

EXPONENTIAL GROWTH EXPONENTIAL FUTURE

9th
annual
southern
california
economic
summit

06DEC2018

**LOS ANGELES
CALIFORNIA**



EXPONENTIAL **GROWTH** | EXPONENTIAL **FUTURE**

8:00 a.m.

REGISTRATION & NETWORKING

9:30 a.m.

WELCOME & OPENING REMARKS

Hon. Alan Wapner

SCAG President, San Bernardino County Transportation Authority

Steve PonTell

Co-Chair, Southern California Leadership Council

SOCAL WILDFIRES: RECOVERY & LESSONS LEARNED

Ray Bowman

*Director of the Center for Small Business Development
Economic Development Collaborative - Ventura County*

SCAG REGION ECONOMIC UPDATE

Wallace Walrod, Ph.D.

Chief Economic Advisor, Orange County Business Council

Unemployment rates are at 10-year lows. Wages are increasing, but unevenly across the region. Housing prices continue to climb, but in part due to a shortage of workforce housing. Technology is re-shaping the Southern California economy, presenting both opportunities and challenges. What's next for our evolving region? What will drive continued economic growth and job creation across the six-county SCAG region? SCAG's Chief Economic Advisor will provide an insightful look at the state of the region's economy and what the future may hold.

10:30 a.m.

ON DECK: WHAT'S NEXT FOR THE SOUTHERN CALIFORNIA ECONOMY?

Moderator: Nicole Washington

Director of Innovation and Growth, OCTANe

Mario Archaga

Director of State Government Affairs, UPS

Stacey Scoggin Pugh

Vice President & General Manager, Medtronic Neurovascular

Qingqing Wu

Director of Corporate Development, Neural Analytics

Whether it's high concentrations of companies to foster innovation, a skilled workforce, or just really great weather, Southern California is a great place to do business. The introduction of cutting-edge technologies, however, have not only sparked the region's keystone industries, but have also introduced new economy industries that are primarily technology-centric. Innovation is shaping the future and forcing us to re-think transportation, housing and economic development. Hear from industry representatives about the exponential rate of growth that is occurring in their respective industries and how technology is changing the face of business in Southern California.

11:30 a.m.

LUNCH

12:00 p.m.

FEATURED KEYNOTE

Garrett Reisman, Ph.D.
Former NASA Astronaut
Senior Advisor, SpaceX
Professor, University of Southern California

12:30 p.m.

**THE FUTURE OF TRANSPORTATION:
EXPONENTIAL GROWTH IN CALIFORNIA'S
HOTTEST SECTOR**

Moderator: **Matt Petersen**
President & CEO, Los Angeles Cleantech Incubator

Calli Cenizal
West Coast Transportation Policy Manager, Lyft

Kyndell Gaglio
Government Partnerships, BIRD

Ryan Kelly
Head of Marketing & Communications, Virgin Hyperloop One

Chris Thompson
Vice President of Local Public Affairs, Southern California Edison

In recent years, California's transportation sector has seen exponential growth, due primarily to new technology-driven innovations. With the utilization and deployment of dockless scooters, transportation network companies, high-speed transportation technologies and electrification, the sector is rapidly changing. The increase in mobility options will impact how SCAG plans for the region's future needs through Connect SoCal, the agency's long-range transportation plan currently in development. This panel will discuss the exciting plans for transportation, manufacturing and opportunities for jobs, as well as the ways we can support growth and maintain leadership in this core industry cluster.

1:30 p.m.

AFTERNOON KEYNOTE

Hon. **Gray Davis**
37th Governor of California
Co-Chair, Southern California Leadership Council

2:00 p.m.

WRAP-UP

Darin Chidsey
Interim Executive Director, SCAG

**9th
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summit**



#SoCalEconomy

f @SCAGmpo

t @SCAGnews

Wi Fi

NETWORK: SCAG

PASSWORD: scag2018

BIO FEATURED KEYNOTE

DR GARRETT REISMAN



[@astro_g_dogg](#)

A former NASA Astronaut who flew on three different Space Shuttles, Garrett Reisman attended the University of Pennsylvania and Caltech where he received his Ph.D. in 1997. He was selected by NASA as a mission specialist astronaut in 1998. After completing Astronaut Candidate Training, Dr. Reisman was assigned to the Astronaut Office Robotics Branch where he worked primarily on the ISS robotic arm. In October 2001, Dr. Reisman was assigned to the Astronaut Office Advanced Vehicles Branch, where he worked on the displays and checklists to be used in the next-generation space shuttle cockpit. In June 2003, Dr. Reisman was a crewmember on NEEMO V, living on the bottom of the sea in the Aquarius habitat for two weeks.

Dr. Reisman's first mission in 2008 was aboard the Space Shuttle Endeavour (STS-123), which dropped him off for a 95-day stay aboard the International Space Station (Expeditions 16 and 17), logging more than three months in space and 07 hours and 01 minute of extravehicular activity (EVA) in one spacewalk. During this mission, he operated the Space Station Robot Arm and the new robotic manipulator, Dextre. He returned to Earth aboard the Space Shuttle Discovery (STS-124). In 2010, his second mission was aboard the Space Shuttle Atlantis (STS-132), logging an additional 11 days, 18 hours, 28 minutes, and 02 seconds in space, including 14 hours and 11 minutes of EVA over two additional spacewalks. During this mission, Dr. Reisman operated the ISS robotic arm and installed the Russian-built Mini Research Module to the ISS. During his two spacewalks, Dr. Reisman installed a spare antenna and a stowage platform for Dextre, replaced the last of the P6 truss batteries, and retrieved a power data grapple fixture.

Dr. Reisman left NASA in March 2011 and is currently a Senior Advisor at SpaceX where he is providing guidance on human spaceflight and a Professor of Astronautical Engineering at the University of Southern California.

BIO AFTERNOON KEYNOTE

GOVERNOR GRAY DAVIS (RET.)



[@GovernorDavis](#)

Joseph "Gray" Davis has spent more than 30 years of his life dedicated to public service having previously served in office as California's 37th Governor, Lieutenant Governor, State Controller, and a State Assemblymember.

While presiding over California during an economic expansion, Governor Davis made record investments in infrastructure, approving over \$5 billion for more than 150 transit and highway projects. He created four Centers of Science and Innovation on University of California campuses and expanded state health insurance for an additional one million children. He also was the first Governor in the nation to authorize stem cell research. As Governor, he demonstrated bold environmental leadership by signing the first law in the nation to reduce global warming and greenhouse gases. He also created the first Greenhouse Gas Monitoring Registry, the first to establish the nation's most ambitious commitment to renewable energy by creating the statewide Renewables Portfolio Standard.

Currently Of Counsel at Loeb & Loeb LLP, Governor Davis is also a Distinguished Policy Fellow at the UCLA School of Public Affairs, serves on several civic boards, including the Saban Free Clinic, and is the Co-Chair for the Southern California Leadership Council.



GOVERNOR TO GOVERNOR

We asked former Governor Pete Wilson what are the top 3 challenges that Governor-elect Gavin Newsom needs to address. Here's what he had to say:

WATER

Currently we are wasting dramatic amounts of water in excess of that required to maintain the environment for Delta salmon and smelt. Rather than diluting the Pacific, we should be preparing to collect water needed for fish, farm, and factories, and inject it into aquifers in both Northern and Southern California that offer valuable unused capacity for urban domestic consumption, and for agriculture and manufacturing to create the jobs needed for our increasing population.

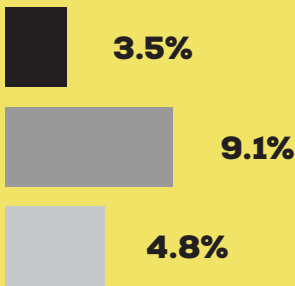
HOUSING

Housing has become unaffordable for working families in California because of the costs of irrationally excessive regulation and unjustifiable delay in construction that are passed on to homebuyers. The California Environmental Quality Act (CEQA) is the worst example. Some governors and very few legislators have sought its reform. But radical environmentalists have killed what few efforts to reform CEQA that have been undertaken; and labor unions have used it to extort concessions and delays that have killed jobs for their members. Until this situation is confronted and reforms are enacted, working families in California will remain without affordable housing, or be required to drive literally hundreds of miles to and from work, producing commuter gridlock on our freeways.

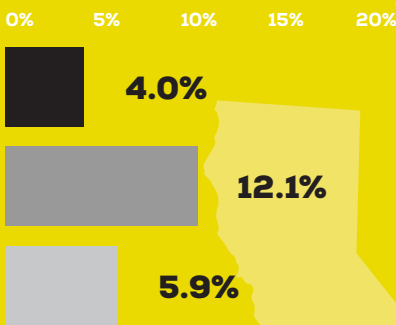
EDUCATION

California's public schools, once the best in the nation, are now struggling to avoid becoming the worst. Despite the tens of thousands of skilled and dedicated classroom teachers, the dumbing down of once rigorous state curriculum standards have left too many neighborhoods – especially those where low-income parents have no realistic alternative for their children – unprepared for the jobs of today, much less those of tomorrow. In addition to the high taxes and regulatory excess they face, California employers large and small also have a critical challenge in finding prospective employees capable of performing the jobs they have to offer. Many have fled to other states, taking critically needed jobs with them.

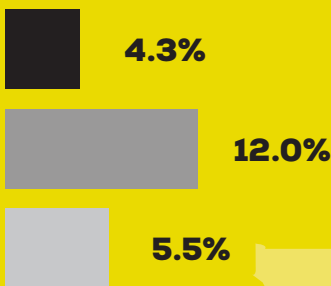
UNEMPLOYMENT IN SOUTHERN CALIFORNIA



UNITED STATES



CALIFORNIA



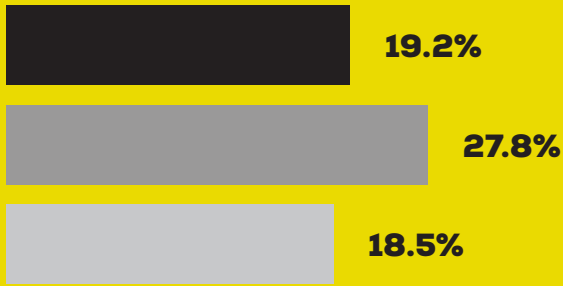
SCAG REGION

The 2018 Southern California Economic Summit forecasts a strong, growing economic outlook for the SCAG region as unemployment rates fall throughout the region to reach levels not seen in over a decade. The graphs on this page and the following pages illustrate this progress, comparing unemployment in December 2007 (pre-Recession), December 2010 (peak Great Recession unemployment), and October 2018 (the most recent employment figures). As the job market continues to improve, wages and income trends are also pointing upward in most parts of Southern California.

