

Orange County Workforce Indicators Report 2009 - 2010





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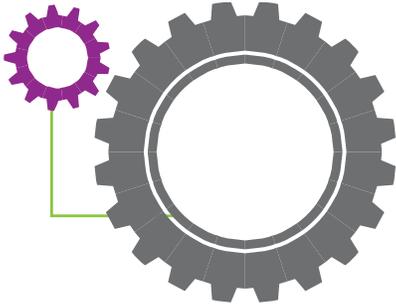
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Dear Workforce Development Partner:

The Orange County Workforce Investment Board and the Orange County Business Council are pleased to present the 2009-10 Workforce Report and the "ReBoot" OC Workforce Conference.

As the economy cycles through a major recession, Orange County must be more proactive than ever - to not only anticipate recovery, but to nurture it. Even in rough waters, Orange County remains a strong presence in the national and global economy. Challenges that were present before the recession must be tackled without delay during this recovery. These challenges include a lack of skilled workers who can fill future vacancies; educational and training needs for high-wage and high-growth occupations; home ownership and rental affordability; and economic development challenges.

It is our hope that the 2009-10 Workforce Indicators Report serves as a tool to help us anticipate and respond to the workforce challenges that we face. This report includes population projections, employment trends, educational requirements for occupations, technology integration rates, and several widely used economic indicators. The report also reveals trends influencing and affecting economic development and workforce needs. It serves as a compass for strategic planning and implementing programs that will best serve the industries and organizations as well as the people who live and work in Orange County.

The Orange County Business Council and the Orange County Workforce Investment Board are pleased that the Workforce Report continues to serve as a strategic resource for Orange County residents, businesses, and local governments.

A handwritten signature in black ink, appearing to read "Lucy Dunn".

Lucy Dunn
President and CEO,
Orange County Business Council

A handwritten signature in black ink, appearing to read "Bob Bunyan".

Bob Bunyan
Principal
The Arlington Group
Chairman, OCWIB



PATRICIA C. BATES

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2009-10 ORANGE COUNTY WORKFORCE REPORT

On behalf of the Orange County Board of Supervisors, I am proud to announce the Orange County Workforce Report and welcome you to the "ReBoot OC" Workforce Conference. The Board continues to value this report, now in its eighth year, as a resource for educators, businesses, and others in our communities that are committed to the health and vigor of Orange County's economy.

Orange County Workforce: State of the County 2009-10 shows us, in vivid clarity, the workforce trends and challenges our communities face. It is also an indispensable planning instrument of the Comprehensive Economic Development Strategy (CEDS) of Orange County, allowing for the analysis of the present economic situation and the identification of opportunities that affect favorable economic development from San Clemente to Stanton.

As Orange County prepares to revitalize the economy in the wake of the Global Financial Crisis, each and every stakeholder – businesses, workers, and educators alike, can use the information in this report to refresh our goals, and rebuild our community together. The information in this report is the linchpin that connects the strengths of a strong community - workforce development, education, business and industry, and a vibrant economy. We hope you find the information useful for your individual needs of assessment and planning, as well as illuminating the greater community for everyone.

Congratulations to the Orange County Workforce Investment Board and the Orange County Business Council on the 2009-10 Workforce Report, and welcome to "ReBoot OC".

Sincerely,

A handwritten signature in black ink that reads "Patricia C. Bates".

PATRICIA C. BATES
Chair, Board of Supervisors



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Dear Workforce and Economic Development Community:

Welcome to The Eighth Annual Orange County Workforce Conference!

The Orange County Comprehensive Economic Development Strategy committee and Economic Workforce Intelligence Committee welcome you to this year's Orange County Workforce Conference, *Reboot OC*. The Conference features the release of the *2009-10 Workforce Report* and its two timely themes: economic growth and job creation for Orange County.

As a leading economy in the nation and the world, Orange County has felt the impact of global crisis. This report responds to the needs of our decision makers by helping to set the course for growth in the most vital parts of our economy.

Now is the time to focus on recovery - and prosperity. Opportunities are clear. We need a skilled workforce to fill today's jobs, affordable housing, and investments for the jobs of the future.

As the economy recovers, this report will serve as a substantial resource for the CEDS and EWIC committees, as well as for Orange County and regional leaders who are planning the recovery of our communities, our workers, and our businesses, and for future economic growth.

If you see a way that you or your organization may help us organize to make Orange County more successful, please let us know. We want – we need – positive input from leaders, all with an eye toward the continued successful growth of Orange County.

Sincerely,

Jack Mixner
Orange County Comprehensive Economic Development Strategy Committee
Orange County Workforce Investment Board/Economic Workforce Intelligence Committee

MISSION STATEMENT

TO RESPOND TO THE NEEDS OF BUSINESSES, JOB SEEKERS AND STUDENTS THROUGH
AN INTEGRATED WORKFORCE DEVELOPMENT SYSTEM.



TOSHIBA AMERICA INFORMATION SYSTEMS, INC.*

Chris G. Harrington
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H.G. Wells once said that “human history becomes more and more a race between education and catastrophe.” That was an insightful observation made in 1920, long before catastrophes due to environmental abuses, weapons of mass destruction, or global financial meltdowns were front page news. Wells was surely considering the challenges in his time of industrialization, world war, and social inequities, all of which are still with us. The fact is, wages on the race are certainly higher today than ever.

Our infrastructures -- natural in our environment and human-created in the design of our cities, roads, pipelines, healthcare systems or information networks -- are the potential root of the catastrophe and the source of the solution. Only educated human intelligence can guide us to the solution and away from the catastrophes. If we don't increase the bet on the side of education, the race will be lost.

Science and math skills are required in an ever increasing number of jobs. Of course, we need scientists and mathematicians to continue to push the frontiers of research, take on the role of educator and handle highly technical jobs. But we should look carefully at the skills needed, say, to have a job in marketing. Market segmentation is highly quantitative, as is the analysis of Internet activities, as is the statistical evaluation of demand by geography or retail location. A company's Six Sigma program – which often applies to all employees – could be incomprehensible to someone who wasn't math literate. Running advanced technical diagnostic equipment is not a job open to those who have no understanding of technology.

Recognizing that education in science, technology, engineering and math (STEM) is essential to an ever expanding range of jobs, the Orange County Business Council (OCBC), through its Workforce Development Committee, has placed special focus on this aspect of education. Education is surely a wider endeavor than teaching STEM disciplines, but if we forsake excellence in this area, we will lose significant ground in the race.

Companies must similarly take an active role in supporting education, not just to secure a quality future workforce, not just to assure their employees have good schools for their children, but to do its share in helping to avoid potentially major disruptions to our complex, global infrastructures and systems. Toshiba believes that true corporate social responsibility demands such involvement and is proud to be a member of OCBC and a sponsor of this conference.

A handwritten signature in black ink that reads "Chris Harrington". The signature is fluid and cursive.

Chris Harrington
Vice President, Strategy
Toshiba America Information Systems
2009 OCBC Chair, Workforce Development Committee

Orange County Workforce Indicators Report 2009 - 2010

Introduction



2009-10 Workforce Indicators Introduction

Last year has shown how an economic world can turn upside down in an instant and how fragile the quality of life of any economic region truly is. Given this precariousness, how does Orange County measure up? Are we excelling or falling behind? One thing is clear, talent and skills are keys to success in any economic condition.

Orange County residents must now be prepared to compete like never before with people from around the world. How are Orange County's workers doing and are we preparing a workforce for the future? It is a whole new ballgame, folks. We can no longer be passive and simply rely on our great weather and quality of life.

The 2009 State of the County Workforce seeks to answer these questions by providing a series of snapshots of various issues important to Orange County's economy and workers. These issues include:

- Educational achievement of our students;
- Wages and employment projections of growth occupations;
- The growth trends and changes taking place in our key industry clusters; and
- Our ability to provide housing for our workforce.

Conducting sound research on these issues and other competitive challenges is the best way to examine how Orange County's business community and workforce are doing. Fortunately, this year's report finds that on many crucial issues, Orange County's workforce is not only keeping pace, but making real improvements.

Arguably, the most important preparation for the county's future will take place in our schools. Good news resonates out of many of the education-oriented indicators.

- Achievement in math and science of Orange County students generally exceeds state rates.
- SAT scores continue to rise and remain ahead of state, national and most peer market averages.
- Enrollment in upper level science and math is solid with UC/CSU eligibility exceeding state averages.

However, our overall countywide numbers conceal a serious divide within Orange County. While several school districts perform at an elite level, others lag behind county, state and national benchmarks. The consequences of these dissimilar outcomes, if unchecked, are considerable for the county's future economic

and workforce competitive position. The school districts that are the furthest behind are responsible for educating an ever-larger share of our future workforce. Combined, Anaheim Union and Santa Ana Unified, for example, enroll nearly one-quarter of Orange County's 9th graders.

Moving beyond education, this year's indicators also examine occupational growth and salary trends in our key industry clusters. Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a particular region or local economy. Clusters emerge because companies engaged in a similar industry recognize they can enhance their productivity by locating near each other, thus enhancing their ability to compete collectively and cooperatively.

Because of this, these businesses tend to be higher growth and generate higher wage occupations. Having significant multipliers also plays a role in identifying the clusters of Orange County.

For the most part we have good news to report with Orange County holding steady in its key advantages in its major clusters, Business and Professional Services, Tourism, Healthcare and High Tech. Examined together with demographic changes, overall quality of living, and perceived climate for investment, these factors reveal a great deal about not only where we are in 2009, but where we will likely see ourselves in the future. Certain indicators have targets for achievement desired by 2010. Where trends show failure to be on track to meet the target, the findings are highlighted in red.

We hope that this year's report will again provide readers with key insights to the county's current standing in critical workforce trends, as well as benchmarks about what the future may hold. Above all, we look forward and remain open to opportunities for collaborating on good ideas that will ensure Orange County a bright future.



Indicators Fact

Industry Clusters Typically Possess Four Key Characteristics:

- Critical mass/concentration—in other words, more concentrated than average;
- High growth rates—much higher than average growth rates in other sectors;
- High multiplier effects—not all jobs are equal in terms of their effect on other parts of the economy. For example, creating a job in an industry cluster typically creates two or three other jobs throughout the economy, such as in Advanced Manufacturing; and
- Finally, and most importantly, some key reason, or some competitive advantage for the cluster to be here, today and in the future—Disney and Boeing are two examples of key reasons we have competitive advantage in their respective clusters.



Orange County Workforce Indicators Report 2009 - 2010

Industry &
Occupation
Analysis



Industry Growth Projections for Orange County

Largest Projected Job Growth Is in Business Services, Food Services, and Healthcare

Description of Indicator

This indicator is a measure of the growth in employment of particular industries in Orange County from 2006-2016, as projected by the California Employment Development Department. Industries are defined by the business activities which they perform. These are not necessarily the same labels for the clusters used by the Orange County Workforce Investment Board (see Cluster Analysis indicator). The employment numbers are the count of all the employees hired by the businesses in that industry regardless of the type of occupation performed by the employee.

Why Is It Important?

In the 1990s, Orange County underwent a major shift in its industry composition. As overall Defense/Aerospace employment declined, Business and Professional Services employment surged, catering to the regional economy, high-tech industries, and financial services. Measuring the continuing transformation of the Orange County economy towards greater diversification

enables policy makers to better assess the strengths and vulnerabilities of the local economy and capitalize on existing assets and advantages.

How Is Orange County Doing?

Overall, Orange County employment is expected to increase 13.4% from 2006-2016. This projection is much lower than the 18.0% expected increase in the previous 2004-2014 projection, showing the impact of the recession in 2008-2009.

Projections confirm the continuing importance of Business and Professional Services, since this sector is among the leading sectors in projected absolute number of jobs. This sector was also a leader in both absolute and percentage job growth for the previous projections, covering the period from 2004-2014. When looking at individual industries, the largest growth industries are in Administrative and Support (Business Services), Food Services and local Government/Education. When looking at the industries that will generate the largest employment growth as a percentage of their 2006 Orange County employment level, Healthcare, Food Services, and Wholesale Trade sectors figure prominently among the top ten.

Figure 1: Top 10 Fastest Growing Industries in Orange County by Absolute Growth, 2006-2016

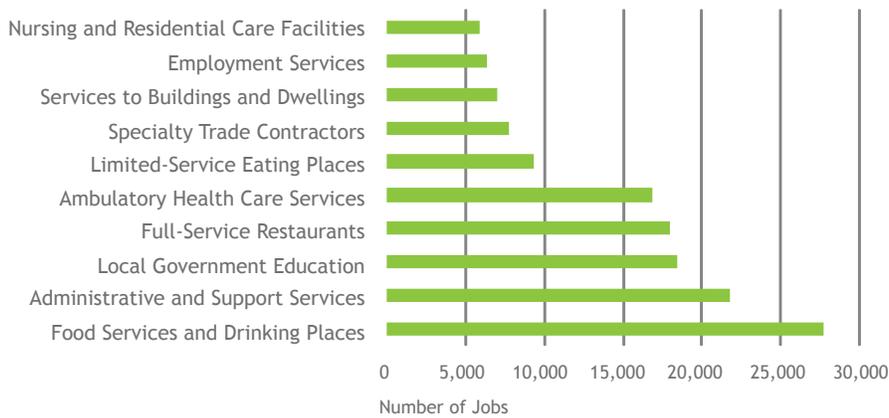


Figure 2: Top 10 Industries in Orange County by Percentage Job Growth, 2006-2016



Source: California Employment Development Department

Cluster Analysis

What Are Clusters?

Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a particular region or local economy. These businesses tend to have higher growth and generate higher wage occupations.

These clusters are different from the “industry sectors” described elsewhere in this report. Industry sectors are defined by the hierarchy of the North American Industry Classification System (NAICS) used by the California Employment Development Department.

Why Is It Important?

Approximately three fourths of all Orange County jobs are in the clusters described in this indicator. These clusters were chosen to reflect both key economic drivers of the Orange County economy and industries that are central to workforce development. Understanding employment trends in these clusters can and should influence workforce and economic development policy.

In addition, understanding comparative salary levels and salary growth trends is vital for education and workforce development policy. This information, combined with information from the indicator on cluster employment growth trends, allows workforce development professionals and the business community to understand how the county’s economy is performing in terms of generating jobs at differing salary levels. For example, if growth of low-wage jobs is not balanced by growth of high-wage jobs, there will be problems—especially in a high cost of living location like Orange County.

How Is Orange County Doing?

