC OUTPUT	6
<i>Per-capita economic output for all county economies was \$56,206 in 2018.</i>	
REGIONAL ANALYSIS OF COUNTY ECONOMIES	8
<i>Economic Output in the west increased by 55 percent between 2001 and 2018.</i>	
SHORT TERM COUNTY ECONOMIC GROWTH	10
<i>Strong economic growth at the national level does not imply strong growth at the local level.</i>	
COUNTIES & THE GREAT RECESSION	12
<i>During this time of economic turmoil (2007-2009), the output for county economies decreased by three percent.</i>	
CASE STUDY: MONTGOMERY COUNTY, TEXAS SHIELDED FROM DECLINE	13
<i>While 97 percent of county economies experienced economic decline during the recession, economic output in Montgomery County, Texas grew by 173 percent.</i>	
CASE STUDY: HOW THE TESLA GIGAFACTORY IMPACTED STOREY COUNTY, NEV.	14
<i>Economic output within Storey County, Nevada grew by 612 percent between 2001 and 2018.</i>	
ENDNOTES	16

GROSS DOMESTIC PRODUCT (GDP)

2018 Economic Output by County



Source: NACo Analysis of the U.S. Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product by County, 2018.



BACKGROUND: WHAT IS GDP?

Economic output is a vital indicator used to measure productivity and growth in nations, states, counties and other geographical or governmental divisions. Also known as gross domestic product (GDP), the indicator estimates the total value of goods and services produced by an economy. With it, **policymakers, including county officials, can gather insights into the conditions of local economies across the country.** Policymakers can measure how economic development decisions influence change in economic output within their jurisdictions. County officials and researchers can look for best practices within counties that have achieved economic prosperity and stability.

Between 2001 and 2018, national output increased by 41 percent; production grew from \$13.3 trillion in 2001 to \$18.6 trillion in 2018. However, **strong growth at the national level does not imply strong growth for every local jurisdiction.** Some local economies can experience growth, while others are experiencing a decline in output. Shocks to regional economies (ex.: factory closures) pose greater consequential impacts on surrounding local economies than on the national economy. These changes sometimes lead to constraints and challenges for a county to provide services for local citizens.

In 2018, service-producing industries generated the majority of national output. A few companies within the sector include software development companies, real estate firms and educational entities. Within the same year, **goods-producing industries dominated within small county economies.** This sector is engaged in the production of tangible objects such as agricultural goods (ex.: corn, soybeans, etc.). These industries also include mineral extraction, construction and manufacturing.

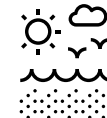
With the release of the new county-level GDP data by the Bureau of Economic Analysis (BEA), we can study the landscape of county economies across the nation. This report analyzes county GDP data highlighting trends and variations that exist across local economies.

Gross Domestic Product (GDP)
estimates the value of:

Goods-Producing Industries, e.g.:



Construction



Agriculture



Manufacturing



Forestry



Services-Producing Industries, e.g.:



Transportation



Software



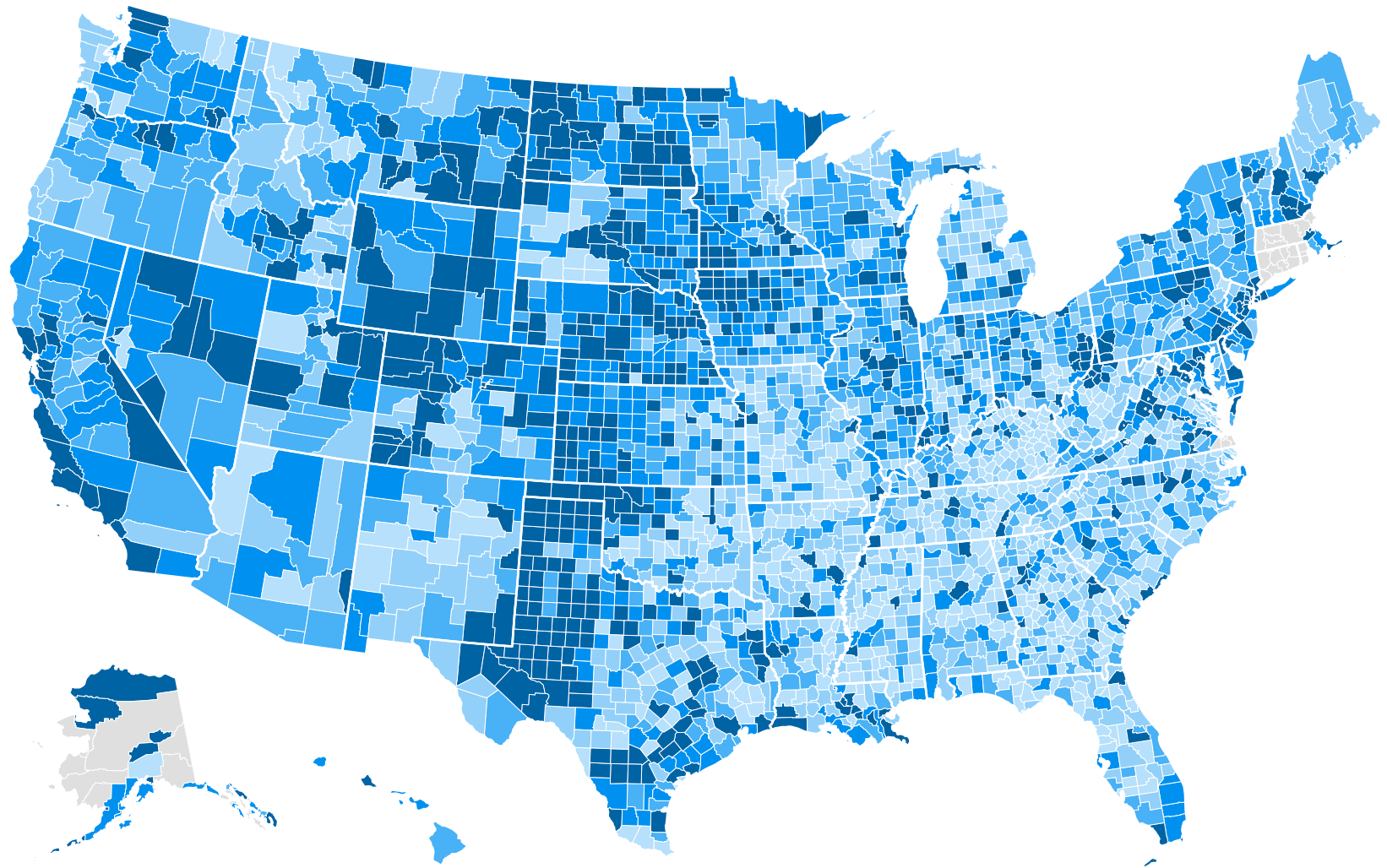
Real Estate



Education

PER-CAPITA ECONOMIC OUTPUT ACROSS ALL COUNTIES IS \$56,206

2018 Per-Capita Economic Output by county – 2018 Population numbers and Real GDP values were used.



Source: NACo Analysis of the U.S. Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product by County, 2018.