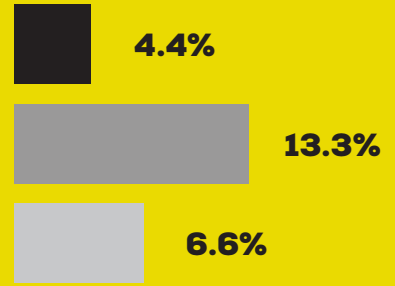
Southern California's strong economic performance is powered by job growth in diverse set of sectors:

- **PROFESSIONAL & BUSINESS SERVICES**, a growing sector throughout the SCAG region which includes occupations such as architects, engineers, IT consultants, accountants, and lawyers;
- **LEISURE & HOSPITALITY**, driven by a robust economy, increased tourist visits and spending, and significant tourism-related investments throughout the region;
- **EDUCATIONAL & HEALTH SERVICES**, due to aging population demographics throughout the region, new legislation, and technological advances such as Health Care IT allowing for new, innovative treatments and better patient care; and
- Additionally, in some counties **CONSTRUCTION AND TRANSPORTATION & WAREHOUSING** are leading the way in terms of driving employment growth due to strong housing markets and rising e-commerce infrastructure investment in some SCAG counties.

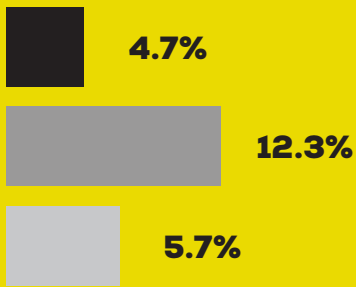
Looking forward, unemployment rates will likely continue to fall for the rest of 2018 as the labor market nears full employment. 2019 estimates show continued employment growth in the SCAG region, leading to lower unemployment rates and growing wages and incomes.



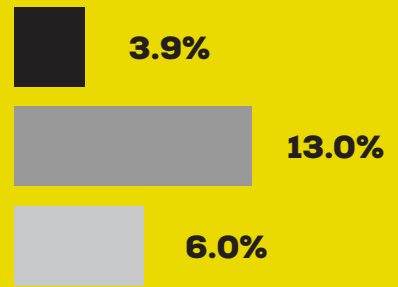
IMPERIAL



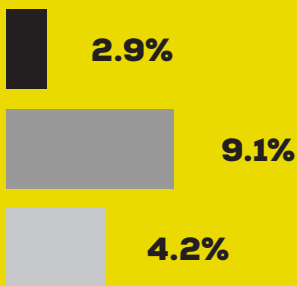
RIVERSIDE



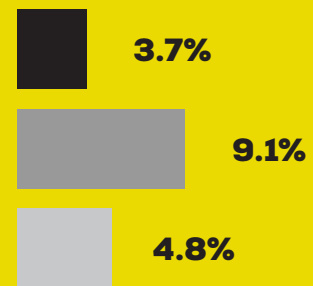
LOS ANGELES



SAN BERNARDINO



ORANGE



VENTURA

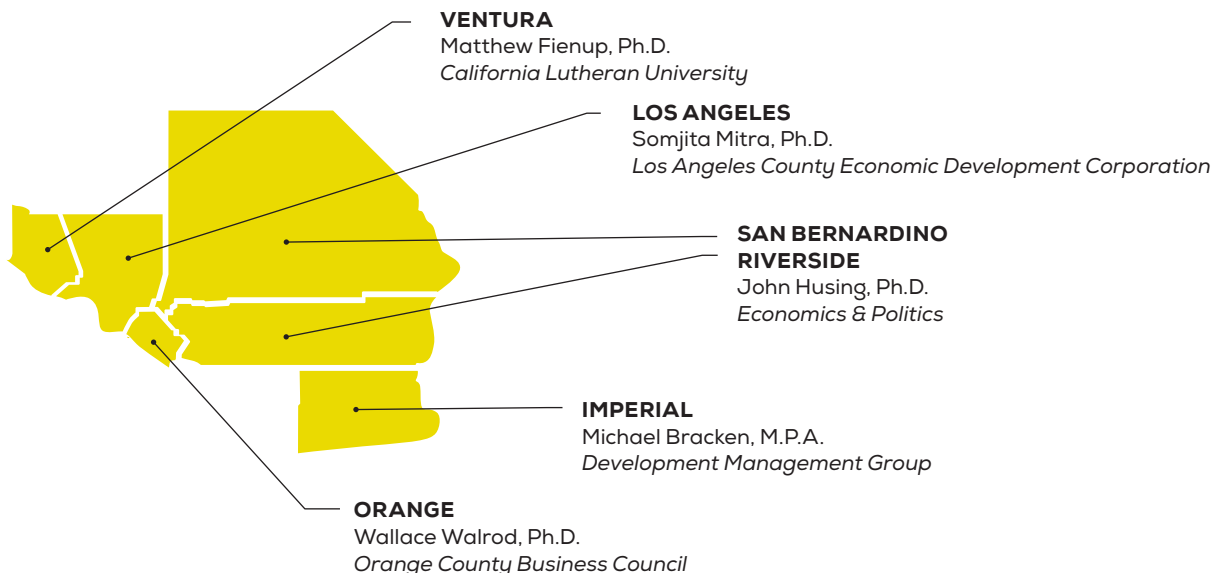
INTRODUCTION TO COUNTY ECONOMIC REPORTS

GROWTH & OPPORTUNITIES IN THE SCAG REGION

Each year, the Southern California Economic Summit provides up-to-date, region-wide and county-specific economic analyses to better inform a variety of stakeholders—state and local elected officials, the business community, labor leaders, city managers and planners, and the general public—about Southern California’s current and future economic landscape.

Since 2010, SCAG’s team of independent economists track each county’s outlook for economic growth and job creation, key industry sectors, education and workforce development trends, and key economic development issues such as workforce housing and poverty.

ECONOMIC REPORT CONTRIBUTORS



ECONOMIC GROWTH, JOB CREATION, INCOME & EDUCATION IN THE SCAG REGION

Labor market data points to one of the hottest job markets in decades. U.S. employment has grown significantly over the past year, adding 250,000 jobs in October for an average of 213,000 jobs per month in 2018, which is markedly higher than 2017’s monthly average of 182,000.

August 2018 saw the most workers quitting their jobs in more than 18 years, with 3.65 million workers—2.4% of the nation’s workforce—voluntarily leaving their jobs, a sign of a labor market at near-full employment. Job postings exceeded the number of unemployed people by 659,000 in July 2018, the largest gap since 2000.

Many employers report having trouble finding qualified available employees in this tight labor market. The U.S. Department of Labor’s Job Openings and Labor Turnover Survey (JOLTS), for example, reported a total of 7 million unfilled job openings in September 2018. There are now 0.9 unemployed persons per job opening, compared with 1.9 per job opening when the recession began in 2007 and 6.6 per job opening during the depths of the recession in 2009. JOLTS data provides another indicator of this struggle to find qualified workers to fill job openings: the fastest wage growth since 2009. A separate survey from the National Federation of Independent Business found that 38% of U.S. small businesses had unfilled job openings in August 2018, the highest percentage since the survey began in 1973.

California’s unemployment rate decreased to 4.1% in September 2018, which is a new record low level dating back to when this data began being tracked in 1976. California has now gained more than 3 million jobs since the current economic expansion began in 2010.

Southern California also saw strong economic and job market growth in 2018, with unemployment falling to 4.4%, with further

reductions likely through the end of 2018. Approximately 9 million people are employed in the SCAG region, surpassing 2010 employment levels by well over 1 million workers. The number of unemployed workers in the SCAG region is down to just over 400,000, representing a 60% reduction from the over 1 million individuals that were unemployed in 2009. This substantial improvement highlights the significant progress in economic and job growth made by the SCAG region in the last several years.

Alongside healthy employment growth and declining unemployment rates, median household incomes in the SCAG region grew by 5.8% to \$68,548 in 2018. This was driven in large part by gains in Los Angeles, Orange, and San Bernardino counties. While progress is being made, the Bay Area continues to significantly outperform the SCAG region in income growth. Incomes are over 50% higher than in the SCAG region, and saw even faster growth in the past year, rising 7% to \$103,799 in 2017. One major reason is the level of education as 47.3% of Bay Area residents hold a bachelor’s degree or higher. The percentage of SCAG region residents with a bachelor’s degree or higher increased from 30.3% to 30.9% in 2017, boosted primarily by improvements in Orange County, Imperial County, and Los Angeles County. Despite these improvements, however, the SCAG region still trails the national and state rates of 32.0% and 33.6%, respectively.

Growing household incomes in the SCAG region are especially important considering the area’s rising cost-of-living, which is driven primarily by housing costs. SCAG’s regional poverty rate dropped from 15.2% to 14.0% in the last year, with noteworthy improvements in Los Angeles County, Riverside County, and Imperial County. While Imperial County continues to struggle with high poverty rates (20.7% of all residents and 28.1% of individuals under the age of 18), the SCAG region in general has made meaningful progress in facilitating economic growth and job creation, resulting in poverty reduction over the last few years.

PREPARING THE SCAG REGION FOR THE FUTURE

Continued economic growth and job creation remain key goals for the SCAG region, but other factors should command attention because of their substantial impacts on overall economic strength throughout the region. Key trends and themes highlighted in this year's county reports from across the SCAG region include:

- **Key Indicators in Most Counties Have Met or Exceeded Pre-recession Levels**

- Unemployment is very low and declining.
- Across the region, job growth has been concentrated in:
 - » Professional and Business Services
 - » Leisure and Hospitality
 - » Educational and Health Services
 - » Construction
 - » Transportation, Warehousing, and Utilities

- **Job Quality May Be an Issue in Some Parts of the SCAG Region**

- In Los Angeles County, and Riverside and San Bernardino Counties in particular, much of the projected growth in jobs is in low-wage industries requiring minimal education.
- Conversely, as the job market continues to heat up, skills gaps (or the perceived mismatch between the needs of employers for skilled talent and the skills possessed by the available workforce) are emerging in places like Orange County for middle-skill and higher educated workers with "in-demand" skills, particularly in growing tech-related industries and occupational categories.

