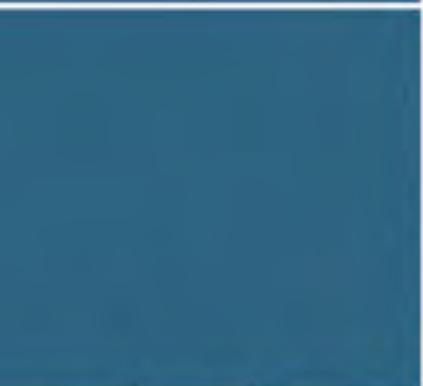


# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012



# Table of Contents

<b>Welcome</b>	<b>4</b>	
<b>Introduction</b>	<b>7</b>	
<b>Job Creation in a Jobless Recovery</b>	<b>11</b>	
<b>Orange County Demographic Trends</b>	<b>15</b>	
	17	Population Growth
	19	Ethnic Composition
	20	Housing Trends
	22	Household Income
<b>Lasting Impacts of the Great Recession</b>	<b>25</b>	
	26	Job Loss and Unemployment
<b>A Closer Look: Cross Cutting Cluster Drivers and Emerging Industries</b>	<b>33</b>	
	36	International Trade
	38	Information Technology
	39	Creativity
	40	Cleantech
<b>Industry Cluster and Occupation Trends</b>	<b>43</b>	
	44	Unemployment
	45	Industry and Occupational Growth
	50	Cluster Employment and Salaries
<b>Education and Workforce Training Trends</b>	<b>53</b>	
	54	Future Workforce: College Eligibility
	56	API, SAT, and High School Exit Exam Performance
	60	English Learners
	62	Dropout Rates
	63	High-Tech Related Degrees
<b>Workforce Housing</b>	<b>65</b>	
	66	Home Ownership
	68	Renting in Orange County
<b>Report Partners</b>	<b>71</b>	
	72	Orange County Business Council Board of Directors
	73	Orange County Workforce Investment Board
	74	Acknowledgements



Richard Porras  
Regional Vice President  
External Affairs  
Orange/Riverside &  
San Bernardino Counties

AT&T California  
1442 Edinger Avenue  
Tustin, CA 92780  
714-259-6690 Phone  
Richard.Porras@att.com

Dear Workforce Development Partner:

Orange County Business Council and the Orange County Workforce Investment Board are pleased to announce the tenth annual *Orange County Workforce: State of the County 2011-2012 Report*. In this report, both organizations display the fundamental accomplishments the County's workforce system and business community have achieved, as well as reflect on the challenges of a weak economy in developing a skilled future workforce.

Last year's report examined Orange County's efforts on how to create good-paying jobs in the wake of record unemployment. In this 2011 report, Dr. Wallace Walrod focuses on job creation in a jobless recovery. Orange County continues to deal with its set of challenges including language acquisition, an Achievement Gap among ethnic groups, a dearth of homegrown S.T.E.A.M (Science, Technology, Engineering, Arts and Math) students, and a burgeoning task of life-long learning for older workers--once set to retire—who must remain in the workforce.

As Orange County attempted to re-start the fatigued economy, our diverse industry clusters had to shift from the old way of doing business to starting anew. And while Orange County continues to be innovative and creative, businesses have had to find new ways to produce, distribute and sell products. And as the region continues to develop new trends and adapt to new expectations, the community around us continues to look for new ways and new partners who can work together to ensure that every student that is properly trained, works hard and craves it, can earn that advanced degree. This economy may have pointed out our differences on how to evolve, but it has also that our goals are same: jobs, careers and economic success.

The theme of this year's conference is *"Creating Jobs in a Jobless Recovery."* Orange County is a wonderful place to live, play and work. We already have a great foundation, and Orange County Business Council and the Orange County Workforce Investment Board are obligated to creative solutions, educational success and the best in workforce training.

We hope you will gain new understanding and the spirit of collaboration from this conference. We encourage you to utilize its materials as a resource and blueprint for future success in your business, educational institutions, and local government.

Sincerely,

Lucy Dunn  
President and CEO  
Orange County Business Council

Peter Agarwal  
2011 Chair  
Orange County Workforce Investment Board

October 13, 2011

On behalf of AT&T, it is a pleasure to welcome you to the 10th annual Workforce Development Conference.

To say we live in challenging times would be an understatement. Orange County, arguably the nation's most innovative and diverse region in California, has been struggling with the rest of the state to dig its way back to a sustainable recovery. While it has been complicated to find our footing due to the housing crises and manufacturing jobs going overseas, you can never say Orange County wouldn't be up for the test. If our residents can't find a way out, we look for a way through.

The term, "the new normal" has been used a great deal lately. It can be seen as a negative statement but it can also be viewed as a way of looking for the next big idea. Resiliency is the one character trait that will never subside. It propels us to grow. For AT&T, that resiliency is essential to moving our workforce forward. As challenges present themselves, it is our job to recognize if something will work, and if it doesn't, find a new way to advance. Our company owes it to our employees and their families to find solutions.

At AT&T, our employees evolve with the times from within every aspect of business, such as moving to digital technology from analog, to preparing our students for successful graduation from high school and college.

Orange County Business Council (OCBC) continues to be an important partner in its ongoing collaboration with AT&T. Through this work, our two organizations will continue to tackle the challenges we face by promoting the S.T.E.A.M. disciplines (Science, Technology, Engineering, Arts and Math), Latino Educational Attainment and preparing our young people for the global economy. While the resurgence of our economy has been slower than expected, we will continue to progress and move forward. Business and educators working together to shrink the Achievement Gap and provide job shadowing and internship programs will inspire confidence, open the world to new ideas, and eventually get our economic engine running effectively again. It makes living and working in Orange County a worthwhile effort.

Sincerely,

Richard Porras  
Regional Vice President of External Affairs  
AT&T  
2011 OCBC Chair, Workforce Development Committee



**BILL CAMPBELL**  
Supervisor, Third District

Orange County Board of Supervisors  
Orange County Hall of Administration  
10 Civic Center Plaza, Santa Ana, California 92701  
Phone (714) 834-3330 Fax (714) 834-2786  
bill.campbell@ocgov.com

October 13, 2011

On behalf of the Orange County Board of Supervisors, I am pleased to announce this year's Orange County Workforce Indicators Report, now in its 10th year, and welcome you to the Workforce Development Conference.

A decade of the Workforce Indicators Report has shown us the workforce trends, economic opportunities, as well as challenges within our communities. The Board cannot emphasize enough the importance of this report. It is much more than a book of statistics; it is the human story of our schools, our businesses, and our neighborhoods. Over time, the report has evolved to answer the most pressing questions of our growing communities; yet, its core remains in bringing priceless insight to policy makers, as well as serving as a comprehensive and transparent resource for civic, education, and industry leaders alike. In addition, the Workforce Indicators Report is a crucial instrument of the Comprehensive Economic Development Strategy (CEDS) of Orange County, allowing for the planning, analysis, and the identification of opportunities for neighborhoods from San Clemente to La Habra, from Seal Beach to Yorba Linda.

We hope all stakeholders in our communities find information, insight, and encouragement in these pages, as well as illuminations for your own work in creating – and sustaining – our schools, businesses, and neighborhoods.

The Board congratulates the Orange County Workforce Investment Board and the Orange County Business Council on the 2011-12 Workforce Indicators Report.

Sincerely,

Bill Campbell, Chairman  
Orange County Board of Supervisors  
Supervisor, Third District

# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012



## Introduction

# Introduction

## Creating Job Growth by Understanding Key Economic and Workforce Drivers

Economic markets and societal trends have permanently shifted in the last decade. Orange County is well-placed to respond to and take advantage of these changes.

The Great Recession of 2007-2009 devastated the nation, California, and Orange County. Massive job losses, industry contractions, revenue shortfalls, and an explosion in housing foreclosures had serious negative effects on regional, state, national, and global economies. With many industry segments struggling to recover, economic progress has been uncertain and uneven across sectors and geographical regions. Out of necessity, industry trends have responded by shifting away from reliance on traditional business practices to new, innovative strategies which have emerged and grown. In order to adapt and become more competitive, the private sector has become “lean and mean.” Our education and workforce systems must also adapt to remain competitive and relevant.

The Great Recession’s largest impact on the U.S. economy was on labor markets. It is calculated that overall output of the U.S. economy fell by 7.2 percent, consumption fell by 5.4 percent, investments fell by a staggering 33.5 percent, and per capita employment fell by 6.7 percent from 2007 to 2009. Around 8.5 million people lost their jobs since the beginning of the recession and median household wealth declined approximately 19 percent between 2007 and 2009. Some 6.3 million Americans have been out of work for more than six months, and the average duration of unemployment has grown to nearly 40 weeks.

In December 2007, the national unemployment rate was 4.4 percent. After peaking in October 2009 at 10.1 percent, the U.S. unemployment rate stood at 9.2 percent for July 2011. This recession differs from past recessions in that American workers have remained unemployed for longer periods of time. College graduates have experienced the worst job market since the 1930s. Previously, young jobseekers entering the workforce had to compete with others primarily in the same age bracket with comparable levels of experience and education. During this recession, younger workers were forced to compete with workers from older generations who were technically more qualified and experienced.

In California, the impact of the Great Recession was even more severe. In December 2006, the unemployment rate for the state was 4.7 percent, rising to a peak of 13 percent in January 2010 before falling to 12.1 percent in June 2011. California was hit especially hard by the recession due to the fact that the state has a large number of construction, financial services, and manufacturing jobs – industries experiencing particularly profound job losses. The combination of the state’s reliance on real estate markets, long-standing budget issues, and a challenging business climate and regulatory environment, resulted in significant economic hardships. California’s recovery is subpar and still lagging compared to other states and the nation as a whole.

Orange County entered the Great Recession a bit earlier than most counties and states due to a concentration of mortgage lender employers and construction and real estate development firms. In December of 2006, Orange County had an unemployment rate of 3.1 percent, peaking in January 2010 at 10.0 percent before falling to 9.2 percent in June 2011. Yet, the county has been able to survive the recession in much better shape than surrounding counties and the state overall because of its diverse economy, competitive business environment, skilled workforce, and job growth in new and innovative emerging industries.

### Competing Successfully by Keeping Up with Shifting Trends

Fallout from the Great Recession is widespread, ongoing, and still a moving target. Even so, it is critical to attempt to make sense of the forces impacting Orange County’s economy. One thing is for sure: as a result of the Great Recession, many economic and societal trends have shifted permanently. The impacts of the recession may have been much deeper than previously understood, and the recovery much more tenuous than anticipated. The fundamental nature of labor markets, and work itself, seems to have changed permanently. A large majority of traditional jobs lost in traditional industries during the recession are likely gone for good. Because of economic uncertainty, both consumers and the general business community continue to be apprehensive about spending and investing.

Not all of the new trends are negative. Businesses and industries that reacted to the downturn by being nimble, innovative, and striving to become “lean and mean” not only survived the downturn, but have begun to thrive. Those parts of the economy that have demonstrated a laser-like focus on productivity and execution of business operation efficiencies have prospered. Many firms have flourished by addressing new, international markets, driving a surge in international trade. Even as some traditional industries continue to struggle, new, emerging industries have grown up.

Orange County is no exception to these shifting trends. Many jobs lost in the county will not be returning, yet emerging industries such as high-tech and those associated with international trade are providing much-needed economic growth and job creation. To remain on a pathway of recovery, and expedited continued job creation, it is more important than ever that Orange County be diligent in keeping up with, and even ahead of, constantly shifting economic trends, as well as capitalizing on its unique innovative culture. While the state as a whole struggles to recover, Orange County remains an attractive place for businesses due to its innovative spirit, high quality of life, skilled workforce, and attractive geographic location.

### Innovation Leads to Job Creation and Wage Growth

While the Great Recession put forth substantial challenges for Orange County to overcome, it has also created a variety of new opportunities and pathways for increasing economic activity and employment. This report identifies the most significant opportunities for economic growth and expansion, while highlighting the challenges Orange County currently faces which will require creative solutions. Understanding the dynamics of the economic changes brought on by the recession and taking measures to exploit related benefits and minimize detrimental effects, will be crucial in ensuring Orange County’s future economic viability.

Orange County has never lacked the building blocks for innovation:

- Home to a large number of high-tech industries
- Populated by global corporations
- Leadership in new industries such as advanced transportation, alternative fuels, medical devices, and computer gaming
- A creative and problem-solving workforce exemplified by Disney’s Imagineers
- Large concentrations of research and higher education institutes, business incubators, and venture capital investments

These attributes have provided Orange County with the necessary tools to successfully adapt to shifting demographic and economic landscapes. Yet, as demographics and industries within the county evolve it is crucial that Orange County not lose its innovation and competitive edge. Continuing to develop economically innovative mechanisms to adapt to shifting trends will rest on elected officials, the business community, policymakers, and decision-makers within the County. Ensuring a collective understanding of economic projections and employment trends will effectively determine how successfully Orange County will continue to recover. Comprehension of evolving markets and understanding of demographical changes, and the subsequent change of the workforce composition, will allow for a proper assessment of the needed levels of educational attainment, focused workforce development training and programs, and areas of opportunity for local and regional economic development.

In order to help understand and appreciate the economic and workforce foundations on which Orange County currently stands, the 2011-2012 Orange County Workforce Indicators report provides an overview of the expected trends which will shape the future of the County. The Orange County Business Council and Orange County Workforce Investment Board are pleased to once again work together to promote Orange County’s key competitive advantages while at the same time engaging, supporting, and linking groups of workforce, education, and business community leaders to promote Orange County’s strengths and overcome its weaknesses.

“While the state as a whole struggles to recover, Orange County remains an attractive place for businesses due to its innovative spirit, high quality of life, skilled workforce, and attractive geographic location.”

# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012



**Job Creation in a  
Jobless Recovery**

# Job Creation in a Jobless Recovery

To get back to pre-recession unemployment levels of under 5 percent, Orange County must create between 25,000 and 40,000 jobs annually over the next five years, 61 percent of which will require postsecondary education.

## Why is This an Issue?

Over the past 20 years, jobless recoveries have occurred due to improved efficiency in globally competitive companies. In addition, layoffs are more likely to be permanent, new jobs are created in different industries than where the jobs were lost, and Americans are less willing or able to move for a job due to an aging population and high home ownership rates.

Nationally by 2020, there will be up to 1.5 million too few college graduates to meet demand—and 5.9 million more Americans without high school diplomas than employers can use. According to a recent McKinsey Global Institute (MGI) report, 40 percent of executives whose companies plan to hire next year reported they've had unfilled openings for six months or longer because they cannot find qualified applicants.

With digital communications and advanced information systems, jobs are being disaggregated into separate tasks. In other words, the workplace is becoming increasingly virtual. Part-time, temporary, telecommuting, and contract workers are going to replace many full-time employees within the next decade.

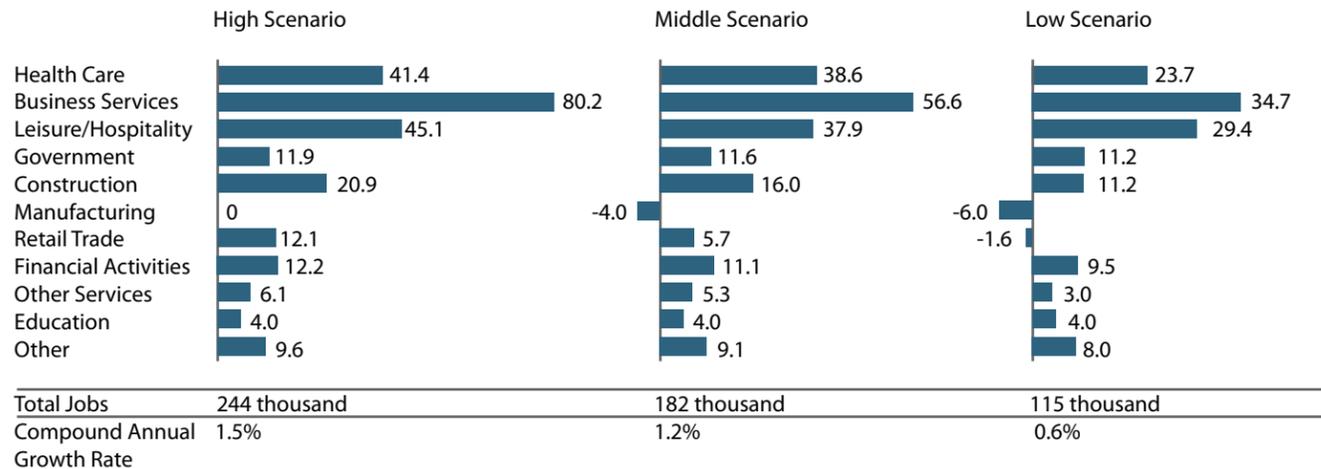
## How Do We Know This Issue Exists in Orange County?

Six economic sectors will account for as many as 85 percent of all new jobs in Orange County the next decade: health care, business services, leisure and hospitality, construction, manufacturing, and retailing. Health care and business services are pivotal; however, a highly educated workforce is a must. According to MGI, only in the most optimistic growth scenario does employment grow significantly for Americans with less than a college degree.

## Scenarios for Job Growth by Sector: Orange County

Net Job Creation, 2010-2020

In Thousands



Source: U.S. Bureau of Labor Statistics; McKinsey Global Institute; OCBC Analysis

The Orange County labor force continues to grow, but there will be increasing problems in matching the labor force with employers' needs. For example, this decade the U.S. will produce twice as many graduates in social sciences and business as in science, technology, engineering, and mathematics (STEM). In the MGI survey, 64 percent of companies reported having positions for which they could not find qualified applicants.

## Background

From 1945 to the 1980s, it took roughly six months after GDP rebounded for employment to recover. But after the 1990-91 and 2001 recessions, it took 15 and 39 months, respectively. At the recent rate of net job creation, more than 60 months will be needed to replace the jobs lost in the 2008-09 recession.

Total employment from 2000 to 2007 increased by only 9.2 million – less than half the rate of increase of preceding decades. What's more, a worker who returns to work after long-term unemployment will earn 20 percent less over the next 15 to 20 years than a worker who was continuously employed.

Source: McKinsey Global Institute; US Bureau of Labor Statistics, Georgetown University Center on Education and the Workforce

“40% of executives whose companies plan to hire next year reported they've had unfilled openings for six months or longer because they cannot find qualified applicants.”



Hoag Memorial Hospital Presbyterian, Newport Beach

# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012



## Orange County Demographic Trends

# Orange County Demographic Trends

Orange County's population is aging and becoming more ethnically diverse. The ability and skill of municipal and regional leaders and decision-makers to plan for the county's shifting population trends will be essential for the long-term economic sustainability of Orange County and its thirty-four cities.

## Why is This an Issue?

Workforce training and education programs must be implemented to support a population that is growing older and becoming more diverse. Older populations require a broad range of healthcare services, housing options and financial support to sustain a satisfactory quality of life. A diverse community and workforce may need English language proficiency programs and initiatives to increase educational attainment across all levels (K-12, community college, university) in order to build a well-educated, high-wage workforce.

## Orange County 2010 Demographics Snapshot

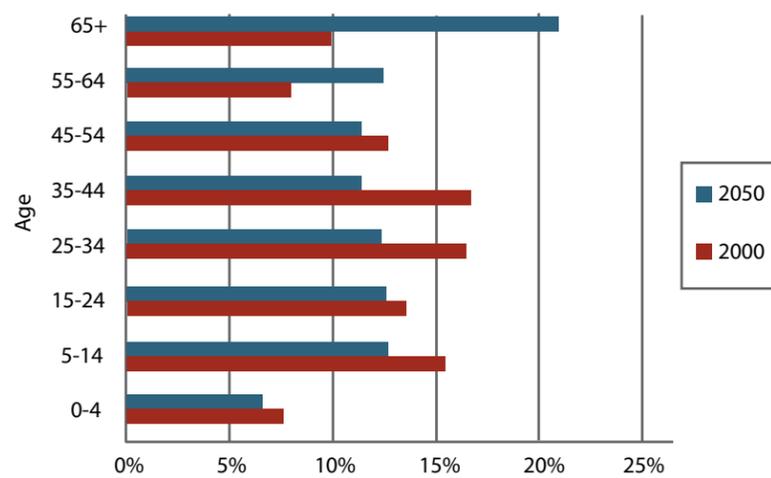
Age	Number	Percent
< 5	191,691	6.4%
5-9	198,769	6.6%
10-14	210,195	7%
15-19	227,689	7.6%
20-24	213,601	7.1%
25-34	413,528	13.8%
35-44	439,043	14.6%
45-54	444,185	14.8%
55-64	321,854	10.7%
65-74	187,454	6.3%
75-84	112,703	3.7%
85+	49,520	1.6%
Total	3,010,232	100%

Race	Number	Percent
White	1,328,488	44.1%
Hispanic or Latino	1,012,973	33.7%
African American	44,000	1.5%
American Indian	6,216	0.2%
Asian	532,477	17.7%
Native Hawaiian	8,357	0.3%
Other	5,593	0.2%
Two or more races	72,117	2.4%

## How Do We Know This Issue Exists in Orange County?

As of 2010, Orange County had a population of 3,010,232 (U.S. Census Bureau, 2010 Census) with a median age of 36.2 years old. Around 27.6 percent of the population is under the age of 19 years old, 61 percent is aged between 20-64, and the population 65 years of age and older represents 11.6 percent of the total. The age composition of Orange County's residents is very similar to California and the nation. Orange County has a slightly larger proportion of residents aged 25-64 and a smaller proportion of residents aged nine and under. Orange County's recent population growth is mainly due to natural increase. However, in a trend that has been termed the "Senior Tsunami," in the next several decades Orange County's 55+ age cohorts are expected to rapidly grow, while younger age groups will decline as a proportion of Orange County's population.