WHAT DOES PER-CAPITA OUTPUT TELL US?

Large county economies had the highest per-capita economic output at \$68,145 in 2018. The population within these 130 large counties accounted for 49 percent of all county residents. Moreover, these economies generated 60 percent of all output within counties. The economic drivers in these large economies are service-producing industries.

San Francisco City & County, Calif. had the highest per-capita output amongst large counties. In 2018, production in the county was \$162 billion, with a population of 883,305 residents, which results in \$184,014 per resident. 23 percent of the county's economy was generated by industries in the professional, scientific and technical services sector. Examples of companies in this industry include those which provide computer, consulting or research services.

On the other side of the spectrum, **small county economies had a per-capita economic output of \$42,043.** This group is composed of 2,115 counties, which house 12 percent of all county residents. These economies generated 12 percent of all output.

Roberts County, Texas had the highest per-capita economic output amongst small counties. With a population of 903 residents and over one billion dollars in production, the county's economy generated \$1.1 million per resident in 2018. Over 87 percent of Roberts County's economy was driven by the mining, quarrying, and oil and gas extraction sector.

Source: NACo Analysis of the U.S. Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product Data by County, 2018. NACo Analysis of U.S. Census Bureau - Population Estimates Program (PEP) 2018.

Note: For the report analysis, large county economies have more than 500,000 residents, medium-sized county economies have between 50,000 and 500,000 residents and small county economies have less than 50,000 residents.

The Gross Domestic Product (GDP) (economic output) figures used are based on the place of production. This means that estimates are based on where production (e.g.: office, factory, etc.) is located and not where workers live.

This report examines only the economies of counties with county governments.

WHAT IS PER-CAPITA ECONOMIC OUTPUT?

Per-capita economic output measures the relationship between economic production and population within a county. The indicator can be used as a measure of economic health. However, it is important to recognize that while per-capita output helps us understand economic activity, it is not a perfect measure. This is due to differences in labor force population, and individuals' county of residence and county of employment.

Economic output, or GDP, is based on the place of production (e.g., factory, office, etc.) and does not consider where workers live. A resident could live in one county and commute to another county for work, potentially altering the per-capita measure.