- **Future Job Growth Will Heavily Favor "Population-Serving" Industries in the Region**

- A significant share of job growth in the region will be driven by health care. Increased coverage rates from the Affordable Care Act will increase demand for jobs, despite some uncertainty in the law's future.
- Health care also benefits from substantial demographic shifts as the region continues to age, especially Los Angeles, Orange, and Ventura counties.
- Health care jobs can pay well across a broad spectrum of educational, skill, and wage levels, but lower education rates persist across the workforce in Imperial, Riverside, and San Bernardino Counties, which may result in shortages for health care jobs requiring higher education.
- For many other population-serving jobs such as retail, wages tend to be low and may be insufficient for a primary earner given the region's generally high cost of living.
- Middle-skill jobs (requiring greater than a high school diploma but less than a four-year degree) are playing an increasingly important role in the Southern California labor market, a notable development considering the region's previously mentioned overall educational attainment levels trail state and national averages.

- **Income Inequality Continues to Be a Challenge**

- The region's inflation-adjusted median incomes, which had been relatively stagnant even through the economic recovery, have seen a recent bump due in part to the improving economy and the state's minimum wage increase.
- In some counties, however, median incomes remain at, below, or only slightly above 1990 levels on an inflation-adjusted basis.
- The returns-to-education gap continues to widen, suggesting that higher education is even more important

in today's labor market. The value of education, however, is increasingly split (based on whether an individual possesses "in-demand" skills vs. just a degree).

- **Automation in Its Various Forms Will Present Challenges for the Region's Future Workforce**

- The impacts of automation (Robotics, Artificial Intelligence, Machine Learning, etc.) are projected to be far-reaching and will affect many key Southern California industries, including:
 - » Manufacturing;
 - » Agriculture;
 - » Transportation, Logistics, Warehousing; and,
 - » Office support/services, which is amongst the region's largest occupational categories.

- **A Possible Trade War is a Risk**

- The Agriculture and Logistics industries are likely to be impacted and a strong U.S. dollar will make exports in these industries challenging.
- International trade is an important and growing component of the Southern California economy
- Foreign direct investment has also been a significant economic development driver in some parts of the SCAG region, with Los Angeles ranking as the #1 region overall for international investment in the U.S.

- **Demographic Changes Could Profoundly Impact the Region's Future**

- As baby boomers retire and millennials and young families leave the region's more expensive areas primarily to other states, there will be an increase in demand for health care jobs and a decrease in labor force participation and workforce talent pipelines, which could result in severe labor shortages in some parts of the region.

- **The Unaffordability of Housing Could Be a Significant Drag on the Region's Economy**

- A lack of workforce or middle-income housing is one of the biggest threats to the region's economic competitiveness.
- A lack of workforce housing could potentially have significant consequences for Southern California by pricing many young workers and families out of the region, leading to a smaller workforce talent pool.
- NIMBYism and state environmental regulations are seen as a major driver of this trend and make solutions difficult to implement in some parts of the region.
- While strong job growth in the past year has decreased the net flow of residents out of the state, young families and recently graduates will find themselves increasingly priced out of the SCAG region, a trend already occurring in the Bay Area, calling into question that region's ability to sustain its high levels of economic growth and prosperity.

- **Even With Housing Prices Continuing to Appreciate Region-wide, There Are Recent Signs of a Cooling Trend**

- Housing market risks include increasing mortgage interest rates, recession-era foreclosed homes being owned by institutional investors (which prevent people from building wealth through housing), and Federal Housing Administration (FHA) loan maximums penalizing Riverside and San Bernardino Counties, where homeownership rates have fallen to the lowest levels in several decades.



ECONOMIC REPORT IMPERIAL COUNTY

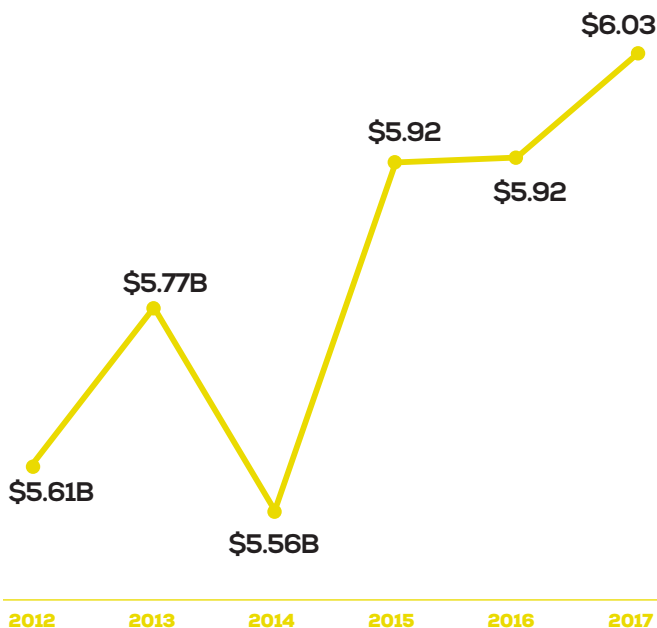
Contributed by: Michael Bracken, M.P.A., Development Management Group

Imperial County is located in the southeast corner of California and shares borders with San Diego County, Riverside County, Yuma County (Arizona) and Mexico (and the region and City of Mexicali). The County has an estimated population of 190,624. The economy of the region is based on the following industries:

- **AGRICULTURE**
- **ENERGY PRODUCTION** (Solar, Wind, Geothermal)
- **PRISON/DETENTION FACILITIES** (Federal and State)
- **BORDER SECURITY** (namely Department of Homeland Security)
- **LOGISTICS** (Goods Movement of Agriculture Products and Products Assembled in Mexicali through the Maquiladora Program).
- **LOCAL SERVING SMALL BUSINESSES**
- **LOCAL/REGIONAL GOVERNMENT & RELATED SERVICES** (Police, Fire, Education)

Gross Domestic Product (GDP) of Imperial County: Overall, the economy of Imperial County is stable. GDP for the region exceed \$6 billion for the first time in the history of the region. The GDP equals about \$31,000 per capita in the region. By comparison, the GDP per capita of the United States is about \$53,000. The GDP of the Imperial County region compares to that of South Korea (\$26,000), Spain (\$32,000) and Italy (\$35,000). If Imperial County were its own nation, its GDP per capita would rank 14th in the world.

GROSS DOMESTIC PRODUCT (GDP) OF IMPERIAL COUNTY (El Centro MSA)



source: California Employment Development Department

RENEWABLE ENERGY GENERATION

Imperial County has been a leader in renewable power generation. The region continues to produce over 7,320 GWh (gigawatts) of power from over 40 projects that are currently online. The producers represent geothermal, small hydro, solar photo-voltaic and wind. Imperial County is the second largest producer of renewable power in the State of California (Kern County 13,890 GWh). The region has in process another 2,000 MW of additional renewable power that could be ready for market within the next two to three years.

EMPLOYMENT

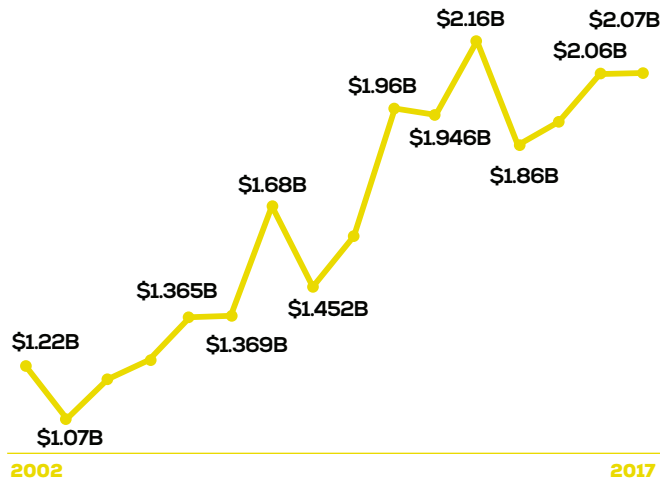
The Imperial Valley continues to struggle with high unemployment (19.3%, over five times the national rate of 3.7%). There are 60,100 jobs for a labor force of 74,500, leaving some 14,400 unemployed.

OCCUPATIONS BY MEDIAN PAY (# of workers)

\$94,346	MANAGEMENT (2,300)
\$89,767	HEALTHCARE PRACTITIONERS (2,300)
\$88,107	ARCHITECTURE/ENGINEERING (300)
\$84,913	LEGAL OCCUPATIONS (300)
\$83,908	LIFE/PHYSICAL/SOCIAL SCIENCES (300)
\$74,657	COMPUTER & MATHEMATICAL (300)
\$68,640	PROTECTIVE SERVICE (3,400)
\$66,319	BUSINESS & FINANCIAL (2,200)
\$62,918	EDUCATION/TRAINING (4,700)
\$52,593	CONSTRUCTION (3,400)
\$52,439	COMMUNITY/SOCIAL SERVICE (1,900)
\$51,403	ARTS/DESIGN/ENTERTAINMENT/SPORTS (300)
\$47,862	INSTALL/MAINTENANCE/REPAIR (1,900)
\$44,937	ALL OCCUPATIONAL MEDIAN (60,200)
\$43,675	PRODUCTION (1,500)
\$36,675	OFFICE/ADMINISTRATIVE SUPPORT (7,800)
\$36,030	TRANSPORTATION/LOGISTICS (3,800)
\$34,819	HEALTHCARE SUPPORT (1,100)
\$33,543	SALES (5,800)
\$32,813	BUILDING/GROUNDS CLEAN/MAINTENANCE (1,700)
\$27,423	FOOD PREP/SERVING (4,200)
\$25,925	FARMING (7,100)
\$24,409	PERSONAL CARE/SERVICE (5,500)

source: California Employment Development Department

IMPERIAL COUNTY TOTAL AGRICULTURE PRODUCTION
(livestock & crops)



source: Imperial County Agriculture Commissioner

The three industry occupations with the largest job growth (from 2017 to 2018) were sales (+700), architects/engineers (+500), and building/grounds maintenance (+500). There were job losses in farming (-1275), training/education (-875), and protective services (-750). Employment within the region is largely tied to agriculture and government. The Department of Homeland Security, State prisons, and local governments (including school districts) account for 30% of all jobs. Median pay (all job categories) is \$44,937 as of 2018 Q1.

AGRICULTURE

Agriculture is the largest private sector industry in the Imperial Valley. While the jobs associated with the industry are traditionally low pay, agriculture supports many families in a variety of

occupations such as direct farming, professional/business (including accountants), and transportation. In 2017, agriculture production totaled \$2.066 billion. Production was essentially flat when compared to 2016. Farmers are struggling with foreign competition, increased regulation in California, and a labor shortage. This coupled with the trade dispute between the United State and China, 2018/19 are not expected to be profitable years for the region.