EMPLOYMENT

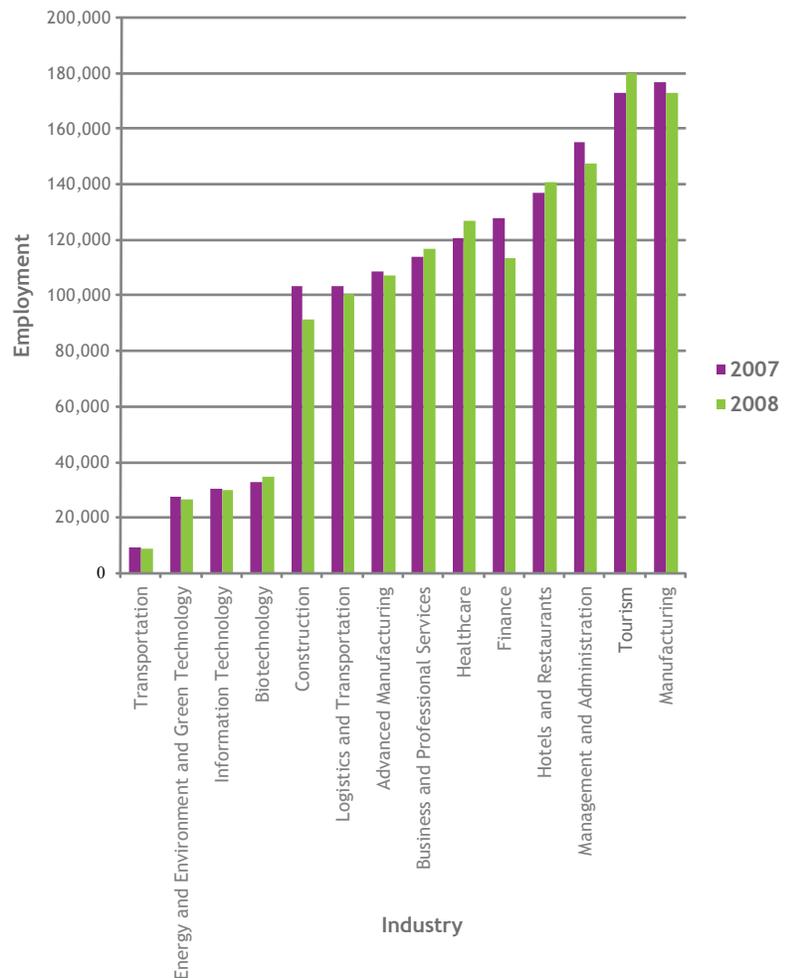
The three largest clusters, according to size of employment, are Manufacturing, Tourism, and Management & Administration, which reflects the importance of the service sector in the Orange County economy as well as Orange County’s continuing strength in manufacturing despite national trends. Other clusters such as Finance/Insurance/Real Estate, Construction, Healthcare, and Business & Professional Services also play significant roles in the Orange County economy.

SALARY GROWTH

Because much of Orange County’s job growth is in service sector clusters that have low wages and weak wage growth, workforce development policy in those sectors should focus strongly on skills development to provide avenues for wage growth that otherwise might not exist. Workforce development policy should also attempt to identify skill ladders that can move employees from service sector jobs to jobs in the technology clusters that have higher wages and more rapid wage growth.

All of the clusters show continuing salary growth over the last several years. However, wage growth since 2001 was less than wage growth during the boom years of the 1990s even in the clusters. During the 1990s, economic expansion helped wages grow overall, but especially in these clusters. In the decade following, as the economy declined across the nation and in Orange County, wages have stagnated and in some cases contracted.

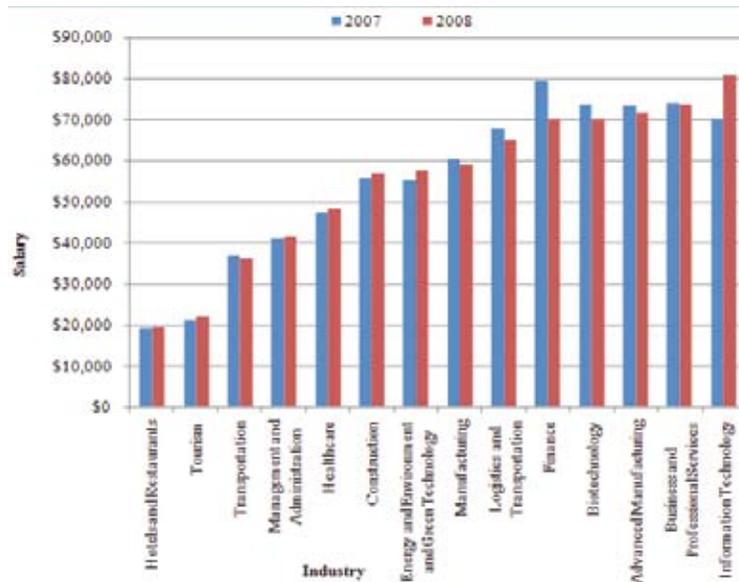
Figure 3: Orange County by Cluster Employment, 2007-2008



Source: OCBC analysis of California Employment Development Department QCEW dataset.

Continuing salary growth in some of Orange County's technology clusters is particularly good news given the economic conditions in recent years. Yet the preponderance of employment growth in relatively low-wage clusters suggests a long-term issue for Orange County's workforce development policies. These wage trends indicate that the county's recent economic contraction in some high technology clusters may be on the verge of expansion as growing wages suggest a potential for employment growth over time. Additionally, many of the higher paying clusters report great difficulty in finding skilled workers.

Figure 4: Orange County by Annual Cluster Salary, 2007-2008



Source: OCBC analysis of California Employment Development Department QCEW dataset.

GEOGRAPHIC DISTRIBUTION

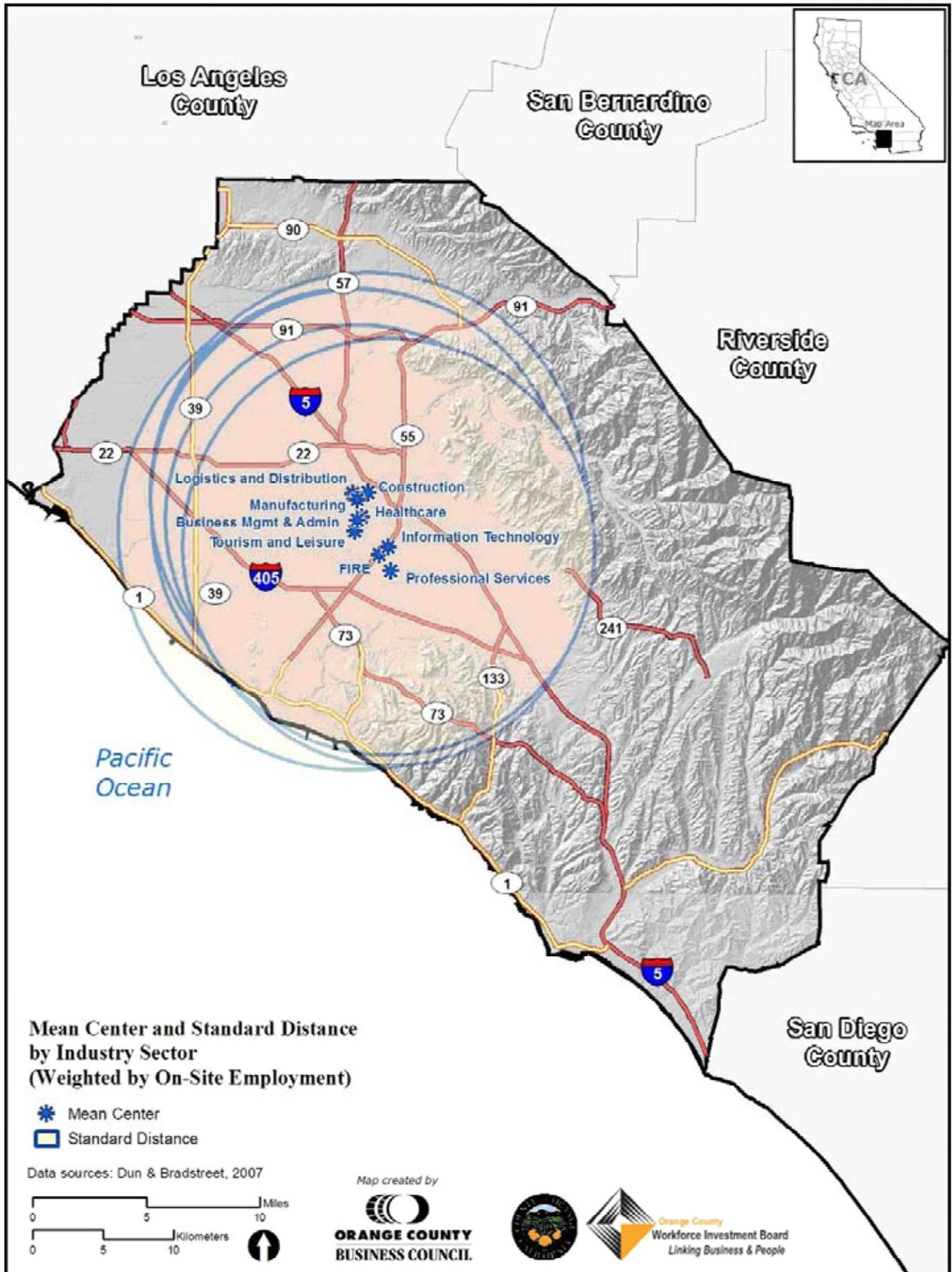
Understanding the geographical location of the clusters in Orange County is important as well. Data collected on cluster firm locations reveals that all are concentrated in central Orange County, near the cities of Irvine, Tustin, and Santa Ana. Firms represented in the Construction and Logistics & Transportation sectors have their center furthest north, while the location center for firms within the Professional Services sector is further south, in Irvine. Other analysis of firm locations in clusters reveals particular patterns of concentration. For example, a substantial concentration of construction firms is located around the City of Orange, with densities exceeding more than 52 establishments per square mile. In contrast, concentration of firms in the Professional Services sector are greatest in cities further south such as Costa Mesa, Irvine, and Newport Beach.



TARGET

Orange County is to create 5,000 new, high-wage jobs in Biomedical and Computer Software Clusters and 25,000 jobs in Business and Professional Services by 2010. In the last year, firms oriented to the Biomedical cluster increased by 2,000 jobs, Information Technology (containing the Computer Software Industry) decreased by about 650 jobs, and Business and Professional Services grew to approximately 3,000 jobs. Business and Professional Services and Biomedical are on-target while job growth in the Computer Software industry is not.

Figure 5: Geographic Center of Locations of Cluster Firms in Orange County, 2007



Source: OCBC analysis of Dun & Bradstreet data

Analysis of Occupations

Description of Indicator

This indicator describes occupational projections and geographical distribution of occupational requirements relative to educational attainment. In addition, this indicator discusses the geographic location of jobs in various occupations and the educational attainment of residents in those geographical locations across Orange County. Note that occupational growth is a measure for specific types of jobs, not growth in the number of jobs in particular industries. Many occupations are found across several different industries. For example, while the Tourism industry may have maids, bellhops, taxi drivers, cooks, managers and executives, only some of these are occupations that are specifically classified as Tourism occupations. Therefore, statistics on occupations cannot be compared with statistics on industries (e.g., Tourism industry wages are not the same as Tourism occupation wages).

Why Is It Important?

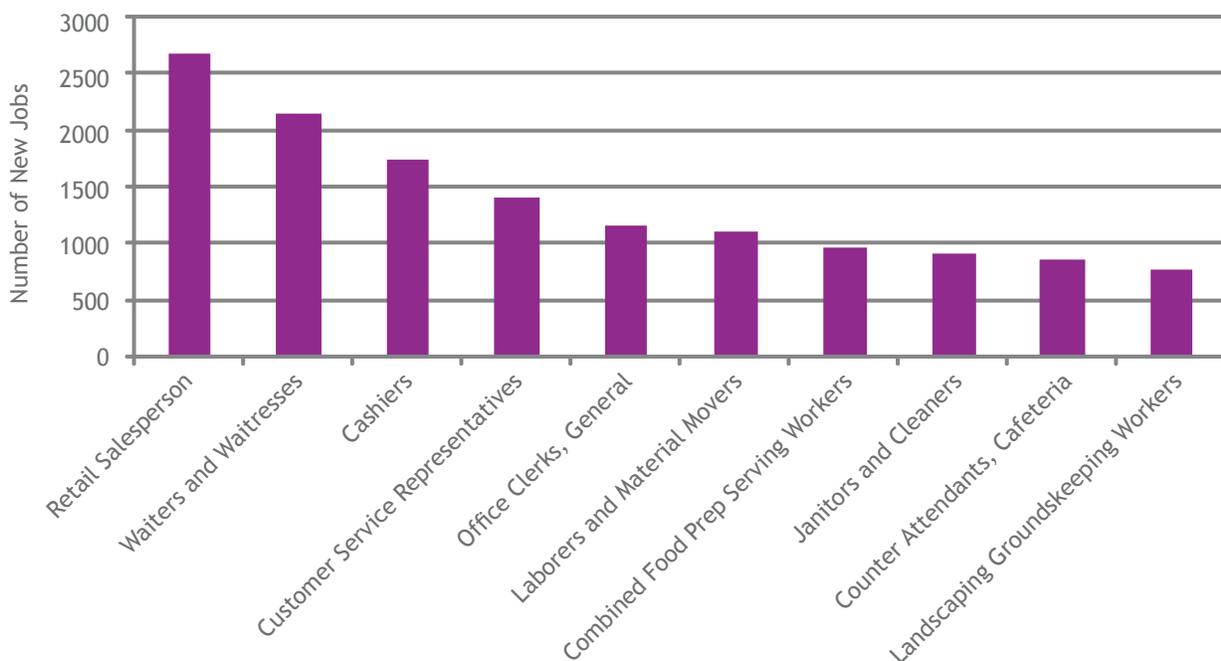
The measurement of occupational growth across several parameters enables workforce professionals to develop training programs which prepare workers for occupations that are expected to have the greatest demand in the future. Understanding the geographic distribution of jobs relative to educational attainment also helps further insight on transportation commute patterns and location of job training sites.

How Is Orange County Doing?

OCCUPATION PROJECTIONS

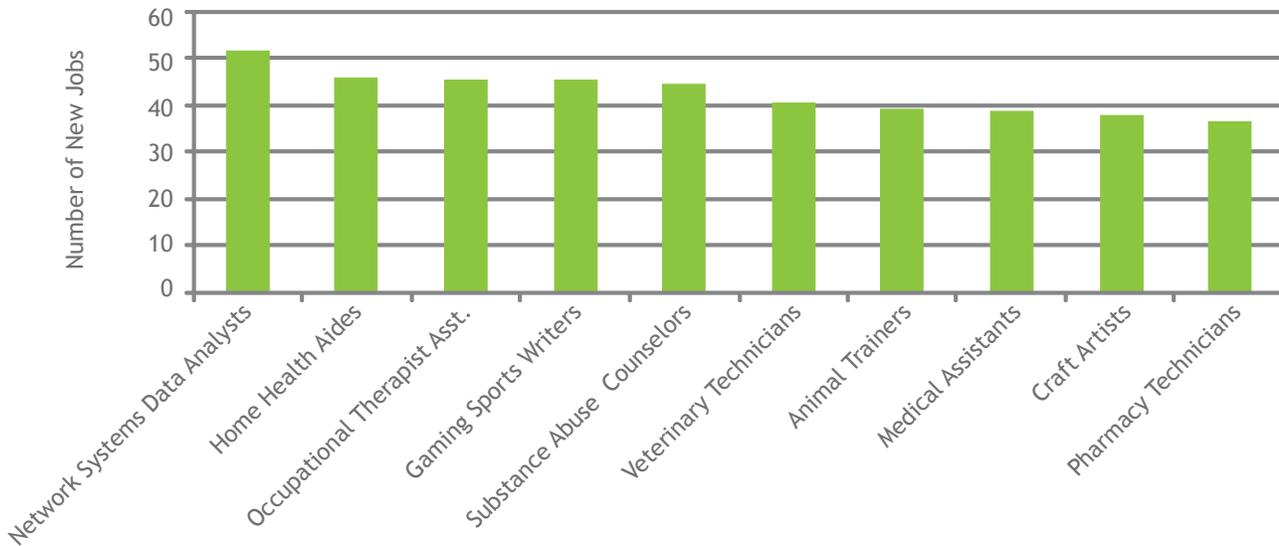
Out of the total 224,600 new jobs projected to be added to the Orange County economy from 2006 to 2016, the individual occupations with the highest growth in the number of jobs are “Retail Salespersons,” “Waiters and Waitresses, Cashiers,” and “Customer Service Representatives.” In terms of percentage growth, the fastest occupational growth in Orange County will be in “Network Systems and Data Communications Analysts” (51.8%), “Home Health Aides” (46.0%), and “Occupational Therapists” (45.5%). These statistics highlight the dominance of retail and sales jobs in the economy as well as the rapid growth of healthcare jobs into the future. However, given Orange County’s high cost of living, the high number of low-wage occupations is an area of concern for workforce development professionals. Efforts should be made to provide training in these occupations so employees can gain greater skill development and have the opportunity to rise up the career ladder to higher-wage jobs.