PER-CAPITA ECONOMIC OUTPUT BY COUNTY SIZE

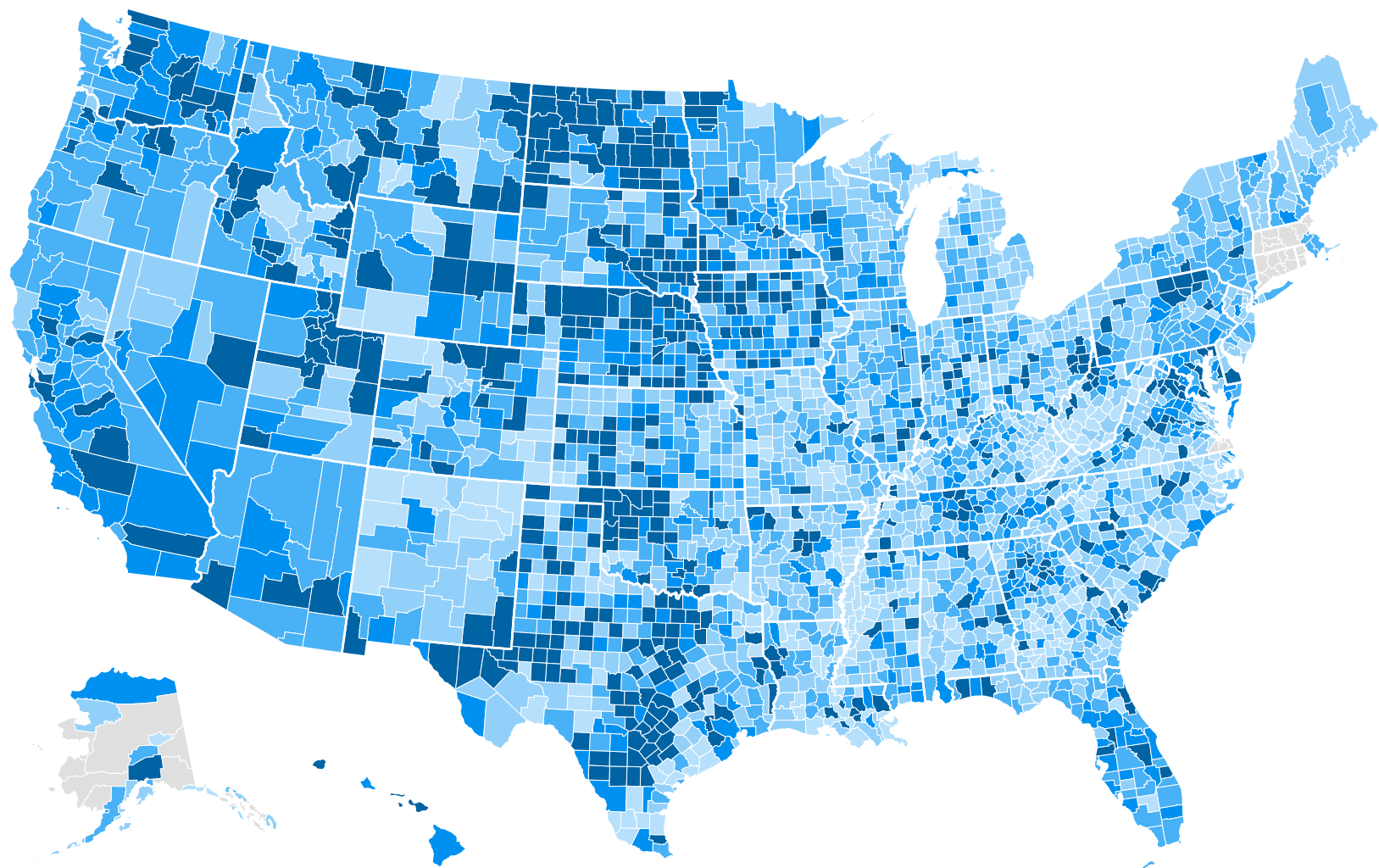
LARGE COUNTIES:
\$68,145

MID-SIZE COUNTIES:
\$45,306

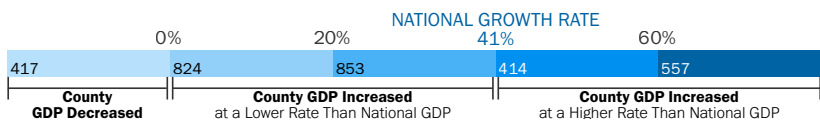
SMALL COUNTIES:
\$42,043

REAL GROSS DOMESTIC PRODUCT (GDP) LONG-TERM CHANGE

2001-2018 GDP Percent Change

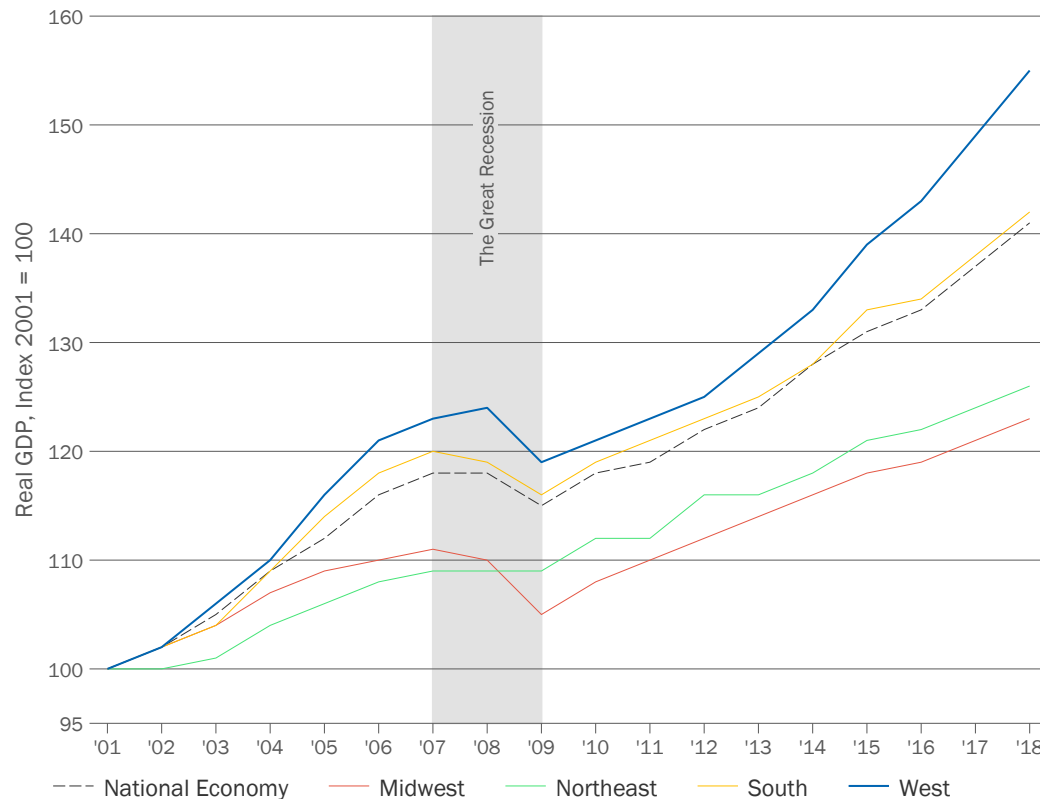


Source: NACo Analysis of the U.S. Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product by County, 2018.



WESTERN COUNTY ECONOMIES LED IN GROWTH AND OUTPACED NATIONAL GROWTH BETWEEN 2001 AND 2018

Growth in real GDP between 2001 and 2018, by census region and nationally. Growth has been calculated based on 2001 values, where each year's GDP is compared to 2001 GDP.



Source: NACo Analysis of the Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product Data by County, 2018.

Notes: The Gross Domestic Product (GDP) (economic output) figures used are based on the place of production. This means that estimates are based on where production (e.g.: office, factory, etc.) is located and not where workers live.

Business cycles are determined by the National Bureau of Economic Research (NBER). According to NBER, the United States entered a recession in December 2007, which lasted until June 2009.

This report examines only the economies of counties with county governments.

Economic output in the West increased by 55 percent.

Production in the region went from \$3.2 trillion in 2001 to \$4.9 trillion in 2018, growing by \$1.7 trillion. Additionally, western economic growth outpaced national growth by 14 percentage points during the same period.

There were three sectors driving economic growth in the West. First, the finance, insurance, real estate, rental and leasing sector which accounted for 19.6 percent of the increase. Second, the information sector, which made up 18.4 percent of all growth. Lastly, the professional and business services sector generated 14.6 percent of all growth.