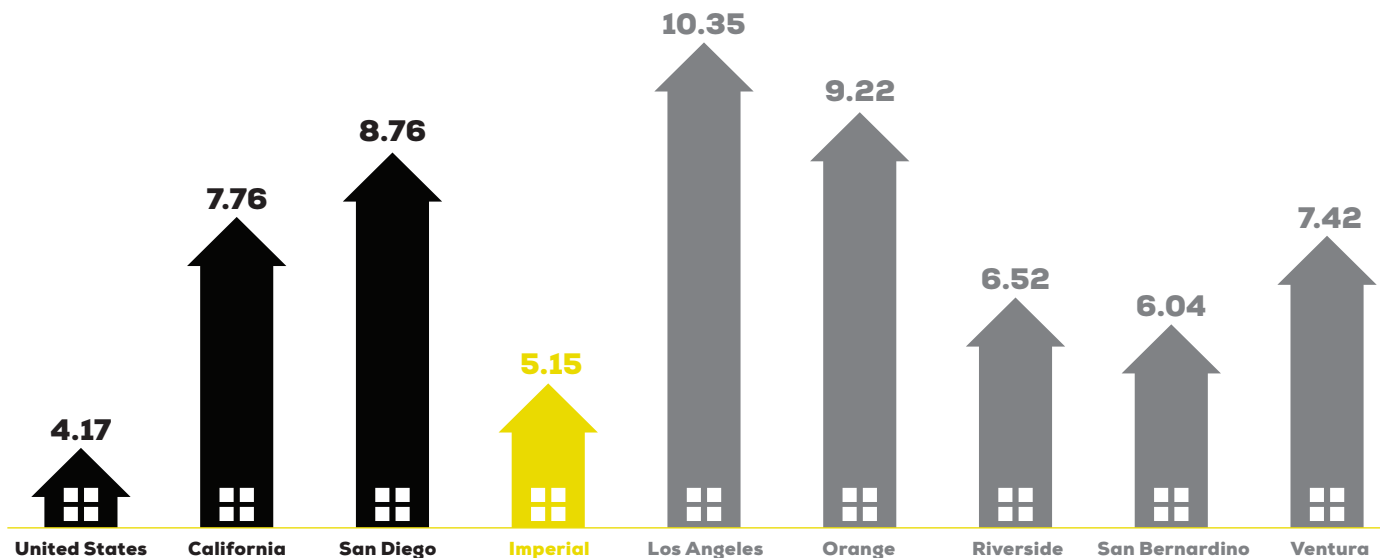
HOUSING

The overall housing market is stable in the region with a median home price of \$219,000 (i.e., buying a 3-bedroom/2-bathroom home). New home sales will be about 100 for 2018 with prices starting in the mid \$200,000s. Occupancy of rental housing is 95% with rents ranging from \$600 to \$1,400 monthly. The region boasts the most affordable housing market in the SCAG Region.

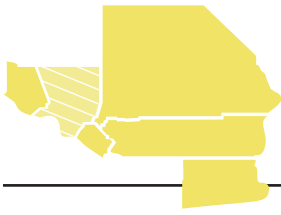
ECONOMIC OUTLOOK

- The overall economy is stable (by historic Imperial County standards), but is neither robust nor expanding.
- As the Renewable Portfolio Standard (RPS) requirements continue to increase, so will investment in the region. As the RPS approaches 100%, it will create additional renewable energy opportunities at such time as additional construction begins.
- Agriculture is struggling with crop/livestock pricing, new State regulations, and the current trade dispute with China.
- The region must address systemic and multi-generational poverty (21% of all persons, 28% of children)
- A culture of educational achievement must take hold (32% of adults 25+ lack a high school education and only 14% of same have a bachelor's or better).
- The region must work to expand geothermal energy production and use 30,000 fully entitled (yet to be built) homes to fuel growth and provide remedy to the housing crisis in Southern California's coastal communities.

HOUSING AFFORDABILITY INDEX



source: CoreLogic/Development Management Group, Inc.



ECONOMIC REPORT LOS ANGELES COUNTY

Contributed by: Somjita Mitra, Ph.D., Los Angeles County Economic Development Corporation

Los Angeles is a region of unparalleled optimism and opportunity and is home to almost 10.3 million residents with a labor force of over 4.5 million. Los Angeles continues to be the creative capital of the world, with a growing emphasis on new and innovative industries.

The County has fully recovered from the Great Recession and is now seeing tremendous growth and opportunity.

ECONOMIC OVERVIEW AND OUTLOOK

The September unemployment rate in Los Angeles County was 4.8% (not seasonally adjusted), significantly below its July 2010 peak of 13.2% and continues to trend lower. Nonfarm employment in August 2018 totaled nearly 4.5 million adding 65,000 jobs over the year for an annual growth rate of 1.5%. The bulk of major industry sectors experience growth in employment over the year.

County employment is projected to grow at an average annual rate of 1.1% over the next five years, adding 234,000 jobs across a range of industries.

As the economy continues to tighten and the unemployment rate continues to trend downward, we expect wages to grow substantially in the coming years in most industries. However, despite the large number of jobs being added, they are predominantly coming in the form of lower payed occupational groups so there is some concern that the labor market will continue to bifurcate.

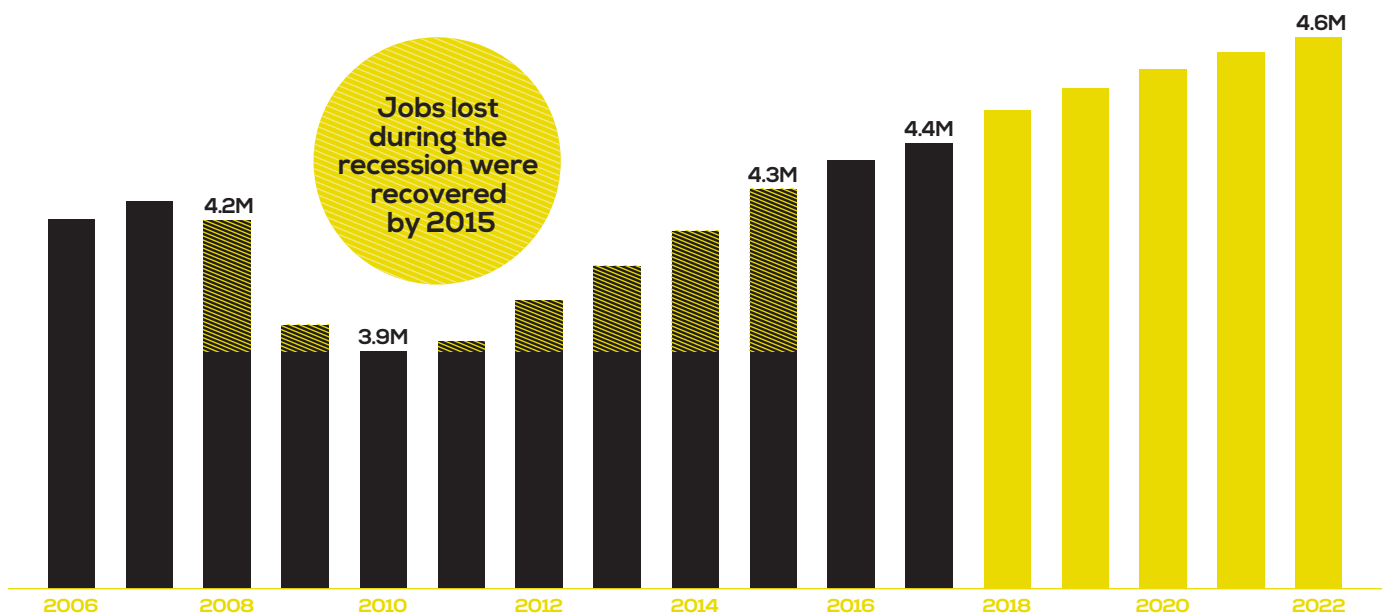
LEADING & EMERGING INDUSTRIES

Most industries will add jobs over the next five years, but overall, the strongest job growth in terms of numbers of jobs will be in service providing industries, including:

- **HEALTH SERVICES**, which is estimated to grow at 13.7% over the next five years and add 92,000 jobs.
- **ACCOMMODATION & FOOD SERVICES**, which is projected to add around 32,000 jobs over the next five years as the expansion drives demand in dining on tourism.
- **INFORMATION**, which is projected to add 26,000 jobs over the next five years driven by the continued adoption of more advanced technologies.
- **TRANSPORTATION & WAREHOUSING**, which is projected to add almost 25,000 jobs over the next five years, continuing to reinforce the regions' strength as a logistics and trade hub for the nation.

Other industries are evolving through innovation and disruption and will drive our economic growth in the future, including advanced transportation, biosciences, and digital media. Los Angeles continues to be a driver in supporting and growing these emerging industries through investment and research.

NONFARM EMPLOYMENT IN LOS ANGELES COUNTY (millions of jobs)



source: CA EDD; forecast by LAEDC

OCCUPATIONAL OUTLOOK

While jobs are being added across industries, the highest number of overall openings will be found in those occupations that require a high school diploma or less, which pay less than the County’s median annual wage of \$40,340. More than one-third of projected openings (including new jobs and replacement jobs) over the next five years require workers without a high school diploma. Another 28% will require workers with a high school diploma.

Those with a graduate or professional degree earn an annual wage premium of \$55,300 over those with less than a high school education. The strong correlation between educational attainment and earnings signals challenges ahead for those with less than a high school degree as they face limited jobs prospects, are more likely to be unemployed, and are less likely to be able to support their households.

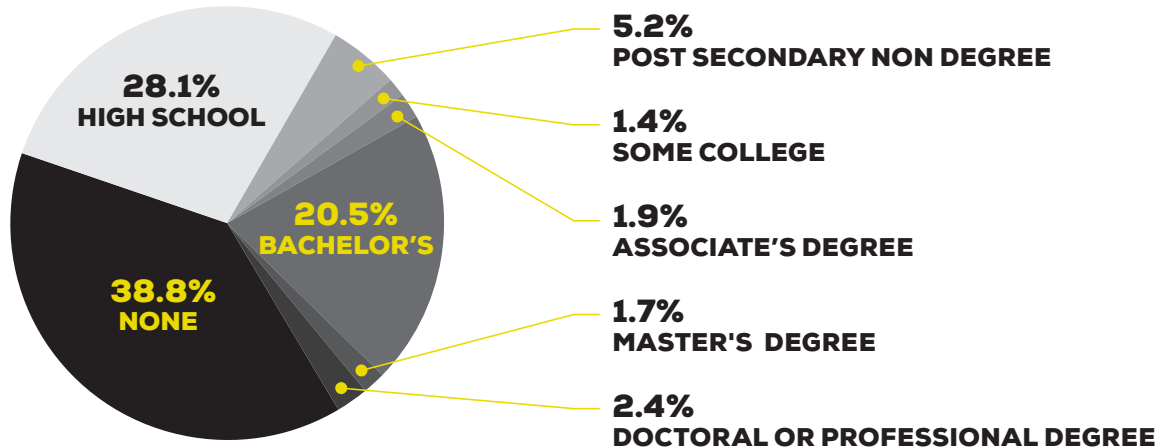
INCOME & POVERTY

Household incomes have increased steadily for the last 25 years, from \$34,965 in 1990 to \$65,006 in 2017. However, inflation-adjusted household incomes had been falling, but the substantial increase in household earnings in recent years has reversed the trend and we expect household incomes to be higher than their 1990 peak in the coming years.

