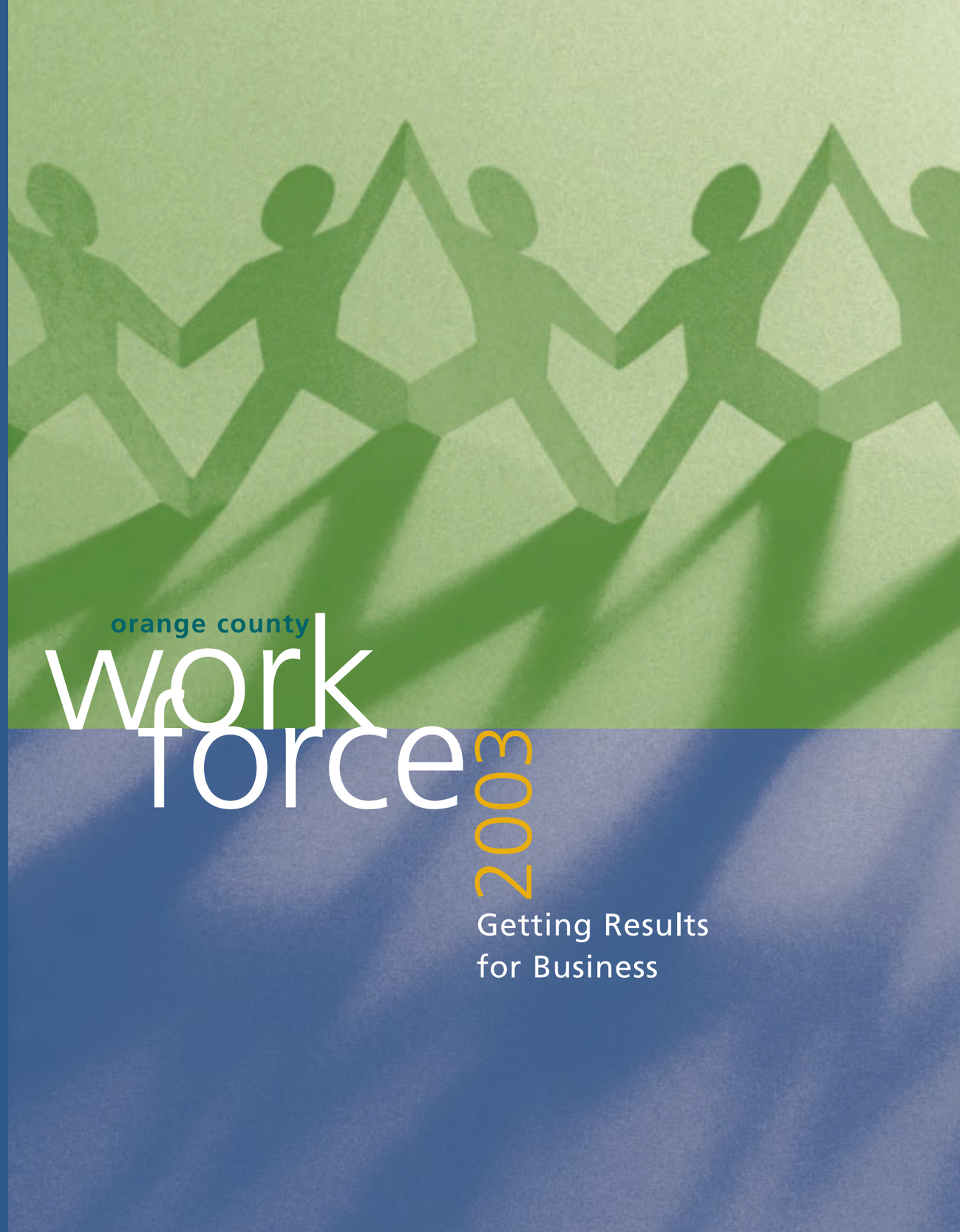

orange county

work force 2003

Getting Results for Business

verizon

ORANGE COUNTY BUSINESS COUNCIL

ORANGE COUNTY WORKFORCE INVESTMENT BOARD

Dear Workforce Development Partner:

Last year's State of County Report identified many workforce challenges in Orange County. Chief among these were:

- Shortages of workers with the right technical skill set,
- Insufficiency of the math and science preparation of our students,
- Difficulties of 'low-educated workers' who require English language training to improve their productivity and earning potential, and
- Awkwardness of current structures to communicate industry needs to education and training providers.

We further observed that these challenges resulted from a lack of cohesion and integration in planning and integrating the very significant investments made by many stakeholders across Orange County.

Having made a call to action on these problems last year, we believe it is time to promote ways that such action should be directed. Simply, without bringing about much closer communication, collaboration, and integration between business, education/training providers, the media, health organizations, government, and the community, these problems will remain as daunting as ever.

By building collaboration on workforce needs among businesses in the same or similar industries, there is an opportunity to speak coherently at all levels, and to provide the specificity and strategic information that is required to adapt and/or create programs to meet businesses needs. Focusing resources to provide the right training for the right skill set is key to long term success.

While business has much of the information needed to help education and training providers develop and design programs, the approach and language used for sharing information has not always been effective due to different perspectives and motivations. We all must become stronger partners and seek to understand not only the words, but also the motivations and perspectives.

Lastly, it must be emphasized that collaboration be developed by clustering industries with similar needs. Too many past efforts have failed because the discussion was too general. Exchanges between business and education/training providers needs to be direct, focused on content, and strategic. If businesses consider education/training providers as part of the supply-chain, and education/training providers view business as their customer and work hard to assure the customers get the product they need, we can make much progress on our challenges.

We thank the Orange County Workforce Investment Board for its partnership and funding for the research we have conducted. We want to thank as well our other community partners who have stepped up to the task with us. We look forward to continuing to work with them to make Orange County's economy prosperous.

Sincerely,

Rick Stephens
Vice-President, Homeland Security
The Boeing Company &
Vice-Chairman, Workforce Development
Orange County Business Council

Paul Garza, Jr.
Vice-President, Economic &
Workforce Development
Orange County Business Council

Data Sources:
California Department of Education
California Department of Finance
California Employment Development Department
California State University System
California Trade Technology and Commerce Agency
Coast Community College District
Education Planning and Information Center
Milken Institute
National Center for the Study of Adult Learning and Literacy
National Low Income Housing Coalition
North Carolina State Board of Education
North Orange County Community College District
Orange County Affordable Home-Ownership Alliance
Orange County Department of Education
Rancho Santiago Community College District
South Orange County Community College District
Texas Education Agency
University of Minnesota
U.S. Census Bureau
U.S. County Business Patterns
U.S. Department of Labor

Special Thanks to:
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Paul Garza, Vice President, Economic and Workforce Development, Orange County Business Council; and
Rick Stephens, Chair, Orange County Business Council Workforce Development Task Force
for their thoughtful contributions to this report.

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contents

2 **Letters of Support**
5 **Introduction**

Orange County's Education and Workforce Investment Outlook
10 Population Growth Trends
11 Educational Attainment
13 Occupational Literacy Requirements
15 College Readiness
17 Fastest Growing Occupations In California
18 Fastest Growing Occupations In Orange County
19 Fastest Growing Industries In Orange County

Orange County's Employment Trends
20 Cluster Industry Employment Growth Scenario ■
22 Cluster Occupation Growth Scenario ■
24 Competitive Advantage
26 Manufacturing Competitive Advantage
29 Cluster Employment Trends
31 Cluster Salary Trends

Orange County's Housing Costs: A Workforce Perspective
33 Home Purchasing Power Of Wages
35 Rental Affordability

Orange County's Workforce Demand and Supply
36 Occupations With High Educational Requirements ■
39 Occupations With Low Educational Requirements ■
42 Difficulty Finding Experienced Workers ■
46 Difficulty Finding Non-Experienced Workers ■
50 Workforce Return on Investment

53 **Conclusion**

■ Denotes New Indicator

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ORANGE COUNTY WORKFORCE: STATE OF THE COUNTY 2003

The Orange County Workforce Investment Board (OCWIB) is pleased to support the latest edition of "*Orange County Workforce: State of the County 2003.*" This report provides an update to the 2002 State of the County project and reinforces the critical link of education and workforce training in sustaining Orange County's growing economy. Orange County's economic future depends on the strengths of our workforce. Our businesses need skilled workers to continue producing goods and services marked by innovation, knowledge, and quality, characteristics that give Orange County businesses a competitive edge in the marketplace. If we are to sustain this advantage, we must build a strong workforce enterprise.