## Projected Components of Population by Age in Orange County, 2000-2050

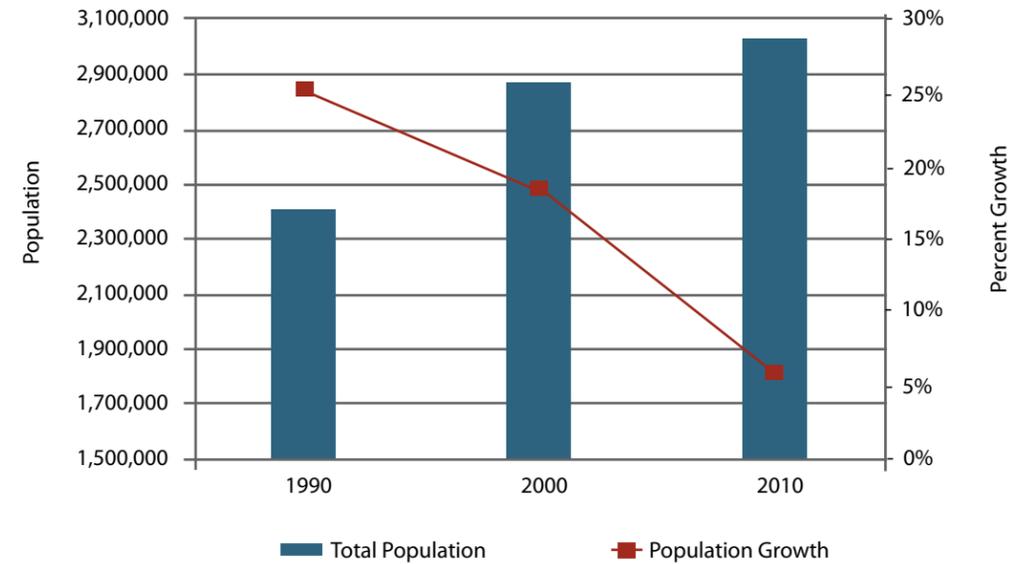


Source: State of California, Department of Finance

## Population Growth

From 1990 to 2010, Orange County added around 600,000 residents to its population, with the majority of that growth happening between 1990 and 2000. From the 17 percent growth rate of the 90s, population growth from 2000 to 2010 slowed to just above 5 percent for the decade. While Orange County's population growth rate from 1950-2000 exceeded state and national growth rates, Orange County's population grew at a slower rate than the state and nation from 2000 to 2010.

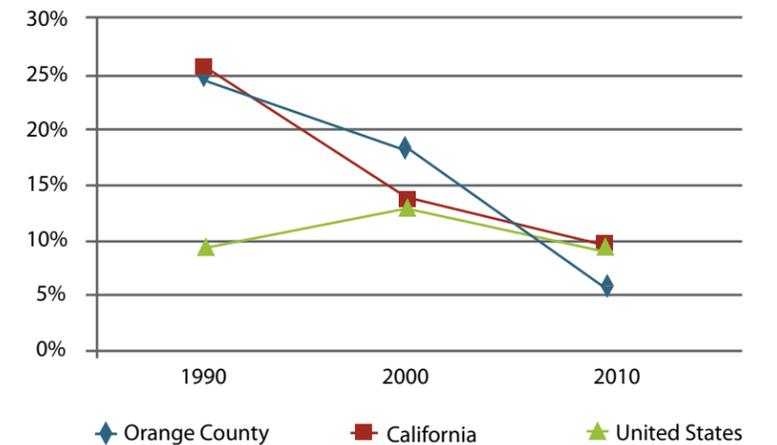
## Orange County Population Growth Trends, 1990-2010



Source: U.S. Census Bureau, 2010 Census

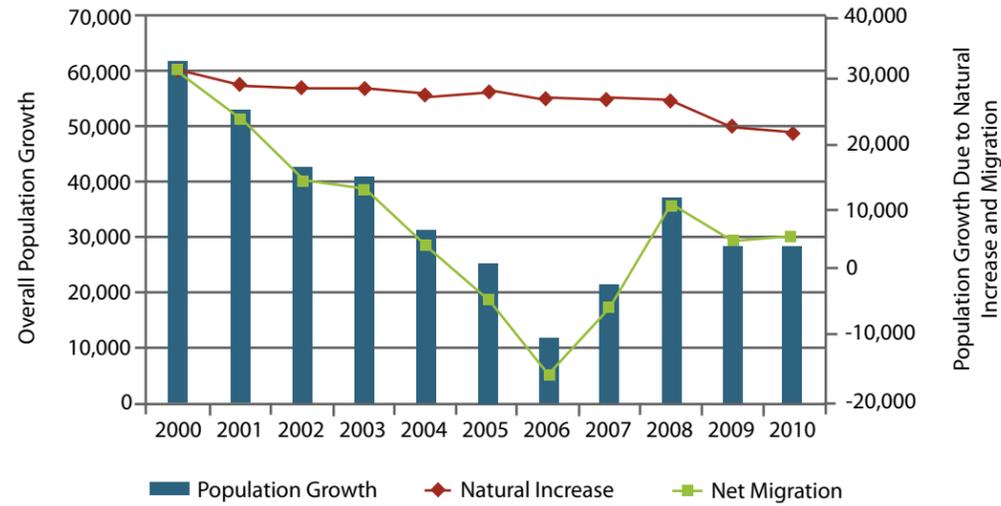
While migration from other states and other California counties into Orange County was responsible for explosive growth from 1950 to 1980, this trend has been decreasing steadily and natural increase has become the main source of population growth. The California Department of Finance estimates that net migration (the total of domestic migration and foreign immigration) from 2000 to 2010 accounted for 59,628 of Orange County's population growth for Orange County, primarily the result of foreign immigration. A trend which was seen in the 1990s re-emerged in the 2000s, with net domestic migration turning negative. From 2000 to 2010, negative net domestic migration amounted to 99,815. In other words, in a decade's time almost 100,000 more residents left Orange County to move to other parts of the nation than have moved into the County from other domestic regions. If not for foreign immigration into the County, which accounted for 159,443 in population growth during the same time period, Orange County's net migration totals would have shown a loss in population. This compares with natural increase population growth of 276,254 over the last decade, or about 27,625 new children born to Orange County families annually.

## Orange County, California and United States Population Growth Comparison



Source: U.S. Census Bureau, 2010 Census

### Orange County Population Growth, 2000-2010



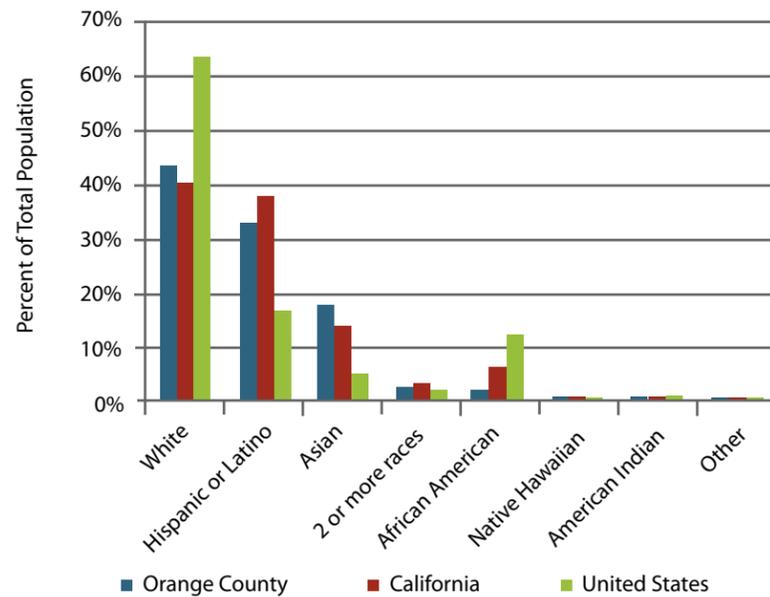
Source: California Department of Finance, Demographic Research Unit

The three largest cities in the county are Anaheim, Santa Ana, and Irvine. In 2010 their populations stood at 336,265; 324,528; and 212,375 respectively. From 1990 to 2010, the cities which experienced the highest population growth were Aliso Viejo (450.8 percent), Rancho Santa Margarita (229.1 percent), and Irvine (84.1 percent).

### Ethnic Composition

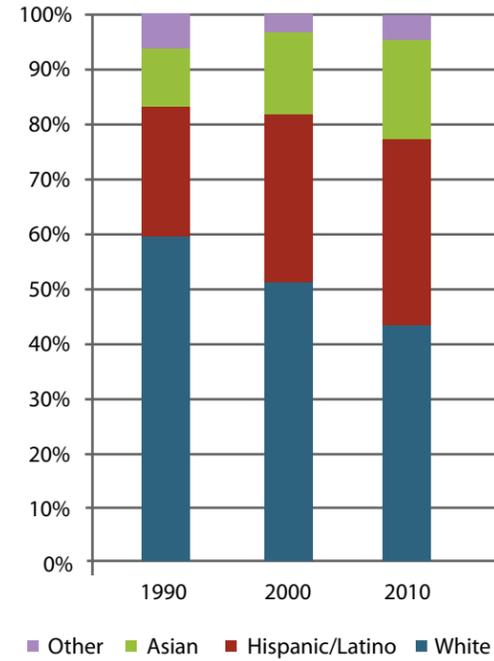
Projections indicate that the trends of a diversifying population will continue in Orange County. By 2020, Latinos are projected to replace Whites as the majority in Orange County. The growth rate of Orange County's Asian population, while smaller in total numbers, outpaces Latino growth rates. From 1990-2010, the Asian or Pacific Islander population in Orange County increased by 115.8 percent, while Latinos increased by 79.3 percent. Since 2005, Latinos have accounted for over 50 percent of total births in Orange County, with Asians growing to over 25 percent of total Orange County births.

### Orange County, California and United States Ethnic Composition in 2010



Source: U.S. Census Bureau, 2010 Census

### Orange County Ethnic Composition, 1990-2010



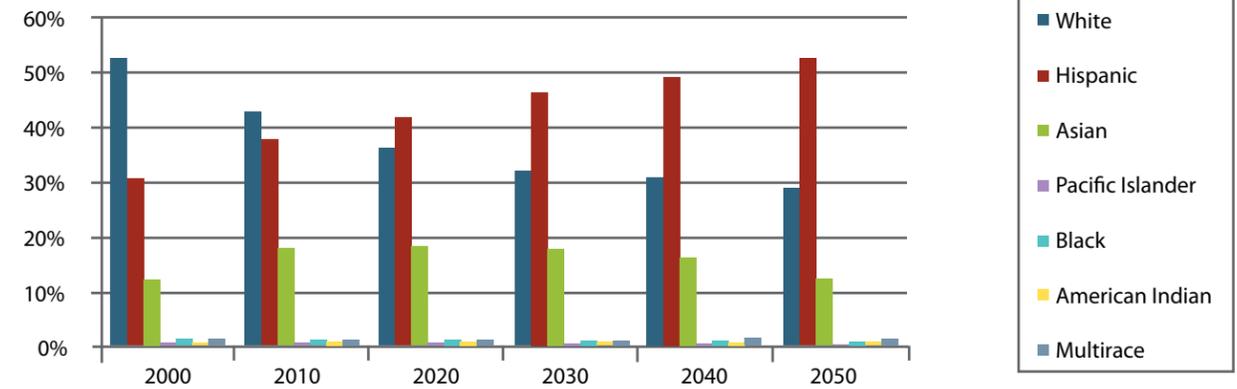
Source: U.S. Census Bureau, 2010 Census



By 2020, Latinos are projected to replace Whites as the majority in Orange County.

The growth rate of Orange County's Asian population, while smaller in total numbers, outpaces Latino growth rates."

### Projected Components of Population by Race - Ethnicity in Orange County, 2000-2050



Source: State of California, Department of Finance

During a difficult decade of early peaks and subsequent valleys for the housing market, Orange County's long-term trend of a constrained housing unit supply continues. Many residents struggle with high housing costs in today's economy.

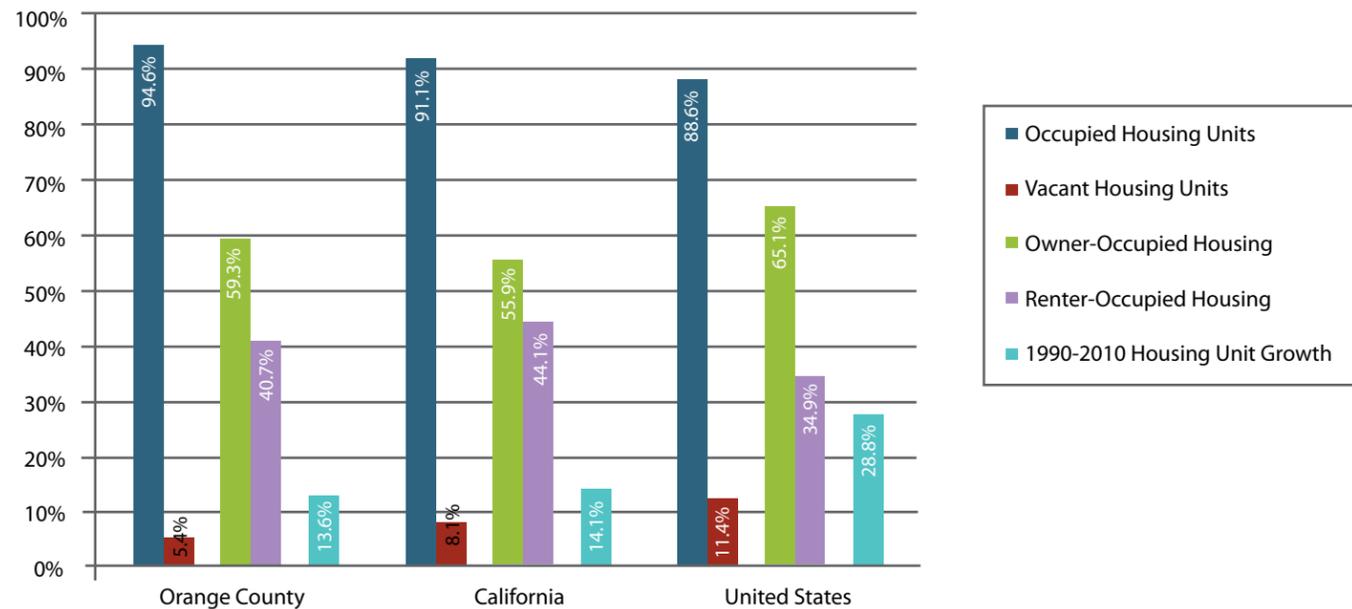
**Why is This an Issue?**

A region's housing supply needs to keep pace with long-term population and job growth. Even during the Great Recession, Orange County was a net importer of workers from all surrounding Southern California counties.

**How Do We Know This Issue Exists in Orange County?**

In 2010, Orange County had a total of 1,048,907 housing units, 94.6 percent of which were occupied leaving 5.4 percent vacant. This compares to 91.9 percent occupied and 8.1 percent vacant for California and 88.6 percent occupied and 11.4 percent vacant for the nation as a whole. Of Orange County's total occupied housing units, 59.3 percent are owner-occupied and 40.7 percent are renter-occupied. The owner-occupied rate in Orange County is higher than the state (55.9 percent) but lower than the nation (65.1 percent). In Orange County, from 1990 to 2000 the rate of owner-occupied housing units grew before stagnating from 2000 to 2010. Renter-occupied housing dipped between 1990 and 2000, but grew approximately 3 percent from 2000 to 2010.

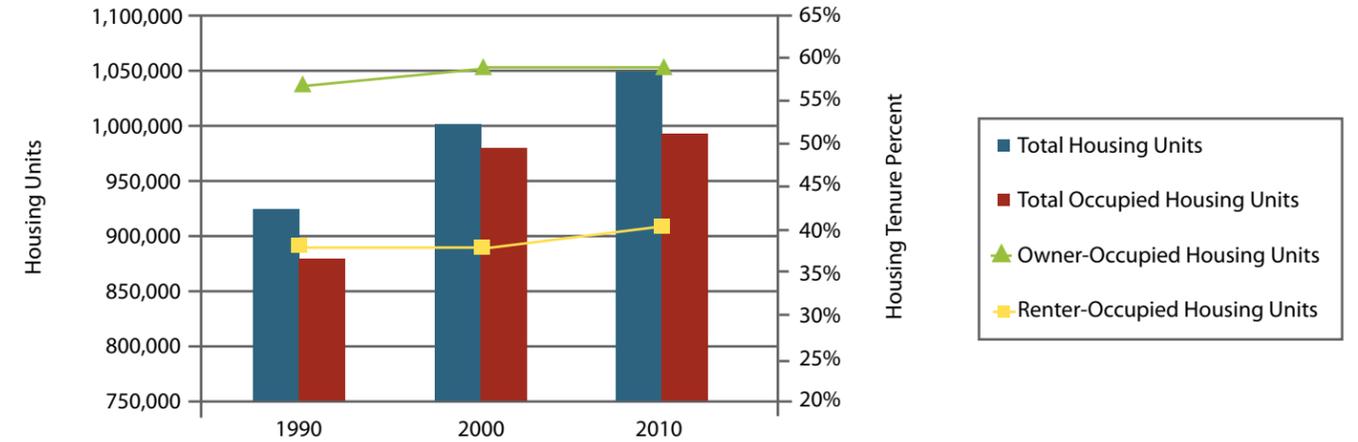
**Orange County, California and United States Housing Tenure Overview, 2010**



Source: U.S. Census Bureau, 2010 Census

Overall, the total number of housing units in the county grew by 13.6 percent from 1990 to 2010, comparable to state growth of 14.1 percent but far below national growth of 28.8 percent. The three cities which experienced the largest population growth also subsequently experienced the highest housing growth. Housing units in Aliso Viejo increased by 320 percent between 1990 and 2010, followed by Rancho Santa Margarita growing by 173.4 percent and Irvine by 87 percent. Future housing growth in the county is projected to be centered near transportation resources in cities such as Anaheim, Irvine, and Santa Ana, cities which will also experience population and employment growth. These projected growth trends suggest that housing options will need to change to reflect higher densities, meaning that construction of multi-unit housing options such as apartments or condos in these high growth clusters will need to increase in order to accommodate growing populations. *Please see the Workforce Housing section of the report for more information on housing.*

**Orange County Housing Growth and Tenure, 1990-2010**



Source: U.S. Census Bureau, 2010 Census

“Future housing growth in the county is projected to be centered near transportation resources in cities such as Anaheim, Irvine, and Santa Ana, cities which will also experience population and employment growth.”



The Shops at Anaheim GardenWalk

As the Orange County economy recovers from the Great Recession, economic development and workforce programs should target opportunities to grow good paying jobs, increasing wage levels and expediting employment growth. At a time of slow job growth and income stagnation at the state and national levels, continued focus on the Orange County Comprehensive Economic Development Strategy and a skilled workforce is essential to maintain Orange County's positive income trends.

**Why is This an Issue?**

Keeping Orange County's median household income growing is crucial to maintaining and growing a vibrant and prosperous economy. While the state projects that low-wage occupations will be the primary drivers of Orange County employment growth in the next 10 years, Orange County's high-tech, biotech, and emerging clusters show promise in creating significant employment growth of high-wage occupations.

**How Do We Know This Issue Exists in Orange County?**

Sustained income and wage growth has allowed Orange County to become the economic engine for Southern California while maintaining an unparalleled quality of life. Positive income trends are a by-product of the county's business climate, concentration of large, successful employers, high-growth, innovative companies, and well educated workforce.

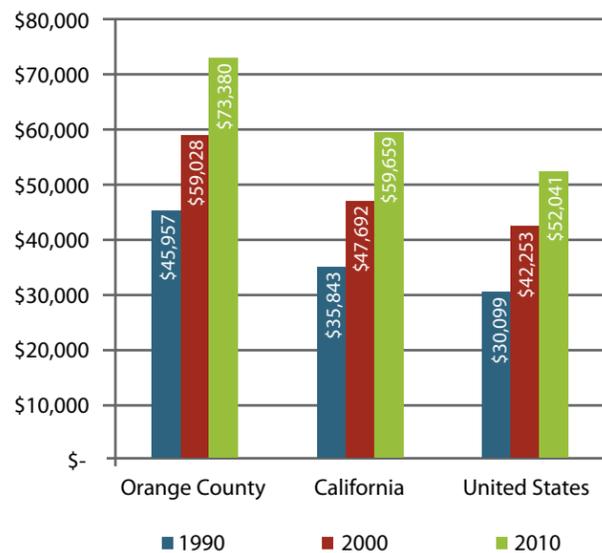
Orange County's 2010 median household income was \$73,380, 22.9 percent higher than the state (\$59,659) and 41 percent higher than national median household incomes of \$52,041, a trend going back several decades. Overall between 1990 and 2010, Orange County median household incomes were 24.9 percent larger than state averages and 44.5 percent larger than national averages.

The past two decades have brought significant changes to Orange County's profile of income categories. In 1990, approximately 30 percent of Orange County residents had incomes of under \$30,000, 25 percent making between \$30,000 and \$49,000, 23 percent making between \$50,000 and \$74,999. Higher income categories – those making \$75,000 to \$124,999 and over \$125,000 – were about 17 percent and 6 percent respectively.

By 2000, the proportion of Orange County workers making under \$75,000 shrank to 63 percent, while the two largest income categories grew to 37 percent. The largest growth occurred in the income group making \$125,000 and over, which grew to 9 percent. The largest decrease occurred in the under \$30,000 income category, which shrank by 7 percent.

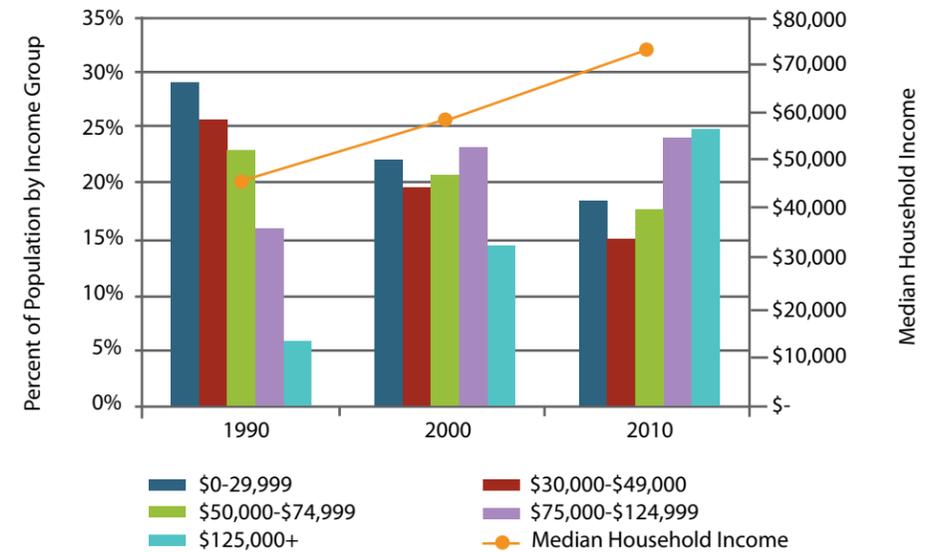
These trends continued in the last decade, with the proportion of lower income groups in Orange County shrinking further and the top two income categories continuing to grow. Overall, in 2010 the two highest income groups represented nearly 50 percent of Orange County households, a testament to the beneficial impact of an economic and business environment focused on creating high-wage occupations.