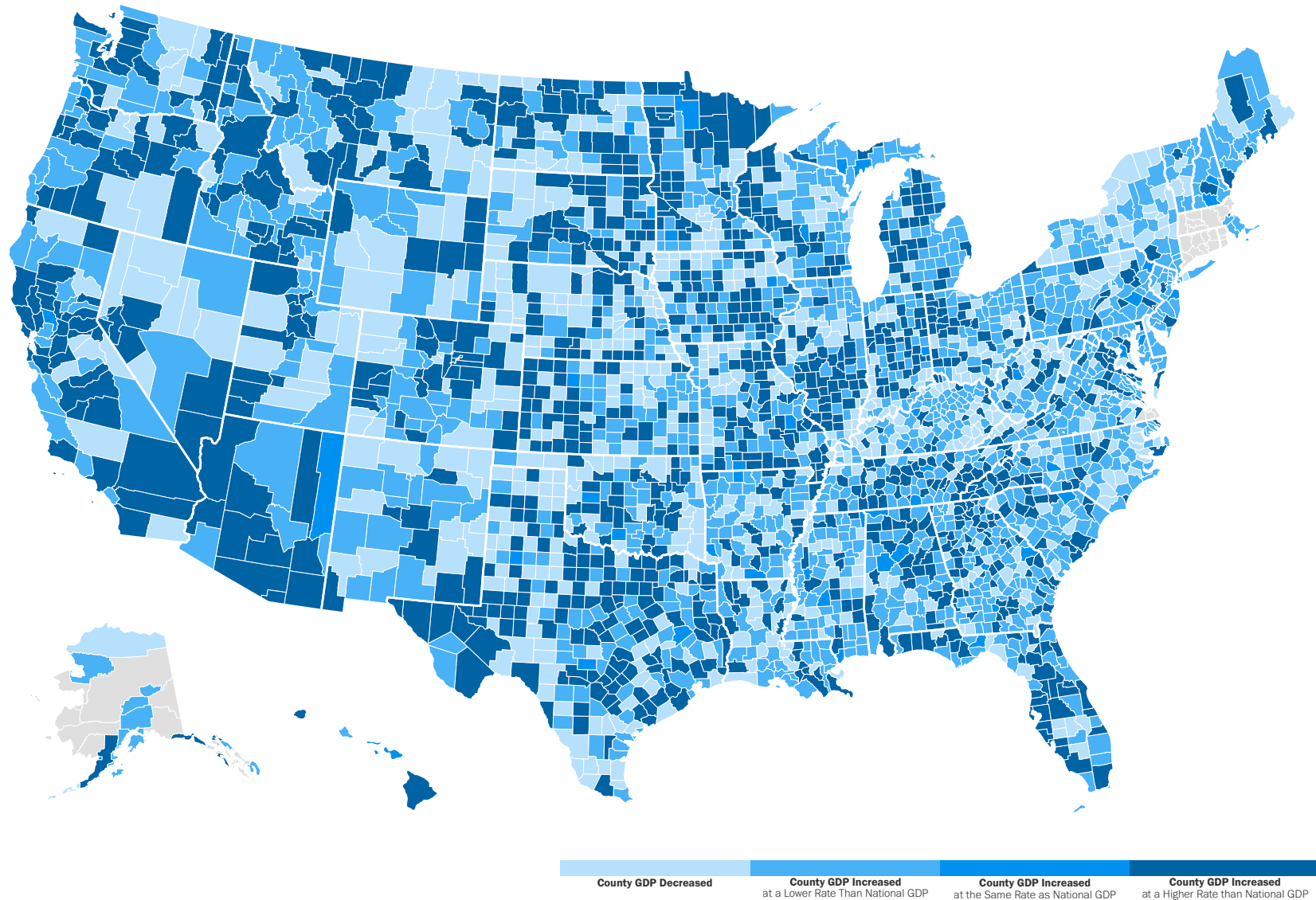
Storey County, Nev. and Dolores County, Colo. experienced the most growth between 2001 and 2018.

Economic output within Storey County increased by 612 percent, increasing from \$208 million in 2001 to almost \$1.5 billion in 2018. Dolores County's economy grew by 327 percent from \$36 million in 2001 to \$156 million in 2018.

On the other hand, Caribou County, Idaho and Union County, N.M. experienced the most decline. Caribou County's economy decreased by 50 percent between 2001 and 2018. During the same period, Union County's economy decreased by 49 percent.

REAL GROSS DOMESTIC PRODUCT (GDP) CHANGE

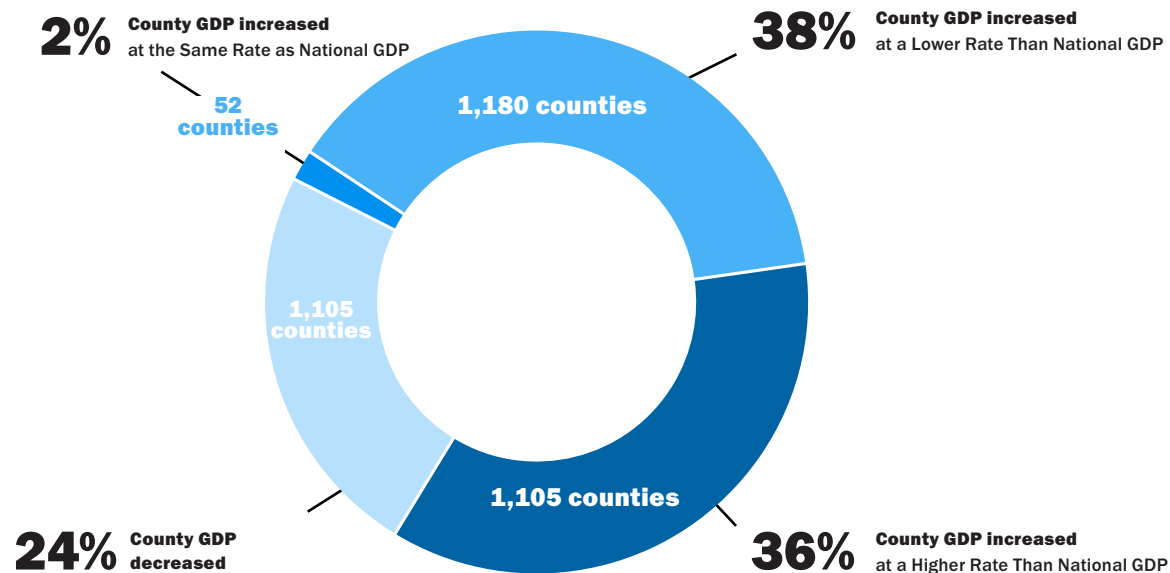
2017-2018 GDP Growth Compared to National Rate of Three Percent



Source: NACo Analysis of the U.S. Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product by County, 2018.

THREE IN FOUR COUNTY ECONOMIES EXPERIENCED GROWTH IN THE MOST RECENT YEAR-OVER-YEAR GDP ANALYSIS

Breakdown of 2017-2018 percent change in GDP and comparison to the national economic output growth of 3 percent.



Strong economic growth at the national level does not imply strong growth at the local level. This fact becomes evident after looking at short-term growth within county economies. National economic output increased by three percent between 2017 and 2018. However, this trend was not necessarily reflected at the county level.

In 2,337 county economies, there was an increase in output between 2017 and 2018. Within this subgroup, 1,180 county economies increased at a slower rate in comparison to the national economy. Furthermore, **1,105 county economies outpaced national growth.** Finally, 52 counties grew at the same pace as the national economy.

Within large county economies, Santa Clara County, Calif., grew the fastest at 10 percent. For mid-size county economies, the fastest-growing one was Canadian County, Okla., with a 21 percent increase. Finally, Jackson County, W.Va. was the fastest-growing small county economy, in the short term, with an increase of 87 percent.

On the other hand, 728 counties experienced a decline in economic output between 2017 and 2018. Amongst large county economies, Kern County, Calif. experienced the most substantial reduction at 0.7 percent. Calvert County, Md. experienced the largest percentage decrease amongst mid-size county economies with a 12 percent decline. Finally, Grant County, N.D. experienced the most decline in output amongst small county economies, decreasing by 44 percent.