Orange County Workforce: State of the County 2003 is an important resource in a rapidly changing workplace. Workforce and economic development stakeholders will need to address the long-term workforce needs of Orange County's fastest growing industry clusters that will encompass not only electronics and communications but also biotechnology, alternative energy, nanotechnology, smart materials, and other areas not yet invented. Data from this report will facilitate strategic planning on how to create partnerships with business, industry and government to develop a high-skilled, high-performance workforce. Orange County's workforce represents the single biggest investment for economic growth over the decades to come. With a relatively large number of persons in the right age groups, Orange County has the opportunity to be the destination of choice for businesses seeking skilled workers in a global economy.

A well-skilled, literate workforce is critical to a healthy economy. Job seekers and those who want better jobs need accurate labor market information about current and future job trends to make sound educational and career path choices that will be of benefit to them. This report can assist in that decision-making process.

Through its support of collaborations such as this report, the OCWIB continues to strive to make important contributions to the local and regional workforce. This update report is an important resource in our effort to maintain Orange County's economic and workforce competitiveness in the 21st century

Sincerely

Jerry Dominguez, Chair
Orange County Workforce Investment Board

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

THOMAS W. WILSON
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ORANGE COUNTY WORKFORCE: STATE OF THE COUNTY 2003

The Orange County Board of Supervisors is proud to be a partner in supporting the latest update edition of "*Orange County Workforce. State of the County 2003.*" The Board of Supervisors is committed in the development of well trained and educated workforce that meets the needs of local businesses and this update reflects the level of cooperation that exists between the many groups and organizations working to improve Orange County's economy and workforce.

Were Orange County, California a nation state, its economy would be 32nd among the nations of the World; this, in a region of just under 800 square miles and with a population of more than 3 million. This remarkable success offers unparalleled opportunities for business investment and the skilled workers and professionals that choose to live and work here. Orange County is at the forefront of high technology industry clusters that produce innovative and marketing leading products for the biotechnology, computer software, computer hardware, advanced materials, aerospace and environmental services industries. Over 300,000 members of the Orange County workforce are employed in high technology industries, nearly one quarter of all private sector employment.

To maintain this impressive growth the need for a skilled and educated workforce is critical for Orange County employers. The "*Orange County Workforce: State of the County 2003*" is an important contribution towards preparing a diverse and skilled workforce to meet the challenges of ever-changing occupations and global competition. The research conducted for this update highlights the Board of Supervisors commitment to workforce development as a key engine of economic growth for Orange County. The strategies and recommendations provided will provide employers, workers, job seekers, educators and workforce professionals with a better understanding of Orange County's workforce development system and methods for improvement.

Our congratulations to the Orange County Workforce Investment Board and the Orange County Business Council for their leadership in workforce development that will insure Orange County's continued economic prosperity.

THOMAS W. WILSON
Chairman of the Board

Timothy J. McCallion
President, Pacific Region

Verizon believes that literacy is a fundamental issue in America, with broad implications to education and our ability to be competitive in a global economy. The state of the American workforce is intrinsically linked to literacy. Nearly 40 million American adults have serious problems with low levels of literacy that jeopardize their quality of life and economic success.

That is why Verizon is pleased to support the Orange County Business Council's emphasis on workforce development, which includes literacy as a fundamental component. We are proud to be part of this innovative and substantive program that will have a great impact on our local workforce and set a new standard for others to follow.

For our part, we hope to set a new standard in corporate philanthropy through our focus on literacy. Our newly established public charity, Verizon Reads, directs a comprehensive national campaign of corporate philanthropy, consumer and customer outreach, employee participation, and partnering with literacy agencies to address literacy from the grassroots to the halls of public policy. We invite you to visit our website, www.verizonreads.com, for more information.

A key goal of Verizon Reads is to boost economic development across the country, by building a literate, skilled workforce. In our view, literacy is not simply about teaching non-readers to read. It's about adding almost 35 percent of the U.S. adult population to the workforce by teaching low-literacy individuals the skills necessary for the jobs in the 21st century. Verizon employees, for example, are required to be among the most technologically literate because of our industry's reliance on advanced technology platforms.

Our congratulations to the leadership of OCBC for their recognition of literacy as a component of the workforce development issue and for their role in seeking economic development and prosperity for everyone who lives and works in Orange County.

Sincerely,

Timothy J. McCallion
President, Pacific Region

introduction

Communicating OC's Workforce Opportunities, Challenges

Better communication of Orange County's increasing commitment to workforce excellence to parents and students is crucial to ensuring success. Orange County parents and students reading this report will find information about high-growth, well paying jobs leading to sustainable, rewarding careers. This report highlights the significant opportunities that exist for young people in high-tech careers if they pursue development of science, mathematics, and work-readiness skills.

This report will also help the workforce education and training professional community in Orange County gain a much more detailed understanding of the current and future workforce needs of Orange County business. With a changing economic outlook facing the County, teachers need curriculum to be developed that is more relevant to better prepare students for opportunities in the future Orange County economy. This report demonstrates that in order to guide students to promising career choices, we must accomplish this by a better understanding of how Orange County's diverse industries and occupations will respond respectively during periods of future economic growth and contraction. Education and workforce professionals and administrators will benefit from strategic information on how economic conditions will influence employment growth trends and labor force needs in specific industries.

Being recognized as a leader in workforce development represents an attractive and powerful opportunity for Orange County to position itself as one of the world's premier locations for industries of the 21st century.

What to expect in this report

- Where is Orange County's future employment demand going to be? Is the County's economy creating jobs that provide sufficient income to support a family?
- Which will be Orange County's fastest growing industry clusters and occupational categories?
- What is Orange County's current and future occupational training supply picture?
- What are the key workforce data sources available to Orange County decision-makers and how can they best be used?

The second annual State of the County Workforce publication is a partnership between the Orange County Business Council, Orange County Workforce Investment Board, and Verizon Communications.

Workforce remains a long-term challenge to Orange County's economic success. Even traditional manufacturing jobs are becoming increasingly advanced and are requiring an increasingly higher skilled workforce. For example, while manufacturing as a whole has been declining, certain areas show resilient strength, such as Advanced manufacturing technology. This is very good news, needs to be understood better by policy makers, and suggests that support for this sector of our local economy is vital to our future prosperity.

In order to remain competitive in an increasingly competitive global economy, Orange County will require an increasingly high-quality education and training system, a skilled workforce, and a commitment by business and education/training providers to greater and deeper collaboration.

While Orange County employers have turned in the past to recruiting for key positions from outside Orange County (and with the use of H1B visas, outside the U.S.) for talent that could not be found locally, they are increasingly interested in affecting the local education and workforce system so that our own institutions produce the necessary talent locally.

This report provides information and clues about how Orange County can best address our many workforce challenges. Over the last three years, the Orange County Business Council has conducted a number of innovative research projects to understand Orange County's current and future workforce training and development situation. This report builds upon these workforce partnerships with such partners as the Orange County Workforce Investment Board, Rancho Santiago Community College District, the James Irvine Foundation, North Orange County Community College District, Verizon Foundation, AT&T, Bank of America Foundation, Santa Ana Chamber of Commerce, and the Santa Ana Empowerment Zone.