However, our economic recovery is helping poverty rates to keep falling. We have seen a steady year-over-year decline in individual poverty rates. The individual poverty rate is now at 14.9%, which is a substantial decrease from the peak of 19.1% reached in 2012 and has made particularly large improvement in the past year. As with earnings, there is a strong correlation between lower levels of educational attainment and higher rates of poverty.

More than one-fifth of adults with less than a high school education are in poverty in the county. In contrast, those with a bachelor’s degree or higher have a poverty rate of only 6.2%.

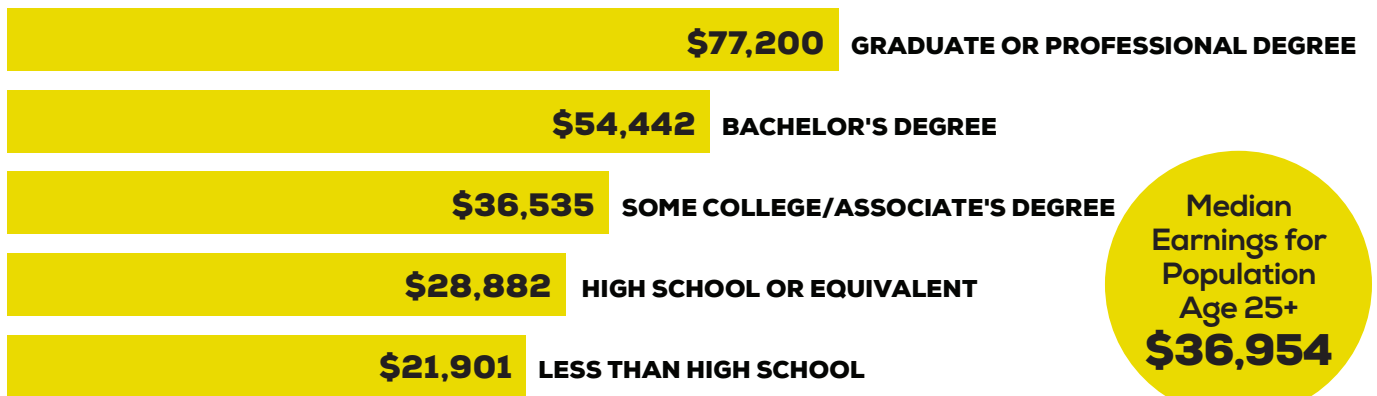
ENTRY LEVEL EDUCATION & EXPERIENCE REQUIREMENTS



source: estimates by LAEDC

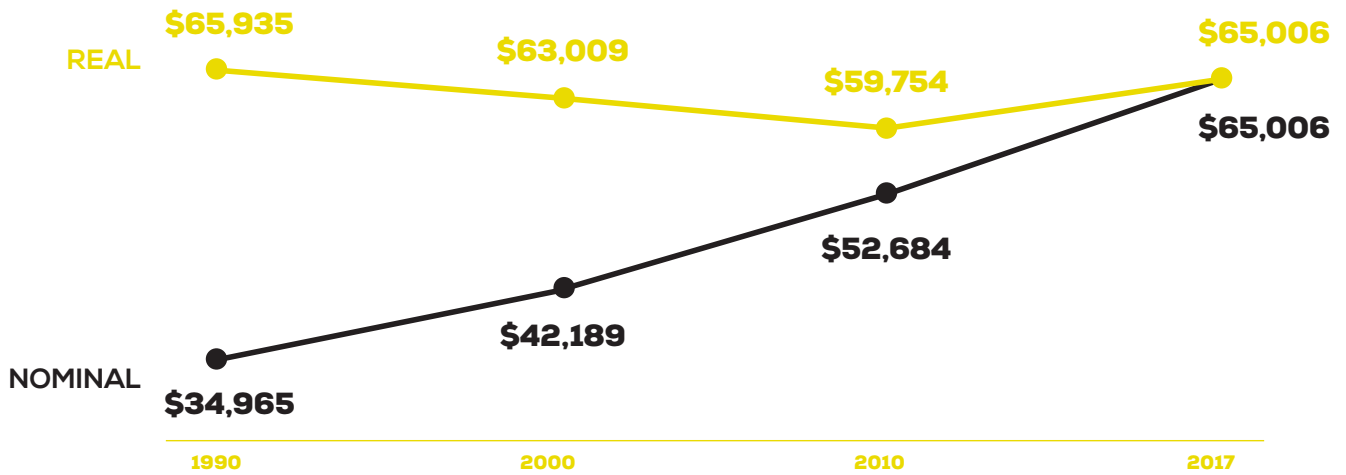
MEDIAN EARNINGS & EDUCATIONAL ATTAINMENT

2017 Population 25 years & older

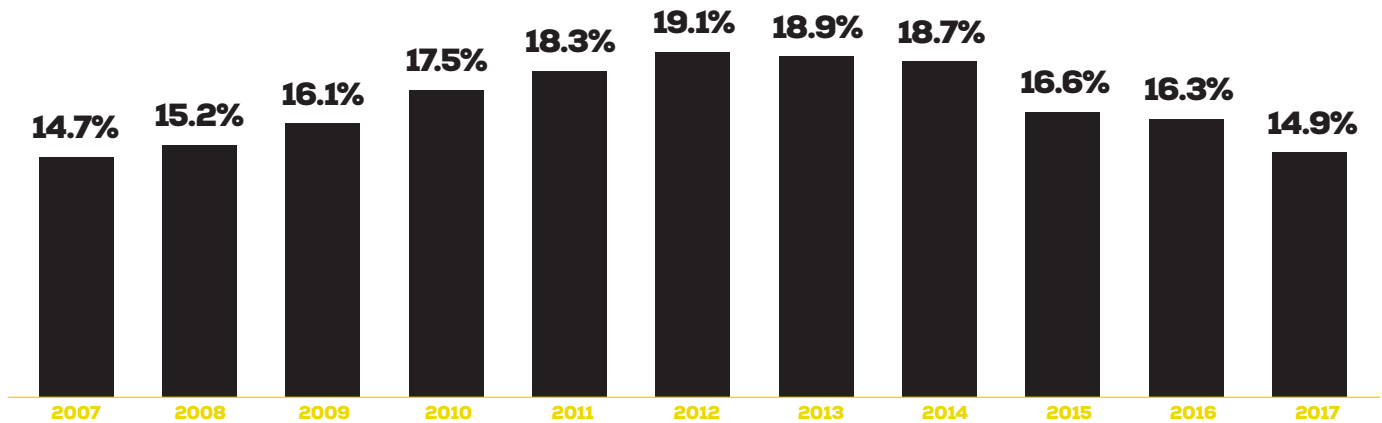


source: 2017 ACS one-year estimates

MEDIAN HOUSEHOLD INCOME
nominal & 2017 Dollars

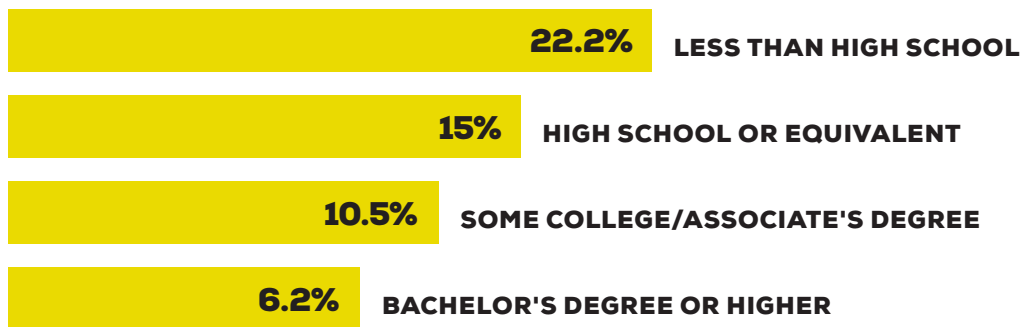


INDIVIDUAL POVERTY RATES 2007 TO 2017



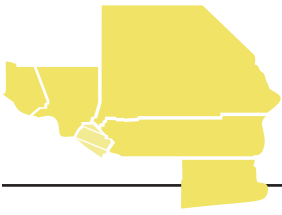
source: 2017 ACS one-year estimates

POVERTY RATES PER EDUCATION ATTAINMENT LEVEL



Age 25+
Population
Below
Poverty Level
13.4%

source: 2016 ACS 1-Year Estimates



ECONOMIC REPORT
ORANGE COUNTY

Contributed by: Wallace Walrod, Ph.D., Orange County Business Council

Orange County’s continued economic success is demonstrated by a variety of indicators: very low unemployment rate, increasing wages, growing educational attainment, and rising home prices. Job growth is a particularly strong indicator for the county, which reached record levels this year. Despite several concerns, including an aging population, an emerging skills gap due to the strong job market, and a chronic shortage of workforce housing, Orange County currently benefits from a multitude of competitive advantages, including high quality of life, robust labor market, deep talent pool, excellent educational system, and world-class infrastructure.

- An internationally famous tourist destination, Orange County has greatly benefited from increased tourism visits and spending; a record 48.3 million travelers visited the county in 2017, a number expected to increase in the near future with the opening of Star Wars: Galaxy’s Edge at Disneyland in 2019.
- OCTaNe and other tech initiatives play key roles in supporting the county’s next generation of entrepreneurs in emerging sectors such as ophthalmology, medical devices, big data analytics, cybersecurity, and financial technology.