Figure 6: Top 10 Fastest Growing Occupation in OC by Absolute Growth, 2006-2016



Source: California Employment Development Department*

Figure 7: Top 10 Fastest Growing Occupations in Orange County by Percentage, 2006-2016



Source: California Employment Development Department

GEOGRAPHIC ANALYSIS OF EDUCATIONAL ATTAINMENT AND JOB OPENINGS

The new jobs projected to be created will incorporate a wide variety of education, training, and skill requirements. Three training categories were analyzed: (1) jobs that do not require a high school diploma (i.e., jobs that require short to long-term on-the-job-training or work experience in the related occupation); (2) jobs that require some post-secondary education (i.e., post-secondary vocational education or associate’s degree); and (3) jobs that require a bachelor’s degree or higher educational attainment.

It is estimated that over one third of the jobs in Orange County do not require a high school diploma. However, almost a quarter of the jobs require a bachelor’s degree or higher educational attainment and it is these jobs that typically pay higher wages. Over 43% of the population age 25 years and older in the City of Santa Ana do not have a high school diploma. In addition, at least 20% of the 25 and older populations in the cities of Stanton, Garden Grove, Anaheim, Westminster, and La Habra have not earned a high school diploma. Most of the cities that are lower in educational attainment are clustered in the north and central areas of the County. This contrasts with cities that are higher in resident educational attainment, most of which are located in the southern and western parts of the county.

The lowest educational attainment levels are in the north and central parts of the county while the highest educational attainment rates are in the south and west parts of the county. However, as the maps below show, there is great spatial variation in job requirements than in educational attainment throughout the county. That means that a sizeable number of people need to commute long distances to get to their jobs.

The following map set demonstrates the education attainment rate in Orange County, both for high school diplomas and bachelor’s degrees.

Figure 8: High School Diploma Attainment, 2007

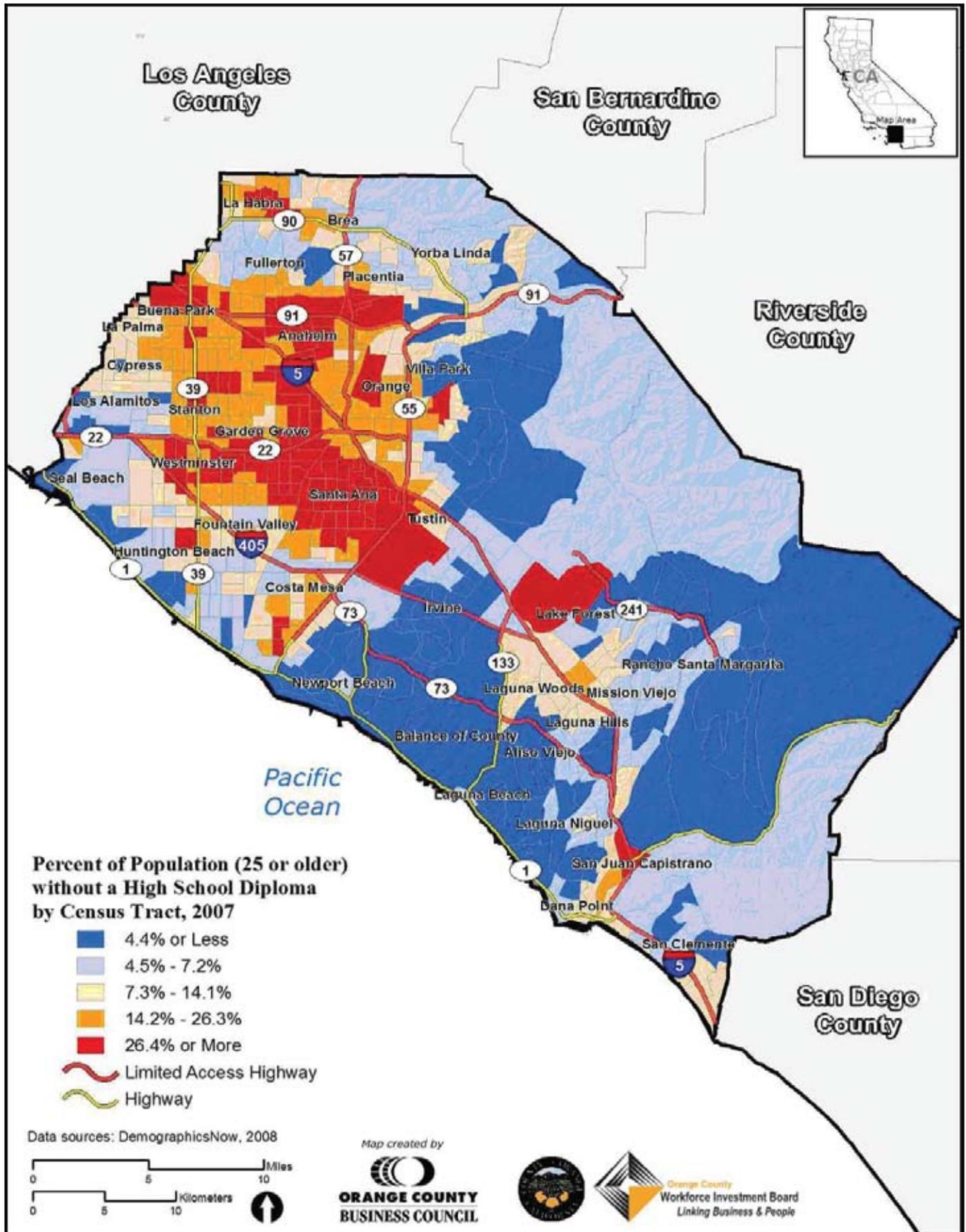


Figure 9: Bachelor's Degree Attainment, 2007

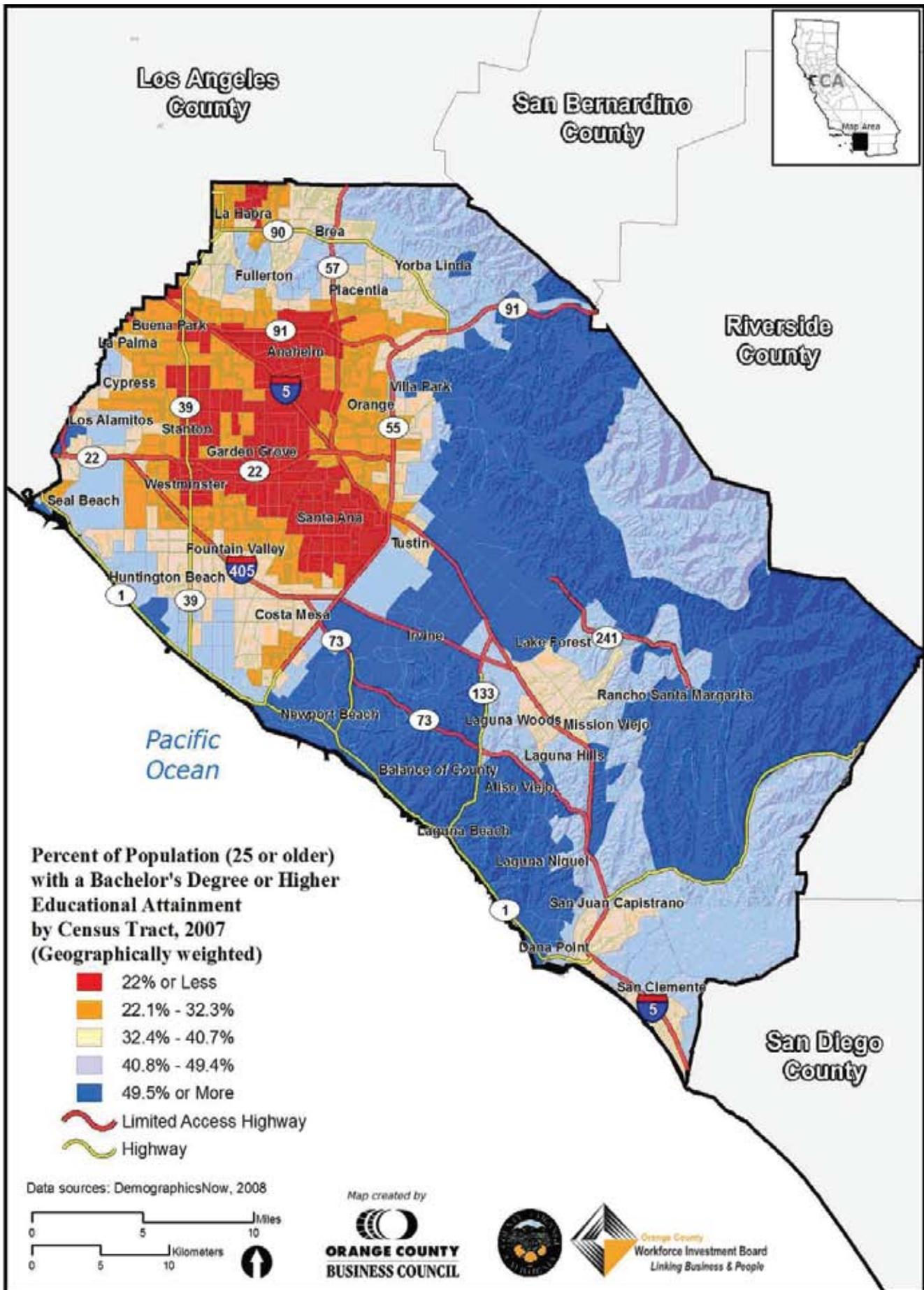


Figure 10: Jobs and High School Diplomas, 2007

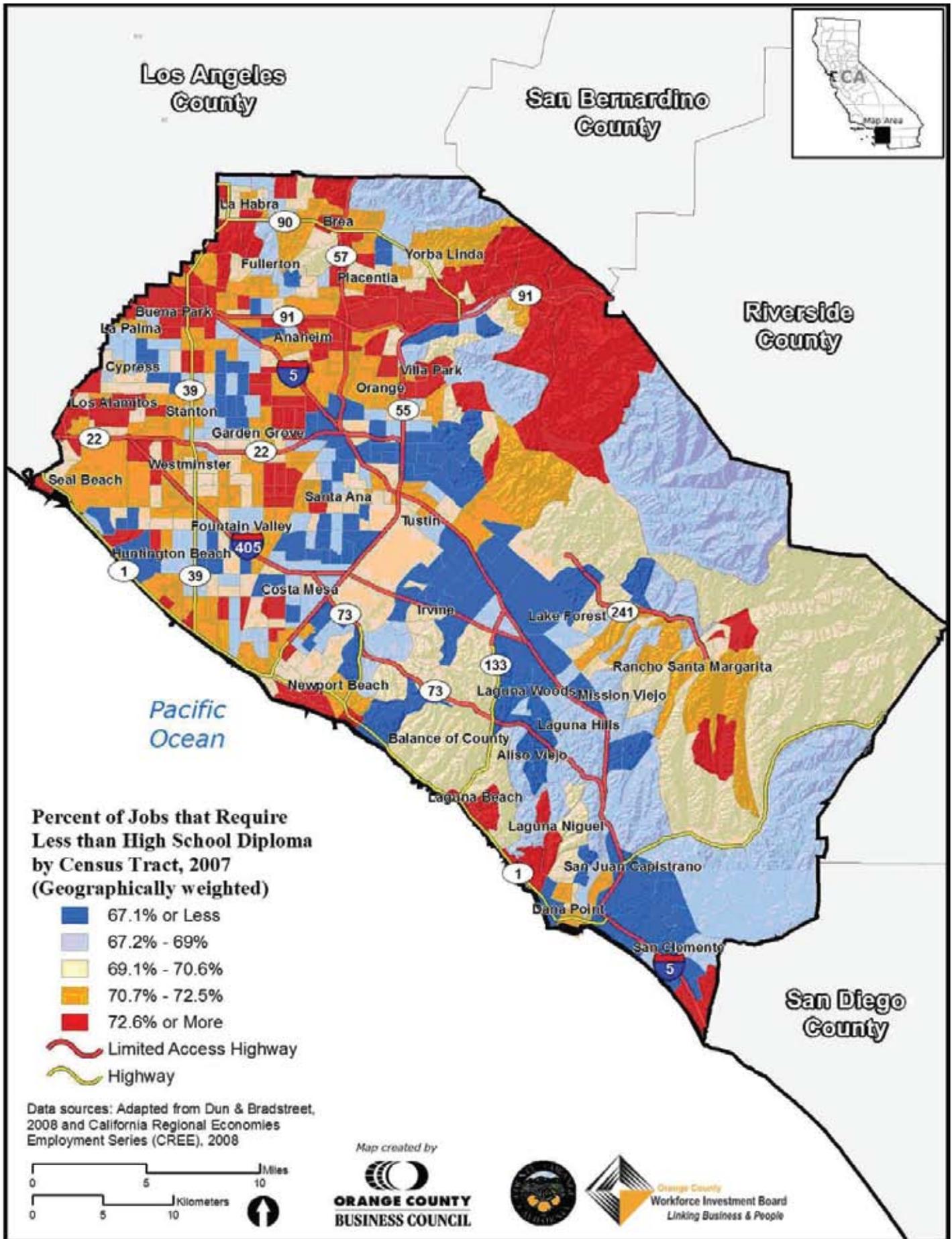
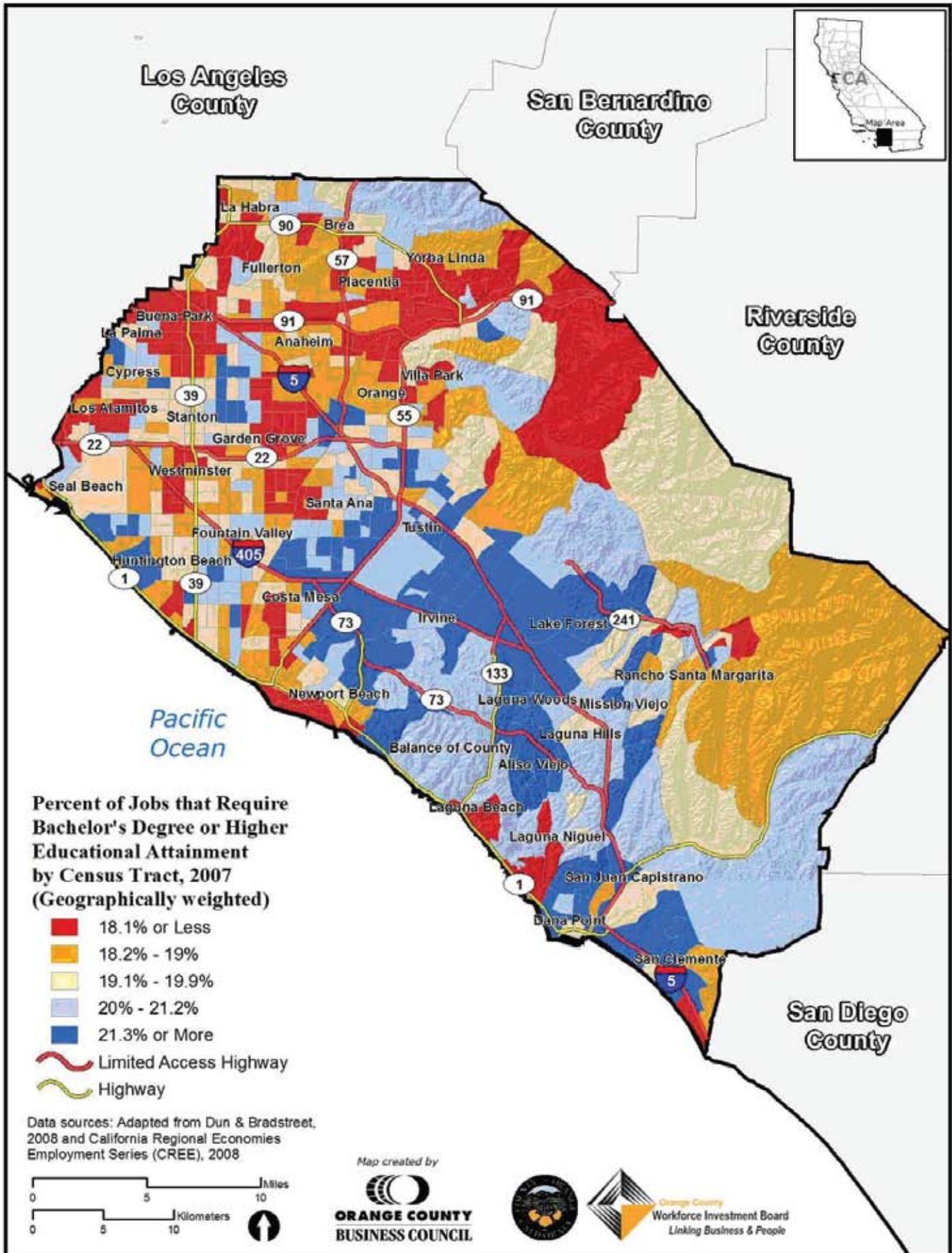