Our priorities and observations about the OC workforce system haven't changed in the last year. The need for a technically skilled workforce is the challenge at the heart of Orange County's transition to a knowledge economy. Rapid change, global markets, continual need for innovation, and the rapid diffusion of new technology throughout all Orange County industries and occupations will characterize the new economy. Implications for Orange County's workforce include:

- The need for a more technically skilled workforce;
- Increased emphasis on science, math, and computer skills in K-12 education;
- An increasing reliance on knowledge and skills rather than unskilled, routine tasks;
- Increasing opportunities for wealth creation and prosperity for Orange County residents;
- Promotion of the need to continuously evolve a career with new skills and additional training, retraining in the form of life-long learning;
- Increased reliance on professional, managerial, and executive workers;
- Increased need for R&D, creative, and design occupations;
- A large and growing high-tech economy that requires an increasing level of workforce skill and specialization;
- Regional and national workforce pipeline trends that are not reassuring
- A continued "War for Talent", in which Orange County is competing with other regions such as Silicon Valley for an increasingly mobile workforce;
- Significant demographic changes occurring in the regional population;
- Increasing barriers to attracting and retaining top workforce talent, such as housing prices and traffic congestion.

orange county

work force indicators

Net Domestic Migration Out of County is Larger than Domestic Migration Into County in 2001 and 2002, Resuming Pattern from Early 1990s

Description of Indicator

This indicator measures the components of demographic change in Orange County. First, the components of population growth between 1990 and 2002 are broken down in terms of components of natural increase and components of migration. Second, projected population growth is broken down in terms of ethnic composition between 1990 and 2040.

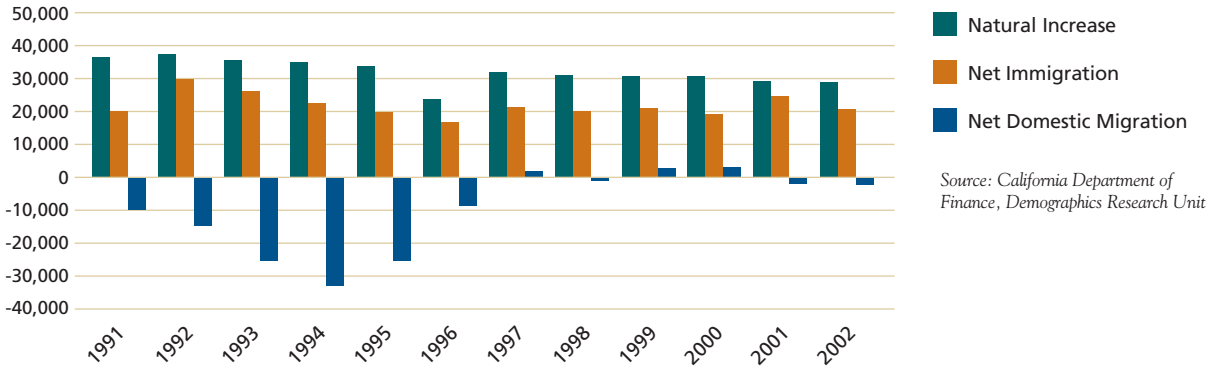
Why is it Important?

Orange County's population components are expected to change dramatically over the next forty years in ways that will radically affect the type of community and market this area will become. Through understanding both this expected pattern of demographic change, and the pattern of past demographic changes, policy makers can better understand the evolving population, and hence labor force, of the county.

How is Orange County Doing?

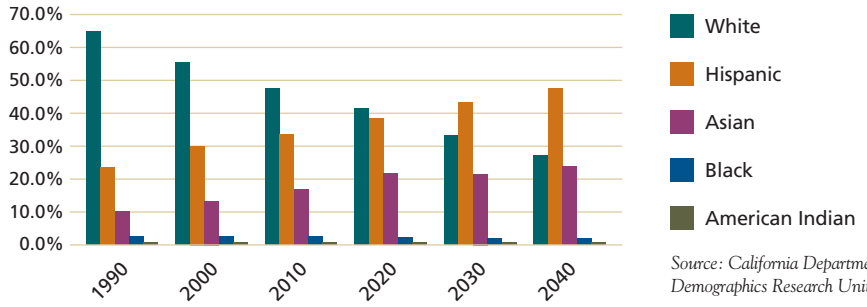
Between 1990 and 2002, 78% of the County's population growth has been through natural increase and 22% has been from migration. In short, over three quarters of the County's population growth during the 1990's was due to an excess of births over deaths, and not due to either domestic or international migration. Between 1991 and 1996, net domestic migration was negative – more persons moved out of Orange County to other locations in the United States than moved into the County from other locations within the United States. In 1994 and 1995, net domestic migration out of the county exceeded international migration into the county resulting in population growth solely through natural increase. In the late 1990s, the domestic migration out of the county reversed itself although the trend toward negative net domestic migration resumed in 2001 and 2002. Assuming these continuing trends without any spikes in domestic or international migration, by 2040 Orange County will be nearly 50% Hispanic, approximately 25% Caucasian and over 20% Asian.

Components of Orange County Population Change 1991-2002



Source: California Department of Finance, Demographics Research Unit

Projected Demographic Components of Population of Orange County 1990-2040



Source: California Department of Finance, Demographics Research Unit

Educational Attainment Varies Dramatically Across Orange County Cities; County Drop-Out Rate Remains Low

Description of Indicator

This indicator measures the educational attainment of Orange County residents over 25 years of age, compared to neighbor and peer metropolitan areas. It also measures the annual percentage of Orange County public high school students who have dropped out over the past five years, and shows educational attainment for persons over age 25 in selected Orange County cities.

Why is it Important?

Educational attainment is important not only for personal success, but for sustaining the local economy. A high school diploma or college degree opens many career opportunities that are closed to those without these achievements. Also, the education level of residents is evidence of the quality and diversity of our labor pool—an important factor for businesses looking to locate or expand in the region.

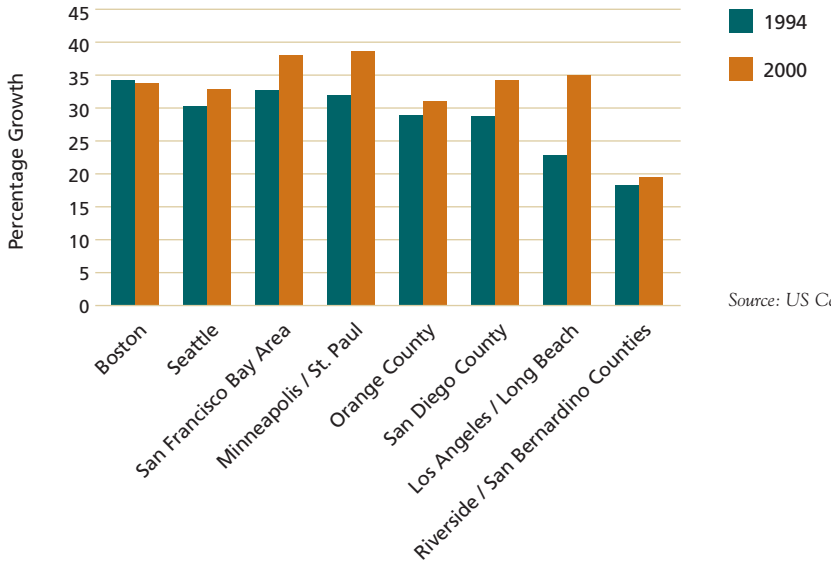
How is Orange County Doing?

Orange County continues to have one of the lowest annual high school dropout rates in the state (1.9% in 2001). There was little variation in dropout rate among ethnicities. Among the Orange County population over 25 years of age, 86.4 percent had high school diplomas in 2000, an increase of 6 percentage points since 1994. The gap between the current annual high school completion rate (98 percent) and the current high school diploma rate for residents over 25 years of age (86 percent) is likely due to older age groups in the county and an in-migration of less educated adults.

Of our neighboring counties, Orange County has the highest percentage of residents over age 25 with a Bachelor's degree. However, when compared to economic peers, Orange County has the lowest percentage of college educated (nearly 32% in 2000) with the San Francisco Bay Area and Minneapolis/St. Paul at the top (approximately 38%).