**Orange County, California and United States Median Household Income Comparison, 1990-2010**



Source: U.S. Census Bureau, Bureau of Economic Analysis

**Evolution of Orange County Income Groups, 1990-2010**



Source: U.S. Census Bureau, Bureau of Economic Analysis

# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012



**Lasting Impacts of  
the Great Recession**

# Lasting Impacts of the Great Recession

While Orange County's recovery continues to take hold, replacing permanently lost jobs and creating new job opportunities will require innovative job creation strategies and new thinking about education and workforce initiatives. Education, workforce, and economic development strategies must all be put under the microscope to identify the most efficient pathways of expanding economic growth and job creation.

## Why is This an Issue?

Economic recovery was initially estimated to be fairly quick by many economists, similar to recoveries experienced in past recessions. However, most economists truly underestimated the deep and lasting effects the Great Recession had on the employment and housing markets. Spending habits of businesses and consumers have been slow to improve. Many societal and business trends such as traditional hiring and staffing patterns have permanently shifted. There is a growing realization that a significant portion of the jobs that were lost will not be returning. One result is that traditional pathways of economic and employment growth will not be as effective. New thinking is required to understand and prepare for the future.

Lack of sufficient available job opportunities also suggests a rather subdued economic growth outlook, both domestically and internationally. In order to remain competitive in this challenging environment, companies must remain "lean and mean" profiles created in response to the Great Recession, with the focus on operational efficiency and cost-savings rather than overall expansion and growth of business prospects.

Further, while some older workers have been forced into early retirement, many more have chosen to work longer than expected due to declines in their financial situation. One direct result is far fewer than anticipated job openings for the younger workforce cohort, raising labor market competition in an already stressed job market.

## How Do We Know This Issue Exists in Orange County?

### Job Loss and Unemployment

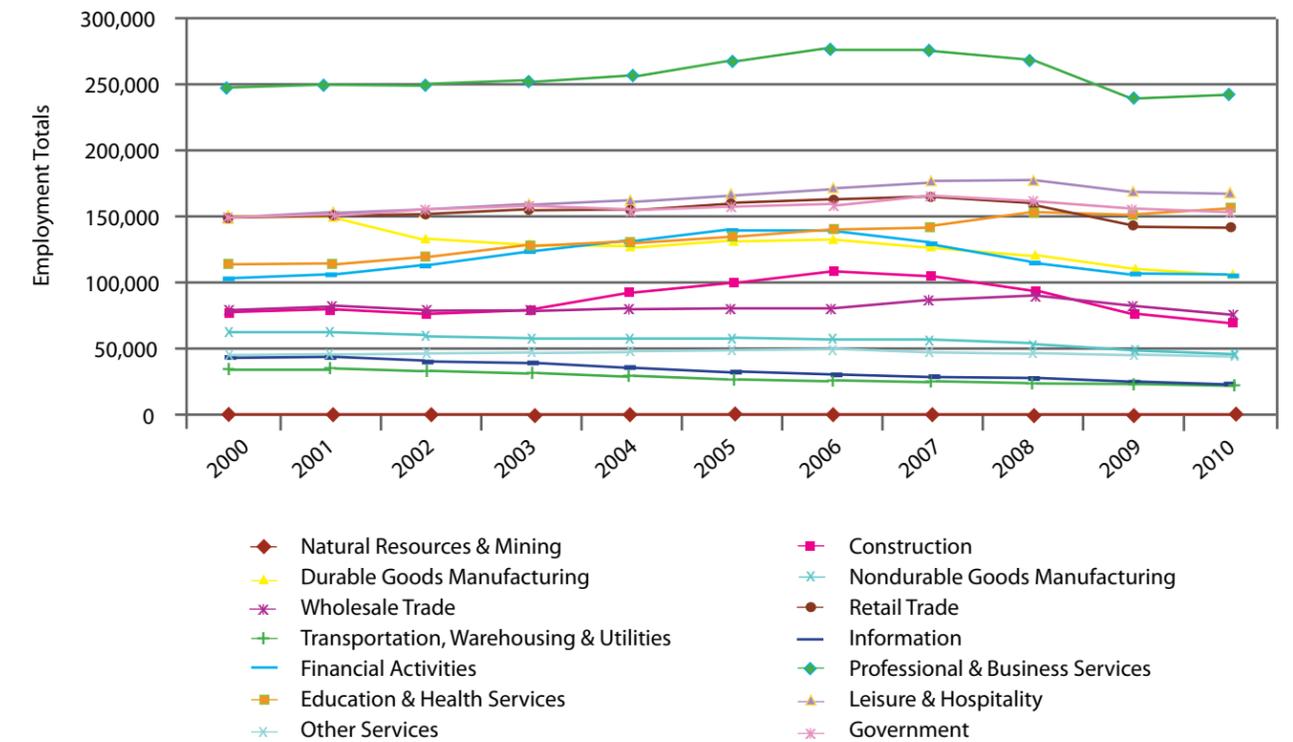
From peak to bottom, Orange County lost around 162,000 jobs or 10.7 percent of its payroll employment from 2007 to 2010. The Construction industry alone experienced the largest percentage decline shrinking by 28.6 percent, losing a total of 29,467 jobs. Other industries experiencing significant employment were Business and Professional Services losing 34,314 jobs; Trade, Transportation, and Utilities shedding 27,050 jobs; Manufacturing down 25,867 jobs; and Financial Activities losing 22,025 jobs.

Many expected 2011 to be a year of continuing recovery for the overall job market. Orange County unemployment rates fluctuated between 8.5 percent and 9.2 percent in the first six months of 2011, with the June 2011 report at the upper end of the range at 9.2 percent. During the month of June 2011, the county was able to net an increase of 2,900 jobs, yet unemployment rose due to an increased labor force of recent graduates and more of the unemployed actively looking for work. Thus, while Orange County continues to generate good job growth, an increasing labor force lacks enough job opportunities to bring down the unemployment rate significantly. Chapman University estimates Orange County employment to grow by 1.5 percent in 2011 and 2.2 percent in 2012. If these rates are not accelerated, Orange County may not see peak employments level for several years.

A month-to-month trends analysis from January 2007 to July 2011 shows the recessionary drops in industry employment and the subsequent lag in employment recovery. While most industries show significant employment declines during the recession and subdued growth coming out of the downturn, two industries performed comparatively well during both periods -- Health Services and Tourism (Leisure and Hospitality).

Statewide, a different, worse picture of a struggling economy takes shape. Compared to prior recessions that hit California especially hard, California's recovery so far is extremely slow. In 1990-1991 recession that saw severe defense downsizing and aerospace cutbacks, California lost 517,000 payroll jobs and unemployment rates hit 9.9 percent, yet recovery to peak levels came within 21 months. In the 2001 recession caused by the bursting of the dotcom bubble, California lost 365,000 jobs yet took 28 months to recovery from the losses. The recent 2007-2009 recession cost the state 1,366,000 jobs over 38 months and currently there is a high level of uncertainty as to the extent and timing of employment recovery.

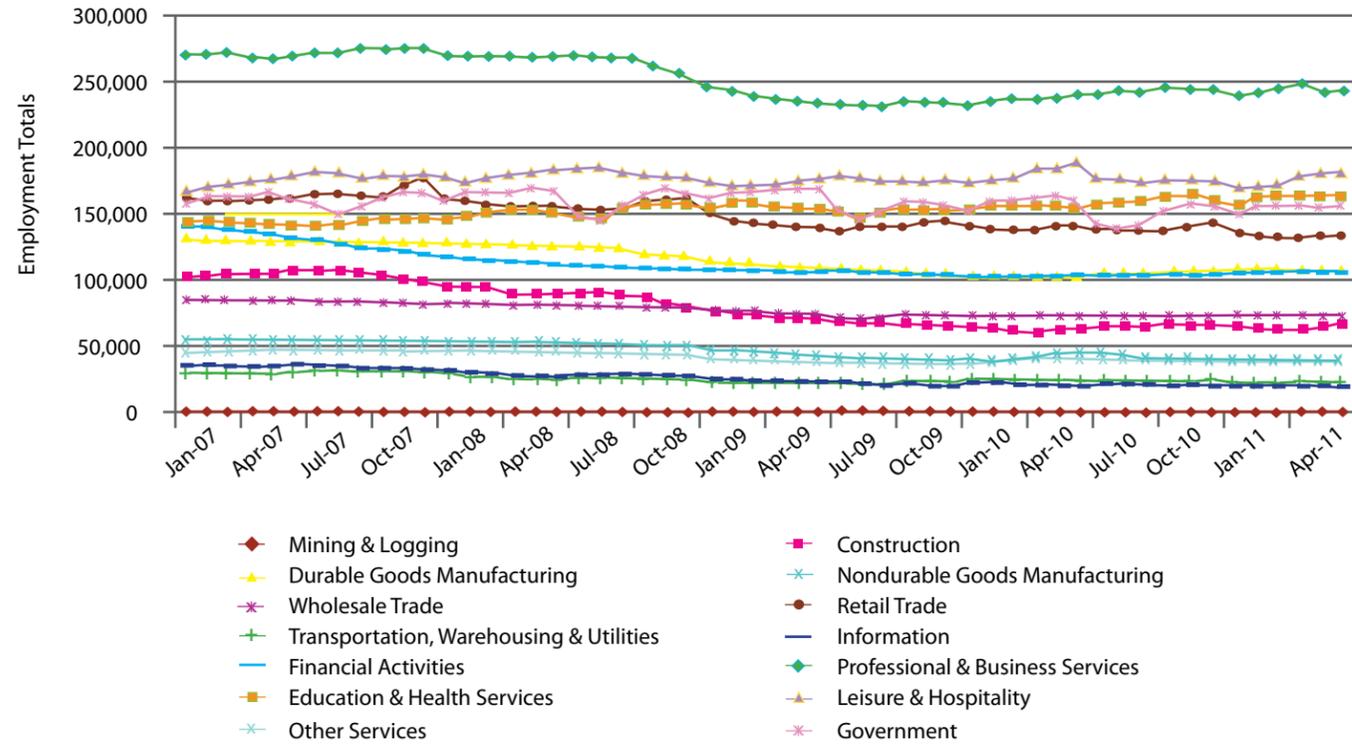
Orange County Industry Trends, 2000-2010



Source: California Employment Development Department

“While Orange County continues to generate good job growth, an increasing labor force lacks enough job opportunities to bring down the unemployment rate significantly.”

### Orange County Industry Trends by Month, 2007-2011



Source: California Employment Development Department

### Projected Lack of New Job Openings

California Employment Development Department (EDD) estimates of new and replacement jobs through 2018 underscore the severity of the issue of Baby Boomers currently constraining the jobs which would traditionally fall to those just entering the workforce. New jobs are classified as openings due only to new additional job growth. Replacement jobs are defined as the number of job openings created when workers retire or permanently leave an occupation and need to be replaced. Yet, actual future replacements jobs may not be as available as predicted because of this trend of older generations pushing retirement back and continuing to work.

Replacement jobs are largely concentrated in lower-wage entry-levels jobs associated with Office and Administrative Support occupations, Sales and Related occupations, and Food Preparation and Serving Related occupations that have median annual wages of \$34,908, \$29,596, and \$19,593, respectively. A possible explanation for this trend of Baby Boomers occupying traditionally younger workforce "Starter Jobs" and using them as "Survival Jobs" is that these jobs typically do not require extremely high levels of education but are rather built around experience. Baby Boomers, having been in the workforce quite a bit longer than younger generations, are likely more qualified for these positions, if not overqualified, yet cannot afford to start the long process of finding other high-wage jobs because of increased competition and lack of availability.

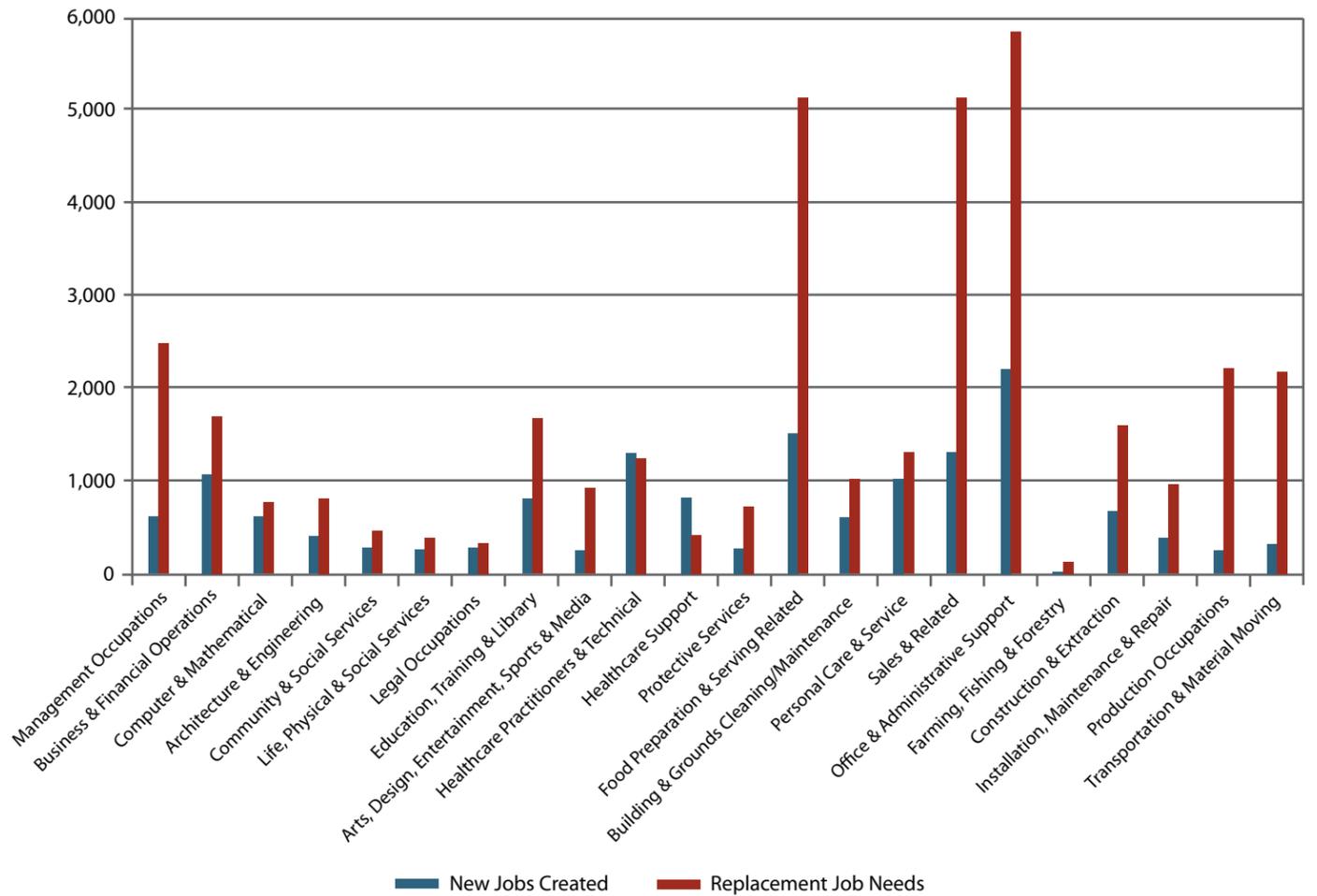
As a result, young graduates may be stuck and not able to enter the workforce in meaningful ways or at the time they desire. Some continue advancement of their educations. While this strategy provides these individuals with higher levels of educational attainment, meaning potentially higher salaries once in the workforce and eventual career advancement over the long-term, a still uncertain time period for sustainable economic recovery and underlying changes in hiring trends and staffing patterns complicate the picture. Even with the potential for higher eventual salaries, many students must take out large student loans meaning debt for years after graduation. Prolonged uncertainty about current and future job market trends will continue to hamper the employment and career prospects of this generation.

### Background

Baby Boomers are the largest generation in American history and Orange County has them to thank for its explosive economic and employment growth from 1960-2000. The 2007-2009 collapse of economic and housing markets resulted in Baby Boomers losing substantial amounts of retirement savings, therefore prolonging their need to remain in the workforce. A significant number of the projected job openings across all industry and occupational categories have simply not occurred due to delayed retirements by incumbent workers. More and more, young graduates enter the labor force to find there are few jobs available in their desired industries. This is not only because of the Great Recession, but also because the Baby Boomers, who are well-educated and have high levels of experience, continue to work, stalling natural career progression for younger generations.

Also, as Orange County becomes more ethnically diversified and the education systems become increasingly constrained by financial problems, educational attainment has suffered, lowering the county's ability to provide a talented workforce pool for its local businesses. This, coupled with the increasing tuition rates of universities and colleges across the state which decrease the number of students able to further their educations, means that even when Orange County is able to increase the number of available jobs, it may not be able to provide them with a local pool of qualified workers.

### New Jobs Created and Forecasted Replacement Jobs for Orange County, 2008-2018



Source: California Employment Development Department

## Orange County 2010 1st Quarter Wages by Industry

Occupation Title	Median Annual Wage, Q1 2010
Management Occupations	\$106,823
Business and Financial Operations Occupations	\$63,820
Computer and Mathematical Occupations	\$77,355
Architecture and Engineering Occupations	\$79,619
Life, Physical, and Social Science Occupations	\$64,341
Community and Social Services Occupations	\$49,980
Legal Occupations	\$90,340
Education, Training, and Library Occupations	\$55,654
Arts, Design, Entertainment, Sports, and Media Occupations	\$46,244
Healthcare Practitioners and Technical Occupations	\$69,910
Healthcare Support Occupations	\$28,416
Protective Service Occupations	\$34,170
Food Preparation and Serving Related Occupations	\$19,593
Building and Grounds Cleaning and Maintenance Occupations	\$22,899
Personal Care and Service Occupations	\$21,654
Sales and Related Occupations	\$29,596
Office and Administrative Support Occupations	\$34,908
Farming, Fishing, and Forestry Occupations	\$19,549
Construction and Extraction Occupations	\$45,837
Installation, Maintenance, and Repair Occupations	\$45,130
Production Occupations	\$27,935
Transportation and Material Moving Occupations	\$26,501

Source: California Employment Development Department

### Business Sentiment

Cal State Fullerton's Q3 2011 Orange County Business Expectations Survey, asked Orange County executives and business leaders about the most significant factors impacting their companies:

- 64.4 percent cited the overall economy as the biggest factor impacting their company
- 18.8 percent named government regulations
- 9.9 percent mentioned credit availability

When asked about their overall view on the current slowdown of the U.S. economy:

- 41.6 percent of executives believe this slow down is only for the short-term, lasting only one or two quarters
- 39.6 percent believe that this slow recovery will last a whole year
- 19.8 percent believe it is the beginning of a double-dip recession

“More and more, young graduates enter the labor force to find there are few jobs available in their desired industries. This is not only because of the Great Recession, but also because the Baby Boomers, who are well-educated and have high levels of experience, continue to work, stalling natural career progression for younger generations.”



University of California, Irvine

# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012



**A Closer Look:  
Cross Cutting Cluster Drivers and  
Emerging Industries**

# A Closer Look: Cross Cutting Cluster Drivers and Emerging Industries

Emerging industries, or the drivers of Industry Clusters, should be supported by programs and policies which will help accelerate their growth and proliferation throughout traditional industry clusters. International Trade, Information Technology, Creativity, and Cleantech are helping to drive employment growth and high-wage, high-multiplier occupations. The recession hampered potential growth of these industries, yet they have rebounded well and are expected to not only help grow traditional sectors but, in time, become major sources of employment and revenue for the county.

## Why is This an Issue?

Orange County is in the midst of transition to a knowledge-based, 21st century economy. Because of the Great Recession, many of the traditional high-wage jobs of the past have disappeared and will not be coming back. However, new opportunities are emerging creating high wage jobs as a result of social and economic changes in the last decade due to International Trade, Information Technology (IT), Cleantech, and the emergence of the importance of the Creative Economy have resulted in a blurring of traditional cluster boundaries.

These four drivers overlay and cross-cut our traditional clusters and give us a better understanding of our workforce needs. Education and workforce development professionals have started to understand the importance of these clusters in designing education and development policies to support them. This section explores these interrelationships and how each of these drivers overlaps and enhances existing cluster industries, creating both horizontal and vertical clusters. For example, while there are firms that are solely IT such as Computer Software and Game Developers such as Blizzard, there are IT functions and occupations within all other clusters. Creativity-oriented occupations are important components across clusters as well, such as architecture/interior design overlapping in both the Business and Professional Services, Construction, and Tourism clusters.