Figure 11: Jobs and Bachelor's Degrees, 2007



Orange County Workforce Indicators Report 2009 - 2010

Orange County
Housing Cost:
A Workforce Perspective



Home Purchasing and Rental Affordability

Orange County Remains Among Nation’s Most Expensive Housing Markets

Description of Indicator

This indicator is a measure of the home purchasing power of the different wage levels in Orange County. The indicator shows the home that can be purchased for different annual incomes and the median home price for Orange County compared to peer regions.

In addition, this indicator measures the Housing Wage—the hourly wage a resident would need to afford Fair Market Rent. This indicator also shows fair market rents for a typical Orange County apartment.

Why Is It Important?

Orange County’s high cost of homeownership requires that some lower-wage workers either live in crowded conditions within the county or that they commute long distances from locations outside of the county. Additionally, workforce and economic development efforts that target higher wage industries and occupations can provide wages that are better suited to Orange County’s cost of living.

Rental housing can provide low- and moderate-income workers with affordable places to live. Lack of affordable rental housing can cause high occupancy levels, leading to crowding and household stress. Less affordable rental housing also restricts the ability of moderate-income renters to save for a down payment on a home, limiting their ability to become home owners and build personal wealth through housing appreciation. Ultimately, a shortage of affordable housing for renters can instigate a cycle of poverty with potentially debilitating effects throughout the County.

How Is Orange County Doing?

RENTAL

The Housing Wage for rental homes in Orange County ranges from \$24.92 per hour for a one-bedroom apartment to \$42.08 per hour for a three-bedroom apartment. Orange County’s Housing Wage rates increased since 2000 when Housing Wages were \$15.23, \$18.85, and \$20.86 for one-bedroom, two-bedroom, and three-bedroom apartments, respectively. This is the first year the housing wage decreased. The hourly wage needed for a one-bedroom apartment (\$24.92) is equivalent to an annual income of \$51,840.

Figure 12: Renting in Orange County, 2003-2009

Fair Market Rent	2003	2004	2005	2006	2007-08
One Bedroom	\$1,098	\$1,098	\$1,161	\$1,238	\$1,330
Two Bedroom	\$1,317	\$1,317	\$1,392	\$1,485	\$1,595
Three Bedroom	\$1,885	\$1,885	\$1,992	\$2,125	\$2,282
Estimated Orange County Median Family In	\$74,200	\$74,000	\$75,700	\$78,300	\$84,100

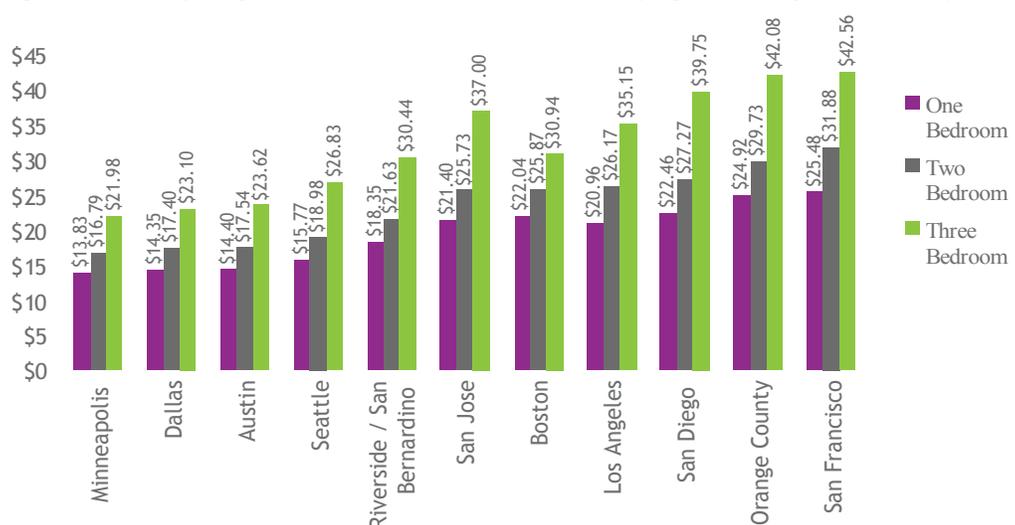
Source: National Low Income Housing Coalition



TARGET

Orange County has sufficient workforce housing and maintains a competitive home purchasing power of wages compared to other innovation-driven economies. Orange County remains one of the most expensive places to purchase a home, even though prices are now dropping.

Figure 13: Hourly Wage Need to Afford Fair Market Rent (Regional Comparison, 2009)



Source: National Low Income Housing Coalition (<http://www.nlihc.org/oor/oor2008/>)

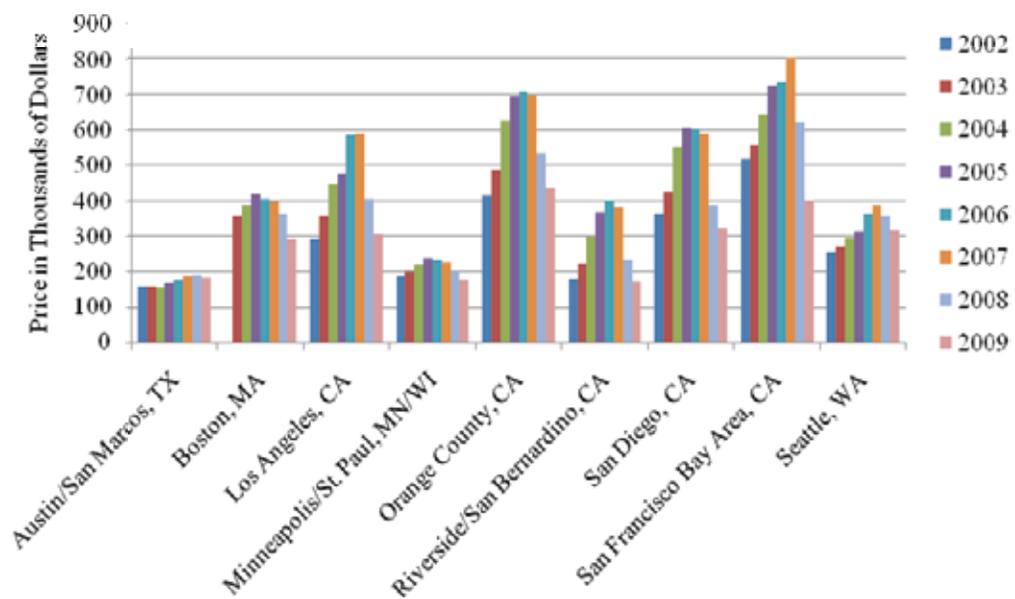
HOME OWNERSHIP

Between July of 2008 and July of 2009, the Orange County median priced home (condos and single family homes) dropped 6.9% to \$500,210. After years of double digit increases, this drop shows that the recent housing price boom is over. However, while the boom is over, housing is not necessarily more affordable for a large number of Orange County residents.

Families making the median family income for Orange County are not able to afford median priced single-family homes in the county. The median family income for a family of four in Orange County in 2009 is approximately \$86,100 and the purchasing power for that level of income is a \$255,000 home. Santa Ana had the lowest median home price for July of 2009 (\$245,000) and Newport Beach had the highest (\$1,300,000), suggesting that the recent large home price declines have been necessary in order to begin closing the gap between home prices and household incomes for many Orange County residents.

When compared to peer regions, Orange County has the highest median single-family home prices. The median single family home price in Austin, Texas for 2007 (\$182,300) was around \$200,000 less than the prices in Orange County. This suggests that employers in Orange County may have a more difficult time retaining or attracting high quality workers than other similar communities.

Figure 14: Median Single-Family Home Price, Seasonally Adjusted, 2002-2009



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.

Orange County Workforce Indicators Report 2009 - 2010

Orange County Workforce Demand and Supply:

High Schools and Colleges



College Readiness

College Readiness Increases in 2007-2008 for Orange County Students

Description of Indicator

College readiness measures the number of public high school graduates eligible for admission to the University of California (UC) and California State University (CSU) campuses. In addition, SAT performance for Orange County districts is measured as well as performance of the county as a whole in comparison to the other counties, the state and the United States. The indicator also measures the percentage of students in grades 11 and 12 who are enrolled in Advanced Placement courses in Science and Math.

Minimum UC/CSU Requirements

- 4 years of College Preparatory English
- 3 years of College Preparatory Mathematics (Algebra, Geometry, Intermediate Algebra)
- 2 years of College Prep Foreign Language
- 2 years of College Prep History (1 year World History, 1 year US History)
- 2 years of College Prep Laboratory Science (1 year Biological Science, 1 year Physical Science)
- 1 year of College Prep Visual and Performing Arts
- 1 year of College Preparatory Elective

Why Is It Important?

A college education or related skill certification is increasingly important for many of today's jobs in Orange County. To gain entry to most four-year universities, high school students must

complete the necessary course work and perform well on standardized tests.

Students who have taken Advanced Placement courses have a leg up in college since they can obtain college credit while in high school. Having already obtained course credit often enables students to pursue more advanced college courses, which makes it easier for them to major in disciplines such as Mathematics, Physics, Computer Science or Chemistry.

A higher number of students who are ready for college and with prospective science and math majors make it easier for Orange County high tech firms to recruit local talent to grow their businesses.

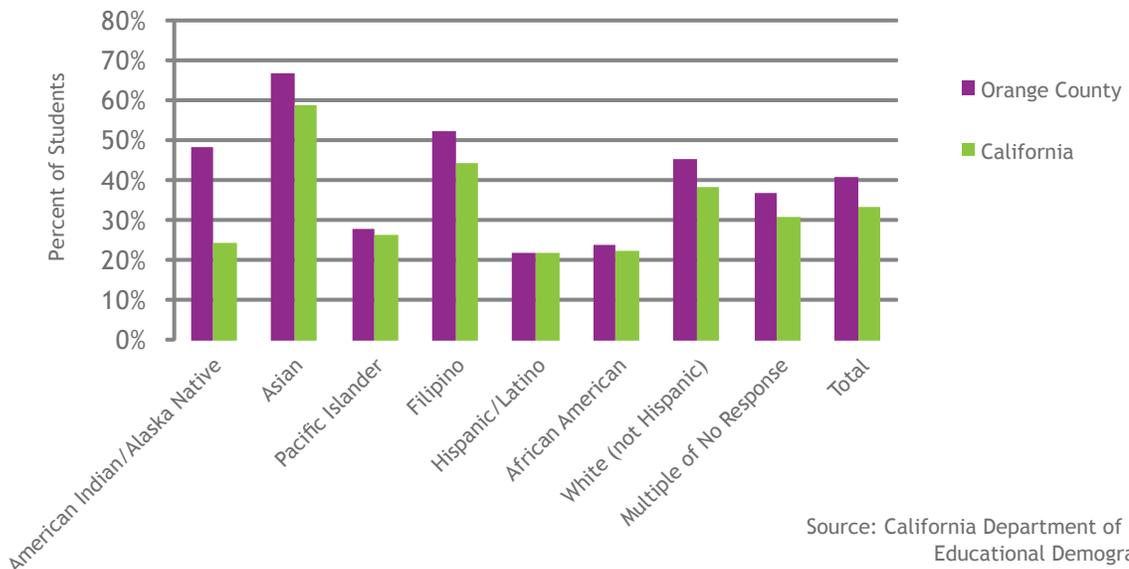
How Is Orange County Doing?

Average college eligibility for the county increased from 39.1% in 2006-2007 to 40.9% in 2007-2008. The increase in the 2007-2008 school year is a trend in the right direction after decreasing from 43.4% in 2005-2006 to 39.1% in 2006-2007.

There was a dramatic increase in the number of Hispanic students eligible for UC/CSU Admission, rising from 18.2% in 2004-2005 to 35.1% in 2005-2006 only to reverse back to 18.1% eligibility for 2006-2007 and 22.2% in 2007-2008.

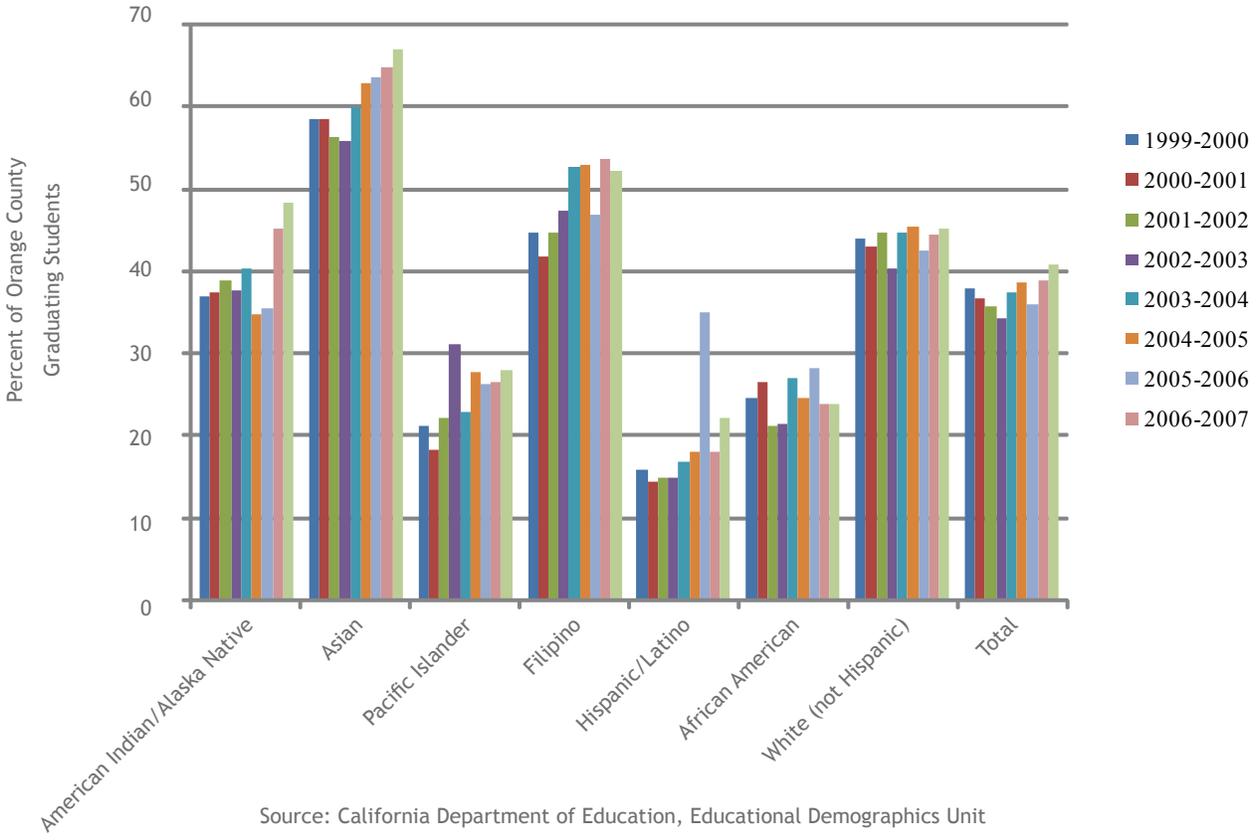
When compared to the entire state, Orange County is equal to or has higher percentages of students in all ethnic/racial groups taking the necessary courses for UC/CSU eligibility. In previous years, Orange County had been lower than the state for college eligibility of Hispanics, African-Americans and Pacific Islanders.