2018 ORANGE COUNTY ECONOMY IN NUMBERS

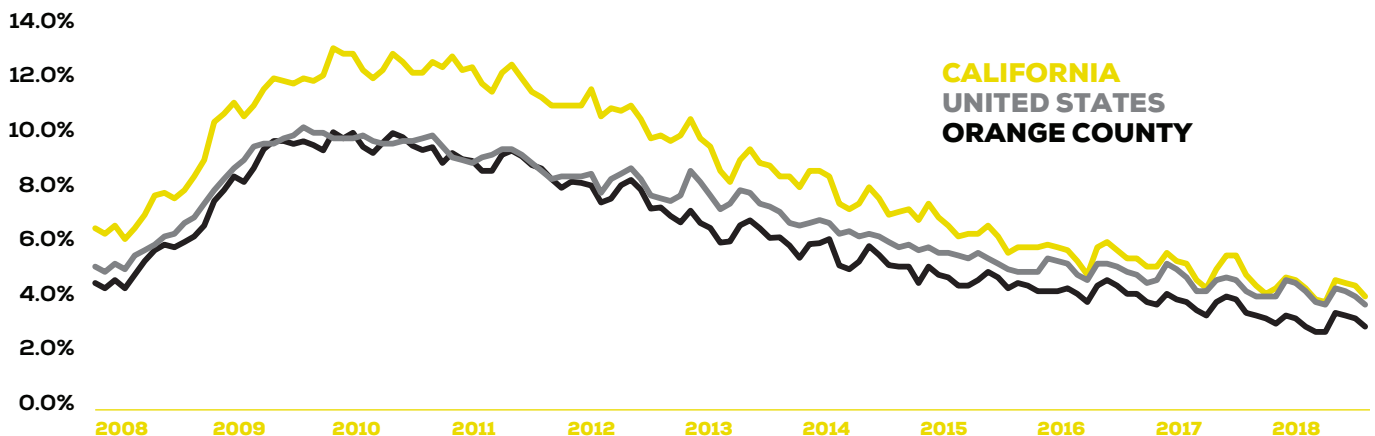
- Orange County’s September 2018 unemployment rate was 2.8%, lower than the state (3.9%) and national (3.6%) rates.
- The number of employed individuals in the region has grown to 1,582,000 while the number of unemployed has shrunk to 45,600.
- Orange County’s median household income grew by \$4,380 or 5.4% between 2016 and 2017, reaching \$86,217 in 2017.
 - Occupational groups with the largest year-over-year salary increases included legal, management, and protective service occupations.
 - Orange County industries with the largest year-over-year salary increases included utilities; real estate and rental and leasing; arts, entertainment and recreation; and construction.
- In 2017, Orange County had a gross domestic product (GDP) of \$298 billion.
- Orange County’s strong, diverse economy is led by professional and business services (19.1% of employment), leisure and hospitality (13.9%), and educational and health services (13.8%), and these key sectors have been the largest generators of new jobs in the last 12 months.

ORANGE COUNTY IS AGING & BECOMING MORE DIVERSE

The county’s population continues to grow older and more diverse, creating a unique set of opportunities and challenges for local employers, educators, and elected officials. The California Department of Finance predicts that the number of county residents aged 85 and older will increase by 487% by 2060, while the number of residents aged 25–64 will increase by only 2%. This trend will have a particularly strong impact on the health care industry, as a rapidly aging population will increase demand for health care services and a stagnating working-age population may not be able to fill all the necessary job openings.

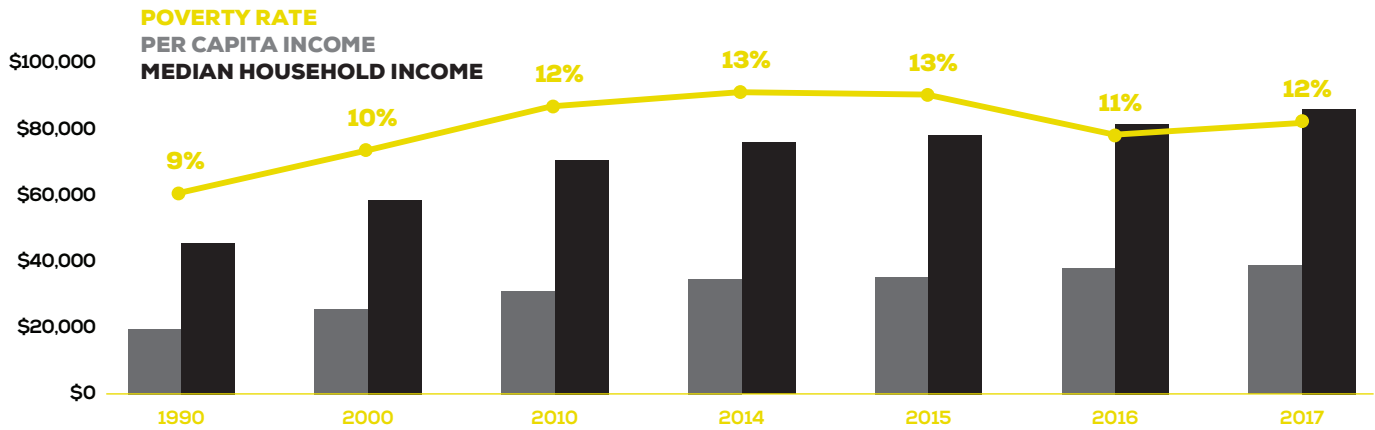
Overall population growth has slowed since 2012 as a result of increasing negative domestic migration. 2017, however, saw only 13,972 residents leave the county, compared to 18,977 the previous year, which suggests that a robust job market and growing wages have been able to start offsetting some of the county’s housing affordability concerns. Out migration has been primarily driven by the county’s high housing costs; an increased housing supply would help alleviate this trend, which would prevent Orange County from losing young talent to neighboring regions and other states.

UNEMPLOYMENT RATES (01/2008–09/2018)



source: California Employment Development Department

ORANGE COUNTY INCOME & POVERTY RATES (2000-2017)



source: U.S. Census Bureau, 2017 American Community Survey, 1-Year Estimates

Orange County is also growingly increasing diverse; Hispanic and Asian residents are predicted to account for 38% and 21% of the county population, respectively, by 2060.

EDUCATIONAL ATTAINMENT IS HIGHER THAN PEER REGIONS AND CONTINUES TO INCREASE

In 2017, 48% of Orange County residents had an associate’s degree or higher, with 26.1% holding a bachelor’s degree and 14.2% holding a graduate or professional degree. Approximately 52% of 2017 high school graduates were eligible to attend a University of California or Californi high levels of educational attainment is a major competitive advantage for its economic success, and educational attainment correlates with increased wages and serves as an important protection against poverty and unemployment. Orange County’s three largest universities awarded a total of 3,384 bachelor’s degrees and 1,520 graduate degrees in science, technology, engineering and mathematics (STEM) related fields in 2017, an important indicator of the county’s continued ability to prepare students for work in cutting-edge industries.

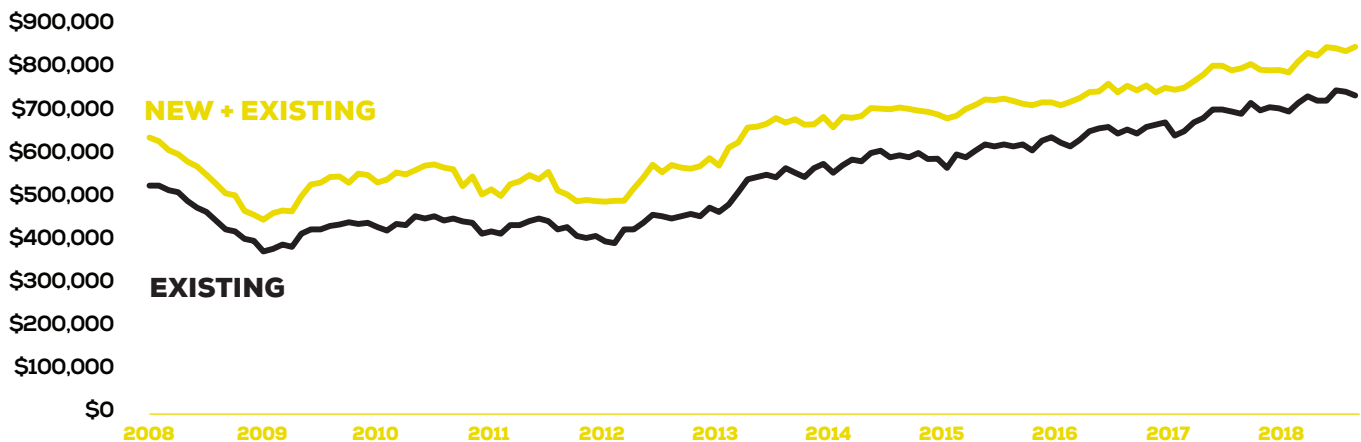
WAGES CONTINUE TO RISE WHILE POVERTY MAKES UNEXPECTED JUMP

Orange County’s median household income increased by \$4,380 year-over-year to reach \$86,217 in 2017. The poverty rate, however, also increased, rising from 11% to 11.5% over the same time period, suggesting that the majority of wage growth occurred in already high-paying occupations, with lower-wage occupations seeing much smaller wage growth. Orange County residents in low-skill, low-wage positions have a variety of low-cost, convenient options for skills development and career advancement, such as certification programs at local community colleges, which can lead to significant wage increases and increased career mobility.

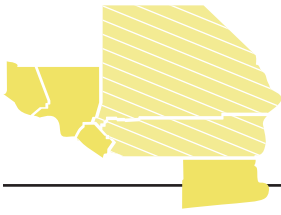
HOME PRICES & RENTS CONTINUE TO CLIMB; INCREASED WORKFORCE HOUSING SUPPLY NEEDED

Orange County new home prices hit a new high of \$838,500 in August 2018, with existing home prices reaching \$727,000 (Exhibit 3). Rents also reached new highs in 2018, averaging \$2,450 for a two-bedroom apartment. The county’s low housing supply, coupled with high demand, continues to drive up prices.

ORANGE COUNTY MEDIAN HOME PRICES New vs. Existing Homes (2008-2018)



source: U.S. Census Bureau, 2017 American Community Survey, 1-Year Estimates



ECONOMIC REPORT

RIVERSIDE & SAN BERNARDINO COUNTIES

Contributed by: John Husing, Ph.D., Economics & Politics

For Riverside and San Bernardino Counties, a review of the most recent economic data and the overall trend since the turnaround began in 2011 provides very good news. First and foremost, the level of poverty in the area has declined significantly as employment has soared and unemployment dropped to historic lows. Poverty, which stood at 23.5% for children under 18 in 2016, was down to 19.3%. Poverty for all people dropped from 16.4% to 14.5%.