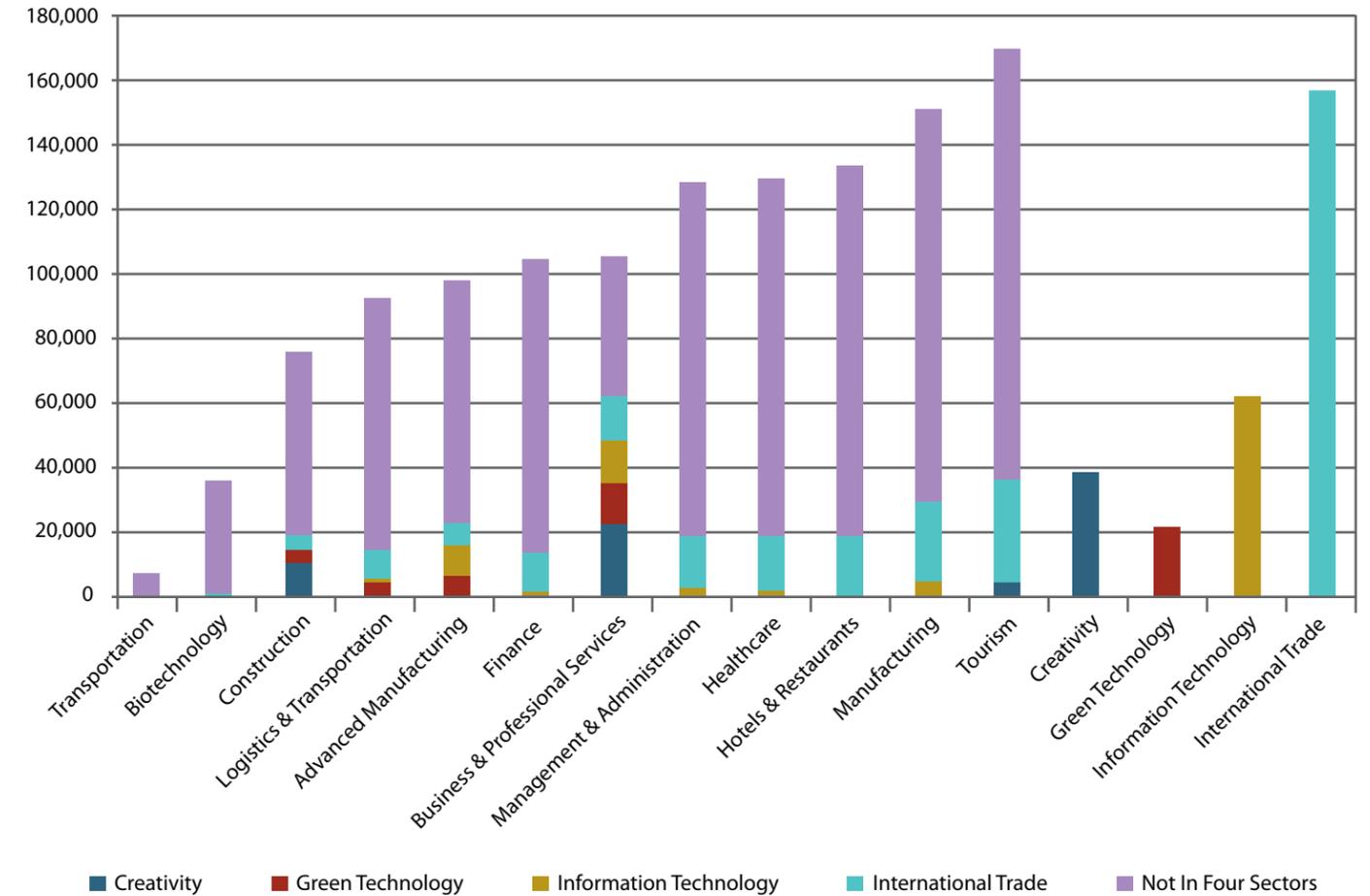
These four drivers are increasingly important in developing and maintaining competitive advantage in Orange County's clusters, positively generating value-creating jobs and initiating economic growth.

## How Do We Know This Issue Exists in Orange County?

International Trade, Information Technology, Creativity, and Cleantech are helping to drive employment growth and high-wage, high-multiplier occupations. While the recession did hamper potential growth of these industries, they have rebounded well and are expected to not only help grow traditional sectors but, in time, become major sources of employment and revenue for the County. Collectively, estimated employment in 2010 of these emerging industries was approximately 275,000, as follows:

- International Trade: 153,733
- Information Technology: 62,500
- Creativity: 37,900
- Cleantech: 21,000

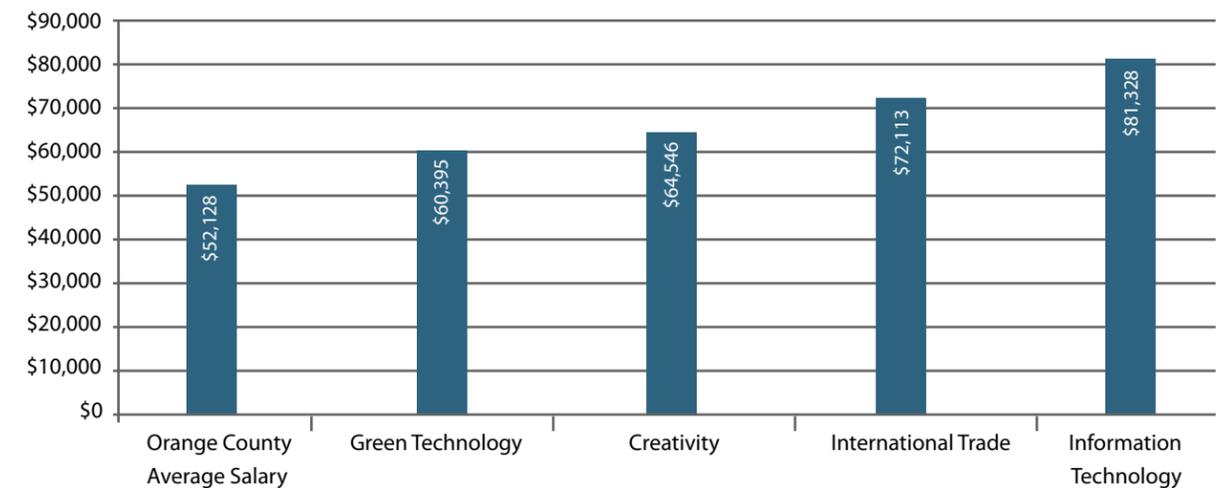
Orange County Cluster Drivers, 2010



Source: OCBC Analysis of California Employment Development Department data, OTIS Report, Next10 and Los Angeles Economic Development Corporation

In addition to growing employment opportunities, workers in Creativity, Cleantech, Information Technology, and International Trade earn above-average salaries.

Average Salaries in Orange County's Selected Industry Drivers, 2009



Source: OCBC Analysis of California Employment Development Department data, Otis Report, Next10 and Los Angeles Economic Development Corporation

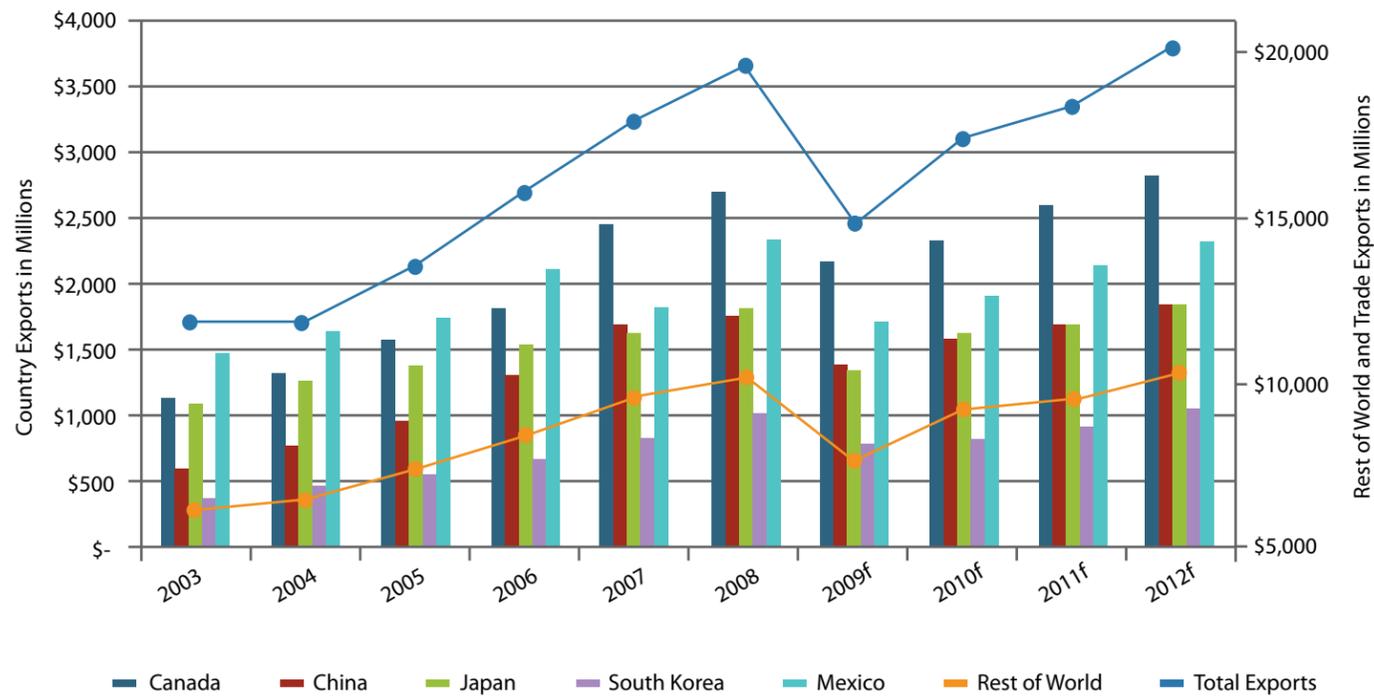
## International Trade

Orange County's geographic location provides it with very distinct advantages regarding international trade. Proximity to the Ports of Long Beach and Los Angeles, a well-connected freeway and road system for trucking, rail lines providing national trade linkages, proximity to Los Angeles International Airport, Santa Ana's John Wayne Airport, and a large and growing presence of an ethnically diverse population providing key contacts for international linkages. Combine these significant trade advantages with Orange County's large and competitive manufacturing base, namely in computer software, electronics, and transportation equipment; rapidly growing trade relationships with growing economies such as China, Japan, South Korea, Mexico, Canada, and others; and the current and future potential economic and employment opportunities emerge drive the County's very robust global trade industry.

Cal State Fullerton's Institute for Economic and Environmental Studies recently released its "2011 International Trade Economic Forecast: An Overview of Orange County and Southern California Exports," which estimates that international trade accounts for roughly 10 percent of Orange County's Gross Product and employs nearly 500,000 people in the Southern California region. From 2003 to 2007 the total volume of exports grew an average of 13 percent with export values reaching \$19.7 billion in 2008 – nearly doubling levels seen almost a decade ago. Yet, with the onset of the Great Recession, exports experienced drastic declines falling by 24.6 percent from \$19.7 billion to \$14.8 billion in 2009. Recovery from this decline is projected to occur within the next two to three years with exports levels increasing by 17.1 percent in 2010, followed by increases of 6.1 percent in 2011 and 9.2 percent in 2012.

Orange County mainly exports to five countries including Canada, China, Japan, South Korea, and Mexico and continuous export growth to these nations are projected as those country's economies are expanding. China's economy expanded by 9 percent in 2010, South Korea's by 5 percent, and Canada's by 3 percent.

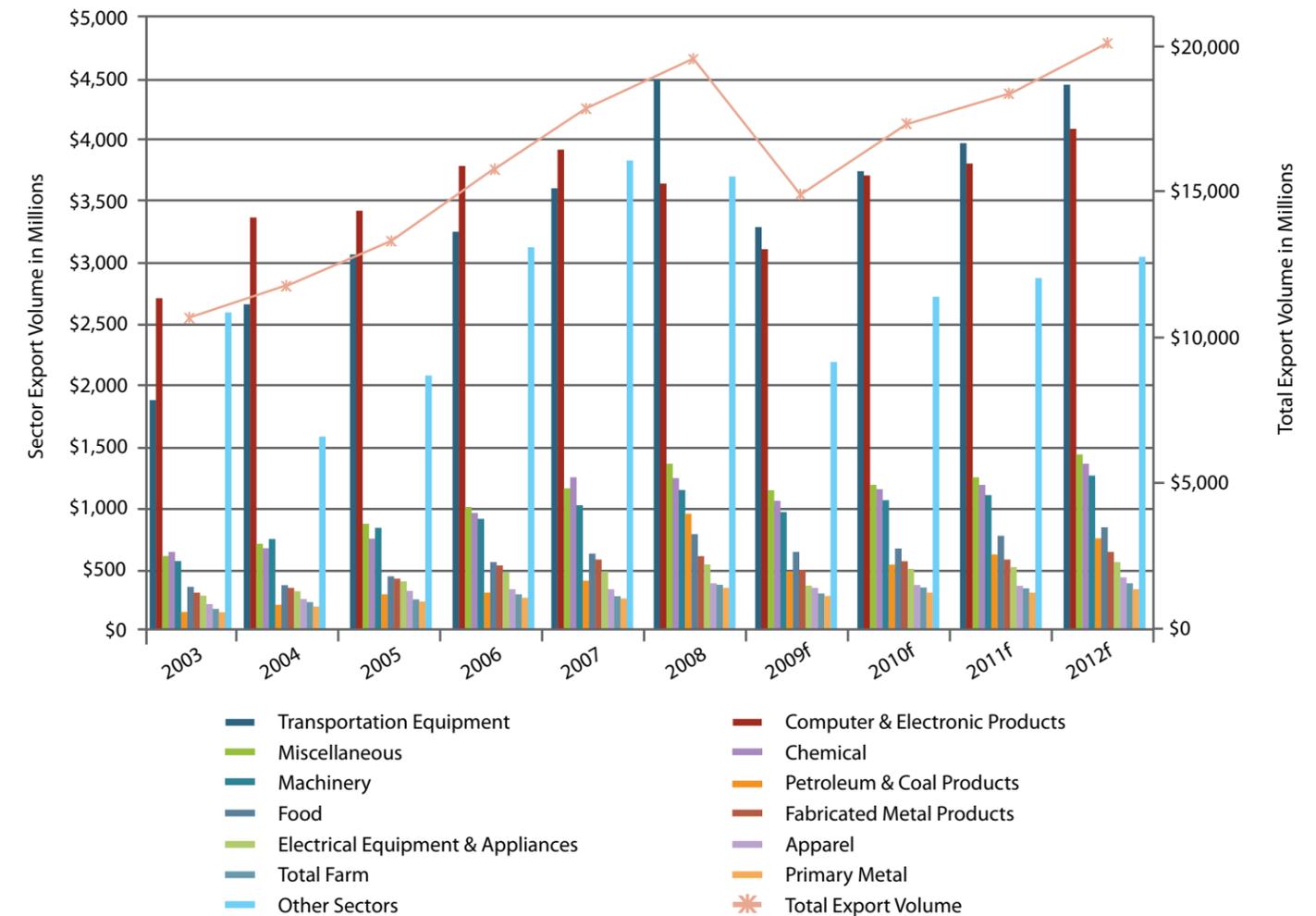
Orange County Exports by Country, 2003-2012 Forecast



Source: IEES, California State University, Fullerton

The two most dominant export sectors for the County were Transportation Equipment and Computer and Electronic Products. These sectors combined accounted for around 41.3 percent of total exports in 2008. Other large export trade sectors for Orange County include Miscellaneous, Chemical, Machinery, Petroleum and Coal Products, and Food. Exports of Transportation Equipment experienced the largest decline from 2008 to 2009 falling by over \$1 billion, and are not expected to attain pre-recession levels by 2012. Computer and Electronic Products, on the other hand, are slated for significant growth in the near future reaching former 2008 export levels by 2010 and growing further by 2012.

Orange County Exports by Sector, 2003-2012 Forecast



Source: IEES, California State University, Fullerton

“From 2003-2007 the total volume of exports grew an average of 13% with export values reaching \$19.7 billion in 2008 – nearly doubling levels seen almost a decade ago. Yet, with the onset of the Great Recession, exports experienced drastic declines falling by 24.6% to \$14.8 billion in 2009.”

### Information Technology

Orange County has long been a leader in computer and electronic software, service, and product manufacturing and a major portion of international exports are based on these products. Information Technology occupations, namely those that connect businesses and provide computer software products and services, have aided in driving employment of various industries in the County. Professional and Business Services industries rely greatly on information technology for day-to-day operations with features such as email, video conferencing, cloud technologies, and various computer software programs. These new technologies have allowed businesses to become even more connected to their customer base and promoted business to business connections allowing for increased collaborations and subsequently the expansion of this industry.

The overall average salary for the Information Technology industry is about \$81,000, almost \$30,000 more than the average industry salary in the County. In fact, according to the California Employment Development Department, the highest wage occupation in the Information Technology industry is that of Software Publishers who earn an average of \$144,404 annually. This type of industry, which is high-wage and is projected to have continued growth as technologies evolve and improve and are connected to the day-to-day operations of the majority of industries, will be the main driver of employment and economic activity in the County.

### Proliferation of Information Technology in Major Orange County Industries

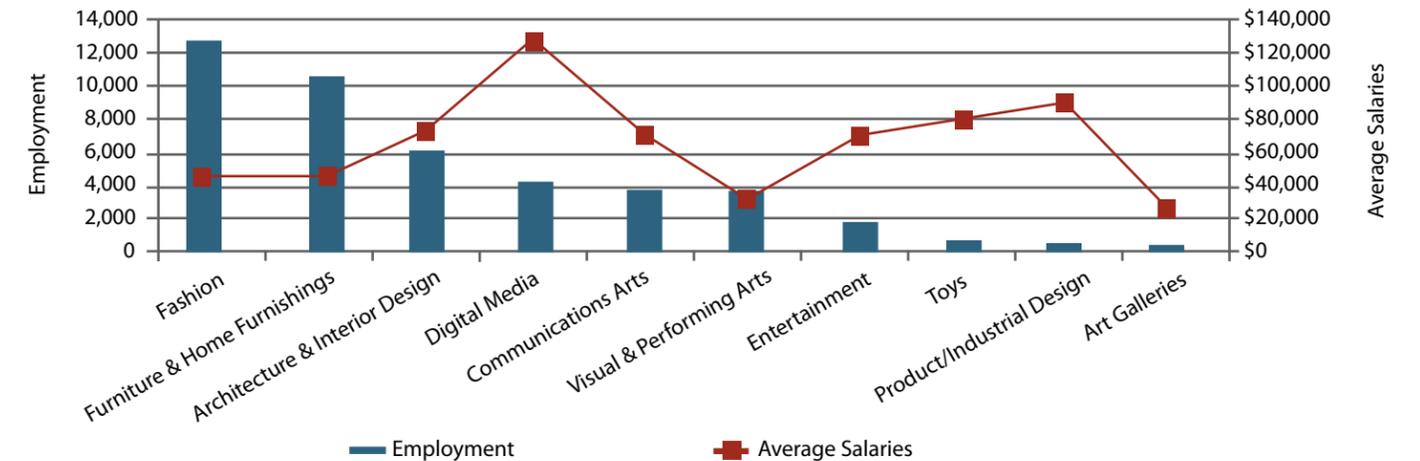
Industry Cluster	Total Employment	Percent Related to Information Technology	Employment by Cluster
Business and Professional Services	108,235	14.80%	16,019
Advanced Manufacturing	98,852	5.45%	5,387
Manufacturing	154,569	3.49%	5,394
Management and Administration	127,713	2.13%	2,720
Logistics and Transportation	91,200	2.09%	1,906
Healthcare	128,655	1.26%	1,621
Finance	105,522	1.18%	1,245

“The highest wage occupation in the Information Technology industry is that of Software Publishers who earn an average of \$144,404 annually. This type of industry will be the main driver of employment and economic activity in the County.”

### Creativity

Orange County's increasing focus on STEM (Science, Technology, Engineering, Math) as a critical competitive advantage has evolved into an emphasis on STEAM (Science, Technology, Engineering, ARTS, Math). The Creativity sector is the market impact of businesses and individuals involved in producing cultural, artistic, and design goods and services. More specifically, it consists of creative professionals and enterprises that take powerful, original ideas and transform them into practical and often innovative goods, or inspire us with their artistry.<sup>1</sup> Orange County's 2009 Creative industry employment was estimated to be 37,900 direct jobs. Counting indirect jobs of this sector, total employment for Orange County grew to 77,200 jobs, with high annual wages of offered by such occupations as Digital Media (\$123,530) and Product and Industrial Design (\$90,328).

### Orange County Creative Industry Employment and Average Salaries, 2009



Source: Otis College of Art and Design, Los Angeles Economic Development Corporation



Segerstrom Center for the Arts, Costa Mesa

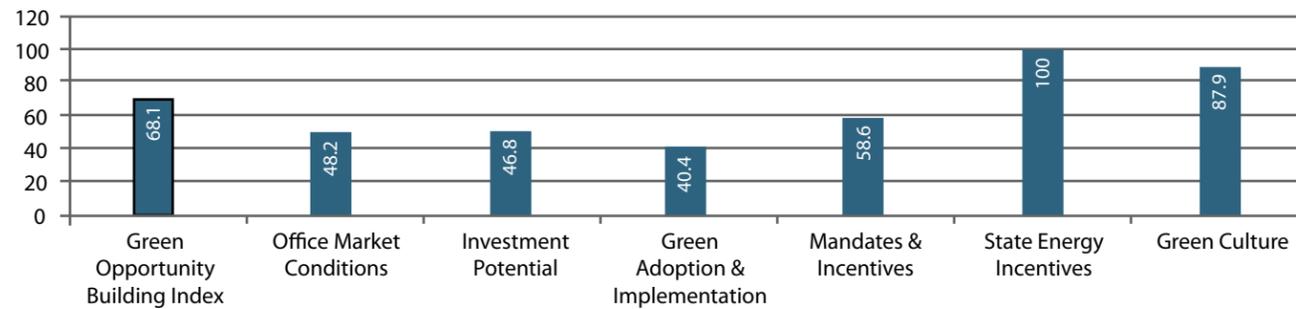
<sup>1</sup> The Creativity sector is defined by the 2010 Otis Report on the Creative Economy of the Los Angeles Region, prepared by the Los Angeles Economic Development Corporation.

## Cleantech

Many Orange County companies have altered business operations and practices to include new environmental sustainable practices, not only because of recent state and federal legislation, but because efficient business practices increasingly make good business sense. According to Next 10's 2011 *Many Shades of Green* report, Orange County's green employment increased by 67 percent adding 7,700 jobs from 1995 to 2009, compared to the state green employment growth of 56 percent, and Orange County's overall job growth of 23 percent for the same period. This growth rate was the third largest rate of any regions in California behind the Bay Area region (109 percent growth) and Sacramento Area region (103 percent growth). The biggest sectors for employment were Air & Environment, Energy Generation, Energy Efficiency, Water & Wastewater, and Recycling & Waste. Growth in Clean Transportation was 2.1 times the state average with the sub-sector Motor Vehicles & Equipment growing by 116 percent (adding 450 jobs) from 1995 to 2009.

Another measure of green activity and example of Orange County's role as a leader in the green industry is the Cushman & Wakefield and BetterBricks 2011 *Green Opportunity Building Index*. By measuring and combining six sub-sectors, ranging from Office Market Conditions to Green Culture, they have created a Green Opportunity Building Index which aims to rank top U.S. office markets on the basis of both real estate fundamentals and green investment considerations. Orange County's Index score of 68.1 ranks Orange County 14th out of 30 of its peers, behind San Diego with a score of 69.3 and Los Angeles at 79.2. San Francisco scored the highest rating at 100.

### Cushman & Wakefield/BetterBricks Green Opportunity Building Index and Sub-Index Scores



Source: Cushman and Wakefield/BetterBricks

The Office Market Conditions sub-index measures the overall health of the region's office market, including Class A vacancy rates, overall vacancy rate, leasing activity as a percent of inventory, absorption as a percent of inventory, average cap rates for office transaction, peak-to-trough performance for asking rents, and peak-to-trough performance for occupancy.