Figure 15: UC/CSU Eligible Graduates, Comparison to State, 2007-2008



Source: California Department of Education, Educational Demographics Unit

Figure 16: UC/CSU Eligible Graduates (by Percent of Students), 1999-2008



Source: California Department of Education, Educational Demographics Unit

Orange County students scored higher on the SAT than students in the nation, state, and most peer metropolitan areas. Of the counties used for a comparison, only Santa Clara County had average scores that were above Orange County.

Irvine Unified School District reports the highest average reading/writing/math combined score for the county in the 2007-2008 school year, while Santa Ana Unified School District has the lowest average score. With the exception of Santa Ana, Garden Grove, and Anaheim, all of the school districts in Orange County have average scores above both the California and national average SAT scores for 2007-2008.

Figure 17: SAT Scores, 2008

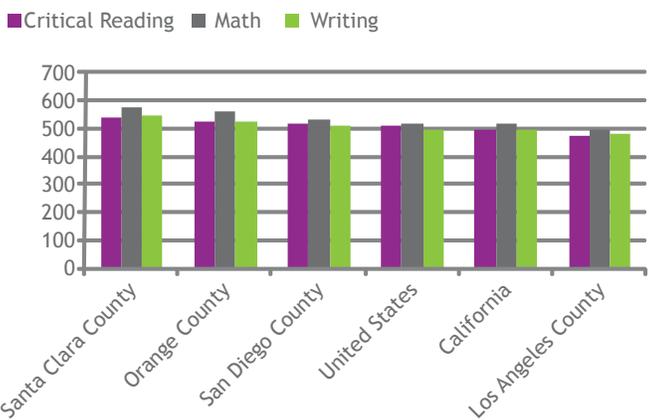
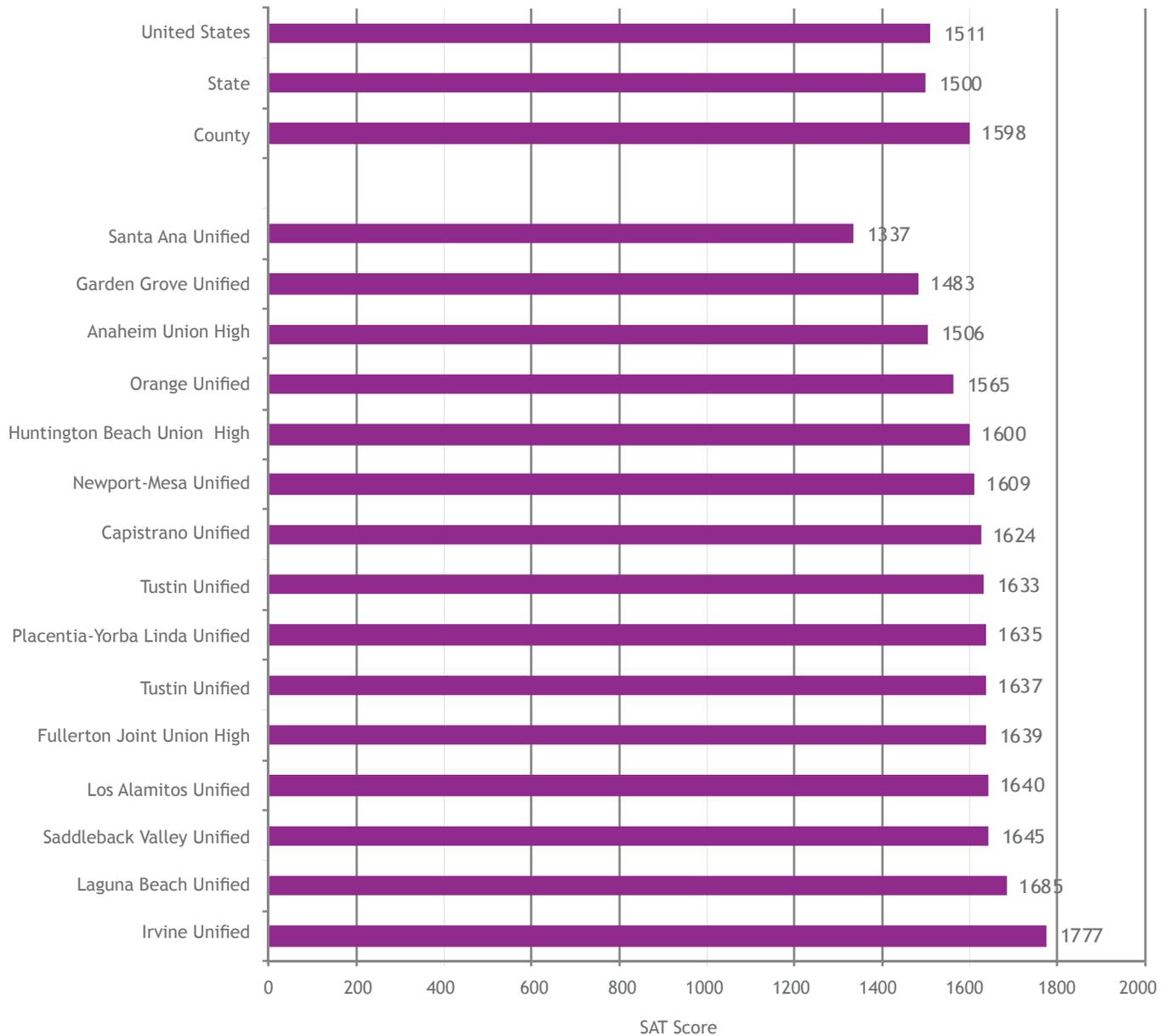


Figure 18: SAT Scores, 2006-2008



Source: California Department of Education, Educational Demographics Unit

Figure 19: Average Total SAT Scores by School District, 2008



Source: California Department of Education, Educational Demographics Unit

Orange County enrollment in Advanced Placement courses in Science and Math is the highest of all southern California counties but trails those of northern California.

Of Orange County 11th and 12th Graders:

- Approximately 1.0% took AP Computer Science
- 6.2% took AP Calculus
- 3.3% took AP Statistics
- About 4.5% took AP Biology
- Almost 2.2% AP Chemistry
- About 2.9% took AP Physics
- Almost 2.0% took Environmental Science

A higher percentage of students in San Francisco, Santa Clara, and Alameda counties took AP courses. The percentage of Orange County students taking AP courses in Science and Math exceeds those of Los Angeles, San Diego, Riverside, and San Bernardino counties.

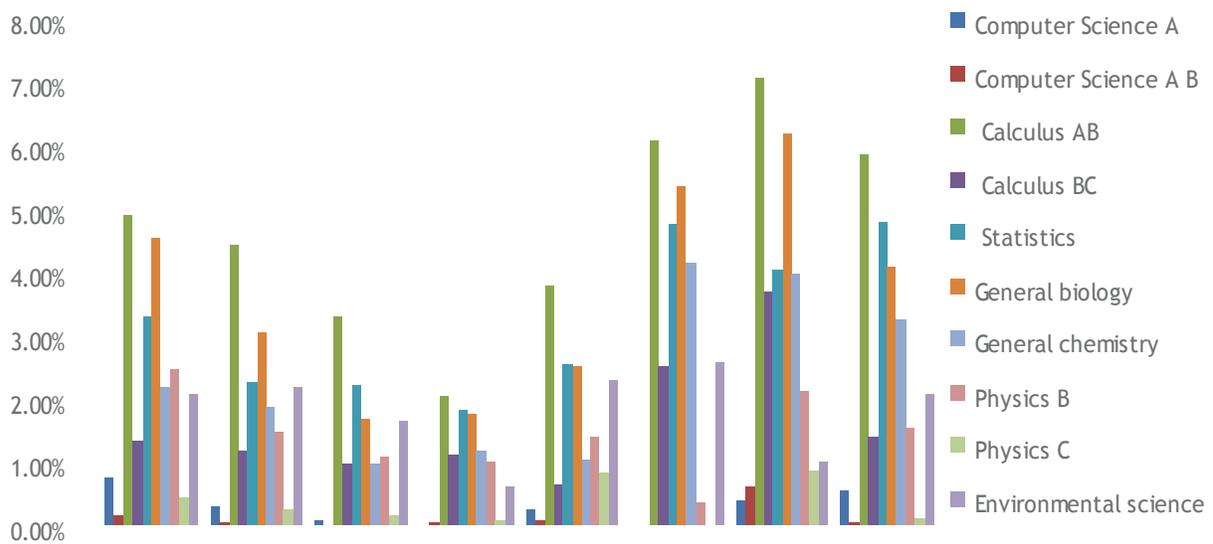
In 2007 at the Orange County school district level, between 14.6% and 77.1% of AP test takers passed with a score of “3” or higher. Irvine had the highest percentage of test takers pass, while Santa Ana had the lowest percentage.

Figure 20: Orange County AP Math and Sciences Enrollment Percent of Total 11th and 12th Grade Enrollment, 2006-2009

	2006	2007	2008	2009
Computer Science A	0.79%	0.71%	0.82%	0.74%
Computer Science AB	0.18%	0.15%	0.18%	0.15%
Calculus AB	4.47%	4.87%	4.86%	4.88%
Calculus BC	0.78%	1.06%	1.18%	1.33%
Statistics	2.92%	2.98%	3.30%	3.30%
General Biology	3.75%	4.15%	4.49%	4.55%
General Chemistry	2.56%	2.34%	2.29%	2.19%
Physics B	2.21%	2.40%	2.06%	2.46%
Physics C	0.50%	0.34%	0.34%	0.44%
Environmental Science	1.36%	1.42%	1.93%	2.08%

Source: California Department of Education, Educational Demographics Unit

Figure 21: Advanced Placement Enrollment as Percentage of Total Enrollment of 11th and 12th Grades, 2008-2009



Source: California Department of Education, Educational Demographics Unit



TARGET

By 2010, 50% of Hispanic/Latino and Pacific Islander students meet UC/CSU eligibility. For 2007-2008, 22.2% of Hispanic/Latino and 28.2% of Pacific Islander students met UC/CSU eligibility; increased from the previous year but not on pace to meet the 2010 target.

By 2010, double student enrollment in AP Science, Math and Computer Science from current enrollment. Enrollment trends show that Orange County is not on pace to meet this target.

Enrollment and Standardized Test Achievement in Math and Science

Orange County Outperforms the State in Math and Science

Description of Indicator

This indicator is a measure of 2007-08 enrollment in upper level math and science courses by Orange County high school students, measured by school district. This indicator also measures ROP enrollment in career preparation courses, which are primary career preparation sites for Orange County high school students.

In addition, this indicator reports Orange County student performance on state-sponsored, standardized, performance testing measures in math and science (STEM—Science, Technology, Engineering, Math) subjects compared to the state scores for 2008-2009.

Standardized test reports from 11th Grade Algebra II and 11th Grade Summative High School Math were used to measure math achievement. To measure science achievement, STAR test reports from 11th Grade Chemistry and 11th Grade Biology/ Life Sciences were reported.

Why Is It Important?

As Orange County's student population becomes more diverse, our students need to obtain the education and career preparation necessary to participate and compete in Orange County's increasingly high-tech economy. If our educational system does not prepare enough students in the STEM fields, Orange County companies that need employees with math and science skills may consider leaving for other locations that provide for their desired workforce. Even if they do not leave, many may resort to recruiting workers from outside the county, while Orange County students will fail to obtain high-growth, high-paying jobs. This potential mismatch can lead to widespread economic and social dislocation leading to a two-tiered economy and increased economic segregation.

Policy makers, school administrators, and civic leaders must routinely evaluate the performance of schools. Standardized tests enable education stakeholders to evaluate the quality of instruction in Orange County schools against state and national

averages. An informed assessment of our local schools' strengths and weaknesses relative to California and US averages is critical for designing policies and allocating resources to improve the performance of local schools.

How Is Orange County Doing?

STUDENT ENROLLMENT

Orange County students taking upper level math and science courses are a low proportion of the student population, but exceed state averages and are higher than in previous years. Approximately 17.5% take courses in Intermediate Algebra, 19.7% take courses in Advanced Math, 14.5% take First Year Chemistry and 6.8% take First Year Physics.

The highest percentages of students taking upper level math and science courses in Orange County are in the Asian, Filipino, and White populations; the lowest percentages of students are in the Hispanic, American Indian, and African American populations. Between 2007 and 2008, enrollments in upper level math and science courses stayed relatively constant across ethnicities.

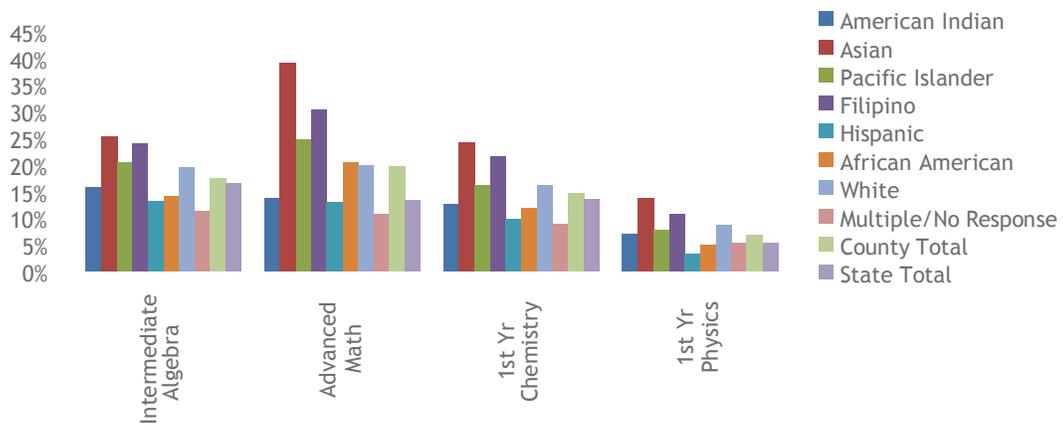
A higher percentage of female students took Intermediate Algebra, Advanced Math, and First Year Chemistry than male students. Only in First Year Physics is there a higher number of male students to female students.