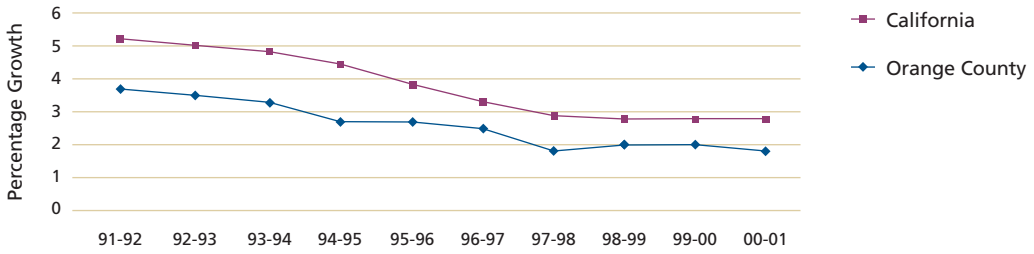
Within Orange County, the cities of Irvine and Newport Beach have the highest percentage of residents over 25 with a Bachelor's degree (approximately 58% in 2000) while Santa Ana has the lowest percentage (9.2% in 2000). On average, the percent of residents with a Bachelor's degree for these select cities has increased approximately 1.5% from 1990 to 2000 although the cities of Garden Grove and Santa Ana did experience slight declines. While over 95 percent of the residents of Irvine and Newport Beach aged 25 or over had a high school diploma in 2000, the percentage of persons over 25 with a high school education was 43 percent in Santa Ana and 68 percent in Garden Grove. Santa Ana and Garden Grove are below the national average of 80 percent of persons 25 or over having a high school diploma, while cities such as Irvine, Huntington Beach, Mission Viejo, and Newport Beach are above the national average.

Educational Attainment - Percent Over 25 Who Completed a Bachelor's Degree March 1994-2000



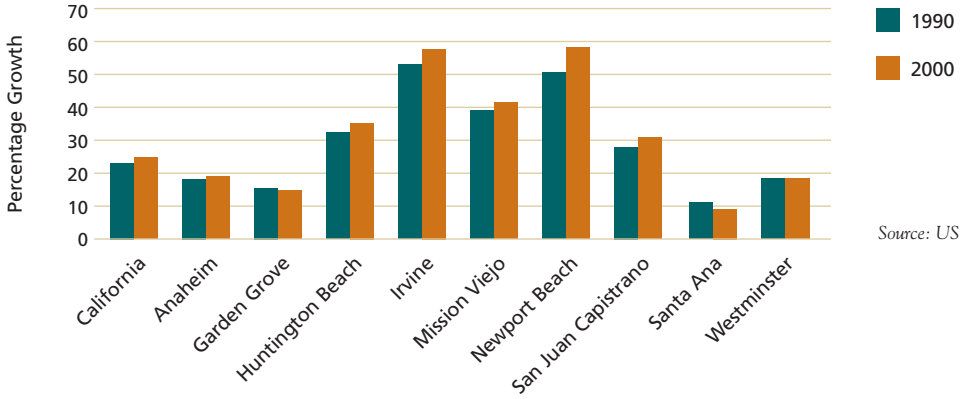
Source: US Census Bureau

Annual Drop Out Rate for Grades 9 Through 12 1991/92-2000/01 School Year



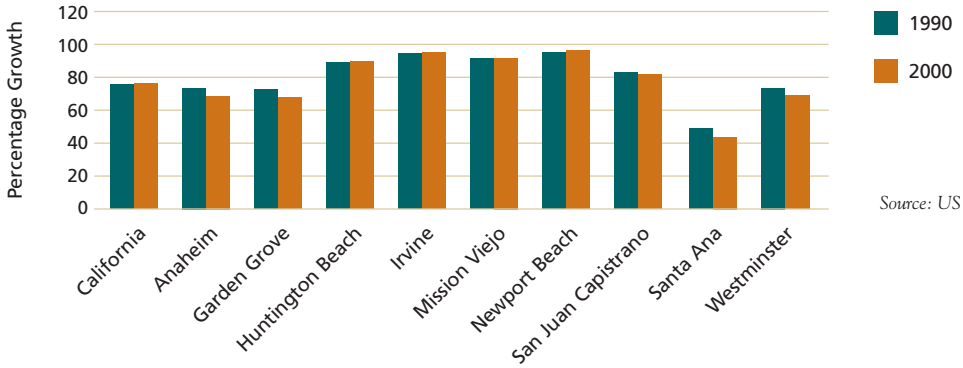
Source: California Department of Education, Educational Statistics Unit

Educational Attainment - Percent Over 25 Who Completed a Bachelor's Degree March 1990-2000



Source: US Census Bureau

Educational Attainment - Percent Over 25 Who Completed a High School Degree March 1990-2000



Source: US Census Bureau

Jobs with Low Literacy Requirements are Concentrated in Low-Paying Occupations

Description of Indicator

This indicator lists the ten job categories with lowest literacy requirements, and the ten job categories with highest literacy requirements, based on a study conducted by the National Center for Adult Learning and Literacy. For each job category, the indicator also shows projected Orange County job openings (1999-2006) and the average Orange County wage in 2002. The job opening and wage data were obtained by matching the occupation categories to data from the California Employment Development Department.

Why is it Important?

Identifying the literacy requirements of different occupations is important in helping workforce professionals assess entry barriers to different jobs. It is also important to understand projected job growth and wages in high-literacy and low-literacy jobs, to help trainers assess wage and employment prospects for persons with differing levels of literacy.

How is Orange County Doing?

Low literacy jobs typically offer low pay. The ten lowest literacy occupations have an average Orange County wage of $12.37 per hour in 2002 – the equivalent of a $25,729 annual salary. The ten highest literacy jobs pay over twice that amount – an average Orange County wage of $29.93 in 2002. That is the equivalent of $62,254 per year. Given the high cost of living in Orange County, persons in low literacy jobs will have a difficult time earning an adequate wage in the county.

Job growth projections show that there are almost the same number of projected openings in the high literacy and low literacy jobs in Orange County from 1999 through 2006. This suggests that employment prospects are similar at the extremes of the literacy spectrum, but the wage prospects differ dramatically between high literacy and low literacy jobs. One implication is that wage growth among persons in low literacy occupations could require some basic education in literacy skills that enables job-holders to move to occupations that require higher levels of literacy.

Ten Lowest Literacy Occupations

Occupation	% Jobs Low Literacy	% Jobs High Literacy	Orange County Job Openings 1999-2006	Orange County Average Wage 2002
Health services (e.g. nursing aides)	65%	35%	890	$10.25
Miscellaneous farming/fishing/hunting (e.g. gardeners)	63%	37%	4,350	$9.45
Cleaning equipment handlers/laborers (e.g. construction laborers)	63%	37%	4,210	$11.57
Miscellaneous assembler/operator/fabricator (e.g. textile worker)	61%	39%	2,550	$9.89
Fabricator/assembles/inspector (e.g. welder, painters, graders & sorters)	61%	39%	9,510	$13.33
Transport operative (e.g. truck drivers, bus drivers)	57%	43%	5,480	$13.65
Miscellaneous services (e.g. cooks, maids, janitors)	56%	44%	10,210	$9.21
Construction crafts (e.g. carpenters, electricians)	49%	51%	5,170	$18.99
Manager/operators in agriculture	49%	51%	150	$17.49
Personal service occupations (e.g. hairdressers, child care workers)	45%	55%	3,150	$9.84
Total, Ten Lowest Literacy Occupations			45,670	$12.37

Sources: (1) Levenson, Alec R., Reardon, Elaine, and Schmidt, Stefanie R. (1999). "Welfare, Jobs and Basic Skills: The Employment Prospects of Welfare Recipients in the Most Populous U.S. Counties." National Center for the Study of Adult Literacy and Learning, (2) California Employment Development Department

Ten Highest Literacy Occupations

Occupation	% Jobs Low Literacy	% Jobs High Literacy	Orange County Job Openings 1999-2006	Orange County Average Wage 2002
Math/computer scientists	2%	98%	11,690	$32.14
Miscellaneous health related (e.g. pharmacists, therapists)	3%	97%	3,690	$21.46
Accountants/auditors	3%	97%	1,570	$27.87
Architects/surveyors	4%	96%	70	$26.91
Natural scientists	4%	96%	2,700	$28.83
Health diagnostics (e.g. physicians, dentists, veterinarians)	5%	95%	860	$38.99
Engineers	10%	90%	6,360	$31.79
Teachers (e.g. university, elementary, secondary)	10%	90%	10,800	$26.26
Registered nurses	11%	89%	1,960	$26.45
Misc. management (e.g. financial officers, management analysts)	12%	88%	1,480	$38.64
Total, Ten Highest Literacy Occupations			41,180	$29.93

Sources: (1) Levenson, Alec R., Reardon, Elaine, and Schmidt, Stefanie R. (1999). "Welfare, Jobs and Basic Skills: The Employment Prospects of Welfare Recipients in the Most Populous U.S. Counties." National Center for the Study of Adult Literacy and Learning, (2) California Employment Development Department

Orange County Saw Increases in State College Eligibility Among Whites, Asian Americans, and African Americans During the 1990s; No Similar Increase in Eligibility Among County Hispanics

Description of Indicator

College readiness measures the number of public high school graduates eligible for admission to University of California (UC) and California State University (CSU) campuses. It also measures Orange County high school graduates' performance on the Scholastic Aptitude Test (SAT).