The Investment Potential index reflects forecasted future conditions through supply-side forces and demand drivers using Cushman & Wakefield's proprietary forecasting methodology. Orange County's score of 46.8 ranked it 12th out of the top office markets.

The Green Adoption and Implementation Index takes into account the existing adoption and potential implementation of green development and/or redevelopment in terms of such variables as LEED and ENERGY STAR office space. Orange County's score of 40.4 ranked 11th behind California peers San Francisco at 83.2 and Los Angeles at 56, yet in front of San Diego at 32.9.

The Mandates and Incentives measure assesses a local market's commitment to sustainable building practices through legislative mandates and incentives to build and refurbish green development, capital investments, and retrofits. Orange County ranked 13th overall, behind both San Francisco and Los Angeles (86.2) and tied with San Diego.

The State Energy Incentives segment measures utility and public benefit fun efficiency programs and policies, building energy codes, appliance efficiency standards, financial and information incentives, and research and development. All cities located in California scored 100 on this measure.

Finally, the Green Culture ranking measures the Green Economy, land use and planning measures, walkability, and public transportation. Orange County was given a score of 87.9, behind San Francisco at 100 and San Diego at 88.1, but in front of Los Angeles (85.4).

“Orange County's green employment increased by 67% adding 7,700 jobs from 1995 to 2009, compared to the state green employment growth of 56%, and Orange County's overall job growth of 23% for the same period.”

# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012



## Industry Cluster and Occupation Trends

# Unemployment

While unemployment rates remain high due to the effects of the Great Recession that officially ended in late-2009, Orange County's employment growth is performing better than surrounding Southern California counties and the state, and is on par with the nation.

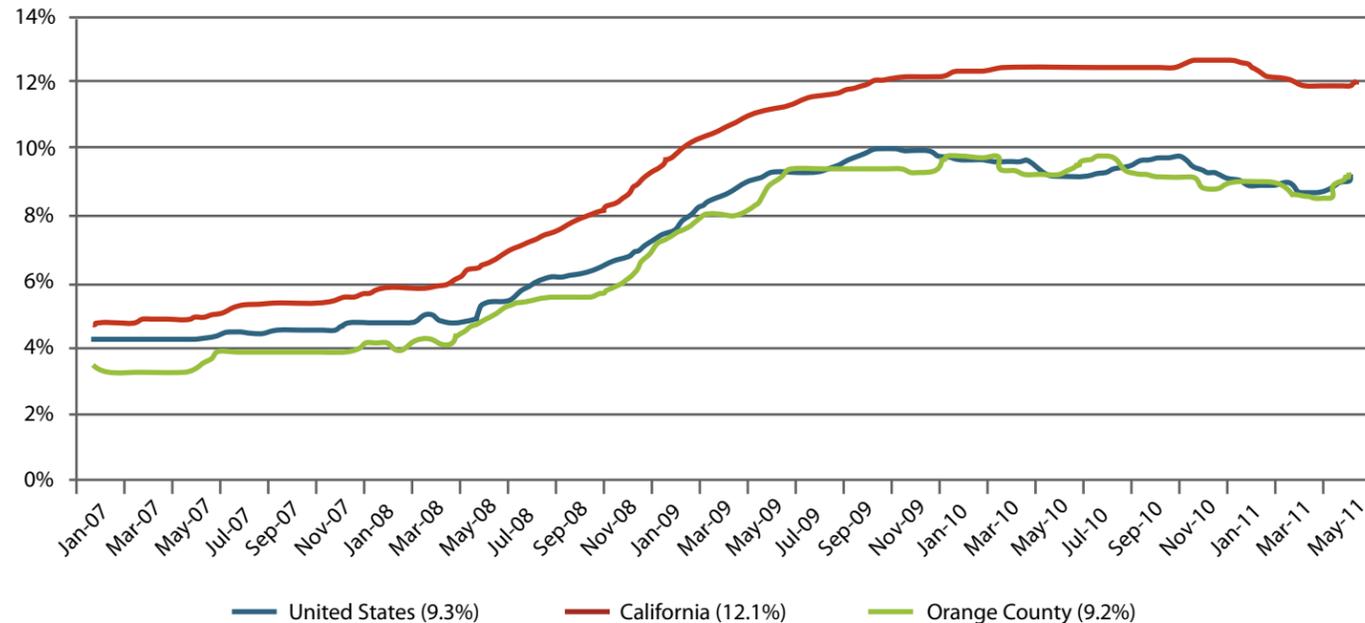
## Why is This an Issue?

Orange County's relatively strong performance through and after the Great Recession can be attributed to its diverse industry cluster base, high-wage industry composition, innovative and entrepreneurial business community, welcoming business environment, well-educated and skilled workforce, and geographic location at the center of the Southern California region - a large market with advantageous international trade linkages. While the impacts of this recession have been prolonged and deep, employers survived by strategically reassessing their strengths, weaknesses, opportunities, and threats in the harsh light of a new reality, forging new perspectives and competitive approaches that allowed them to emerge more efficient and competitive than before. As a result, the County has been able to stay economically competitive, once again proving to be an important economic engine for Southern California and the state.

## How Do We Know This Issue Exists in Orange County?

Unemployment peaked in Orange County at 10.0 percent in January 2010. Since then, Orange County's private sector has created approximately 35,000 new jobs. As of June 2011, unemployment rates in Orange County were 9.2 percent compared with 9.3 percent for the U.S. and 12.1 percent for California.

## Historical Unemployment Rates of Orange County, California and United States



Source: California Employment Development Department

# Industry and Occupational Growth

Concentrating education, workforce, and economic development programs to support key industry clusters will help accelerate employment growth and provide Orange County with high-impact and high-multiplier occupations, further driving economic recovery.

## Why is This an Issue?

Sustained economic growth will be achieved through Orange County's diversified industry sector base, emerging industry clusters, and industry drivers effectively creating pathways for increasing economic activity.

Industry sectors are defined by the North American Industry Classification System (NAICS) used by the California Employment Development Department. Industry sectors are different from industry clusters, which are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field. Clusters tend to have higher growth and generate higher wage occupations. Industry clusters are also different than industry drivers, in that industry drivers are emerging industries. Industry driver occupations are found in a large majority of industry clusters (as illustrated in the Cluster Overlay section) and help to drive employment growth of those clusters.

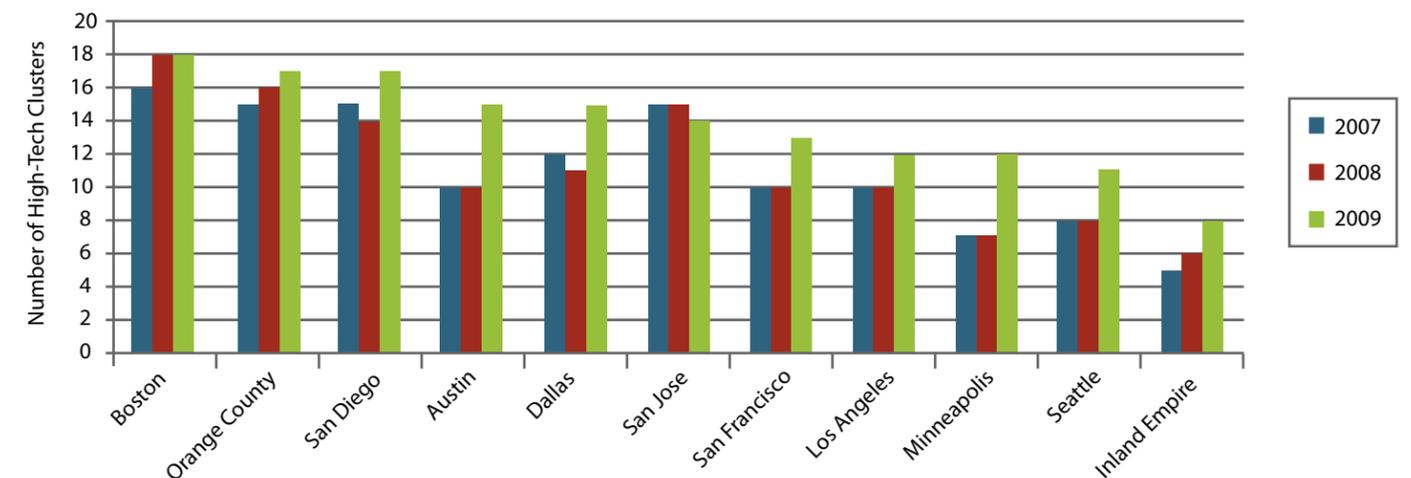
## How Do We Know This Issue Exists in Orange County?

Orange County's concentration of communications, computer software programming, and pharmaceutical industries has led to competitiveness and increased development in several high-tech clusters. Orange County is ranked only behind Boston and is tied with San Diego for the second largest number of high-tech clusters in the nation for 2009. High-tech clusters in the County with an employment concentration above the national average increased from 16 in 2008 to 17 in 2009, comparing favorably to San Jose and Los Angeles which had 14 and 12, respectively.

When compared to national averages, stand-out high-tech clusters in Orange County include Telecommunications, Audio and Video Equipment Manufacturing, and Navigational, Measuring, Electromedical, and Control Instruments Manufacturing. These three industries are nearly four times more concentrated in Orange County than national averages, effectively showcasing the County's strong Information Technology and Advanced Manufacturing sectors.

## High-Tech Cluster Diversification

### Regional Comparison, 2007-2009



Source: Milken Institute

Industry	Location Quotient (1.0 is the National Average)
Other Telecommunications	4.75
Audio and Video Equipment Manufacturing	4.73
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	4.39
Satellite Telecommunications	3.76
Medical Equipment and Supplies Manufacturing	3.15
Semiconductor and Other Electronic Component Manufacturing	2.5
Communications Equipment Manufacturing	2.28
Medical and Diagnostic Laboratories	2.24
Manufacturing and Reproducing Magnetic and Optical Media	2.23
Wireless Telecommunications Carriers (except Satellite)	2.09
Computer and Peripheral Equipment Manufacturing	1.95
Software Publishers	1.77
Commercial and Service Industry Machinery Manufacturing	1.45
Architectural, Engineering, and Related Services	1.41
Aerospace Product and Parts Manufacturing	1.4
Data Processing, Hosting, and Related Services	1.25
Computer Systems Design and Related Services	1.12

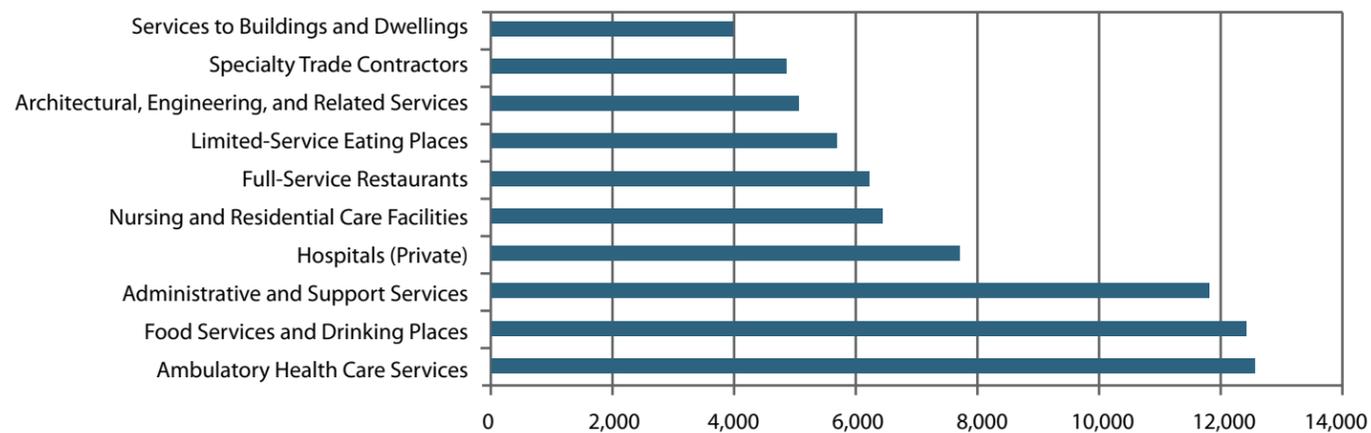
Source: Milken Institute

### Industry Sector Overview

According to recently released projections from the California Employment Development Department, Orange County's total industry sector employment is estimated grow by 8.4 percent from 2008 to 2018. This represents a large decrease from previous projections of 13.4 percent between 2006 and 2016, and 18 percent projected increase between 2004 and 2014. This dramatic decrease in anticipated employment growth reveals the robust job growth Orange County experienced prior to the Great Recession, but also the lingering impacts of the downturn on projected job creation.

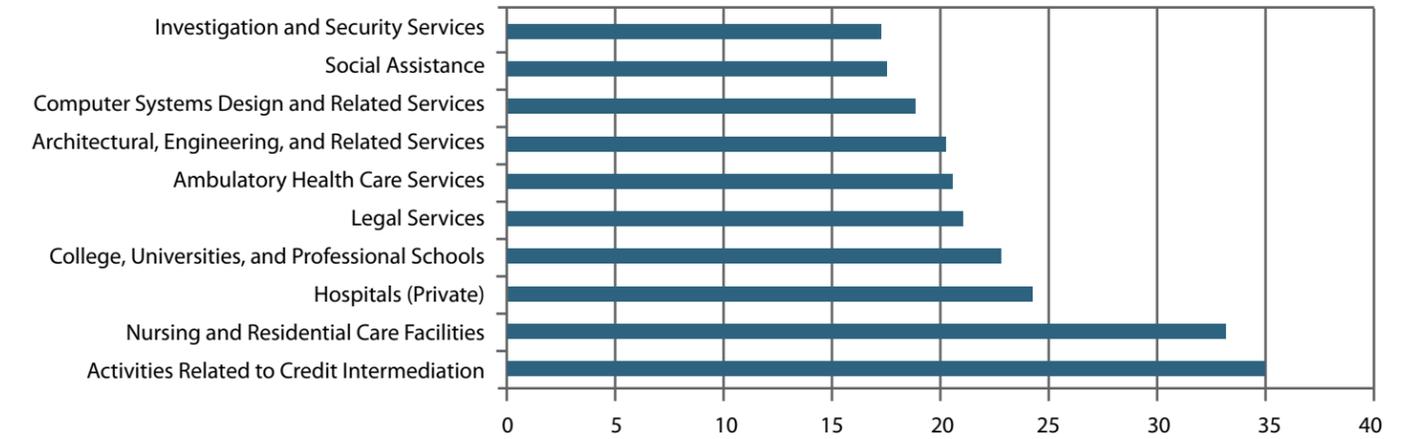
In absolute numbers, the state projects Orange County's total employment will reach 1,756,100 by 2018, adding 135,500 jobs with growth primarily driven by Business and Professional Services; Education Services, Health Care & Social Assistance; and Leisure and Hospitality, which combined will generate around two-thirds of employment growth. In terms of job growth percentages, the top industries are projected to be Activities Related to Credit Intermediation services (35 percent), Nursing and Residential Care Facilities (33 percent), Private Hospitals (24.2 percent), and Colleges, Universities, and Professional Schools (22.8 percent).

### Top 10 Fastest Growing Industries in Orange County by Absolute Growth, 2008-2018



Source: California Employment Development Department

### Top 10 Industries in Orange County by Percentage Job Growth, 2008-2018

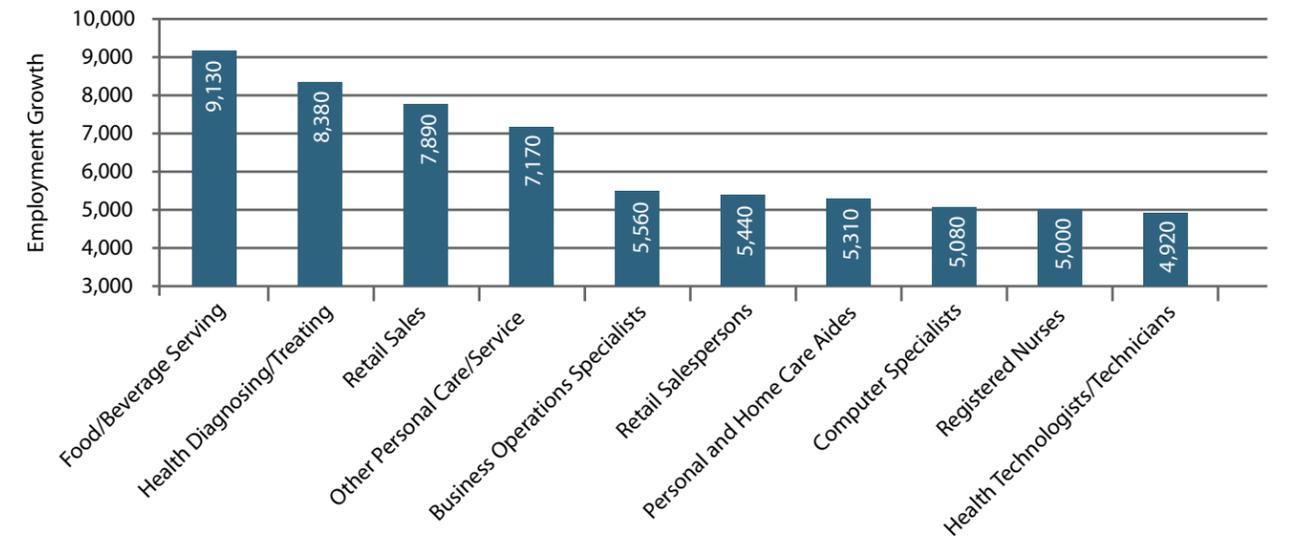


Source: California Employment Development Department

### Occupational Overview

As described above, Orange County is expected to add approximately 135,500 jobs from 2008 to 2018 representing annual growth of about 0.8 percent. In terms of specific occupations, Food and Beverage Serving, Health Diagnosis and Treating Practitioners, Retail Sales Workers, and Other Personal and Service Occupations are job categories projected to have the most absolute job growth during that time period. These projected job growth estimates reflect current trends of the growing Tourism, Healthcare, and Management and Administration clusters.

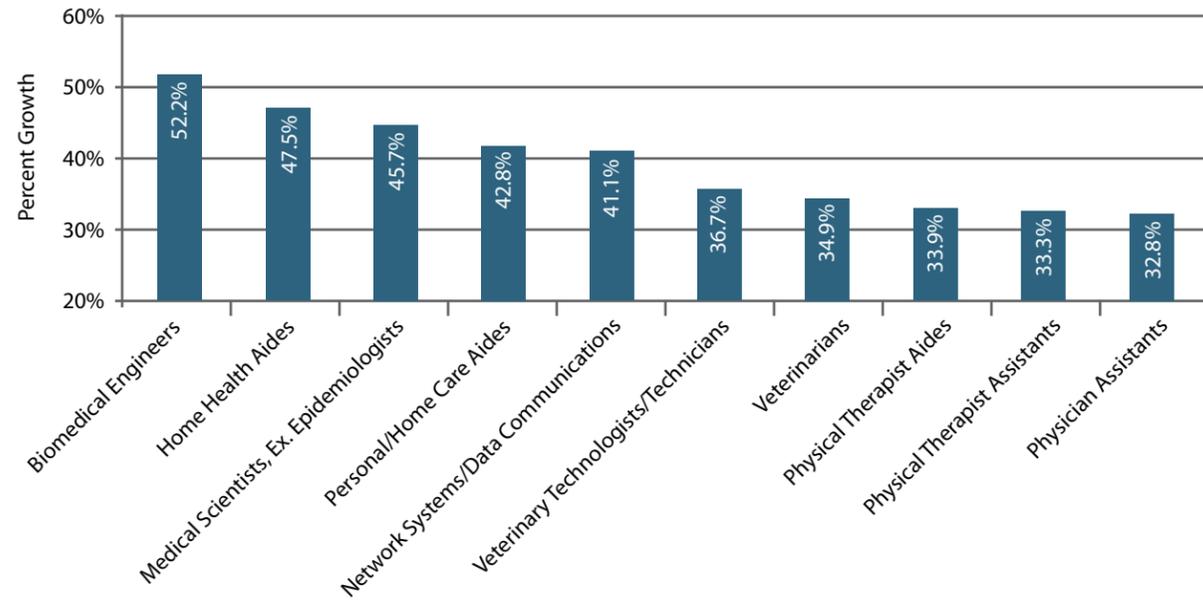
### Top 10 Fastest Growing Occupations by Absolute Growth, 2008-2018



Source: California Employment Development Department

In terms of percentage growth, the fastest growing occupations from 2008 to 2018 in Orange County are projected to be Biomedical Engineers (52.2 percent growth), Home Health Aides (47.5 percent), Medical Scientists (45.7 percent), and Personal and Home Care Aides (42.8 percent). The top 10 high growth occupation categories demonstrate and reinforce current and projected growth trends of the IT, Biomedical and Healthcare clusters.