In 2007-2008, some districts such as Laguna Beach have 34.7% students enrolled in Intermediate Algebra and 48.6% enrolled in Advanced Math. Others, such as Anaheim, have 14.9% in Intermediate Algebra and Placentia-Yorba Linda has 12.8% students enrolled in Advanced Math.

In 2007-2008, 21.1% of Los Alamitos, 20.4% of Los Alamitos, and 18.1% of Brea-Olinda are enrolled in First Year Chemistry. In Brea-Olinda, 21.0% are enrolled in First Year Physics. However, in Garden Grove, 9.4% are enrolled in First Year Chemistry, and in Santa Ana Unified only 3.0% are enrolled in First Year Physics.

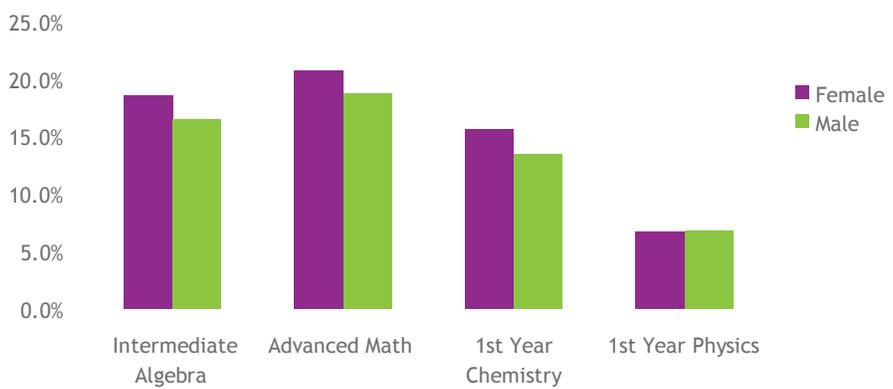
Between 2007 and 2008, enrollment in Intermediate Algebra and the sciences stayed relatively constant in most districts.

Figure 22: Enrollment in Upper Level Math and Science Classes by Ethnicity, 2007-2008



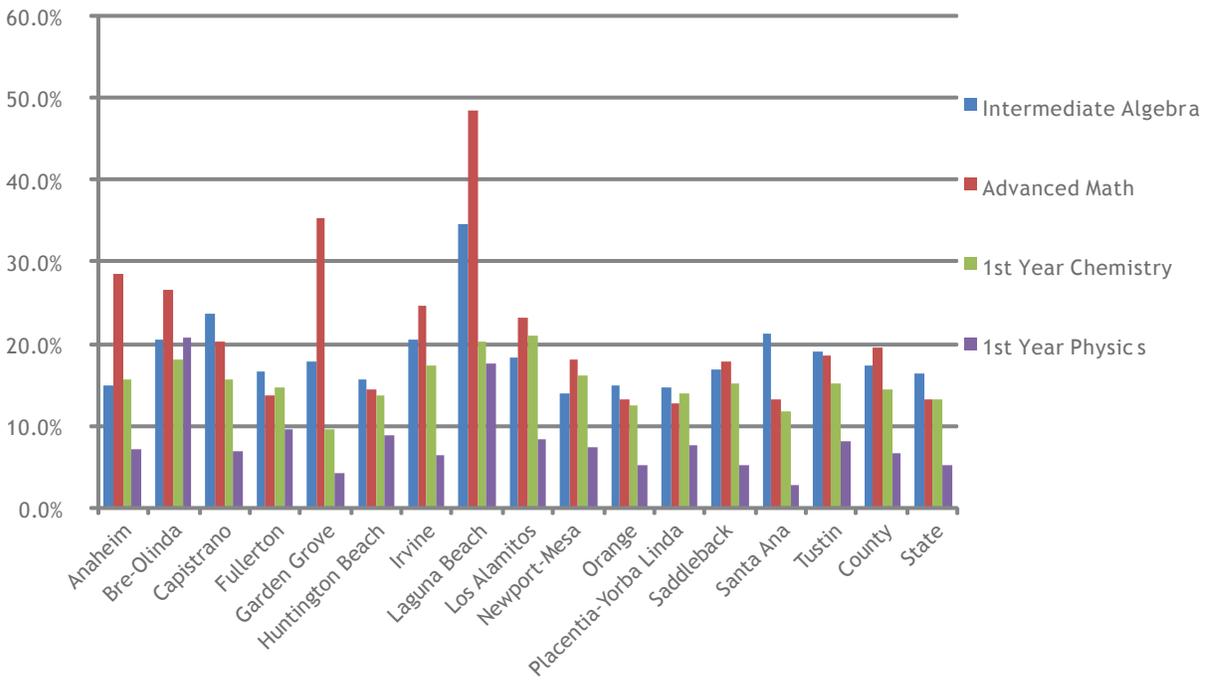
Source: California Department of Education, Educational Demographics Unit

Figure 23: Enrollment in Upper Level Science and Math Courses by Gender, 2007-2008



Source: California Department of Education, Educational Demographics Unit

Figure 24: Enrollment in Upper Level Math and Science by District, 2007-2008



Source: California Department of Education, Educational Demographics Unit

ROP ENROLLMENT

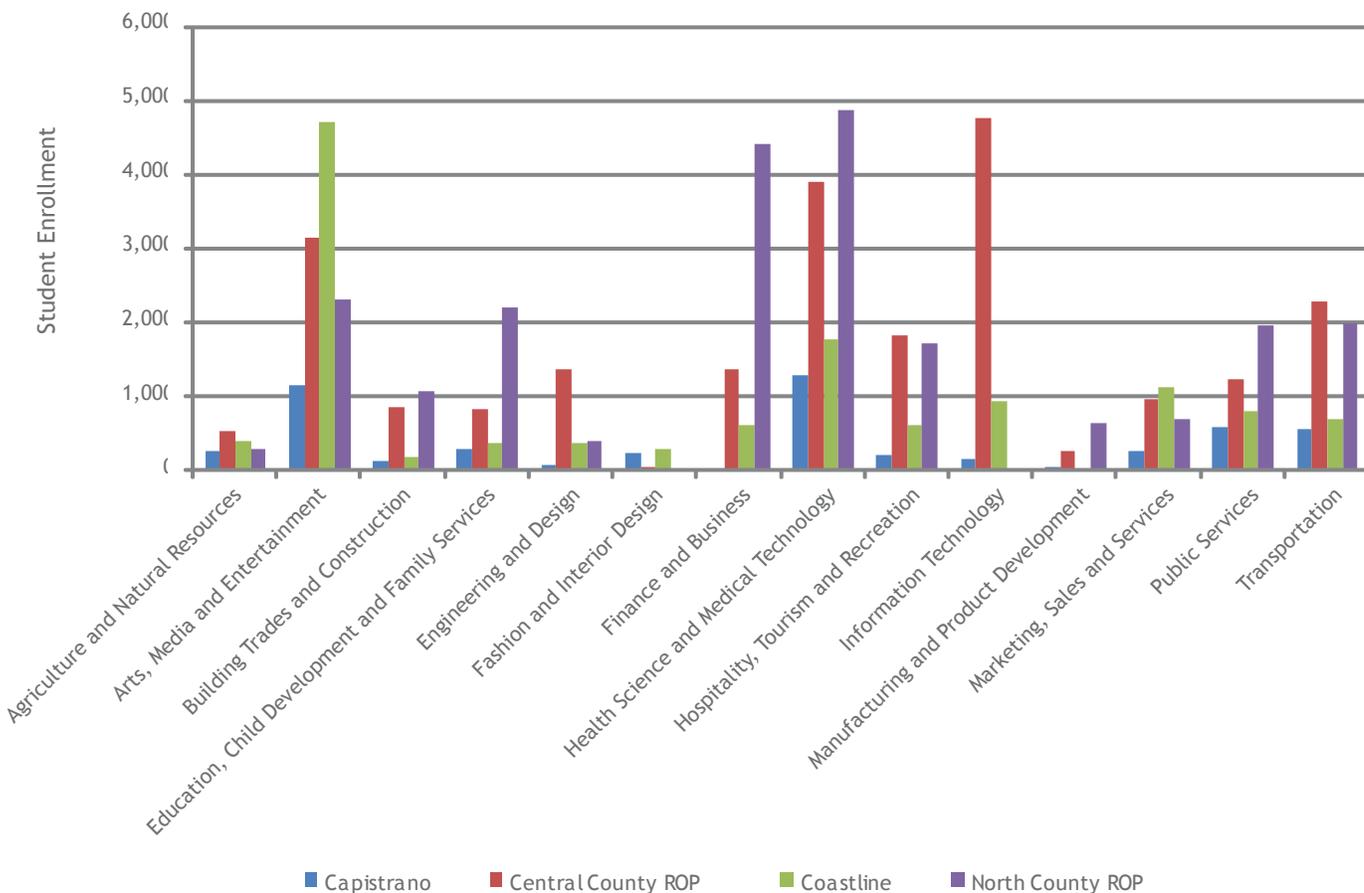
ROP courses are a primary workforce preparation tool for high school students and adults in California; they provide specific skills training and comprehensive career education in 15 industry sectors through collaborating with business partners in curriculum design and implementation. In Orange County, the four ROP programs are:

- Capistrano-Laguna Beach (5,373 enrollments)
- Central County (23,507 enrollments)
- Coastline (13,020 enrollments)
- North County ROP (22,684 enrollments)

The highest enrollment is found in:

- Health Science/Medical Technology
- Arts/Media/Entertainment
- Finance/Business
- Information Technology

Figure 25: Program Areas Enrollment by ROP Program, 2007-2008



Source: Capistrano-Laguna Beach ROP, Central County ROP, Coastline ROP and North County ROP.

STUDENT ACHIEVEMENT

Orange County achievement in math and science exceeds the state rates of achievement in all math and science subjects measured.

In 2008-09 approximately 20% of Orange County 11th graders showed advanced or proficient achievement in Algebra compared to 12% for statewide 11th graders. Over half (61%) of Orange County 11th graders showed advanced or proficient achievement in Summative High School Math compared to 46% for the state.

In the sciences, 40% of Orange County 11th graders showed advanced or proficient achievement in Chemistry in comparison to 27% for the state. In Biology/Life Sciences, 49% of Orange County 11th Graders showed advanced or proficient achievement, in comparison to 41% for the state.

Figure 26: Test Achievement Orange County In Comparison to California, 2008-2009

	Grade 11 Algebra II	Grade 11 Summative High School Math	Grade 11 Chemistry	Grade 11 Biology/Life Sciences
Orange County	20%	61%	40%	49%
State	12%	46%	27%	41%

Source: California Department of Education

Frequently, Orange County 11th Graders show only basic, below basic and far below basic achievement in math and science. The percentage of students showing advanced achievement in math and science ranged from 3% for Algebra II to 23% for Summative High School Math. On the other end of the spectrum, the percentage of students far below basic ranged from 16% for Algebra II to 2% for Summative High School Math.

Figure 27: Test Achievement by Subject, 2008-2009

	Grade 11 Algebra II	Grade 11 Summative High School Math	Grade 11 Chemistry	Grade 11 Biology/Life Sciences
% Advanced	3%	23%	20%	29%
% Proficient	17%	38%	32%	20%
% Basic	32%	22%	33%	28%
% Below Basic	31%	15%	10%	12%
% Far Below Basic	16%	2%	5%	11%

Source: California Department of Education

Figure 28: Standardized Test Results of Orange County Females, 2008-2009

	Grade 11 Algebra II	Grade 11 Summative High School Math	Grade 11 Chemistry	Grade 11 Biology/Life Sciences
% Advanced	2%	18%	11%	27%
% Proficient	16%	37%	24%	27%
% Basic	33%	25%	41%	31%
% Below Basic	33%	17%	16%	9%
% Far Below Basic	16%	3%	9%	6%

Source: California Department of Education

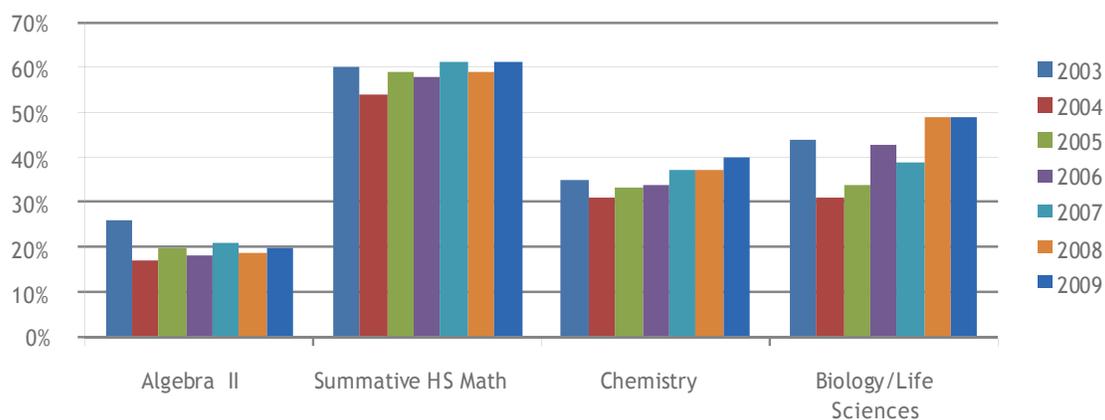
Figure 29: Standardized Test Results of Orange County Males, 2008-2009

	Grade 11 Algebra II	Grade 11 Summative High School Math	Grade 11 Chemistry	Grade 11 Biology/Life Sciences
% Advanced	4%	28%	18%	28%
% Proficient	18%	39%	28%	18%
% Basic	31%	19%	33%	27%
% Below Basic	29%	12%	12%	13%
% Far Below Basic	17%	2%	8%	14%

Source: California Department of Education

Orange County’s scores in math and science achievement appear to be increasing. The most recent academic years of testing show increases in Algebra II, Summative High School Math, Chemistry, and Biology/Life Sciences but in math, they are below where they were in 2003.

Figure 30: Standardized Test Results in Grade 11 Math and Sciences “Advanced” and “Proficient,” 2003-2009



Source: California Department of Education



TARGET

By 2010, increase enrollment in key careers and tech prep courses by 20%. Performance increased, but overall it is not enough of an increase to make the target by 2010.

Increase test scores of students in Intermediate Algebra, Advanced Math, and First-Year Chemistry by 10% by 2010. Test scores in Chemistry and Biology/Life Sciences slightly increased while scores in Math declined.

Integrating Technology in K-12 Education

Our Students Speak Out

Description of Indicator

This indicator is based on the results of the 2008 “NetDay Speak Up Day for Students” opinion survey of teachers and students in K-12 public, private, and charter schools around Orange County and around the nation. The survey included more than 281,000 students and teachers from all 50 states. The findings of the survey are designed to benefit federal, state, and local policies and programs on technology and education.

Why Is It Important?

Essential to sustaining Orange County’s innovation-driven economy is a workforce that is adept at utilizing and leveraging technology. If Orange County schools fail to integrate technology effectively in our education curriculum, both businesses and students will be at a competitive disadvantage.

Students are the principal beneficiaries of our educational system, so students’ perception of their schools is critical to evaluating the overall effectiveness and relevance of their education. Since students are increasingly savvy about technology that permeates

their lives outside of school, they are uniquely qualified to assess the quality of technology used inside the classroom.