Source: NACo Analysis of the U.S. Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product Data by County, 2018.

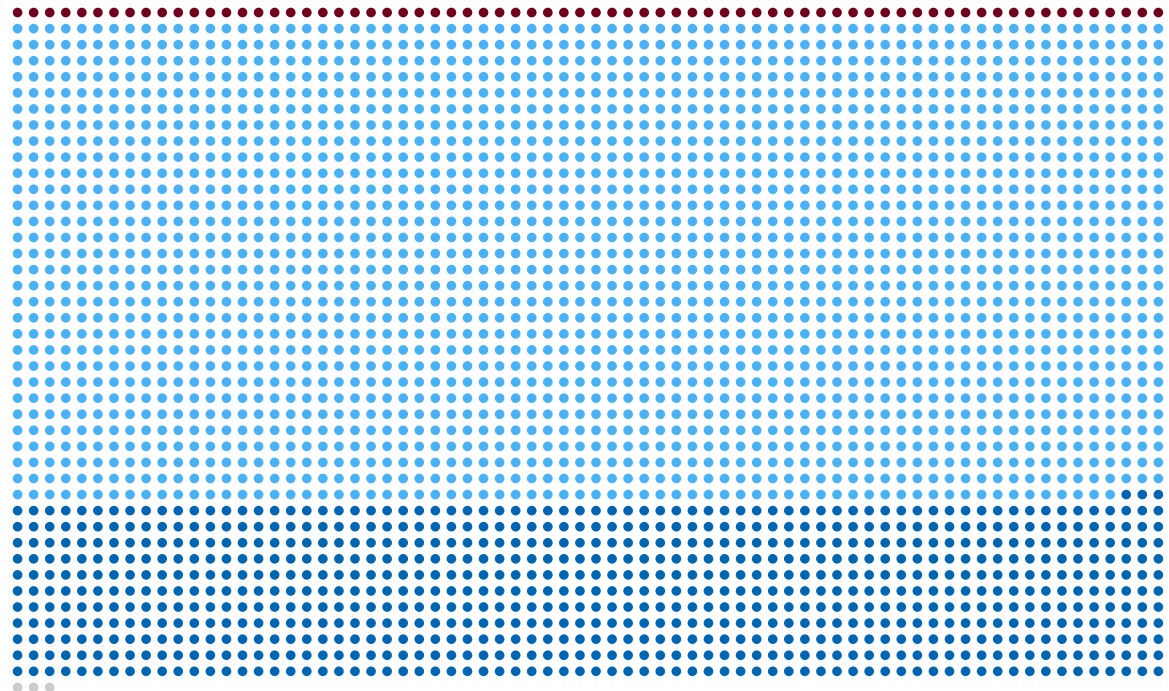
Notes: The Gross Domestic Product (GDP) (economic output) figures used are based on the place of production. This means that estimates are based on where production (e.g.: office, factory, etc.) is located and not where workers live.

For the report analysis, large county economies have more than 500,000 residents, medium-sized county economies have between 50,000 and 500,000 residents and small county economies have less than 50,000 residents.

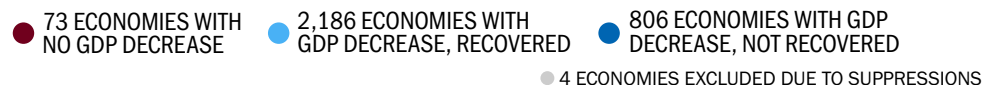
This report examines only the economies of counties with county governments.

COUNTIES ARE STILL ON THE ROAD TO RECOVERY

Breakdown of how county economies responded to the economic recession between 2007 and 2009. Each dot represents one of the 3,069 counties.



HOW COUNTY ECONOMIES RESPONDED TO THE GREAT RECESSION



Source: NACo Analysis of the U.S. Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product Data by County, 2018.

Notes: The Gross Domestic Product (GDP) (economic output) figures used are based on the place of production. This means that estimates are based on where production (e.g.: office, factory, etc.) is located and not where workers live.

Business cycles are determined by the National Bureau of Economic Research (NBER). According to NBER, the United States entered a recession in December 2007, which lasted until June 2009.

This report examines only the economies of counties with county governments.

The Great Recession impacted counties across the nation differently.

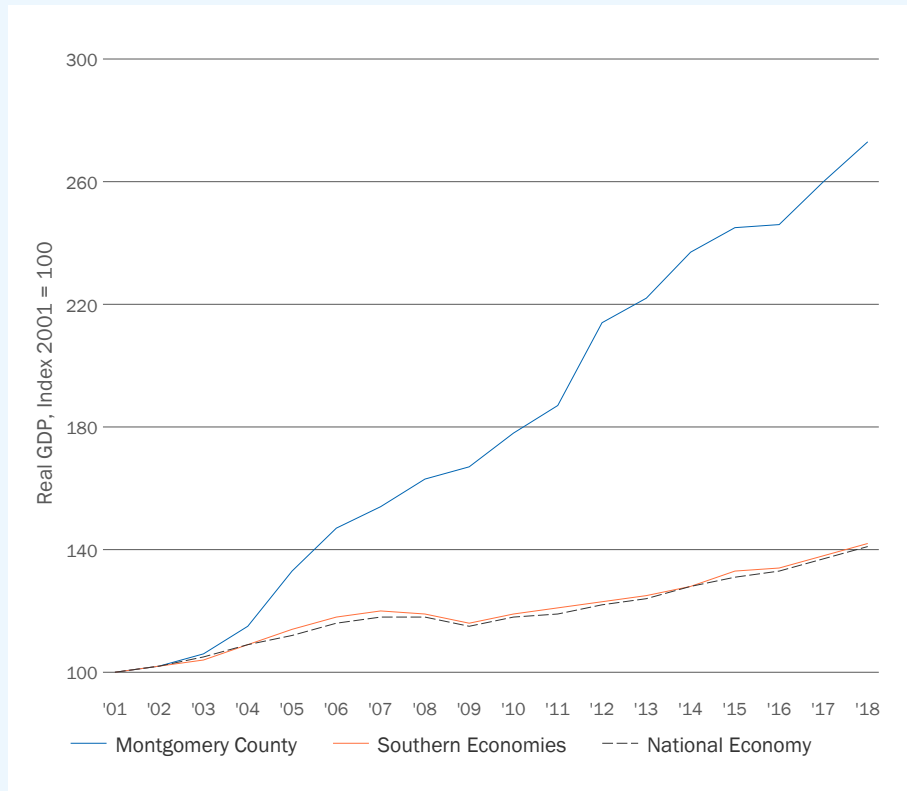
In 2,992 county economies, there was a decline in output as result of the recession. As of 2018, 2,186 counties had reached pre-recession peak output levels, meaning these counties recovered—yet, **806 economies had not yet recovered.**

Seventy-three county economies were impervious to the impacts of the Great Recession. They did not experience a decrease in economic output between 2001 and 2009. However, 60 of these counties did experience at least one year with a reduction in production after the recession.