These changes occurred because job growth through September 2018 is on track to surpass its 2007 pre-recession high of 1,306,342 by 210,389 jobs or 16.1%, reaching an estimated 1,515,469. This occurred because job growth has surged for the past several years: up 47,575 (4.0%) in 2013, 55,933 (4.5%) in 2014, 64,217 (4.9%) in 2015, 48,667 in 2016 (3.6%), 49,433 (3.5%) in 2017, and 49,453 (3.4%) based upon 9-months of preliminary 2018 data. If 2018 holds, the area will have created 349,778 jobs in the 2011-2018 period of recovery and expansion. That is 209,128 (148.7%) or far more than double the 140,650 jobs lost in the Great Recession (2008-2010). Looking at the rest of 2018, there is every reason to anticipate growth levels will be sustained given the forces impacting the key sectors that make up the inland region's economic base (logistics, construction, health care, manufacturing, high-end).

Unemployment in Riverside and San Bernardino Counties has dropped. It was 4.1% in September 2018, down from 4.9% in September 2017. The area's August 2018 rate (4.5%) was the sixth

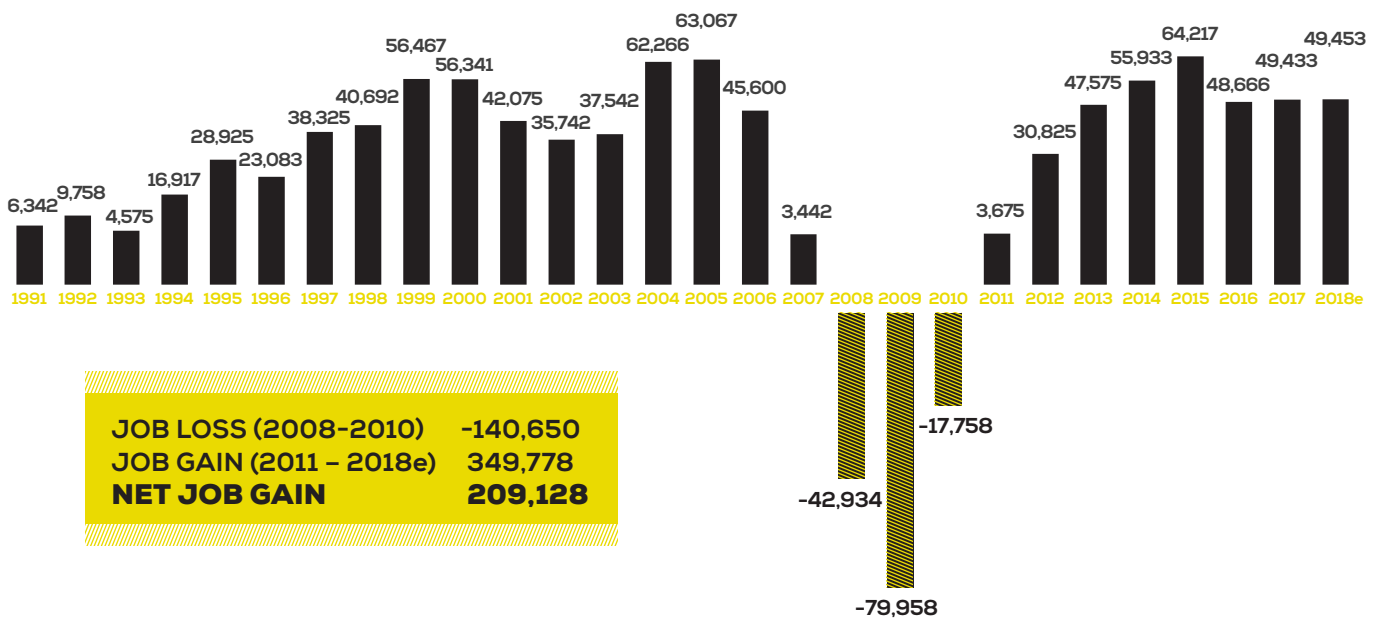
highest among the 50 major U.S. metropolitan areas tied with Phoenix. It was down from second highest in 2017. Among nearby areas, Las Vegas (4.9%) and Los Angeles (5.1%) were higher.

A key metric challenging Riverside and San Bernardino Counties is the fact that 45.7% of adults 25 and older had high school or less education in 2017. That compares to 37.6% for the rest of Southern California (Imperial, Los Angeles, Orange, San Diego, and Ventura counties). Those with associate's degrees or higher were 29.8%, well below the 42.2% for the rest of the Southland. The share with bachelor's or higher was 21.4% versus 34.8% in the balance of Southern California. These facts limit the kinds of firms for which the area is competitive. These shares have improved from 50.3% (high school or less), 23.1% (associate's or higher) and 16.3% (bachelor's or higher) in 2000.

Like all regional economies, the key for Inland Empire's growth is the expansion of the economic base sectors for which it has competitive advantages. This is the group of activities bringing money to it from the outside world. Fundamentally, there are five key sectors:

- **LOGISTICS** firms have located in the Inland Empire in response to its available land and the need to handle both the huge flow of goods moving in and out of the U.S. via both the Ports of Los Angeles and Long Beach plus the rapid expansion of fulfillment centers that handle the explosive expansion of e-commerce. They are on track to be responsible for 23.6% of

WAGE & SALARY JOB CHANGE
Annual Average (1991 - 2018e)



source: CA Employment Development Department; Economics & Politics

the area's direct job growth in the 2011-2018 period (82,459). Based upon growth to date in 2018 (6.9%), the sector's total should reach 190,100 jobs in 2018.

- **HEALTH CARE** firms are expanding in the Inland Empire in part because the average worker in the sector is already serving 25.8% more people than California's average. Meanwhile, the Affordable Care Act has cut the share of local residents without health insurance from 28.8% in 2012 to 11.3% in 2017. Health care firms are also beginning to respond to the fact that 24.1% of the population was 55 years or older in 2017. The area's population growth was 366,042 people (8.7%) from 2010-2018. Based upon job growth to date in 2018 (1.6%), it is forecasted that the sector will add 2,200 jobs in 2017 to reach 138,200.
- **CONSTRUCTION** has historically been the major driver of the economy given its undeveloped land and Southern California's need for single family homes, apartments, industrial facilities, and infrastructure. The mortgage crisis upset the first of these needs and was largely responsible for the local sector losing 68,400 jobs from 2006-2011 (-53.6%). From 2012-2017, it has gained back 37,900 jobs, and in 2018, positive factors are appearing. Through June this year, total permit valuation is headed for an increase of 3.5% after rising 20.1% in 2017, 7.2% in 2016, and 13.4% in 2015. Based upon job growth to date in 2018 (6.2%), it is estimated that the sector will add 6,000 jobs to reach 103,000 positions. That would still be 24,500 jobs (-19.2%) below the 2006 peak.
- **MANUFACTURING** has been the economic base sector with sub-par performance. This stems from California's regulatory environment plus energy policies that in May 2017 had the state's industrial electrical cost (12.64¢) 135.4% above Nevada (5.37¢) and 83.5% above Arizona (6.89¢). As a result, the state has created only 57,300 manufacturing jobs (4.6% growth) since January 2011, and accounted for only a 5.5% of the 1,126,000 jobs (9.7% growth) created in the U.S. A good deal of job openings occur in the sector due to the need to replace aging baby boomer technicians. Based upon job growth to date this year, it is unfortunately estimated that the sector will add only 300 jobs in the inland area in 2018 to reach 99,000 positions. That would remain 24,400 jobs or 19.8% below the 2006 peak of 123,400 positions before the Great Recession.

For the first time, a high-paying sector is showing signs of starting to add to the economic base of Riverside and San Bernardino Counties:

- **PROFESSIONAL, MANAGEMENT & SCIENTIFIC** work has recently started expanding. This appears to be a reaction to three factors. First, it has seen a doubling of residents with bachelor's or higher degrees from 2000-2017 (100.5%). Even though the inland area's population is less well-educated than its coastal county competitors, in this period its overall percentage of college graduates grew from 16.3% to 21.4%. Its percentage of those with associate's degrees or higher went from 23.1% to 29.8%. Second, the growth of the inland economy requires increasing levels of professional service providers given its 4.59 million people and 115,252 firms. Third, the re-emergence of the construction sector creates a need for engineers and other such specialists. Based upon job growth to date in 2018 (1.3%), it is estimated that the sector will add 600 jobs in 2018 to reach 48,700 positions.

MEDIAN PAY

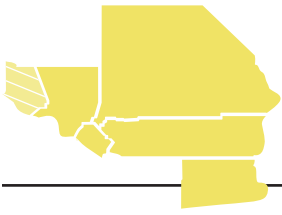
Given the high levels of poverty in Riverside and San Bernardino Counties (14.5% of all people, 19.3% of those under 18), it is important to find sectors that offer workers median incomes at middle class levels provided their families have a secondary wage earner in a lower paying sector. The data show that this is possible in several sectors due to their median pay levels over \$45,000, their minimal educational requirement for large shares of the workers, and their growth potential. Looking at the economic base sectors and one related to them, the following is the situation:

- **LOGISTICS** (2018 median pay: \$47,946). In 2017, 78.4% of workers were in jobs requiring high school or less schooling. The sector is the fastest growing in the inland area.
- **CONSTRUCTION** (2018 median pay: \$54,800). In 2017, 82.2% of workers were in jobs requiring minimal levels of formal education, though apprenticeship is necessary for some types of work. The sector has become the second fastest growing in the inland area though firms continue having trouble finding workers.
- **HEALTH CARE** (2018 median pay: \$63,409). In 2017, 33.7% of workers were in jobs with minimal educational requirements. The sector has provided significant upward mobility for those with associate's degrees or post-secondary training (30.2%). Those obtaining technical certifications are able to find good jobs and increasing their ability to move up within the sector.
- **MANUFACTURING** (2018 median pay \$53,205). In 2017, the sector offers little job growth. However, industry leaders indicate that a large share of existing technicians are starting to retire. Of workers in the sector in 2017, 66.5% needed high school or less training.
- **PROFESSIONAL, MANAGEMENT & SCIENTIFIC** (2018 median pay \$76,202). In 2017, a relatively small share of workers were in jobs for marginally educated workers (34.5%). However, another 9.2% can step up to better paying jobs with associate's degrees or post-secondary training.
- **FINANCE, INSURANCE & REAL ESTATE** (2018 median pay: \$50,719) will grow as the real estate market recovers. In the sector, 65.6% of workers during 2017 were in jobs requiring minimal entry-level educations though many require specific state certifications. Its growth is dependent on more home sales and construction activity.