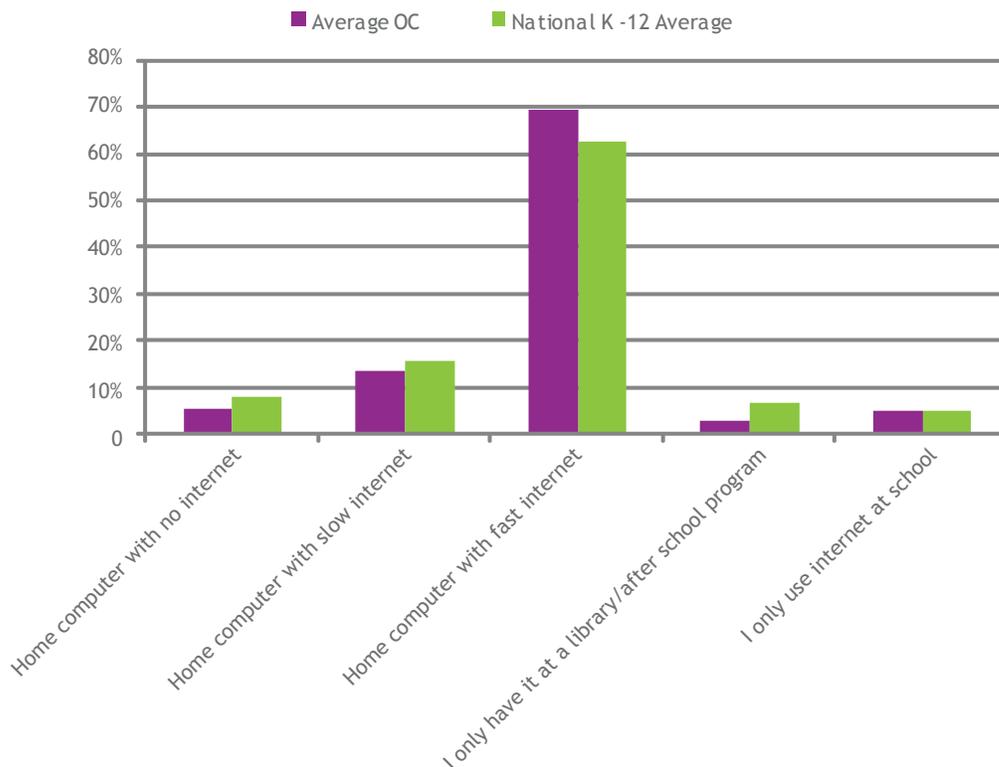
How Is Orange County Doing?

Orange County students K-12 are becoming increasingly technology sophisticated. This claim is supported by the easy internet access students have at home that allows them to communicate with each other, access information and complete assignments. Approximately 70% of Orange County students have high speed internet connections at home in comparison to 63% across the nation.

Students in Orange County are very tech savvy, which is shown by their high usage of technology in their academic lives. More so than their peers nationwide, students report using technology for writing assignments, doing research, collaborating on projects, uploading information for school and turning in papers for plagiarism review.

However when asked about biggest hurdles in using technology at school, Orange County students, more so than their peers nationally, cited rules against technology use, filters/firewalls and slow internet connections

Figure 31: What Kind of Computer Access Do You Have at Home?



Source: The indicator is based on the results of the 2008 Speak Up National Research Project facilitated by Project Tomorrow® © 2009, Project Tomorrow®

Figure 32: Besides Not Having Enough Time in Your School Day, What Are the Major Obstacles to Using Technology in Your School?

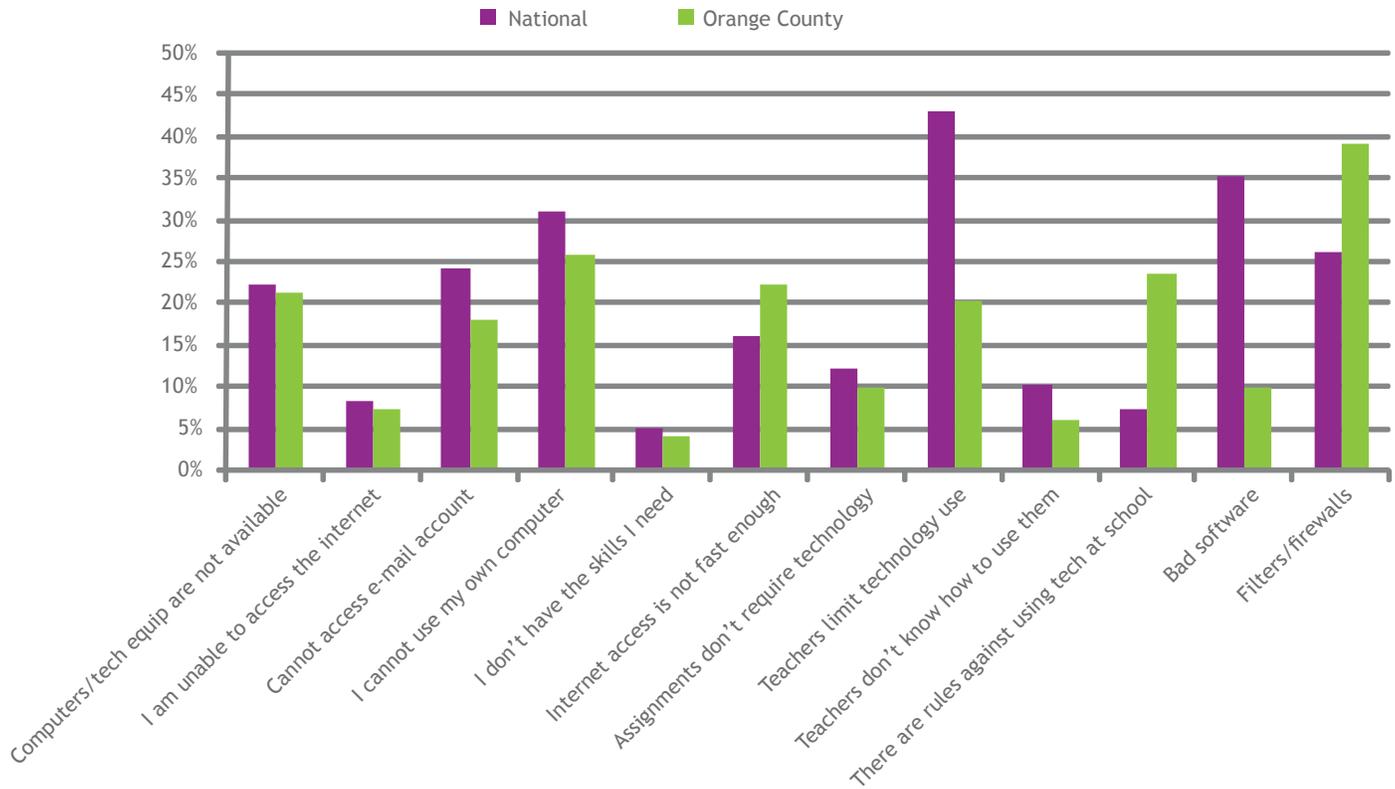
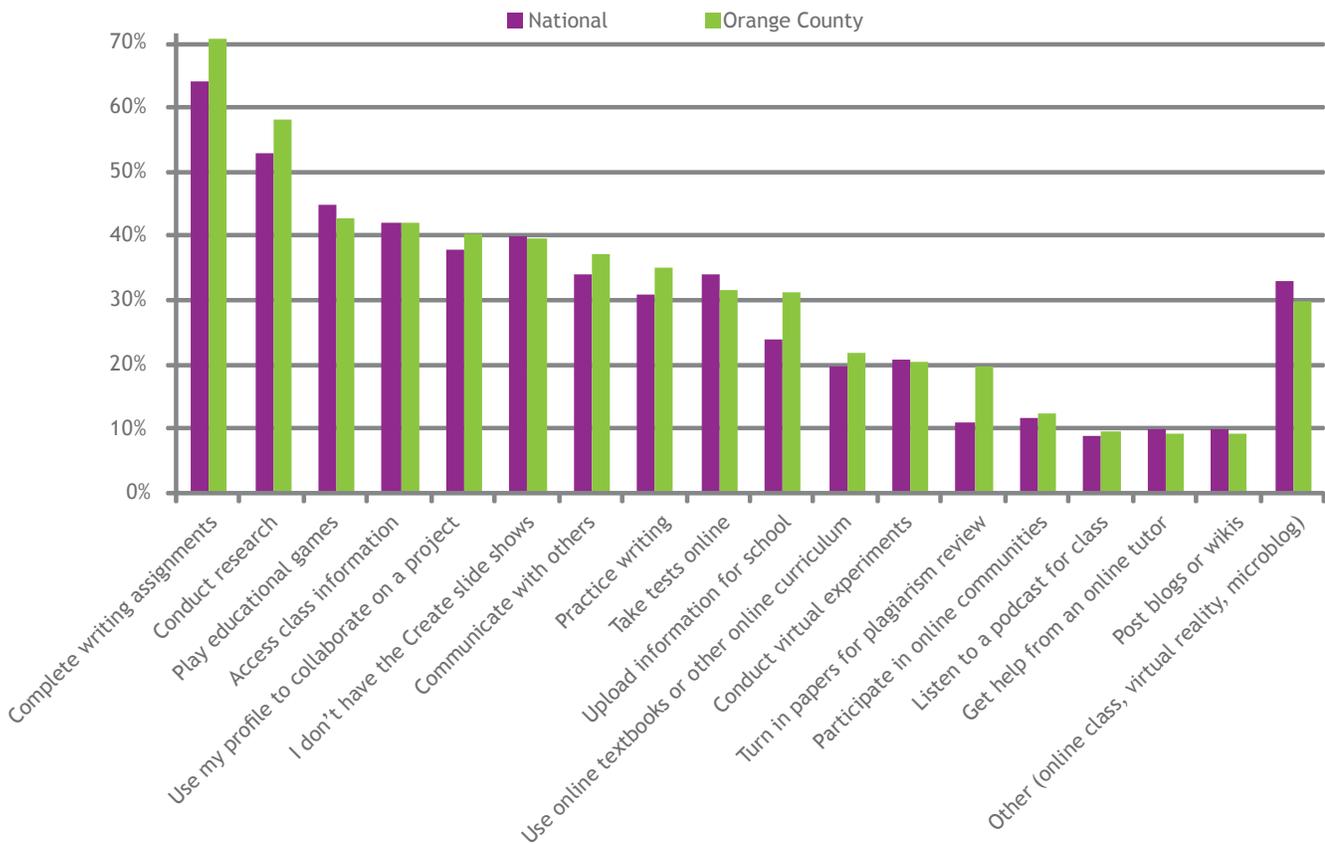


Figure 33: How Do You Use Technology for Schoolwork?



Source: The indicator is based on the results of the 2008 Speak Up National Research Project facilitated by Project Tomorrow® © 2009, Project Tomorrow®

High School Exit Exam and Dropout Rates

Most District Passing Rates Exceed State Rates; Dropout Rate Decreases

Description of Indicator

This indicator measures the high school dropout rate in Orange County in comparison to other counties. It also shows student passing rates on the high school exit exam by Orange County’s school districts.

Why Is It Important?

The future of Orange County’s economy hinges greatly on the quality of education our high school students receive. If our schools fail to prepare students for success in an increasingly competitive business climate, our economic prosperity will not be sustainable long-term. Exit exams are a valuable tool available for measuring cumulative student achievement against their peers in other school districts. The dropout rate alerts

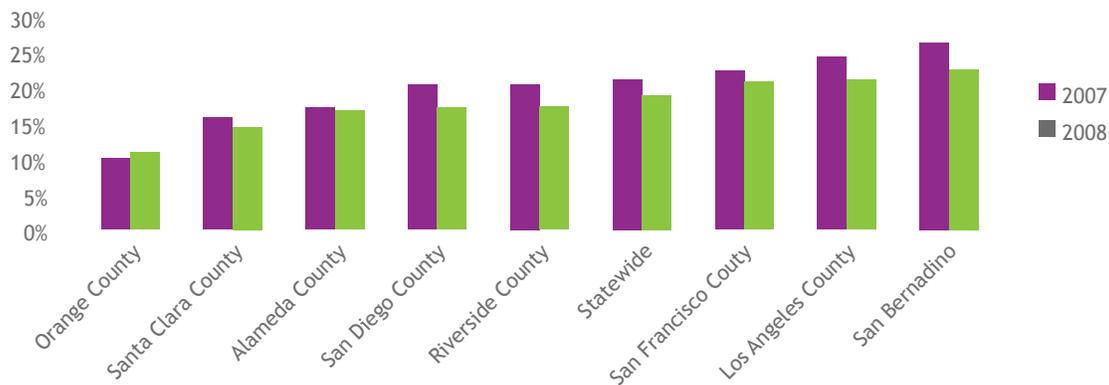
decision makers about where the education system has failed students.

How Is Orange County Doing?

Every school district in Orange County, except for Santa Ana, exceeds the statewide high school exam pass rate. Overall, the county experienced a general upward trend since 2001. Approximately 87% of Orange County students passed the Math portion of the exam and 85% passed the English-Language Arts portions of the exam in comparison to 80% who passed Math and 79% who passed English Language Arts for the state.

Orange County, at 10.9% in 2008—up from 10.0% in 2007, has the lowest dropout rate of the major urbanized counties in California. Orange County’s dropout rate is approximately half of the dropout rate for the state. It is four percentage points below its nearest competitor, Santa Clara County.

Figure 34: Adjusted Grade 9-12 Four Year Derived Drop-Out Rate, 2007-2008

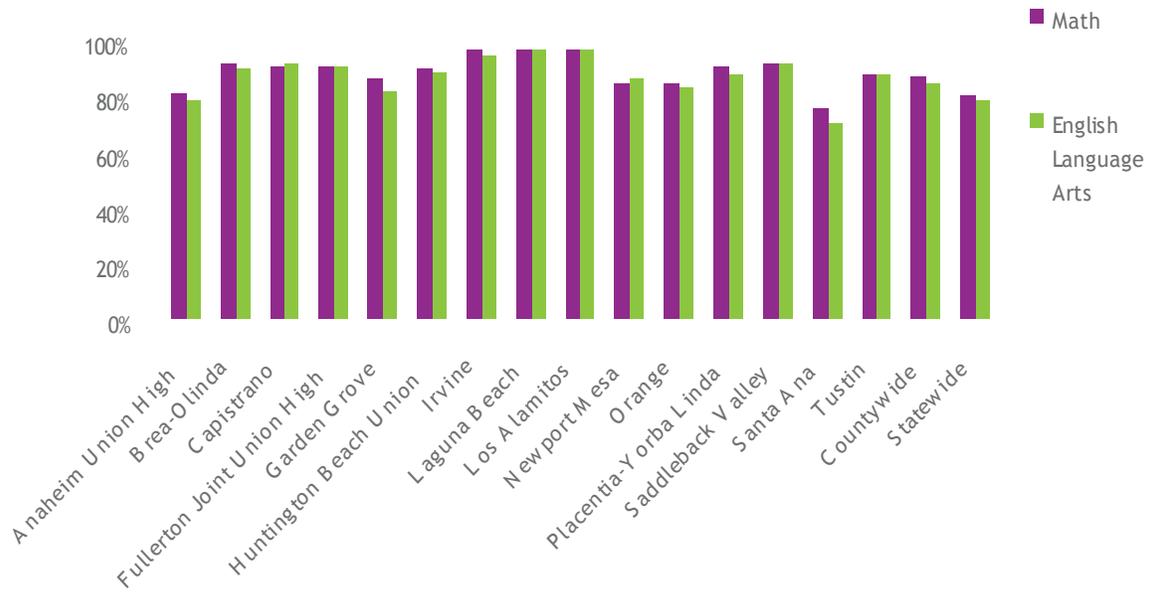


Source: California Department of Education, Educational Demographics Unit



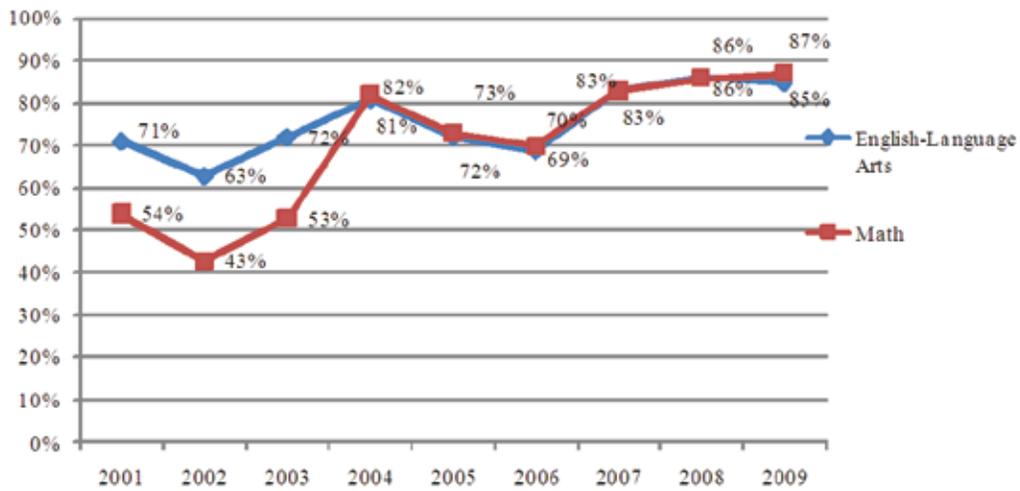
By 2010, 90% of all Orange County students pass the California High School Exit Exam. *Pass rates have increased and appear to be trending towards the target.*

Figure 35: High School Exit Exam Pass Rate, 2009



Source: California Department of Education, Educational Demographics Unit

Figure 36: Orange County High School Exit Exam Trend, 2001-2009



Source: California Department of Education, Educational Demographics Unit

English Learners

Percentage of English Language Learners Slightly Increased and Fluent English Proficient Students Is Increasing

Description of Indicator

This is an indicator that measures the percentage of enrolled students who are English language learners in Orange County unified and high school districts from 1996 to 2009.