Why is it Important?

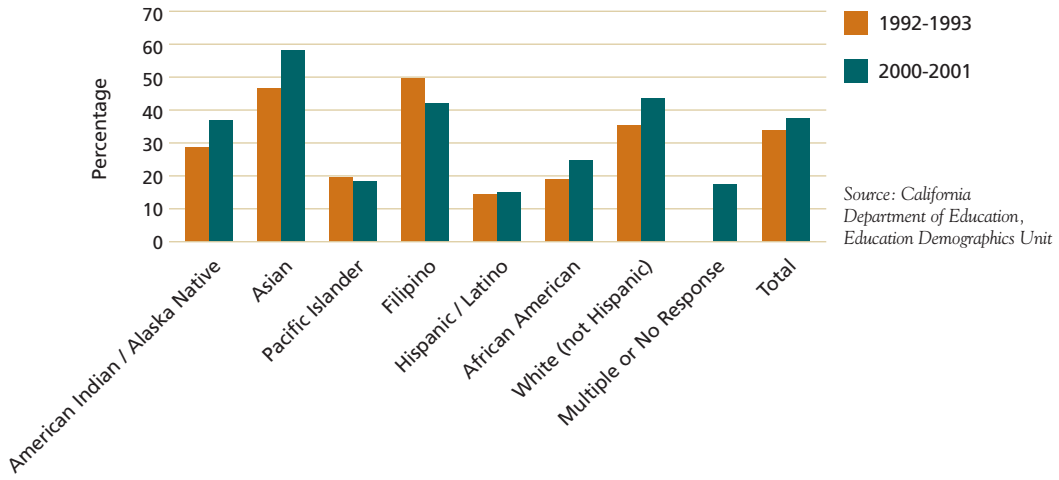
A college education or related skill certification is increasingly important for many of today's jobs in Orange County. To gain entry to most four-year universities, high school students must complete the necessary course work and perform well on standardized tests.

How is Orange County Doing?

From 1992-1993 to 2000-2001, UC/CSU eligibility for the entire county has risen approximately 14.5%. But this is largely attributable to increased eligibility for Asians and Whites. Eligibility for UC/CSU also increased among African Americans in the County, from 19.4 percent UC/CSU eligible in 1992-1993 to 26.7 UC/CSU eligible in 2000-2001. Other ethnicities did not see similar increases in eligibility. Only one in six Hispanic students, who make up approximately 30% of total enrollment in Orange County, graduate with the appropriate coursework to go to a state college.

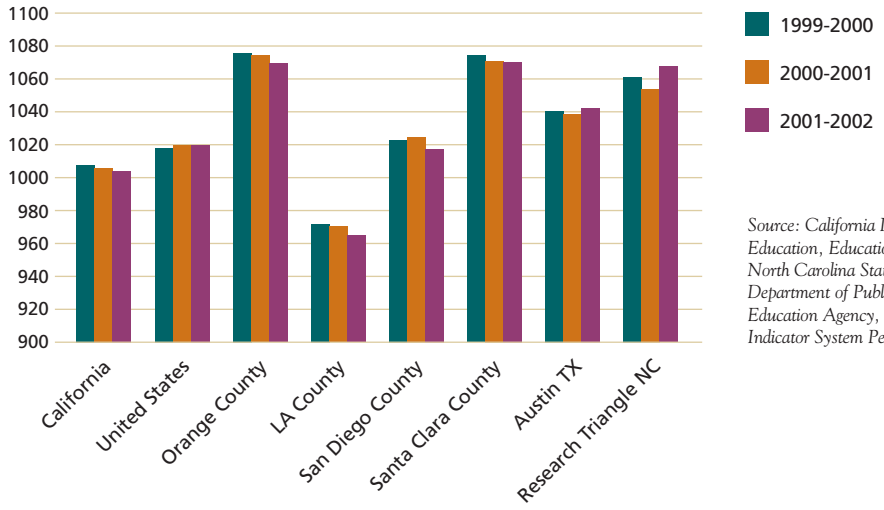
Orange County students on average perform well on the SAT. Orange County students score higher on average than students in the nation, state, and most peer metropolitan areas. Of the counties used for a comparison with Orange County, only Santa Clara County had three-year average scores that were equal to Orange County, although Research Triangle, North Carolina, had scores only slightly lower than Orange County.

UC/CSU Eligible Graduate



Source: California Department of Education, Education Demographics Unit

1999-2002 SAT Scores: Metro Comparisons



Source: California Department of Education, Educational Demographics Unit; North Carolina State Board of Education, Department of Public Instruction; Texas Education Agency, Academic Excellence Indicator System Performance Reports

Highest Growth Occupations in California Generally Have Low Skills Requirements

Description of Indicator

This indicator shows projected statewide job growth in the top ten fastest growing occupations in California, and the education or training requirements for the top ten and top fifty fastest growing California occupations. Projections are for the years 2000 through 2010.

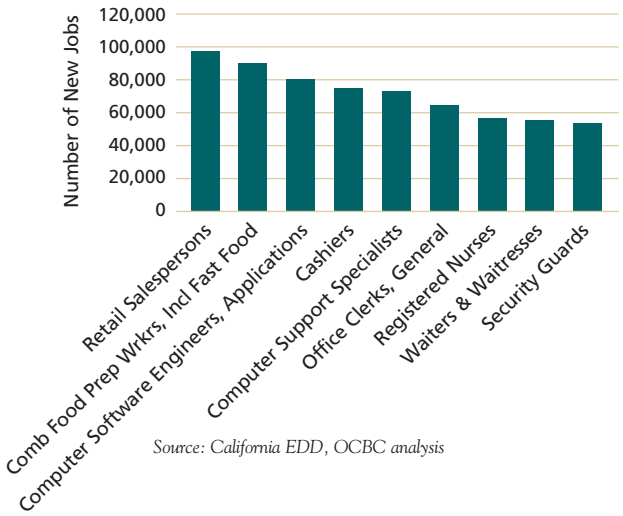
Why is it Important?

It is important for Orange County workforce professionals to understand occupational growth projections outside the county. This will illuminate how local training demands complement or diverge from training demands elsewhere in the State.

How is Orange County Doing?

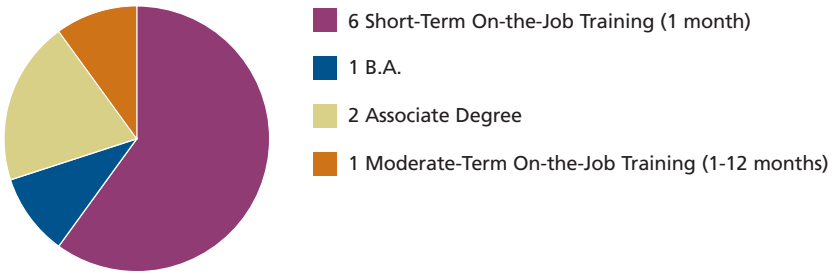
The top growth occupations in California largely require on-the-job training. Of the top ten highest growth occupations, six require short-term on the job training. Of the top fifty highest growth occupations, twenty-five require only short-term or moderate-term on-the-job training. Among the top fifty highest growth occupations in California, fifteen require a Bachelors degree or a Bachelors degree plus work experience or additional education. Thus statewide, training needs to run the gamut from on-the-job training to associates and four-year degrees. A complete workforce training program should give attention to the full range of training needs, while tailoring what is offered to the local economy.