Top 10 Fastest Growing Occupations by Percent Growth, 2008-2018



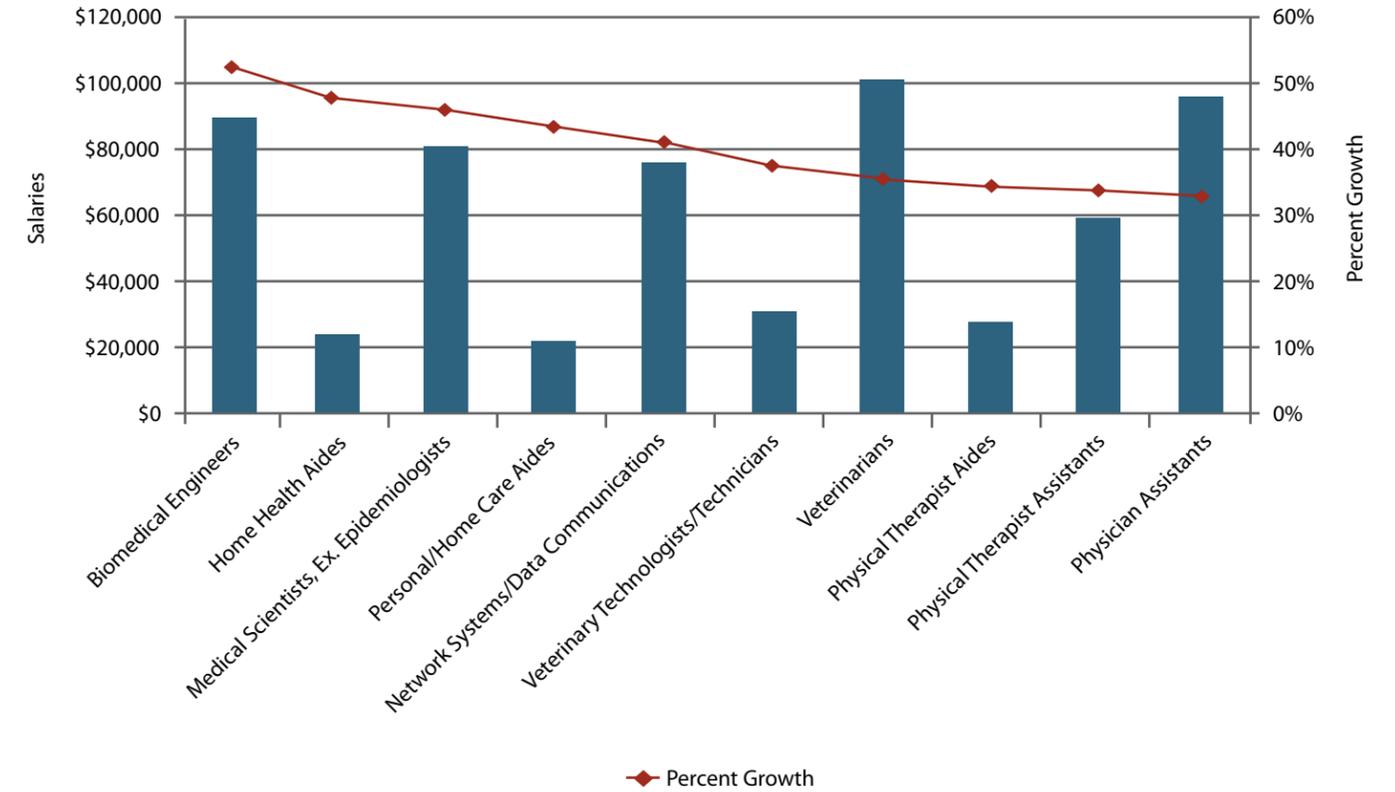
Source: California Employment Development Department



In terms of percentage growth, the fastest growing occupations from 2008 to 2018 in Orange County are projected to be Biomedical Engineers (52.2% growth), Home Health Aides (47.5%), Medical Scientists (45.7%), and Personal and Home Care Aides (42.8%).”

Five of the 10 high growth occupations have salaries above \$70,000 and are split between the High-Tech, Management and Administration, and Healthcare clusters. Many fast growing occupations pay above-average salaries, as often workforce demand exceeds the existing supply of skilled workers, leading to workforce shortages. Fast growing occupation categories are ripe areas to consider for targeted education and workforce programs.

Average Salaries of Fastest 2008 to 2018 Growing Occupations in Orange County



Source: California Employment Development Department



St. Joseph Hospital of Orange County, Orange

# Cluster Employment and Salaries

More high-wage, high-impact jobs must be created to replace those lost during the Great Recession and accelerate overall economic recovery.

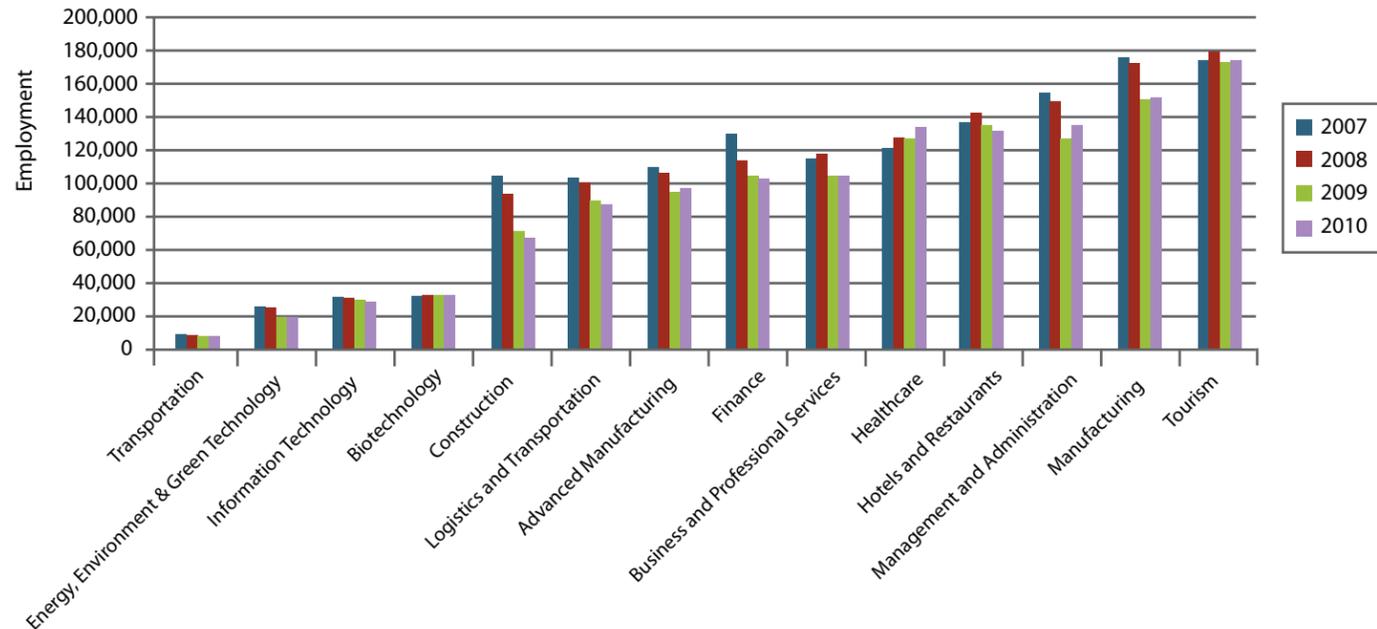
## Why is This an Issue?

Orange County has earned a reputation as a vibrant region with a unique combination of high quality of life and economic vitality, attracting many residents, large corporations, and entrepreneurs to the region over time. This high quality of life has been sustained economically by the abundance of high-wage occupations residing in the region. As a result of the Great Recession, the county lost many of these high-wage occupations, some of which may not be returning. Today, the county must be diligent in continuing to attract and create high-wage occupations and ensure a well-educated, skilled workforce is available to fill the positions.

## How Do We Know This Issue Exists in Orange County?

Tourism is Orange County's largest cluster in terms of employment, followed by Manufacturing, Management and Administration, and Healthcare. A majority of Orange County's clusters have experienced employment declines since 2006, with Construction and Finance hit especially hard. Healthcare was the only cluster to exhibit consistent growth in jobs from 2007 to 2010 while Tourism experienced only modest declines before rebounding somewhat in 2010.

Orange County Annual Cluster Employment, 2007-2010

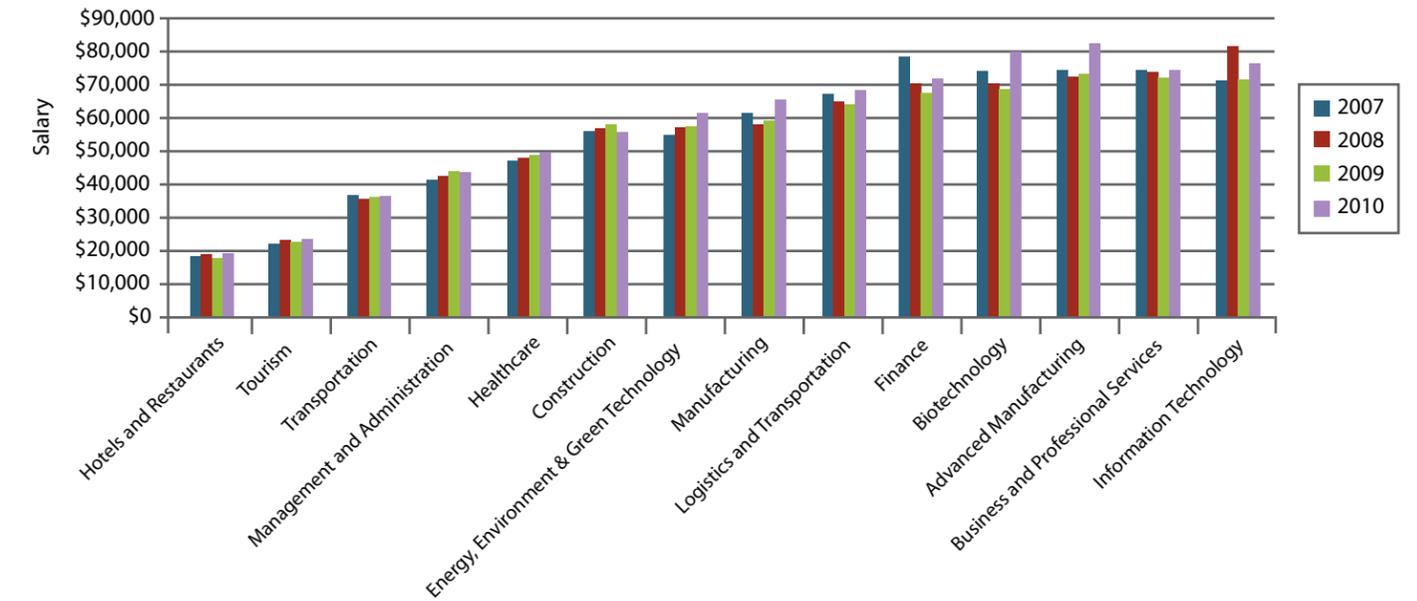


Source: OCBC analysis of California Employment Development Department QCEW dataset

Orange County's average wage for all industries was \$52,104 in 2010. During the 2007-2009 recession average wages dropped in most clusters. Only Tourism, Healthcare, and Cleantech experienced wage growth in each of the last four years. However, in 2010 average salaries jumped in most clusters and almost all clusters experienced positive growth, with only Construction and Management & Administration experiencing drops.

As of 2010, the Advanced Manufacturing and Biotechnology clusters enjoyed the highest average salaries at \$81,495 and \$79,903, respectively. These two high-wage industries experienced tremendous salary growth averaging almost \$10,000 from 2009 to 2010. Information Technology - the cluster with the third highest average salary - is also showing a strong recovery in wage and salary growth.

Orange County Annual Cluster Salary, 2007-2010



Source: OCBC analysis of California Employment Development Department QCEW dataset

## Background

The clusters discussed in this section represent three-fourths of all Orange County occupations and were created to highlight the key industry sectors which drive employment and economic activity in the region. Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular fields. Clusters emerge because companies engaged in a similar industry recognized they can boost their productivity through locating near each other, thus enhancing their ability to compete collectively and cooperatively. Individual firms in a cluster benefit from comparative advantages associated with geographical concentrations such as access to a common pool of specialized labor, infrastructure, intellectual property and lower transaction costs between firms.

# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012



## Education and Workforce Training Trends

# Future Workforce: College Eligibility

In order for Orange County to maintain its competitive advantage of a large, well-educated workforce pool, improved policies and programs must be created to increase college- and university-level educational attainment across all sectors.

## Why is This an Issue?

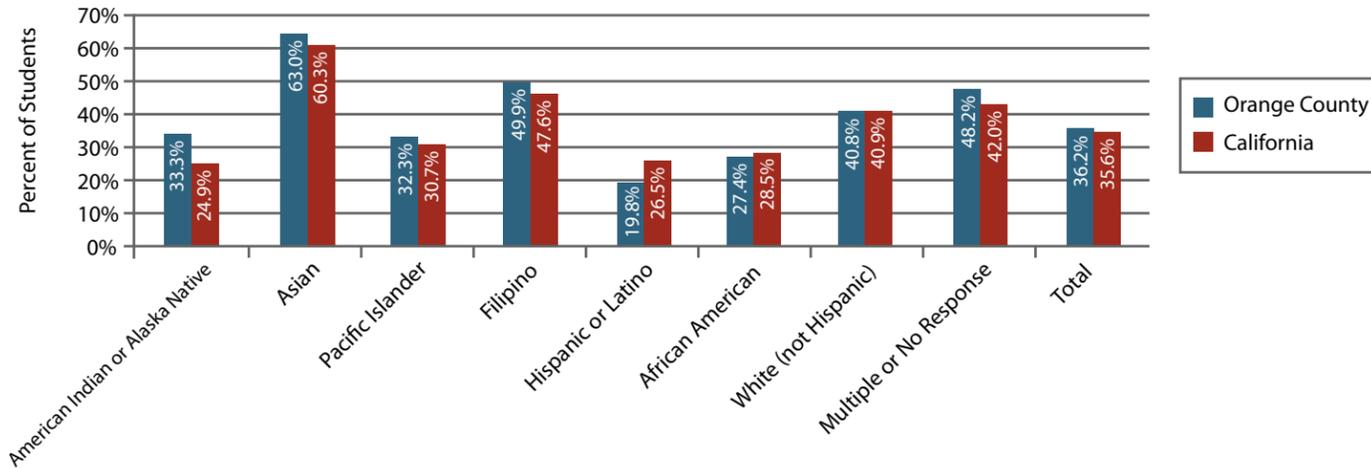
An area's ability to improve or advance its growth industries, increase overall wages, attract high-wage occupations, expedite vertical movement in career ladders, and increase innovation is directly tied to advancing the educational attainment of its workforce. The availability of a diversified, well-educated pool of individuals in the workforce provides a competitive advantage and is crucial to increasing overall wage levels and promoting broad economic development across the county. High levels of well-educated individuals also help to promote innovation across industries, facilitating and expediting the emergence of improved technologies and business processes.

## How Do We Know This Issue Exists in Orange County?

As of 2009-10, approximately 36.2 percent of Orange County high school students were eligible for entry into the UC/CSU university systems. This is higher than the statewide rate, but a decrease of nearly 4 percent from the previous year's rate of 40.3 percent. Orange County's numbers have fluctuated widely since 2005-06 when eligibility levels hovered around 43 percent.

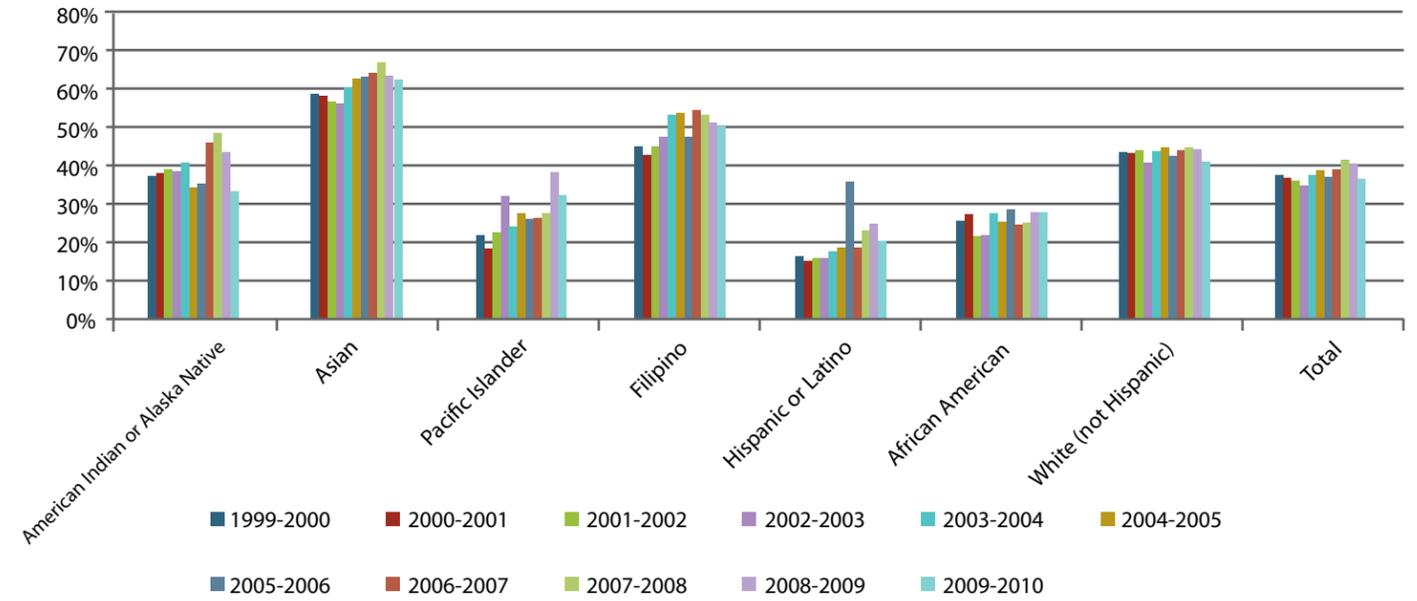
Looking at Orange County's UC/CSU eligibility rates by ethnicity, Asians had the highest levels of eligibility at 63 percent for 2009-10, followed by Filipinos at just below 50 percent, and Whites at 40.8 percent. Latinos had the lowest rates of eligibility at 19.8 percent. While eligibility rates of Latinos have been growing since 2005-06, advances have been slow and are still dramatically below other Orange County ethnic populations.

## UC/CSU Eligible Orange County and California Graduates, 2009-2010



Source: California Department of Education, Educational Demographics Unit

## UC/CSU Eligible Graduates by Ethnicity, 1999-2010



Source: California Department of Education, Educational Demographics Unit

## Background

Historically, Orange County has maintained a well-educated workforce which was largely responsible for transforming the county from a bedroom community to the economic engine of Southern California. Major employers providing many high-wage occupations took advantage of this talented pool of well-educated individuals, leading to Orange County generating higher wages than surrounding areas and peer regions across the nation.

College-level and advanced degree educations are increasingly important for job opportunities and high-wage occupations. As technologies improve, business processes become more efficient, and job competition increases; in turn, the need for individuals with advanced, specialized degrees increases dramatically.

“Looking at Orange County's UC/CSU eligibility rates by ethnicity, Asians had the highest levels of eligibility at 63% for 2009-10, followed by Filipinos at just below 50%, and Whites at 40.8%. Latinos had the lowest rates of eligibility at 19.8%.”

# API, SAT, and High School Exit Exam Performance

Educational achievement gaps between Orange County school districts must be addressed in order to ensure all Orange County students receive a quality education. By improving performance of districts that are lagging while continually supporting those that are performing well, Orange County will be able to maintain its competitive advantage of a well-educated workforce.

## Why is This an Issue?

While Orange County academic performance has seen steady improvement over the past decade suggesting improved individual school district performance, some schools are lagging behind others. The Academic Performance Index (API), Scholastic Assessment Test (SAT), and the High School Exit Exam provide measures of student performance. These measures help decision-makers to assess possible shortfalls in their educational systems and identify areas that need improvement. Areas with higher overall test scores tend to attract more people into the local area as they are looking for well-structured education systems for their children to attend.

Measures of academic performance also provide employers with a broad sense of how prepared and well-educated the future workforce will be. If performing well, it will decrease chances of local employers recruiting from areas other than Orange County, increasing the available jobs for the local workforce.

## How Do We Know This Issue Exists in Orange County?

Across API, SAT, and High School Exit Exams, Orange County performs well compared to peer regions, and the state and national averages. Yet within Orange County, there are significant gaps between high performing schools and low performing schools. In order for Orange County to continually increase its overall educational prowess, this gap will need to be narrowed.

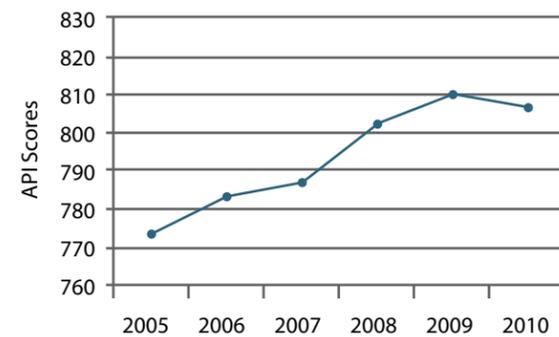
Programs and policies should be targeted at not only enhancing education performance at underperforming districts, but also aimed at ensuring these students graduate and are eligible for advanced education programs. In doing so, Orange County will effectively improve its pool of qualified, well-educated workforce individuals helping not only to attract more people into the region, but making the region more attractive for high-tech, high-wage businesses and occupations.

## Academic Performance Index

The Academic Performance Index (API) measures the academic performance of individual schools based on the results of statewide testing. The API uses an improvement model, where the API from one year is compared to the API from the prior year to measure improvement.

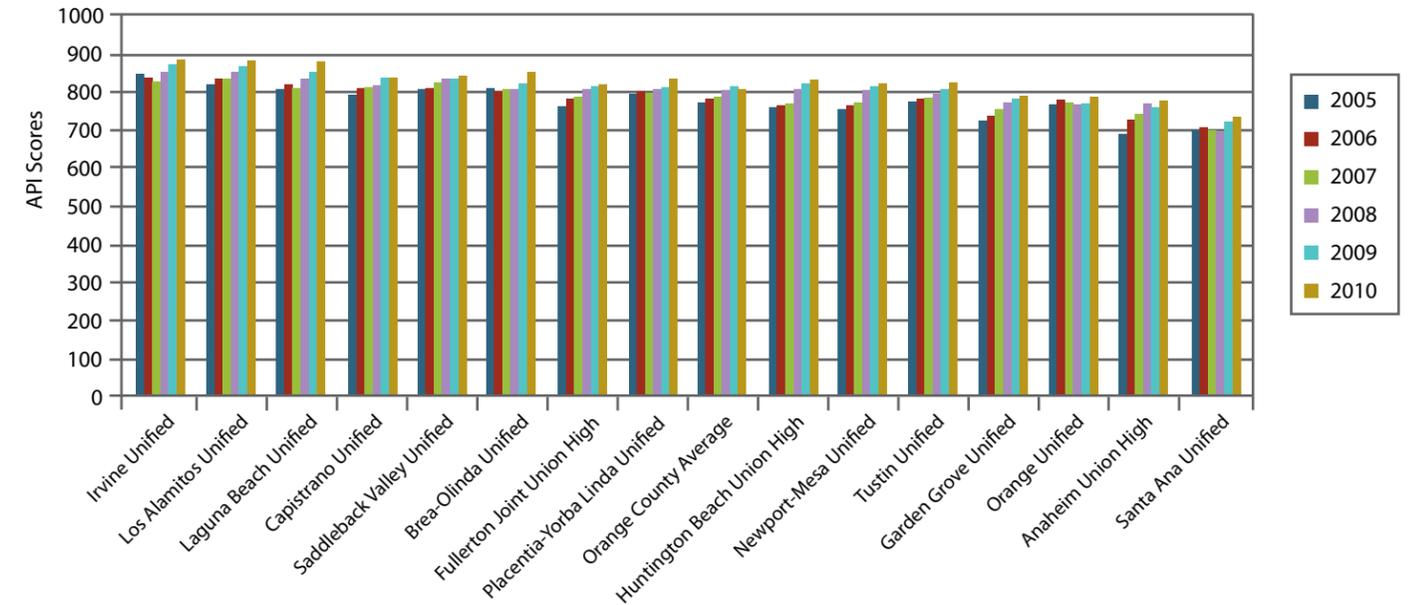
After steadily increasing since 2005, Orange County's 2010 API score was 806, four points lower than the 2009 average score of 810, but up significantly from the score of 773 in 2005. API scores by district have been continually increasing since 2005, yet four districts failed to meet the statewide performance target of an API score of 800. In 2010, Garden Grove and Orange School Districts had API scores of 785, followed by Anaheim at 773 and Santa Ana at 731.