Out of the remaining 13 counties, eight of them had especially resilient economies. Impressively, these economies experienced at least half a percent increase in yearly economic production between 2002 and 2018. Out of the eight economies, Montgomery County, Texas and Anne Arundel County, Md. stood out the most. Montgomery County's economy experienced the most growth, generating output of \$8.2 billion in 2001 to \$22.4 billion in 2018. Anne Arundel County's economy was the largest of the eight, with \$45.3 billion in output during 2018.

CASE STUDY: MONTGOMERY COUNTY, TEXAS SHIELDED FROM DECLINE

Growth in real GDP between 2001 and 2018 for Montgomery County, Texas, Southern Economies and the National Economy. Growth has been calculated based on 2001 values, where each year's GDP is compared to 2001 GDP.



Source: NACo Analysis of the U.S. Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product Data by County, 2018. NACo Analysis of U.S. Census Bureau - Population Estimates Program (PEP) 2018.

Notes: The Gross Domestic Product (GDP) (economic output) figures used are based on the place of production. This means that estimates are based on where production (e.g.: office, factory, etc.) is located and not where workers live.

Business cycles are determined by the National Bureau of Economic Research (NBER). According to NBER, the United States entered a recession in December 2007, which lasted until June 2009.

While 97 percent of county economies experienced a decline during the recession, economic output in Montgomery County, Texas grew by 173 percent, increasing from \$8.2 billion in 2001 to \$22.4 billion in 2018. During the same period, the population in the county increased by 90 percent.¹ This is a large county situated within the Houston-The Woodlands-Sugar Land Metropolitan Statistical Area (MSA) in Texas, the fifth most populous MSA in the United States.²

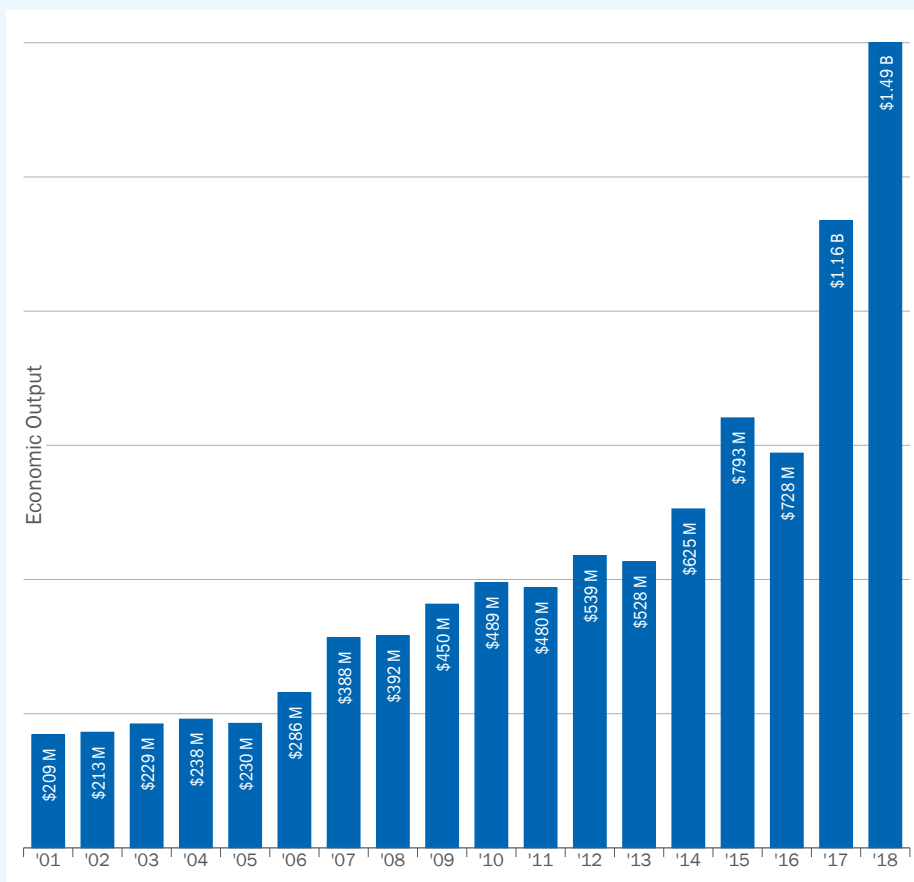
In 2018, the largest economic sector in Montgomery County, Texas, was manufacturing, which generated about 12 percent of the county's output. Companies within this sector can be described as production plants, factories, or mills which engage in the transformation of materials and substances into new products using chemical or mechanical processes.

Though the recession caused the county unemployment level to spike to 8 percent in 2010, oil prices shielded Montgomery County's economy from a drop in economic output.³ The county is home to two Fortune 500 companies – Anadarko Petroleum Corporation, which focuses on mining and crude-oil production and the Huntsman Corporation, which focuses on chemical manufacturing.⁴ Despite year-over-year fluctuations in production between 2007 and 2010 in the mining, quarrying, oil and gas extraction sector and the manufacturing sector, the fluctuations within the two industries offset each other in such a way that overall output continued to increase.

Though oil prices drastically declined, decreasing from \$95.99 per barrel to \$38.29 per barrel and significantly impacting employment in the sector,⁵ the healthcare sector lessened the impact of the drop in oil prices. The healthcare sector sparked jobs growth by opening and expanding the acute care hospitals system.⁶ This positively affected economic output for the health care and social assistance sector, which went from making less than one billion dollars prior to 2013 to \$1.5 billion in 2018.

CASE STUDY: **HOW THE TESLA GIGAFACTORY IMPACTED STOREY COUNTY, NEV.**

Yearly county economic output within Storey County, Nev. – 2001 to 2018



Source: NACo Analysis of the U.S. Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product Data by County, 2018. NACo Analysis of U.S. Census Bureau - Population Estimates Program (PEP) 2018.

Notes: The Gross Domestic Product (GDP) (economic output) figures used are based on the place of production. This means that estimates are based on where production (e.g.: office, factory, etc.) is located and not where workers live.