Top 10 Growth Occupations in California by Number, 2000-2010



Source: California EDD, OCBC analysis

Top 10 California Growth Occupations by Number of Jobs, Shown by Education / Training Requirements



Source: California Employment Development Department

Largest Absolute Growth Projected to be in Sales, Secretarial Occupations While Traditional Manufacturing Occupations Show Slow Growth

Description of Indicator

This indicator is based on projections for growth in occupations in Orange County. The projections were developed by the state Employment Development Department. This indicator shows projected growth in the fastest growing Orange County occupations, with projected growth measured in both absolute terms (number of jobs) and percentage terms (as a percent of employment in the occupation in 1999). A large percentage change does not necessarily imply a large number of new jobs. Also note that occupational growth is a measure of growth in specific types of jobs, not growth in the number of jobs in particular industries. Many occupations are found in several different industries.

Why is it Important?

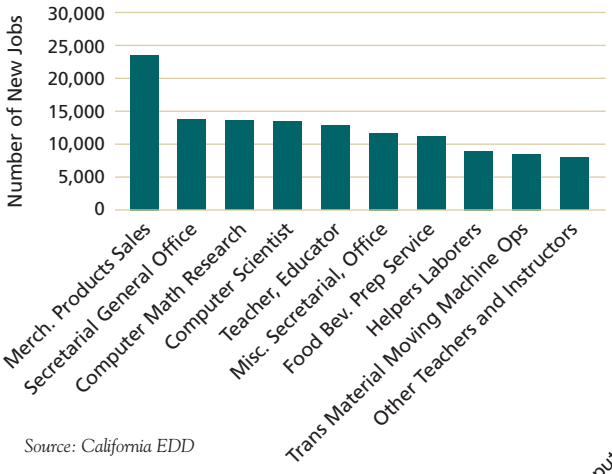
The measurement of occupational growth enables workforce professionals to develop training programs that prepare workers to enter occupations that are expected to have the greatest demand in the future.

How is Orange County Doing?

Orange County is expected to have the greatest growth in production and materials handling occupations. Out of the total 244,000 new jobs projected to be added to the Orange County economy from 1999 to 2006, 23,910 are expected to be in "Merchandise, Products and other Sales." Other high growth occupations are "Secretarial General Office Occupations," "Computer Math Operations Research Related," and "Computer Scientists and Related" occupations. In terms of percentage growth, the fastest occupational growth in Orange County will be in "Computer Scientists and Related Workers" (77.6%), "Systems Analysts/Electronic Data Processing" (69.5%) and "Electronic Pagination Workers" (69.5%).

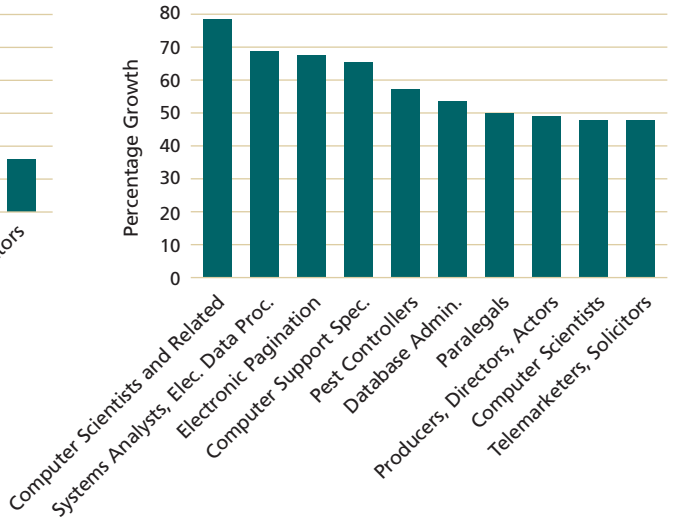
This indicator also shows the occupations with the smallest amount of Orange County projected job growth from 1999-2006. This includes traditional manufacturing occupations such as first-line supervisors in mechanical repair or production jobs and machinists. This reflects the fact that growth in manufacturing is not projected to equal growth in service-sector industries in Orange County in the next few years.

Top 10 Fastest Growing Occupations in Orange County By Absolute Growth 1999-2006



Source: California EDD

Top 10 Fastest Growing Occupations in Orange County By Percentage Growth, 1999-2006



Source: California Employment Development Department

Largest Projected Job Growth is in Services, Wholesale Trade

Description of Indicator

This indicator is a measure of the growth in employment in particular industries in Orange County as projected by the Employment Development Department from 1999-2006. Industries are defined by the activities performed by the businesses that compose them. The employment numbers are the count of all the employees hired by businesses in that industry regardless of the type of occupation performed by the employee in that business.

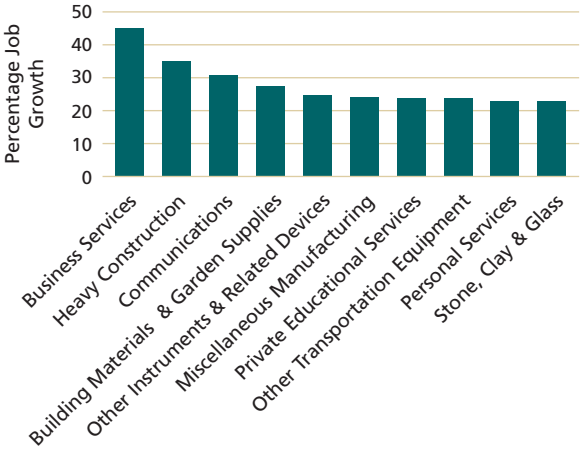
Why is it Important?

In the 1990s, Orange County underwent a major shift in its industry composition as defense downsizing dramatically reduced the importance of defense/aerospace and business services catering to and supporting high tech industries came to the fore. Measuring the continuing transformation of the Orange County economy away from its aerospace past and into greater diversification in other arenas enables policy makers to better assess the strengths and vulnerabilities of the local economy and capitalize on existing assets while avoiding pitfalls of detriments.

How is Orange County Doing?

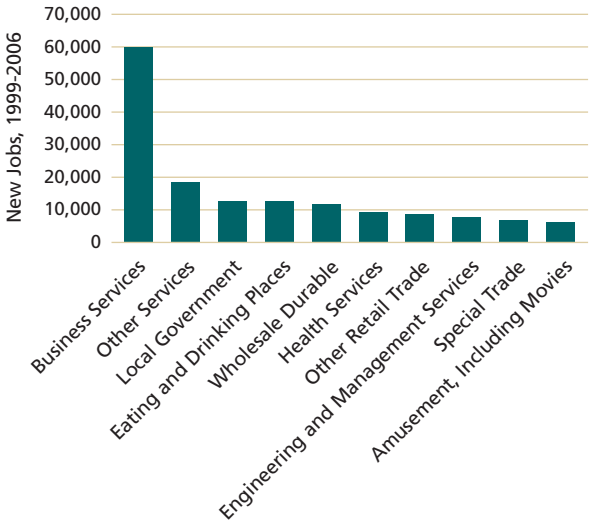
Orange County is demonstrating the continuing importance of the business services industry as this sector is the leading industry in both projected absolute number of jobs and percentage growth of jobs. When looking at absolute growth, the largest growth industries are in services, local government, or related to tourism or wholesale trade. When looking at the industries that will generate the largest employment growth as a percentage of their 1999 employment level in Orange County, construction and technology sectors figure more prominently among the top ten.

Top 10 Percentage Job Growth Industries, Orange County, 1999-2006



Source: California Employment Development Department

Largest Job Growth Industries, Orange County, 1999-2006



Source: California Employment Development Department

During Moderate Statewide Economic Growth, Largest Employment Gains in Orange County's Business and Professional Services, Computer Software, Construction, and Tourism Clusters

Description of Indicator

This indicator shows one-year employment growth in ten Orange County employment clusters for each of three different statewide employment growth rates. The growth projections are derived from the Labor Market Early Warning System built for the Orange County Workforce Investment Board. The Early Warning System simulates how employment in Orange County industry clusters is affected by statewide employment growth. This indicator shows Orange County cluster employment growth for three different California employment growth rates – 2% annual statewide employment growth (which is the California Department of Finance projection for statewide employment growth in 2004), 2.92% one-year California employment growth (the statewide growth rate for 2000), and 0.47% one-year California employment growth (close to the 0.67% change in California employment from December 2001 to December, 2002).[1] This indicator shows both percentage growth in cluster employment, and absolute growth (new of jobs gained or lost).