Orange County Average API Scores for 2005-2010



Source: California Department of Education, Educational Demographics Unit

Orange County API Scores by District, 2005-2010



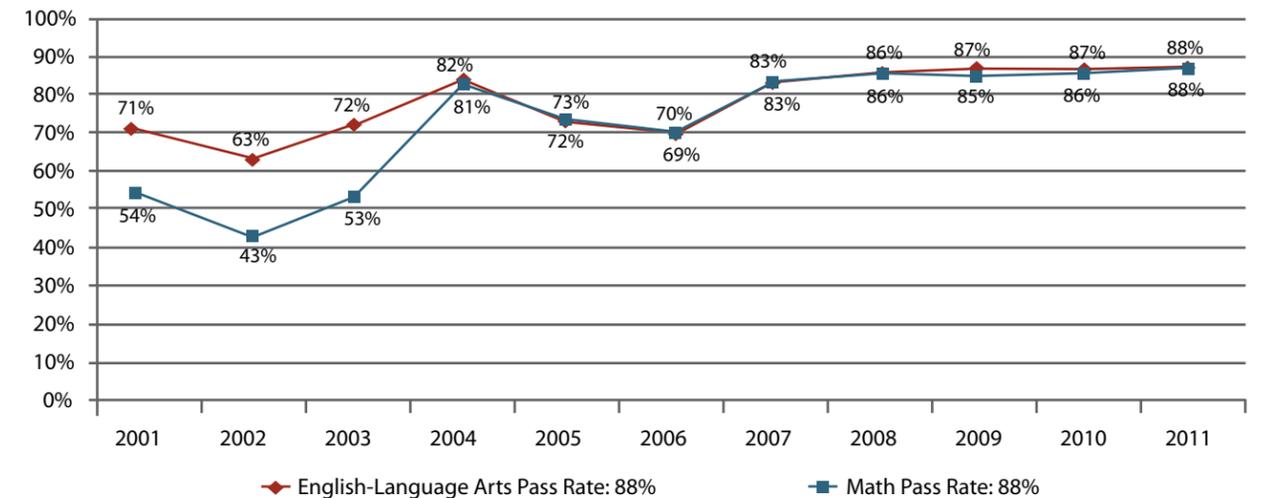
Source: California Department of Education, Educational Demographics Unit

## High School Exit Exam Performance

Orange County high school students are also required to take the High School Exit Exam in order to graduate. Exit exams provide another tool in measuring cumulative student achievement. As of 2011, Orange County high schools students had an exam pass rate of 88 percent for both English-Language Arts and Mathematics. This is the highest pass rate experienced for both subjects, and exceeds the state High School Exit Exam pass rates of 83%.

Santa Ana Unified School District's high school exit exam pass rates are the lowest in the county and lower than statewide rates. While pass rates for Santa Ana schools have increased in recent years, they are still well below average county rates and neighboring school districts.

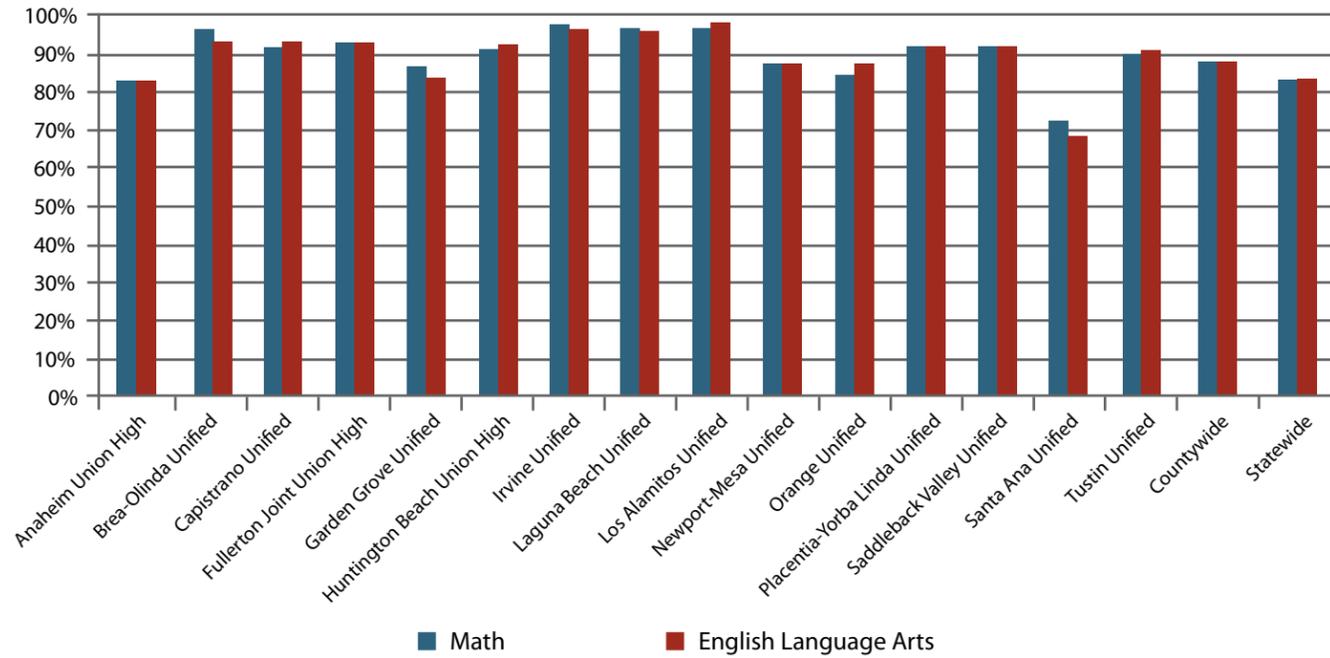
Orange County Grade 10 High School Exit Exam Trend, 2001-2011



Source: California Department of Education, Educational Demographics Unit

Further, every school district in Orange County outperformed the state averages for both Math and English-Language Arts except for Santa Ana Unified which posted exit exam pass rates of 82 percent for English-Language Arts and 79 percent for Math, and Anaheim Union High which had the same pass rates as the state.

### Grade 10 High School Exit Exam Pass Rate by District, 2010-2011

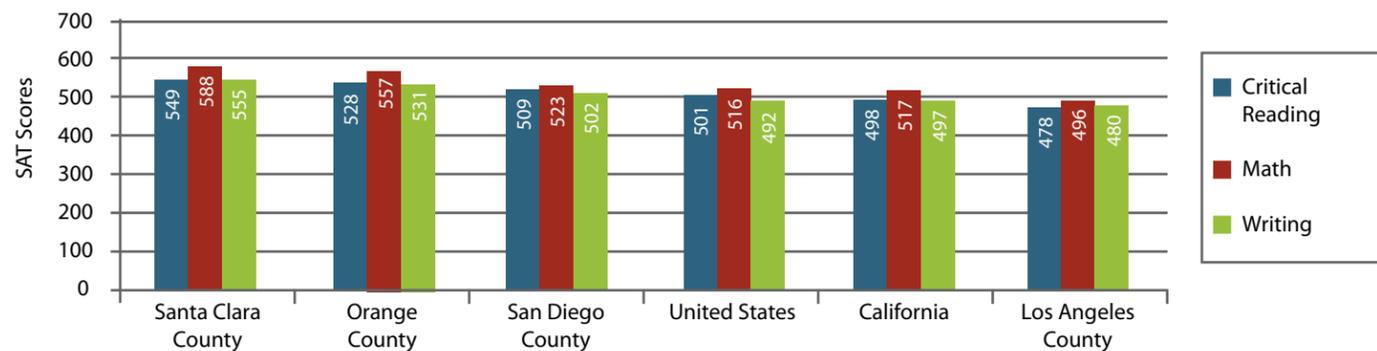


Source: California Department of Education, Educational Demographics Unit

### SAT Performance

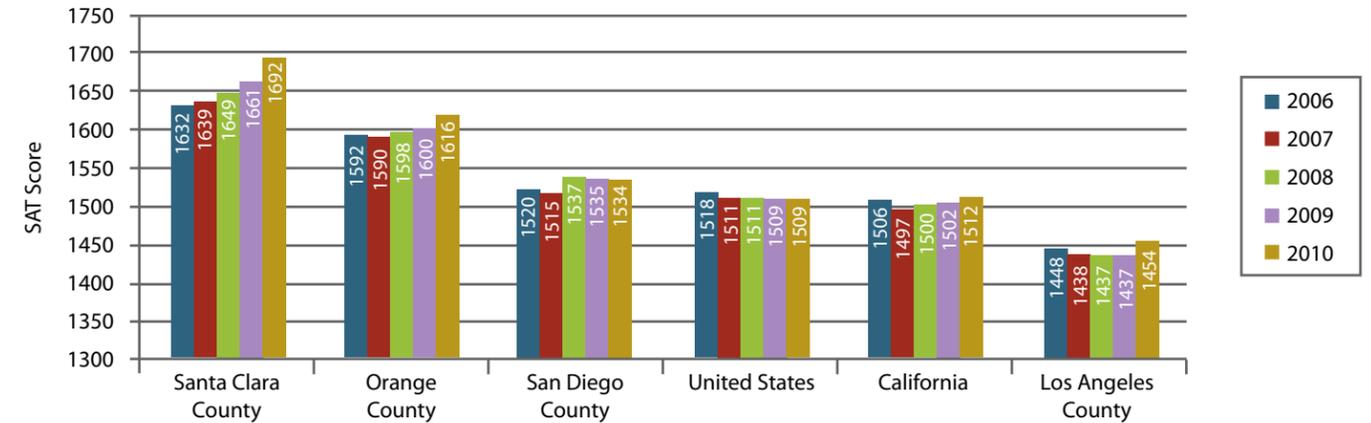
With the exception of Santa Clara County, Orange County scored better on the SAT than peer counties, the state, and the nation. Orange County's cumulative average SAT score in 2010 was 1,616, well above the state and national averages of 1,512 and 1,509 respectively. Among peers compared, only Santa Clara scored higher with an average score of 1,692. Additionally, Orange County 2010 SAT performance grew 16 points year-over-year, while most other counties were flat except for Santa Clara County, which experienced at 31 point increase. Additionally, Orange County's Math SAT are higher than other counties, except again for Santa Clara County.

### 2010 SAT Scores by Subject



Source: California Department of Education, Educational Demographics Unit

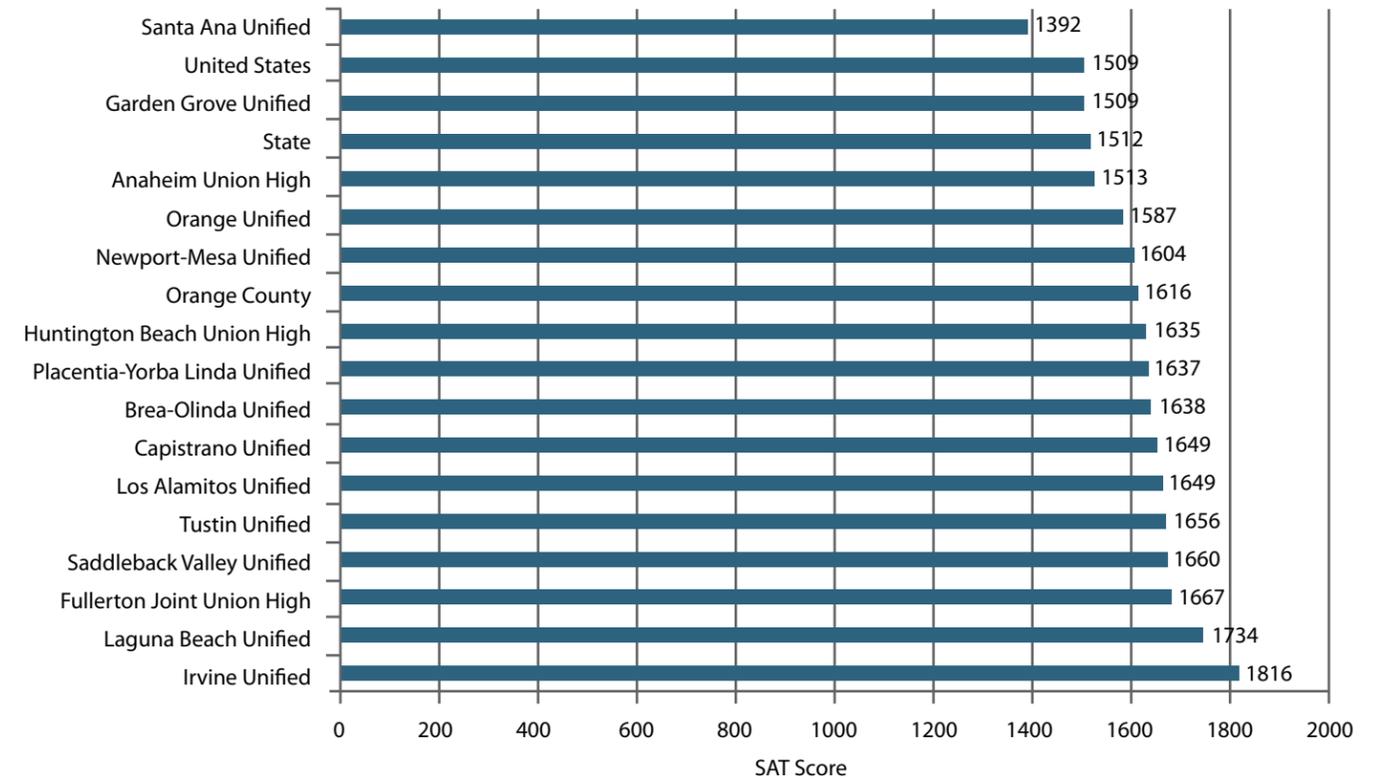
### Regional SAT Scores, 2006-2009



Source: California Department of Education, Educational Demographics Unit

In terms of SAT scores by school district, Orange County has some of the best performing districts in the state, but there is also great variation within the county. Irvine Unified had the highest overall SAT scores with an average of 1,816, followed by Laguna Beach Unified at 1,734. By comparison, the average SAT at the national level is 1,509 and 1,512 at the state level. The lowest SAT scores of Orange County school districts were in Santa Ana (1,392) and Garden Grove (1,509).

### Average Total SAT Scores by District, 2010



Source: California Department of Education, Educational Demographics Unit

# English Learners

English fluency trends in Orange County need to advance at a more rapid rate, ensuring students can perform better regarding educational outcomes and are prepared for the workplace.

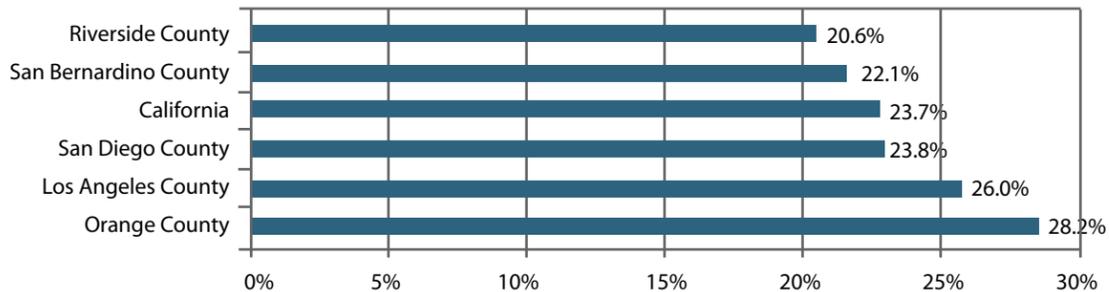
## Why is This an Issue?

Students who do not speak, read, or write English fluently face serious limitations in Orange County's current and future job markets, making it crucial that improved English fluency programs be instituted to support a diverse Orange County student population who will make up the majority of the future workforce. If not, the County will fail to provide local business with a qualified workforce which will ultimately start a domino effect resulting in overall lower wages and a decreased quality of life for Orange County residents.

## How Do We Know This Issue Exists in Orange County?

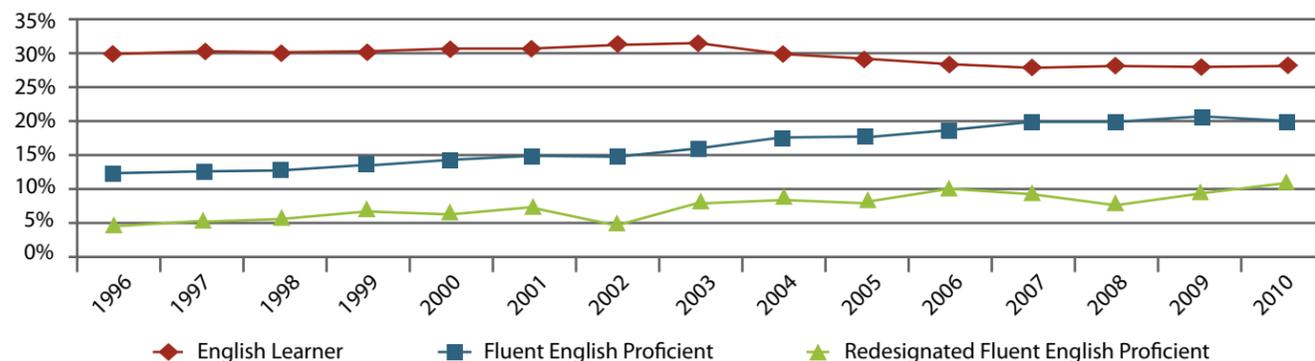
At 28.2 percent, Orange County again had the highest percentage of English Learners compared to peer and neighboring counties. This is an increase from the previous year's 27.9 percent, and is above the statewide average of 23.7 percent. One positive trend is the increasing rate of students designated Fluent English Proficient and Re-designated Fluent English Proficient, which rates have both steadily increased since 2002.

## English Learners as Percent of Total Enrollment, 2009-2010



Source: California Department of Education, Educational Demographics Unit

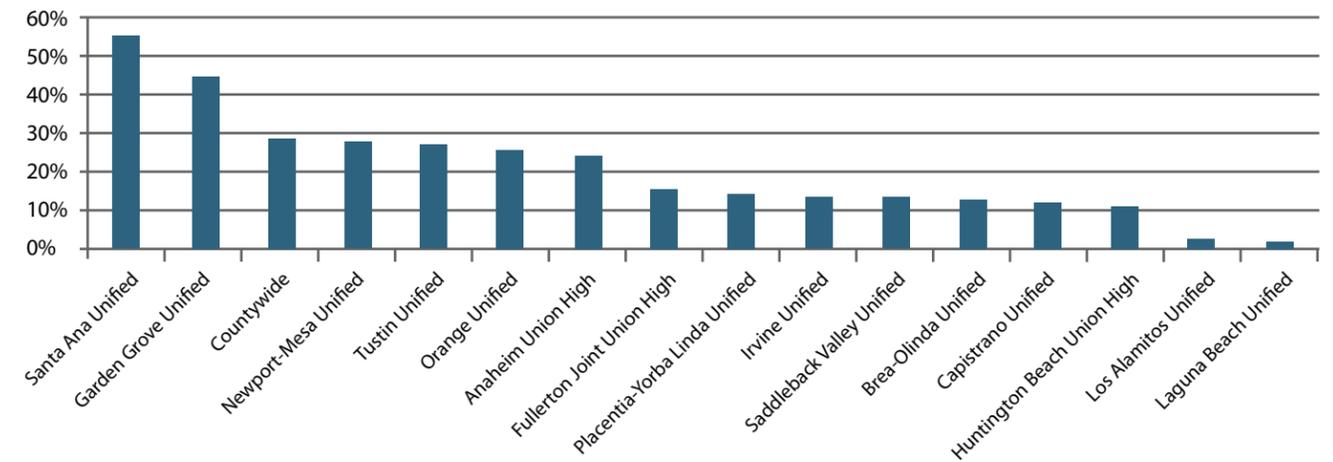
## Orange County English Language Learners, 1996-2010



Source: California Department of Education, Educational Demographics Unit

From 2009 to 2010, Santa Ana had the highest percentage of English Learners compared to other districts in Orange County at 55.9 percent, followed by Garden Grove with 45.1 percent, both substantially higher than the county average of 28.2 percent.

## Percentage of English Learners by District, 2009-2010



Source: California Department of Education, Educational Demographics Unit

## Background

English language learners are those students for whom there is a report of a primary language other than English on the state-approved Home Language Survey and who, on the basis of the state approved oral language (grades K-12) assessment procedures and including literacy (grades 3-12 only), have been determined to lack the clearly defined English language skills of listening comprehension, speaking, reading, and writing necessary to succeed in the school's regular instructional programs.

Fluent English Proficient students whose primary language is other than English and who have met the district criteria for determining proficiency in English -- i.e., those student who were identified as FEP (Fluent English Proficient) on initial identification and students re-designated from Limited-English-Proficient (LEP) or English Learner (EL) to FEP. Re-designated Fluent to English Proficient students are the percent of students re-designated from English learners to Fluent English Proficient status since the last count of English proficiency of students -- this designation is determined on an annual basis.

“At 28.2%, Orange County again had the highest percentage of English Learners compared to peer and neighboring counties. This is an increase from the previous year's 27.9%, and is above the statewide average of 23.7%.”

# Dropout Rates

Ensuring Orange County dropout rates continue to decline should be a key priority in order to ensure a prepared workforce for the future.