Growth in these sectors for 2018 is anticipated to cause the inland economy to add a total of 49,453 jobs in 2018 or 3.4%, which is the fastest among major California metropolitan areas.

OUTLOOK

The need for change in the economy is underscored by the fact that when inflation is taken into account, the estimated 2017 median household income (\$66,523) in Riverside and San Bernardino Counties has only exceeded its 1990 level by 1.5%. Per capita income has fared better in that period. It is up 6.1% from 1990-2016. However, that measure is pulled higher by the small share of people with high incomes. That fact is seen by the imbalance in income distribution. Thus in 2017, the 12.5% of households making over \$150,000 a year captured 32.98% of all income. The 16.1% of households receiving \$100,000-\$149,999 a year earned 25.3% of the region's income. These two groups together constituted 28.5% of households, but had 58.2% of the inland area's income. In contrast, the 40.4% of households earning below \$50,000 received only a 13.4% share of the area's income.



ECONOMIC REPORT
VENTURA COUNTY

Contributed by: Matthew Fienup, Ph.D., California Lutheran University

STATE OF VENTURA COUNTY'S ECONOMY

The dominant economic story in Ventura County is a continued decline in total economic activity. We hesitate to use the word recession, but we don't know what else to call two consecutive years of economic contraction. According to the Commerce Department, Ventura County's economy contracted by 0.9% in 2016 and an additional 0.4% in 2017. Average economic growth over the past four years rounds to 0.0%, the worst four-year period for which we have data. While job growth remains positive in Ventura County, sectoral data give little support for optimism. Whether you look to jobs or GDP, the state of the Ventura County economy is weak.

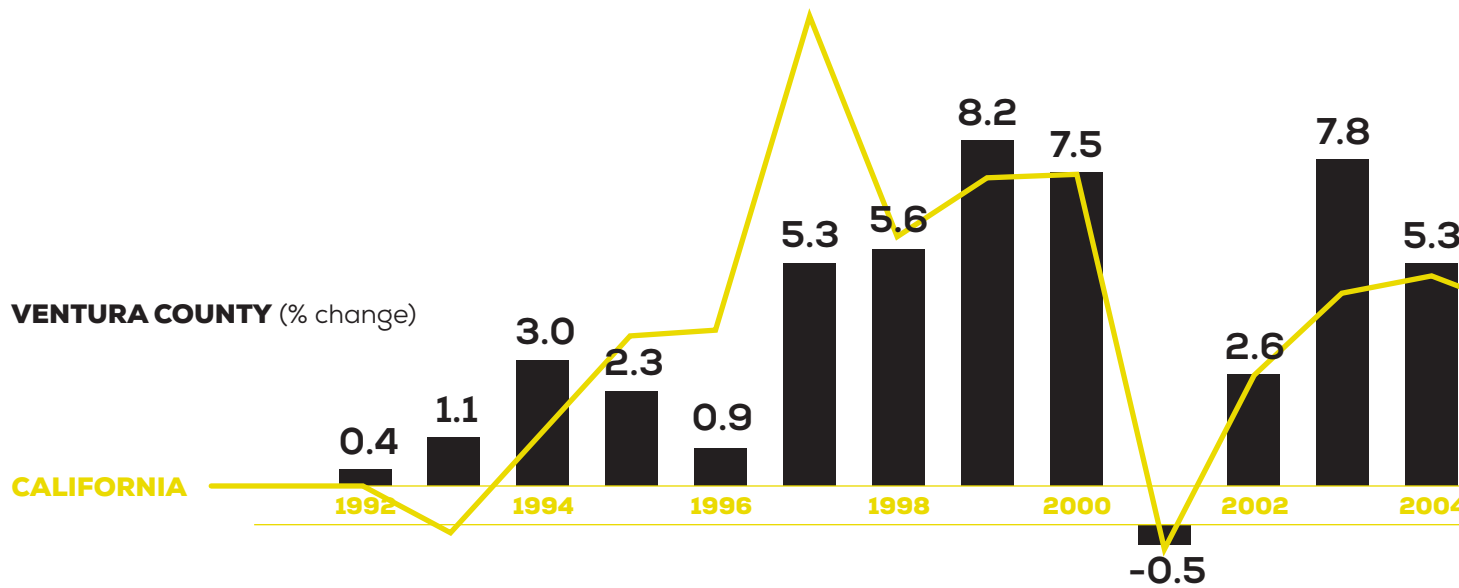
We trust large employers when they communicate what is driving Ventura County's economic malaise.

At a Business Outlook Conference in Thousand Oaks, CA in October 2018, leaders from the County's three largest manufacturing firms all agreed that a growing housing affordability crisis and the inability to attract and retain talent are the single biggest constraints on economic activity in Ventura County.

The dominant factor influencing affordability is housing supply. There is simply not enough being built. Ventura County's chronic lack of new construction is driven by a set of urban growth policies, known as Save Open Space and Agricultural Resources (SOAR), which rank as the most stringent growth restrictions in the United States. Without substantial improvements in housing affordability, Ventura County's future is one of an increasingly bimodal economy, an economy of haves and have nots, of wealthy residents of the County and a large commuter population that enters the County each day to work in low wage jobs.

According to the California Department of Finance (DOF), Ventura County's population growth rate was 0.29% in 2017, a number almost indistinguishable from zero. Only two times over the history for which we have data has the County's population growth been slower. Ventura County currently exhibits negative net domestic migration. Young adults who are starting careers and families are often selecting to move out of Ventura County. Ventura County will forego the high economic productivity of individuals undergoing household formation and career development.

REAL GDP GROWTH



source: U.S. Bureau of Economic Analysis and California Lutheran University Center for Economic Research & Forecasting

HOUSING MARKETS

Despite declines in total economic activity and a net out-migration of people, housing prices continue to rise in Ventura County. According to DataQuick, in June of this year, median existing single-family home price reached a post-recession high of \$605,000, nearly matching the pre-recession high of \$619,000 reached in June 2016. The median new home price has now exceeded pre-recession highs, although it is still lower in real terms than the bubble-pricing of 2005 and 2006.

As a result of property value growth that exceeds income growth, housing affordability is low relative to the nation and many other communities in the state. Just 28% of first-time home buyers can afford the median priced home, compared to 53% for the nation. That difference represents a significant competitive advantage for communities in other parts of the United States that are competing to become the new home for jobs in high-paying sectors as they leave Ventura County.

The 30-year fixed conventional interest rate has reached 4.8%. We forecast these rates will continue to gradually climb, reaching roughly 5.75% by mid-2020. Using data from the California Association of Realtors for the third quarter of 2018, the monthly payment for a median priced home would rise from about \$2,100 at 3.4% to about \$2,725 at 5.75%, representing a 30% increase in the monthly mortgage payment associated with the median house.

With this, we forecast that Ventura County housing markets will be sensitive to rising mortgage rates.

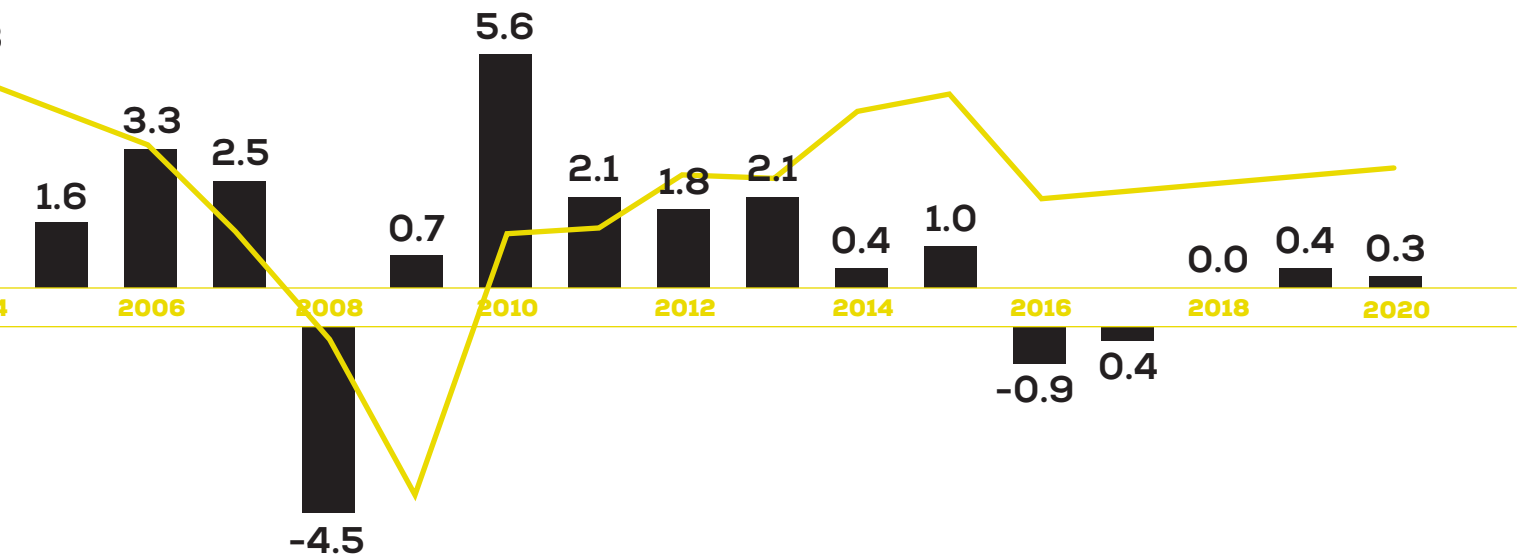
We forecast that Ventura County existing home sales and median price growth will slow. The slowing expected in the next two and a half years is on top of slowdowns that have already begun in prices.

VENTURA COUNTY'S FORECAST

The current forecast anticipates that the County's economy will neither grow nor contract in 2018, with forecasted growth of 0.0%. This would extend the current four-year long period of zero growth to an astonishing fifth year. Our forecast for growth in 2019 and 2020 is positive but very low, averaging just 0.38% over those two years. Congruent with this, we believe that slow population growth has become the norm in Ventura County.

We continue to forecast negative net domestic migration, which most analysts would not argue with.

However, we forecast that it will worsen. While this might seem to be puzzling given that home price growth is forecasted to slow, the main explanation here is job growth. With a weak economy and growth-inhibiting economic development policies, Ventura County job growth will be slow. Sectors with net increases in jobs will continue to be lower paying sectors. This, of course, implies greater domestic population outflows. We forecast average annual job growth of 1.0% during the three years from 2018 through 2020. This is historically slow job growth, especially considering that the economy is in a period of expansion.



YOUR NOTES



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