Why is it Important?

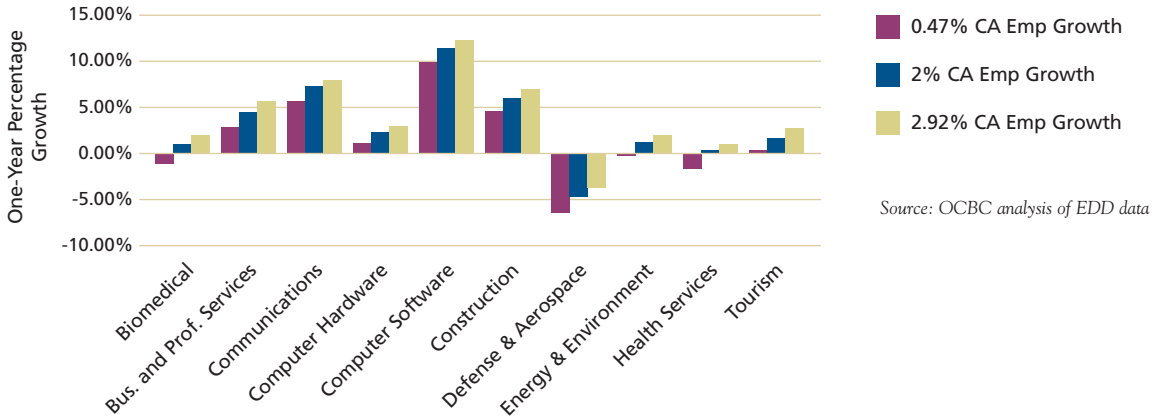
Orange County industry clusters respond to the health of the state economy. Workforce planning requires an understanding of how the California economy will influence Orange County industry clusters, and not all clusters in the County respond the same way to changes in State growth. This indicator helps workforce professionals adapt to changes in statewide economic conditions by showing how those changes influence employment growth in Orange County clusters.

How is Orange County Doing?

For all three projected statewide employment growth rates, the Computer Software and Communications clusters showed the strongest percentage growth rates. Yet because those clusters are smaller than others, the largest amount of job growth is from Business and Professional Services and Tourism. This is especially true when the statewide economy is growing. Note that some clusters are more volatile than others. Tourism employment responds sharply to changes in statewide employment growth – tourism generates almost no new jobs when California employment grows by 0.47 percent, but that increases to 2,827 new Orange County tourism jobs when California employment grows by 2 percent. Growth in the number of Business and Professional Services jobs in Orange County is also strongly influenced by changes in statewide employment growth, while growth in the County's Communications and Computer Software clusters is less sensitive to the state economy. While employment in the County's Construction cluster does not appear to be especially volatile when the California economy is growing, anything more than a mild state recession would have a severe impact on the Construction cluster. If California employment declines by 0.67 percent in one year, Orange County employment in the Construction cluster is forecast to decrease by 4,571 jobs in the same year.

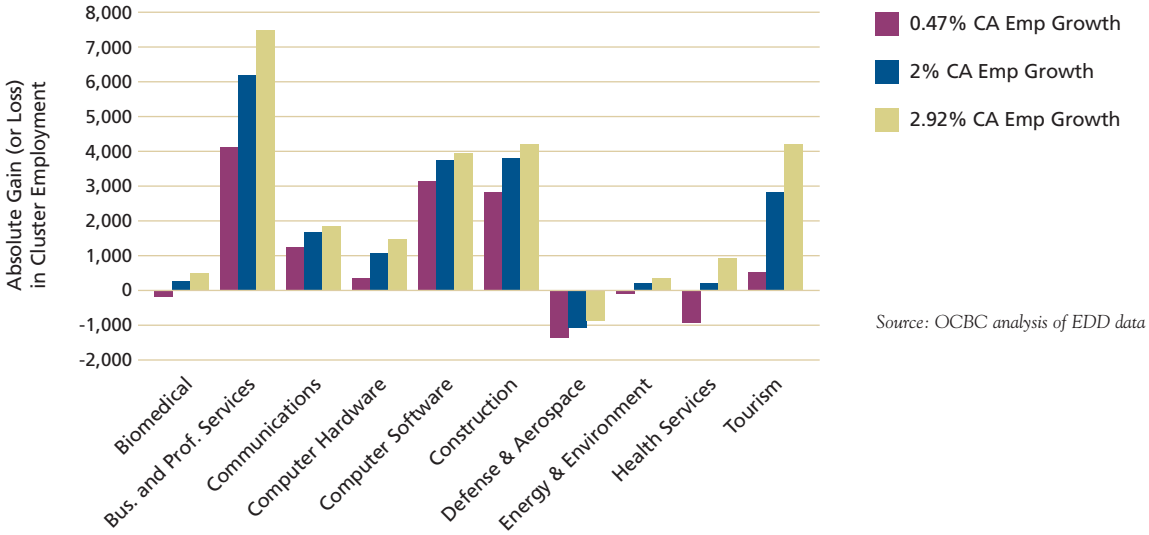
[1] The data on employment growth forecasts and historical employment levels are from the California Department of Finance <http://www.dof.ca.gov/> and the California Employment Development Department <http://www.edd.ca.gov>.

Projected One-Year Orange County Percentage Cluster Employment Growth



Source: OCBC analysis of EDD data

Projected One-Year Orange County Cluster Employment Growth



Source: OCBC analysis of EDD data

Growth in Orange County Occupations Is Strongly Influenced by The Broader California Economy

Description of Indicator

This indicator shows one-year employment growth in the top ten Orange County growth occupations for each of three different statewide employment growth rates. The growth projections for occupations shown in this indicator are derived from the Labor Market Early Warning System built for the Orange County Workforce Investment Board. The Early Warning System simulates how Orange County employment in industrial clusters and in occupations within those clusters is affected by statewide employment growth. This indicator shows Orange County occupation growth for three different California employment growth rates – 2% annual statewide employment growth (which is the California Department of Finance projection for statewide employment growth in 2004), 2.92% one-year California employment growth (the statewide growth rate for 2000), and 0.47% one-year California employment growth (close to the 0.67% change in California employment from December 2001 to December, 2002).[2]

Why is it Important?

Growth in Orange County occupations is strongly affected by the growth of the California economy. This indicator shows growth in Orange County occupations based on statewide employment growth rates that have been realized since 2000. This illustrates how changing statewide economic conditions, realized within a period of a few years, influence growth patterns in the fastest growing Orange County occupations. An understanding of the link between the California economy and growth in Orange County occupations is essential for effective workforce planning. The information in this indicator can help County workforce professionals respond rapidly to changing economic conditions.

How is Orange County Doing?

The occupations that will grow the fastest are essentially the same for the three statewide employment growth rates used for these projections. Seven occupations appear in the top ten for each of the statewide employment growth scenarios: Waiters/waitresses, combined food preparation and service, computer programmers, system analysts, guards and watch guards, financial managers, and painters and paperhangers. For those three scenarios – ranging from an essentially stagnant 0.47% growth rate to robust 2.92% annual employment growth – the influence of the state economy is more in the amount of occupational growth. As the table in this indicator shows, changes in state employment growth rates can in some cases more than double the amount of growth in specific occupations. The amount of growth in "waiters and waitresses," "combined food preparation and service," and "cooks – restaurant" is especially sensitive to the state economy. While not shown here, a more severe recession would substantially change the composition of the top Orange County growth occupations. The top ten growth occupations in Orange County when state employment contracts by 0.67 percent are (in decreasing order by job growth): Waiters and Waitresses, Combined Food Preparation and Service, Software Engineers, Cooks – Restaurant, Food Preparation Workers, Cashiers, First-Line Supervisors/Managers Service Workers, Cooks – Specialty Fast Food, Service Representatives, Hosts and Hostesses – Restaurants. This illustrates that growth in many of the County's high-tech occupations slows substantially during recessions.