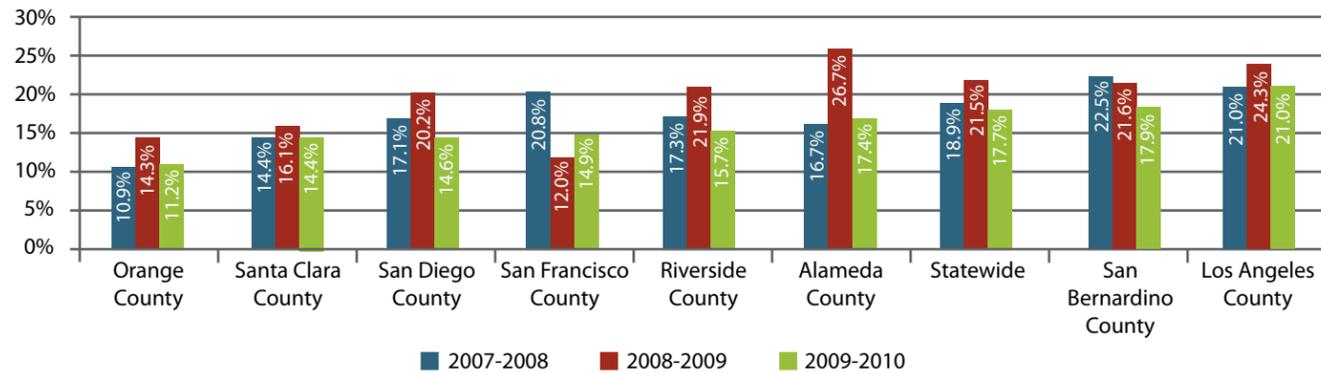
## Why is This an Issue?

Orange County student dropout rates may be the clearest indicator of how well the County is performing in terms of successfully educating its students. Low dropout rates suggest a successful high school educational system which refuses to give up on its students. Students may drop out for a variety of reasons yet the most prevalent reason is that students have lost overall interest and may not realize the substantial benefits associated with education. By communicating the importance of education, not only at financial levels, but also for social dynamics, students may better understand the necessity of education.

## How Do We Know This Issue Exists in Orange County?

In comparison to the state and neighboring counties, Orange County had the lowest dropout rate at 11.2 percent, followed by Santa Clara County at 14.4 percent and San Diego at 14.6 percent. This compares very favorably to the state average dropout rate of 17.7 percent. Dropout rates in nearly all California counties fell in 2009-2010 after increasing in 2008-2009.

## Grade 9-12 Adjusted Four-Year Derived Drop-Out Rate



Source: California Department of Education, Educational Demographics Units

# High-Tech Related Degrees

Making sure Orange County's future workforce is properly educated in the STEM disciplines (Science, Technology, Engineering, and Math) is a crucial first step in ensuring economic sustainability for Orange County individuals and communities.

## Why is This an Issue?

Orange County has long had a history of science and technology-based business, beginning with the large presence of aerospace companies which came to take advantage of the county's large, well-educated workforce in the 1960s and 1970s. Soon joined by many computer chip, circuit-board, and micro-processor manufacturing companies, Orange County became known for its well-educated workforce and high-wage job market. This reputation for excellence in the STEM fields has helped in attracting even more technology-based businesses and high-skill residents into the county. With increasing global competition, keeping Orange County's competitive edge in the STEM disciplines is more important than ever for the continued economic success of the region.

## How Do We Know This Issue Exists in Orange County?

After a decline in 2008, the number of tech-related undergraduate degrees increased by 8.5 percent in 2009 to 2,208, accounting for roughly 18 percent of total undergraduate degrees granted. The disciplines with the largest growth from 2008 to 2009 included Physical Sciences (74 percent) followed by Biological Sciences/Biology (46 percent) and Engineering (21 percent). Tech-related graduate degrees, which accounted for 28 percent of total degrees granted in 2009, have grown consistently by about 3 percent annually with Computer Science-related degrees posting 49 percent growth between 2004 and 2009. While STEM degrees are increasing steadily, the rate of increase is outpaced by the rate of Orange County employers' need for even greater numbers of STEM workforce.

Discipline	2009		2003-2009 % Changes	
	Bachelors Degrees Granted	Graduates Degrees Granted	Bachelors Degree Change	Graduates Degree Change
Biological Sciences	894	70	70.6%	66.7%
Biology	140	11	14.8%	-38.9%
Engineering	530	348	47.6%	96.6%
Information and Computer Sciences	178	70	-46.2%	0%
Computer Sciences	70	126	-43.5%	207.3%
Physical Sciences	388	161	114.3%	159.7%
Other Sciences	8	54	-74.2%	42.1%
<b>Total</b>	<b>2,208</b>	<b>840</b>	<b>32.1%</b>	<b>87.5%</b>

“While STEM degrees are increasing steadily, the rate of increase is outpaced by the rate of Orange County employers' need for even greater numbers of STEM workforce.”

# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012

Tech-Related Degrees Granted, 1999-2009



Source: California State University, Fullerton, Chapman University, and University of California, Irvine



Chapman University, Orange



## Workforce Housing

# Workforce Housing

In order to ensure housing options for Orange County's workforce, housing development must reflect projected employment trends and related workforce income levels.

## Why is This an Issue?

Through understanding current and projected market trends of housing prices, rental rates, incomes, and affordability, Orange County policy-makers and leaders are able to make educated decisions about the creative, innovative, workforce housing programs necessary to address the most pressing housing needs in Orange County.

Despite the downturn in housing activity and values, Orange County's housing costs, including apartment rental rates, are higher than neighboring counties, peer regions, and the national average. As highlighted in other sections of this report, many occupations projected to experience high job growth provide relatively low wages. Increasing the supply and availability of workforce housing options, including multifamily homes, has become increasingly important following the Great Recession's negative impact on wage, income, and household wealth trends.

## How Do We Know This Issue Exists in Orange County?

Orange County has long been one of the most expensive places in the country for housing. Even with the recent collapse of real estate prices, Orange County's home purchase prices are among the highest in the nation. Similarly, Orange County's average rents are high compared to rental housing in most other peer regions.

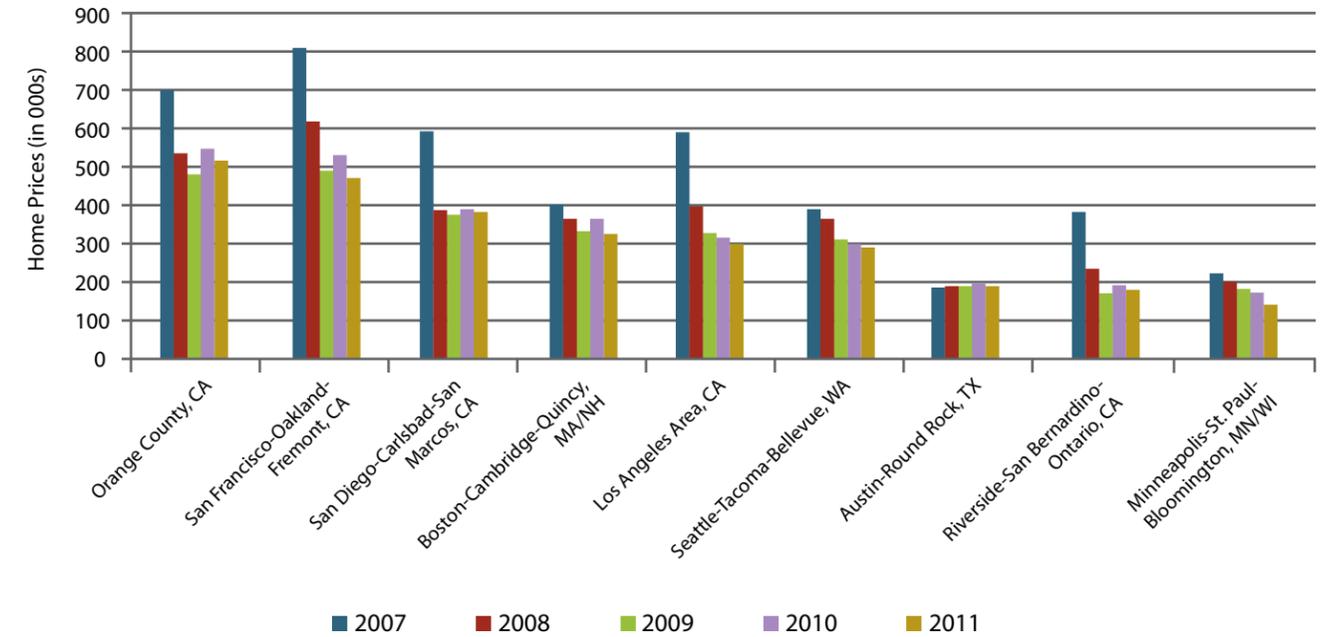
## Home Ownership

According to the California Association of Realtors (CAR), 59.3 percent of Orange County units are owner-occupied, with the remaining 40.7 percent being renter-occupied units. As of June 2011, the Orange County median price of an existing single-family detached home was \$534,680, down 1.8 percent from May 2011 when the median price was \$544,700, and further down 5.5 percent from the June 2010 median price of \$566,090.

CAR's Housing Affordability Index-First-Time Buyer measures the percentage of households that can afford to purchase an entry-level home. CAR considers this index to be the most fundamental measure of housing well-being for first-time buyers. As of June 2011, CAR estimates the Housing Affordability Index for First-Time Buyers in Orange County to be 57, meaning 5 percent of Orange County households can afford to purchase an entry-level home, a much higher level of affordability than before the housing downturn.

Still, at \$435,040 the entry-level price of a home requires a minimum qualifying income of \$66,790 (as of the first quarter of 2011). Orange County remains a high quality of life, high cost of living region, factors that decrease overall migration into the county and continue to push some residents out of the region, especially young adults who are counted on as Orange County's future workforce.

Median Single-Family Home Price by Metropolitan Statistical Area, 2007-2011, Orange County Versus National Peers



Source: National Association of Realtors

\*Note: Data from National Association of Realtors is of Single Family Home Prices while California Association of Realtors data is of all homes, single family as well as condominiums and town-homes.

“At \$435,040, the entry-level price of a home requires a minimum qualifying income of \$66,790. Orange County remains a high quality of life, high cost of living region, factors that decrease overall migration into the county and continue to push some residents out of the region, especially young adults who are counted on as Orange County's future workforce.”

## Renting in Orange County

The Housing Wage, defined by the National Low Income Housing Coalition (NLIHC) to be the wage necessary to afford rental housing for specified family and employment situations, ranges from \$25.52 per hour for a one-bedroom apartment to \$43.10 per hour for a three-bedroom apartment in Orange County. These rates have increased since 2000 when Orange County's Housing Wages ranged from \$15.23 per hour (one-bedroom apartment) to \$20.86 per hour (three-bedroom apartment). Since peaking in 2007-2008, Orange County rental rates have stabilized, fluctuating slightly up or down each year.

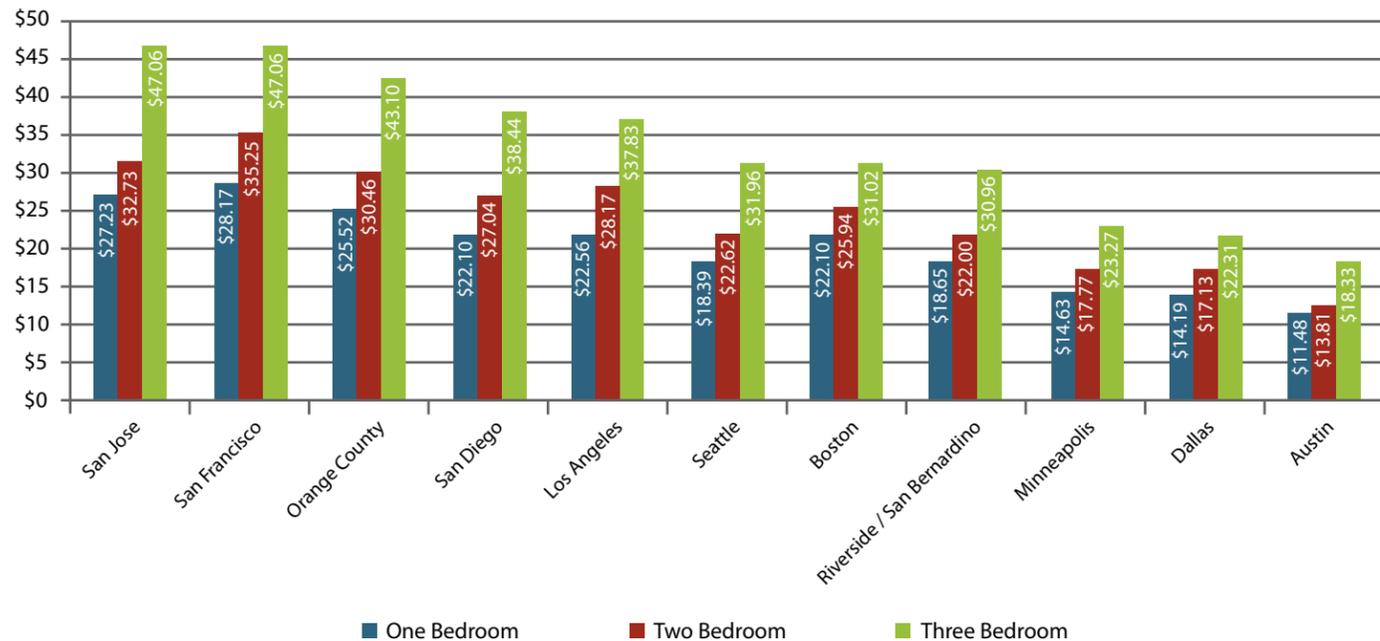
### Fair Market Monthly Rent in Orange County, 2003-2011

Fair Market Rent	2003	2004	2005	2006	2007-08	2009	2010	2011
One Bedroom	\$1,098	\$1,098	\$1,161	\$1,238	\$1,330	\$1,296	\$1,336	\$1,327
Two Bedroom	\$1,317	\$1,317	\$1,392	\$1,485	\$1,595	\$1,546	\$1,594	\$1,584
Three Bedroom	\$1,885	\$1,885	\$1,992	\$2,125	\$2,282	\$2,188	\$2,256	\$2,241
Estimated Orange County Median Family Income	\$74,200	\$74,200	\$75,700	\$78,300	\$84,100	\$86,100	\$87,200	\$84,200

Source: National Low Income Housing Coalition

With the exception of San Francisco and San Jose, Orange County has performed better in terms of rental affordability than its counterparts over the past few years. Still, the hourly wage needed for a one-bedroom apartment (\$25.52) is equivalent to an annual income of \$53,080. The annual renter income needed to afford a two-bedroom apartment at fair market rent is 118 percent of median annual income, or \$63,360. At this level, 56 percent of Orange County renter households are not able to afford a two-bedroom apartment at fair market rent.

### Hourly Wage Needed To Afford Fair Market Rent in 2011, Orange County Versus National Peers



Source: National Low Income Housing Coalition

“The wage necessary to afford rental housing for specified family and employment situations, ranges from \$25.52 per hour for a one-bedroom apartment to \$43.10 per hour for a three-bedroom apartment in Orange County.”



Village of Stonegate, Irvine

# ORANGE COUNTY WORKFORCE INDICATORS 2011/2012



**Report Partners**

# Orange County Business Council Board of Directors

## Executive Committee

Chairman, Board of Directors  
Eddie Northen, UPS

Chair Elect  
Julie Miller-Phipps, Kaiser Permanente Orange County

Immediate Past Chair  
Linda Martin, Porter Novelli

President, CEO and Secretary  
Lucetta Dunn, Orange County Business Council

Treasurer  
Ed Reno, Allergan Inc.

Chair, Advocacy and Government Affairs  
Mike Hornak, Rutan & Tucker LLP

Co-Chair, Economic Development  
Chris Harrington, Toshiba America Information Systems, Inc.

Co-Chair, Economic Development  
Juan Basombrio, Dorsey & Whitney LLP

Chair, Events  
Kristy Hennessey, Time Warner Cable

Chair, Infrastructure  
Les Card, LSA Associates, Inc.

Chair, Legal Affairs  
Jeffrey Reeves, Gibson, Dunn & Crutcher LLP

Chair, Membership/Investor Relations  
Laura DeSoto, Experian

CEO Leadership Caucus  
Thomas Phelps, Manatt, Phelps & Phillips LLP

Co-Chair, Research and Communications  
Steve Churm, Churm Media

Co-Chair, Research and Communications  
Larry Riley, Orange County Register Communications

Chair, Workforce Development  
Richard Porras, AT&T

Co-Chair, Workforce Housing  
Michael Brandman Ph.D., Michael Brandman Associates

Co-Chair, Workforce Housing  
Jeff Roos, Lennar Homes

Chair, City Partners  
Dan Miller, The Irvine Company

## Chairman's CEO Leadership Caucus

Caucus Chair  
Tom Phelps, Manatt, Phelps & Phillips LLP  
Ski Harrison, Rutan & Tucker LLP  
Parker Kennedy, First American Financial Corporation  
Rick Stephens, The Boeing Company

## Directors

Dick Ackerman, Nossaman Guthner Knox & Elliott, LLP  
Shari Battle, Bank of America  
Robert Bein, RBF Consulting  
Alice Bisno, Automobile Club of Southern California  
Gregory Buchert, MD, CalOptima  
Charles Bullock, Brandman University  
Larry Buster, First American Title Company  
William Cave, U.S. Bank  
Jo Ellen Chatham, Ph.D., Southern California Edison Company  
Ronald DiLuigi, St. Joseph Health System  
Ron Fugate, Alacer Corporation  
Juan Garcia, Chevron  
Milton Gordon, Ph.D., California State University, Fullerton  
Gary Green, California Bank & Trust, Orange County  
William Habermehl, Orange County Department of Education  
Lisa Haines, Disneyland Resort  
Paul Kaufman, JP Morgan Chase  
Dan Kelly, Rancho Mission Viejo, LLC  
Will Kempton, Orange County Transportation Authority  
Arthur Kraft, Ph.D., Chapman University  
Thomas Leone, Cox Communications  
Robert Mayer, Jr., The Robert Mayer Corporation  
Michael Milazzo, Fluor Corporation  
Rob Myers, Wells Fargo  
Francisco Nebot, SchoolsFirst Federal Credit Union  
Gina Orozco-Mejia, Southern California Gas Company  
Cynthia Perazzo, Hoag Memorial Hospital Presbyterian  
Andy Policano, Ph.D., University of California, Irvine  
Dan Rogers, Goodwill Industries  
Mel Rogers, PBS SoCal  
John Simonis, Paul, Hastings, Janofsky & Walker LLP  
Rick Tache, Snell & Wilmer LLP  
Thomas Umberg, Manatt, Phelps & Phillips LLP

# Orange County Workforce Investment Board

## Executive Committee

Chairman  
Peter Agarwal, Citizens Business Bank

Vice-Chair  
Don McCrea, Bus-Ed Partner, Inc.

2nd Vice Chair  
Richard Sandzimier, Parsons Brinckerhoff

## Board Members

Jim Adams, L.A./O.C. Building Trades  
Bob Bunyan, The Arlington Group  
Maria-Jean Caterinicchio, Memorial Care Medical Centers  
Euiwon Chough, Chough & Associates  
Rob Claudio, California Employment Development Department  
Janelle Cranch, California School Employees Association  
Nancy Davis, OC Social Services Agency  
Ronald DiLuigi, St. Joseph Health System  
Jerry Fitch, Maxim Integrated Products  
Fred Flores, Diverse Staffing Solutions  
Dr. Milton Gordon, California State University, Fullerton  
William Habermehl, Orange County Department of Education  
Lauray Holland Leis, The Irvine Company  
Kenneth Howe, Brookside Builder Services  
Alireza Jazayeri, 3P Consulting  
Sherrie Kline, Clariant, Inc.  
June Kuehn, State Department of Rehabilitation  
Kevin Landry, New Horizon Computer Learning Centers of Southern California  
Darlene Le Fort, Coastline Regional Occupational Program  
Barbara Liddy, OC Labor Federation  
John Luker, Orange County Rescue Mission  
Douglas Mangione, International Brotherhood of Electrical Workers  
Janis Mantini, The Boeing Company  
Gary Matkin, University of California, Irvine  
Ernesto Medrano, OC Labor Federation  
Scott McKenzie, Fullerton College  
Bonny Perez, Solmar Legacy, Inc.  
Julio Perez, OC Labor Federation  
Tom Porter, Kawasaki Motors Corp., USA

J. Adalberto Quijada, U.S. Small Business Administration  
Clarence Ray, Community Action Partnership of Orange County  
Michael Ruane, Children & Families Commission of Orange County  
Samantha Simonnet, C-MONet  
Paula Starr, Southern California Indian Center  
Tod Sword, Southern California Edison  
Karen Tarca, Manpower  
Thomas Tassinari, Synergy Solutions  
Ed Tomlin, Renaissance ClubSport  
Kay Turley-Kirchner, Kirchner Consulting  
Yasith Weerasuriya, Stanbridge College  
Alan Woo, Community Action Partnership of Orange County  
Ruby Yap, Yap & Little, Inc.  
Robert ZurSchmiede, City of Fullerton

# Acknowledgements

## Data Sources

California Association of Realtors  
California Department of Education, Educational Demographics Unit  
California Department of Finance, Demographic Research Unit  
California Employment Development Department: Labor Market Information Division  
Chapman University  
Cushman Wakefield/BetterBricks  
Georgetown University Center on Education and the Workforce  
Institute for Economic and Environmental Studies, California State University, Fullerton  
Los Angeles County Economic Development Corporation  
McKinsey Global Institute  
Milken Institute  
National Association of Realtors  
National Low Income Housing Coalition  
Next10  
OTIS College of Art and Design Creativity Report  
University of California, Irvine  
U.S. Bureau of Economic Analysis  
U.S. Bureau of Labor Statistics  
U.S. Census Bureau: 2010 Census, American Community Survey

## Special Thanks for Their Thoughtful Contributions To This Report:

Andrew Munoz, Executive Director, Orange County Workforce Investment Board  
Julie Elizondo, Deputy Director, Orange County Workforce Investment Board  
Connie McKenney, Special Projects Manager, Orange County Workforce Investment Board  
Lucy Dunn, President and CEO, Orange County Business Council

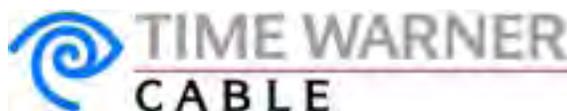
## State of the County Workforce 2011 Project Team:

Dr. Wallace Walrod, Vice President of Economic Development and Research, Orange County Business Council  
Alicia Berhow, Director of Workforce Development, Orange County Business Council  
Katherine Reedy, Director of Communications, Orange County Business Council  
Benjamin Palmer, Researcher, Orange County Business Council  
Bryan Buchert, Researcher, Orange County Business Council  
Lisa Burke, Burke Consulting

Orange County Business Council  
2 Park Plaza, Suite 100  
Irvine, CA 92614  
[www.ocbc.org](http://www.ocbc.org)



Michael Brandman Associates



**BENTLEY PRINCE STREET®**