Storey County, Nev. recorded the largest growth in economic output among western county economies, which was identified as the region with the most economic growth. The county's economy grew by 612 percent between 2001 and 2018. During that same period, the population in the county increased by 19 percent.⁷ Storey County, Nev. is situated 20 miles east from Reno, Nev. and is home to Tesla's Gigafactory. Construction of the factory started in November 2014.⁸ This day marked the start of many changes for the county.

The factory has created many economic prospects for the county through expanding employment opportunities and increased capital investment.⁹ Furthermore, it has also generated significant regional economic growth based on primary and secondary demand from local vendors and employee spending.¹⁰

The factory has increased manufacturing employment in the Reno metro area by 55 percent since 2014.¹¹ As of June 2018, Tesla had hired 7,059 employees, which surpassed the projected 6,500.¹² Additionally, capital investment stood at \$6 billion, which again surpassed the original projection of \$4.95 billion.¹³ Finally, more companies have turned towards Storey County, Nev. as a potential place for investment. Switch, jet.com, and Blockchains, LLC, have expressed interest in setting up locations in the county because of the increased visibility Tesla has created and the new investment in infrastructure the factory has brought about.¹⁴

But with faster growth, comes more challenges. **Services within the county are experiencing heightened demands due to increasing population growth and expanding economic activity.** Responsibilities for emergency services have increased due to injuries within the factory.¹⁵ Additionally, due to deals with the state of Nevada, the factory has benefited from tax abatements, and the county has lost out in tax revenue.¹⁶ Nonetheless, property values have increased, which can help the county with increased revenue through property taxes.¹⁷

Housing vacancies within the county are non-existent.¹⁸ The influx of employees has led to a housing shortage within the county. Elon Musk – Tesla's CEO - said that the company is looking into housing solutions; however, no plans have been announced.¹⁹

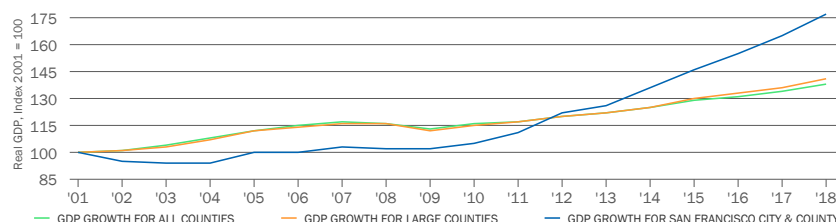


ECONOMIC OUTPUT IN SAN FRANCISCO CITY & COUNTY, CA

COUNTY ECONOMIC PRODUCTION	SHORT-TERM PRODUCTION CHANGE	LONG-TERM PRODUCTION CHANGE	PER-CAPITA ECONOMIC OUTPUT
\$162.5 B	7.4 %	77.4 %	\$184,014

ECONOMIC OUTPUT GROWTH RATE

Long term, output for the county increased by 77.4 percent, going from \$91.6 billion in 2001 to \$162.5 billion in 2018. During the same period, large county economies grew by 41 percent, and county economies altogether grew by 38 percent.



SIZING UP

POPULATION	883,305
LABOR FORCE	575,567
UNEMPLOYMENT RATE	2.4 %

TOP THREE INDUSTRIES

Professional & Business Services	\$48.3 B
Information	\$24.9 B
Real Estate & Rental and Leasing	\$19.7 B

Notes: Gross Domestic Product (GDP) is based on the place of production (where production is located, e.g., office, factory, etc.) and not where workers live. For the analysis, large counties have more than 500,000 residents, medium-sized counties have between 50,000 and 500,000 residents, and small counties have less than 50,000 residents. Short-term production change: 2017-2018 output percent change. Long-term production change: 2001-2018 output percent change. This study examines economic output for counties with county governments. Per-capita economic output measures the relationship between economic production and population within a county. While per-capita output helps us understand economic activity, it's not a perfect measure because of differences in labor force population, county of residence and county of employment.

Source: NACo Analysis of the Department of Commerce / Bureau of Economic Analysis / Regional Economic Accounts / Gross Domestic Product Data by County, 2018. NACo Analysis of U.S. Census Bureau - Population Estimates Program (PEP) 2018. NACo Analysis of Bureau of Labor Statistics - Local Area Unemployment Statistics (LAUS), 2018

660 NORTH CAPITOL STREET, NW | SUITE 400 | WASHINGTON, DC 20001 | 202.393.6226 | www.NACo.org
fb.com/NACoDC | twitter.com/NACoTWEETS | youtube.com/NACoVIDEO | www.NACo.org/LinkedIn

The **NACo County Economies Series** provides insights into each county economy and delivers a profile for each county.

Take a closer look at your local economic output and growth trends on your **county profile**:

www.NACo.org/GDP-Profiles

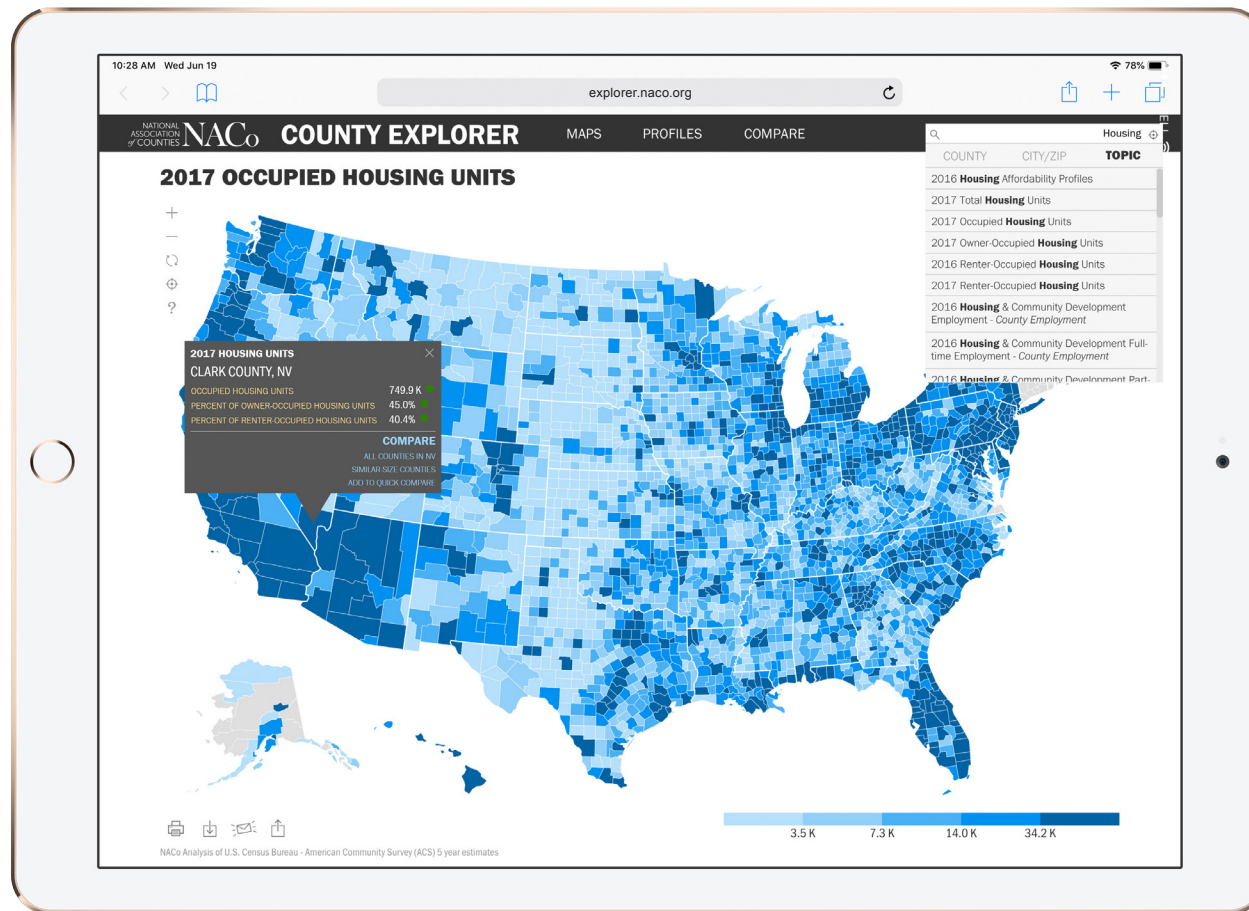


ENDNOTES

1. NACo Analysis of U.S. Census Bureau - Population Estimates Program (PEP) 2018. Population in Montgomery County, Texas increased from 311 thousand residents in 2001 to 590 thousand residents in 2018.
2. NACo Analysis of U.S. Census Bureau - Population Estimates Program (PEP). Metropolitan and Micropolitan Statistical Areas Data, 2018.
3. Houston-Galveston Area Council, “Montgomery County Economic Resilience Profile”, Available at <https://www.h-gac.com/gulf-coast-economic-development-district/documents/15-Montgomery-County-Profile2.pdf> (2018).
4. Fortune, “Visualize The Fortune 500”, Available at: https://fortune.com/fortune500/visualizations/?iid=recirc_f500landing-zone1
5. United States Energy Information Administration, “Domestic Crude Oil First Purchase Prices by Area”, available at: https://www.eia.gov/dnav/pet/pet_pri_dfp1_k_a.htm.
6. Houston-Galveston Area Council, “Montgomery County Economic Resilience Profile”, Available at <https://www.h-gac.com/gulf-coast-economic-development-district/documents/15-Montgomery-County-Profile2.pdf> (2018).
7. NACo Analysis of U.S. Census Bureau - Population Estimates Program (PEP) 2018. Population in Storey County, Nev. increased from 3,382 residents in 2001 to 4,029 residents in 2018.
8. Tesla, “Tesla Gigafactory” Available at: <https://www.tesla.com/gigafactory>.
9. Nevada Governor’s Office of Economic Development, “Tesla Gigafactory Economic Impact Summary 2015-2018”, Available at: <https://www.diversifynevada.com/wp-content/uploads/2018/12/2018-Tesla-Economic-Impact-Study.pdf> (December 5, 2018)
10. Ibid
11. Ibid
12. Ibid
13. Ibid
14. Ibid
15. Anjeanette Damon, USA TODAY, “Worker injuries, 911 calls, housing crisis: Recruiting Tesla exacts a price” Available at: <https://www.usatoday.com/in-depth/news/investigations/2019/11/12/tesla-gigafactory-brings-nevada-jobs-and-housing-woes-worker-injuries-strained-ems/2452396001/> (November 13, 2019)
16. Ibid
17. Ibid
18. Ibid
19. Ibid

ABOUT NACO'S COUNTY EXPLORER (explorer.naco.org)

NACo's County Explorer tool provides easy access to county-level data, with hundreds of indicators across local issues including county economies, transportation and infrastructure, health and public safety – each telling a unique story.



NATIONAL ASSOCIATION of COUNTIES **NACO** COUNTY EXPLORER

features:

- Detailed data-points on every county
- Redesigned & user-friendly interface
- Compatible on mobile devices
- Interactive legend to explore different categories of data
- Compare counties across multiple data points
- County and State profiles on variety of topics

COUNTY ECONOMIES 2020 SERIES

Local Economies in the Global Market is an issue brief in NACo's ongoing County Economies 2020 series. Keep an eye out for future reports in the series, including the County Economies 2020 report, to be released at NACo's 2020 Annual Conference.

Topics include:

ISSUE BRIEF	RELEASE
LOCAL ECONOMIES IN THE GLOBAL MARKET	2020 LEGISLATIVE CONFERENCE <i>February 2020</i>
COUNTY ECONOMIC OUTPUT TRENDS	2020 LEGISLATIVE CONFERENCE <i>February 2020</i>
LABOR FORCE TRENDS IN COUNTY ECONOMIES	2020 WIR CONFERENCE <i>May 2020</i>
IMPACT OF HOUSING AFFORDABILITY ON COUNTY MARKETS	2020 WIR CONFERENCE <i>May 2020</i>
FULL REPORT	RELEASE
COUNTY ECONOMIES 2020	2020 ANNUAL CONFERENCE <i>July 2020</i>

Stay up to date at: www.NACo.org/CountyEconomies2020

AUTHORS, CONTACTS AND ACKNOWLEDGEMENTS

For more information, visit: www.NACo.org/EconomicOutput

NACo Authors & Contact Information:

Teryn Zmuda

Deputy Chief Innovation Officer and
Chief Economist

tzmuda@naco.org

Ricardo Aguilar

Data Analyst & Developer

raguilar@naco.org

The authors would like to thank the following NACo colleagues for their valuable contributions to this report and feedback during the review process: Frank Cadle, Kevin Carr, Matt Chase, Kiely Ford, Jonathan Harris, Leon Lawrence III, Stacy Nakintu, Hadi Sedigh, Kevin Shrawder, Emily Star, Ruochen Wang, Zitao Wang and Phyllis Williams.