Why Is It Important?

Understanding the magnitude and trends regarding limited English-speaking students in our schools is important because Orange County should have an accurate picture of factors driving educational performance. Proper resources can then be assigned to address the fundamental need of language skills for students. Furthermore, showing the progress students make in learning English bolsters confidence that students are acquiring the essential skills necessary for academic, social, and ultimately, financial prosperity.

How Is Orange County Doing?

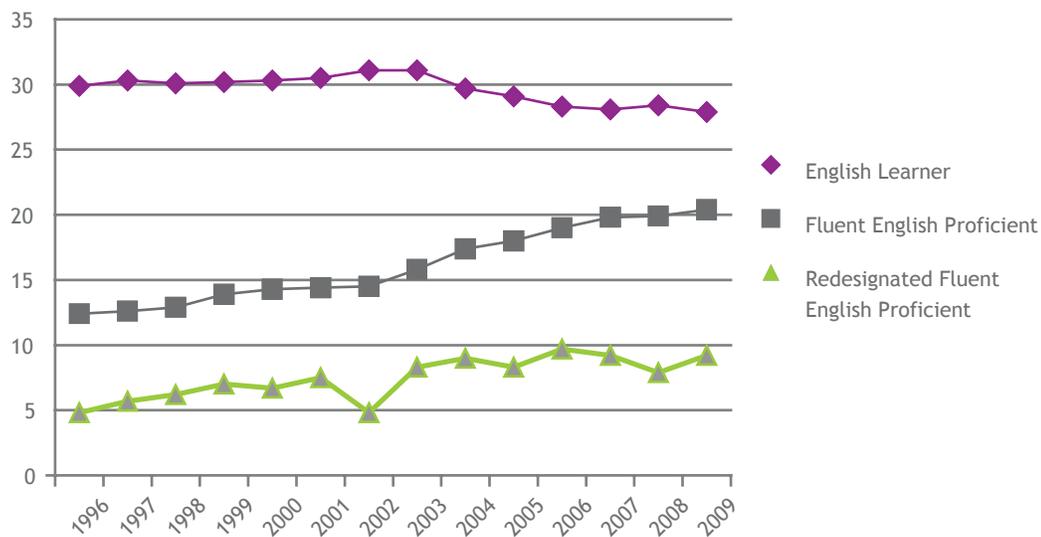
Orange County had 27.9% of students classified as English Learners

in 2008-2009. This is slightly lower than the 28.4% of 2007-2008. Orange County leads all other Southern California counties in the percentage of English Language Learners. Orange County had a slight decrease after an increase in 2007-2008 following consistent decreases since 2002-2003.

Santa Ana Unified School District has the highest percentage of English Language Learners with 56.1% of its students designated as English Language Learners. Garden Grove was second with 46.5%. Every other school district in Orange County is below the county average with Los Alamitos at the lowest percentage of 2.7%.

The percentage of students re-designated from English Learner to Fluent English Proficient has experienced a steady rise between 1995-1996 and 2005-2006, with a slight decrease starting in 2006-2007. However, the number of students considered initially Fluent English Proficient grew in the 2007-2008 school year rising from 14.5% in 2002-2003 to 20.4% in 2008-2009.

Figure 37: English Language Learners Orange County, 1996-2009



Source: California Department of Education, Educational Demographics Unit



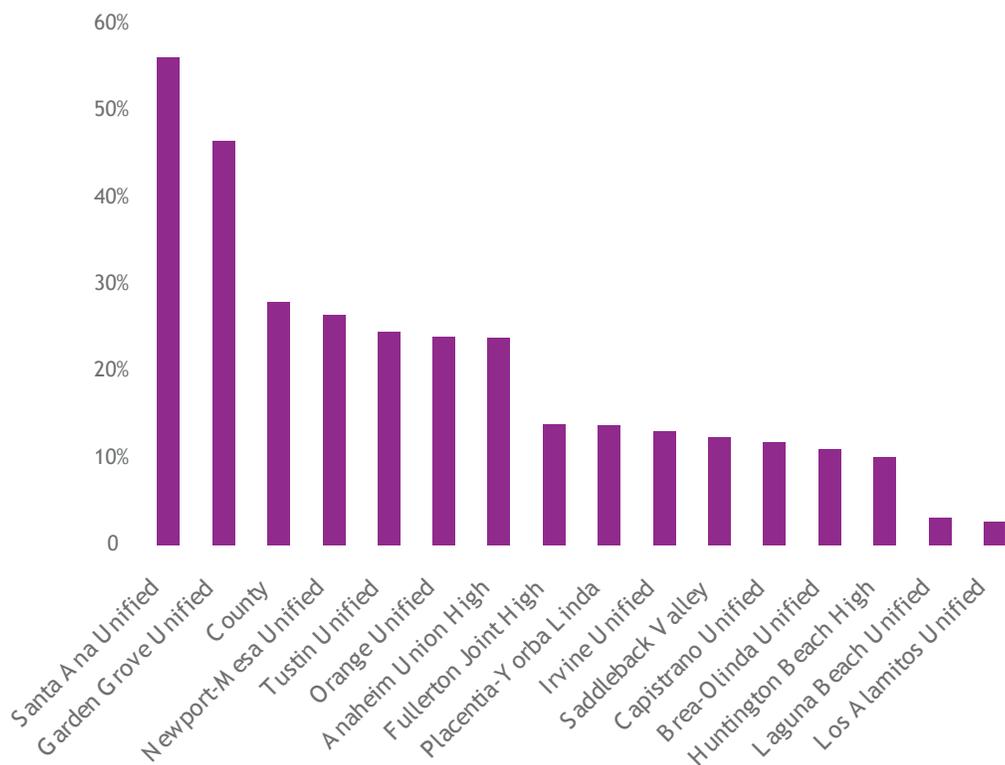
By 2010, double the rate of “converted” fluent English proficient students from 10% to 20%. English language acquisition trends are positive and on pace to meet the 2010 target.

Figure 38: English Learners as a Percent of Total Enrollment, 2008-2009



Source: California Department of Education, Educational Demographics Unit

Figure 39: Percentage of English Learners by District, 2009



Source: California Department of Education, Educational Demographics Unit

Note: Numbers do not total 100% in the figure above because each category is an independent measure of English language ability in each district.

Average High School API Scores by District

Orange County High Schools API Scores Collectively Meet Statewide Performance Target

Description of Indicator

This indicator compares the average Academic Performance Index (API) scores for high schools in Orange County’s districts. Each individual school receives a score and a target for the following year. The API scores for the high schools in each district are averaged to show the API score for the district.

Why Is It Important?

School performance is a key measure of whether students in a particular school district and Orange County as a whole are gaining the knowledge necessary to succeed in the modern global economy. The overall environment of a school sets the expectations and standards for students. Schools with high scores have a self-reinforcing standard of greater academic

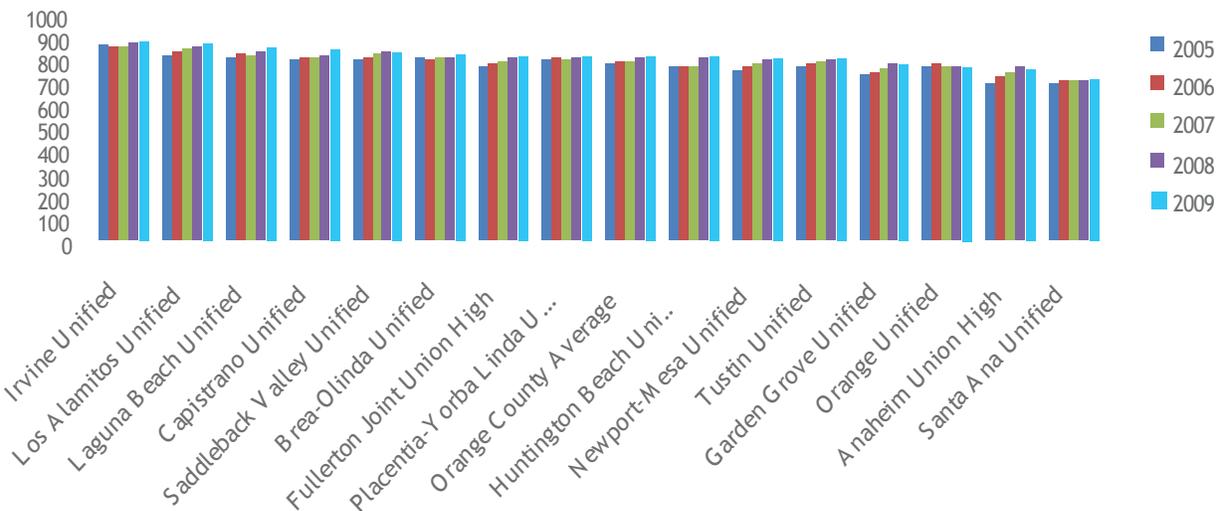
achievement. Such achievement is necessary for students to be well prepared to obtain higher education and skills to succeed in an advanced economy such as Orange County.

How Is Orange County Doing?

High schools in Orange County had an overall API score of 801 in 2008 and 810 for 2009. The statewide performance goal for schools to aspire to is 800, and Orange County schools have collectively met the target.

For 2009, high schools in Irvine (878), Los Alamitos (870), Laguna Beach (850), Capistrano (837), Saddleback (833), Brea-Olinda (820), Fullerton (814) Placentia-Yorba Linda (812), Huntington Beach (809), Newport Mesa (808), and Tustin (805) met or exceeded this target. The lowest scores are in Garden Grove (780), Orange (768), Anaheim (759) and Santa Ana (714).

Figure 40: Orange County API Scores, 2005-2009



Source: California Department of Education, Educational Demographics Unit



TARGET

By 2010, all Orange County School Districts meet the statewide API target of 800. Orange County high schools are making good progress with being on track to reaching this target with eleven districts out of fifteen with high school enrollment meeting or exceeding 800 currently.

Average Class Size by Subject

Orange County Class Sizes Exceed Those of Other Counties and the State Average

Description of Indicator

Average Class Size by Subject measures the number of students in high school classes in each subject area. The four subjects measured are English, Math, Social Science, and Science. Orange County is compared to seven other counties and the state of California.

Why Is It Important?

Small class sizes have been shown to contribute to greater student learning. Having a smaller teacher-to-student ratio increases the likelihood that students will receive personalized attention when learning a particular subject. Given the difficulty of math and science for many students, having small class sizes could contribute to greater learning. Large class sizes may indicate that less learning may be occurring since teacher attention is spread among more students.

How Is Orange County Doing?

Orange County has a greater average class size for English, Math, Social Science and Science in comparison to seven other counties and the state average.

In 2008-2009 for English, the average class size in Orange County was 30.3, up from 27.2, in 2007-08, 27.3 in 2006-2007 and 30.1 in 2005-2006. Relative to the previous school year, Orange County was 27.7 for English (up from 27.2), 29.6 for Math (up from 29.1), 31.4 for Social Science (up from 29.8), and 31.8 for Science (up from 31.5). These class sizes compare to state averages of 25.4 for English, 27.0 for Math, 28.9 for Social Science and 29.0 for Science.

Orange County class sizes for these subjects are consistently larger than other counties across the state. San Francisco County is consistently smaller than other counties, while Riverside and San Bernardino are comparable to Orange County, albeit smaller.

Figure 41: Average Classroom Size in Selected Subjects, 2008-2009

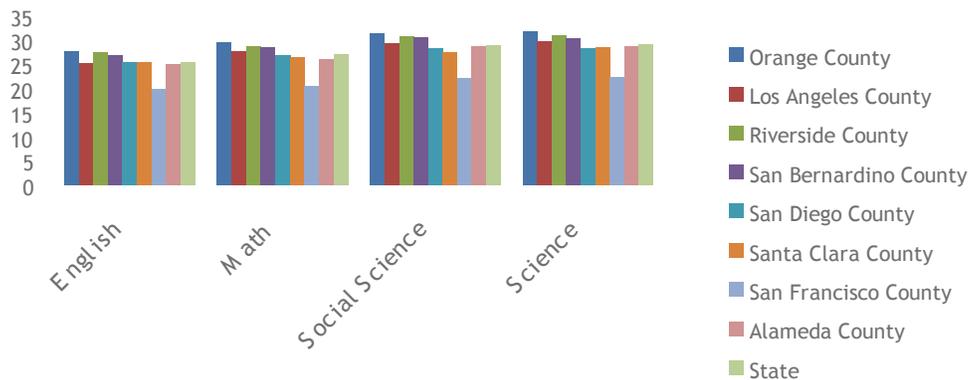


Figure 42: Average Class Sizes by Subject, 2008-2009

	English	Math	Social Sciences	Science
Orange County	27.7	29.6	31.4	31.8
Los Angeles County	25.2	27.7	29.2	29.7
Riverside County	27.4	28.7	30.7	30.9
San Bernadino County	26.9	28.5	30.4	30.3
San Diego County	25.4	26.8	28.3	28.3
Santa Clara County	25.3	26.4	27.5	28.4
San Francisco County	19.9	20.5	22.1	22.3
Alameda County	25.0	26.0	28.6	28.6
State	25.4	27.0	28.9	29.0

Source: California Department of Education



By 2010, reduce Orange County's average class size below the state average for English, Math, Social Sciences and Science courses. County class sizes have increased and are still above average.

Orange County Workforce Indicators Report 2009 - 2010

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National Low Income Housing Coalition
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