Annual Job Growth in Fastest Growing Orange County Occupations, for three different California employment growth rates

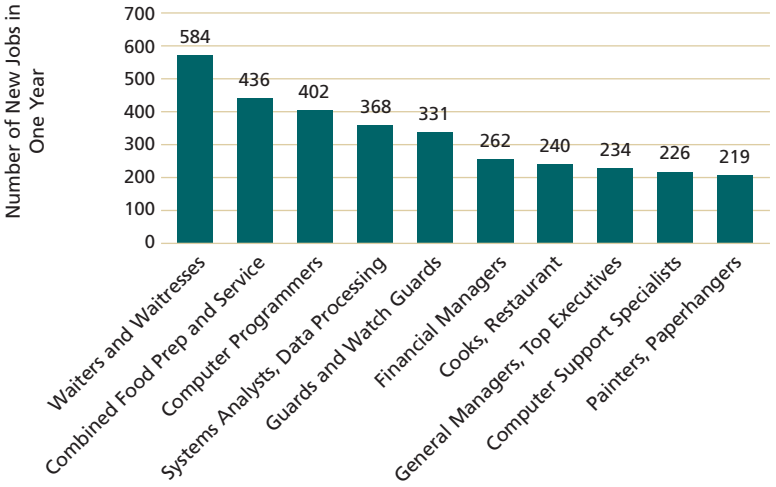
	California Employment Growth, annual rate		
	2%	0.47%	2.92%
Waiters and waitresses	584	283	765
Combined food prep and service	436	211	572
Computer Programmers	402	348	434
Systems Analysts--Electronic Data Processing	368	319	398
Guards and watch guards	331	220	397
Financial Managers	262	175	315
Cooks--restaurant	240	116	315
General managers, top executives	234	156	282
Computer Support Specialists	226	196	244
Painters, Paperhangers--Construction	219	165	251

California Employment Growth

2004 (forecast)	2%
2002	0.69%
2000	2.98%

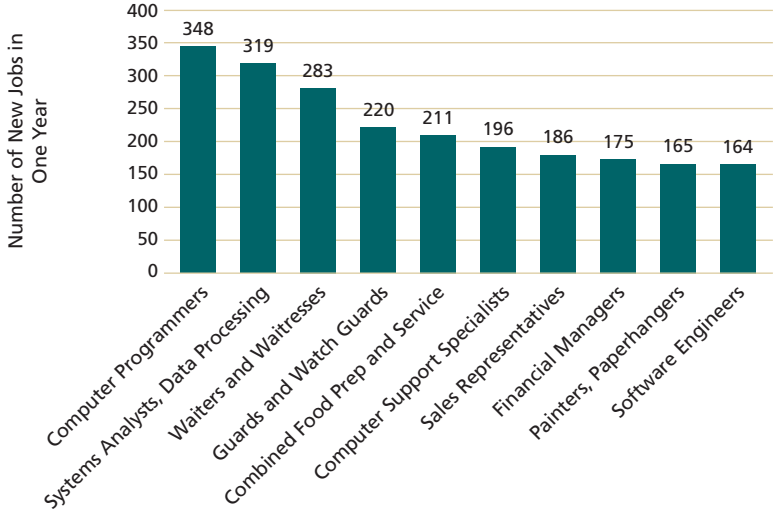
[2] The data on employment growth forecasts and historical employment levels are from the California Department of Finance <http://www.dof.ca.gov/> and the California Employment Development Department <http://www.edd.ca.gov>.

Top 10 Orange County Growth Occupations, 2% Statewide Employment Growth (Forecast for 2004)



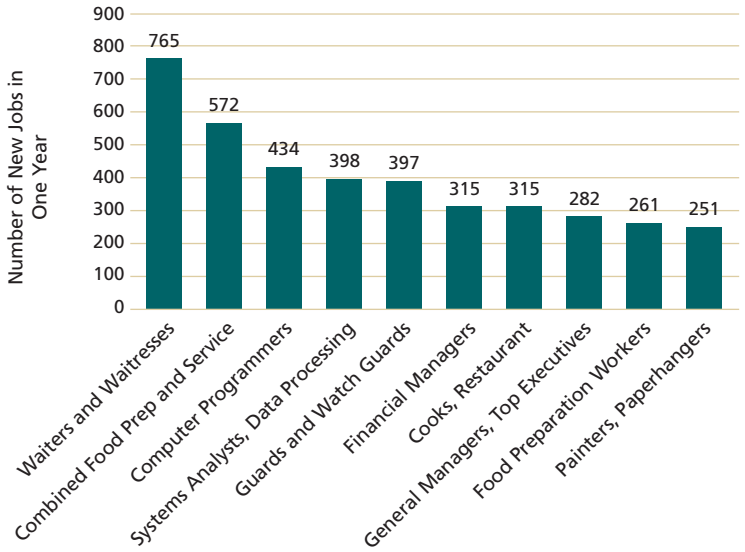
Source: OCBC analysis of EDD data

Top 10 Orange County Growth Occupations, 0.47% Statewide Employment Growth



Source: OCBC analysis of EDD data

Top 10 Orange County Growth Occupations, 2.92% Statewide Employment Growth



Source: OCBC analysis of EDD data

County has Competitive Advantage in Professional and Business Services and Retail Trade; County has Competitive Advantage in Manufacturing only in Period of Statewide Employment Growth

Description of Indicator

This indicator uses a technique called shift-share analysis to decompose employment growth in Orange County industries into three categories – employment growth that can be attributed to growth in the statewide employment, employment growth that is due to Orange County's mix of industries, and employment growth that can be credited to unique competitive advantages or disadvantages in Orange County. The analysis decomposes Orange County employment growth for two time periods – the high growth years from 1997 through 2000, and the slow growth period from 2001 to 2002.

Why is it Important?

Understanding the pattern of Orange County's competitive advantage, relative to statewide employment trends, can help policymakers assess where to focus workforce training initiatives. Furthermore, understanding the County's competitive advantage during periods of both rapid and slow growth provides a perspective on the County's advantages in differing economic contexts.

How is Orange County Doing?

From 1997 through 2000, Orange County experienced growth in all industry categories shown in this indicator except natural resources and mining. During that time period, California's strong employment growth contributed positively to employment growth in all Orange County industries. From 1997 through 2000, Orange County showed a competitive advantage in generating job growth in durable goods manufacturing, non-durable goods manufacturing, retail trade, information, professional and business services, leisure and hospitality, other services, and government.

From 2001 to 2002, Orange County experienced job losses in several industries. During that time period, the County had employment growth only in the retail trade, professional and business services, educational and health services, leisure and hospitality, other services, and government sectors. Furthermore, from 2001 through 2002, the weak State economy contributed negatively to employment growth in all Orange County industries in this sector. Orange County showed competitive advantages in job generation in the retail trade, professional and business services, leisure and hospitality, other services, and government sectors from 2001 to 2002.

One conclusion that emerges from this analysis is that trends in the state economy have a highly cyclical impact on the Orange County economy, while the pattern of the County's competitive advantage is more stable across periods of statewide economic growth or decline.

Orange County Employment Growth, by Industry, 1997-2000

	1997 Employment	2000 Employment	Growth (Loss) from 1997 through 2000
TOTAL ORANGE COUNTY EMPLOYMENT	**1,142,000**	**1,287,900**	**145,900**
O.C. Employment by Industry:			
Natural Resources and Mining	800	600	(200)
Construction	59,200	77,000	17,800
Durable Goods Manufacturing	147,200	153,400	6,200
Nondurable Goods Manufacturing	61,500	63,300	1,800
Wholesale Trade	75,800	80,800	5,000
Retail Trade	132,900	147,800	14,900
Transportation, Warehousing and Utilities	28,900	30,400	1,500
Information	32,500	41,500	9,000
Professional and Business Services	196,500	248,800	52,300
Educational and Health Services	106,200	112,800	6,600
Leisure and Hospitality	127,600	140,700	13,100
Other Services	40,200	44,200	4,000
Government	132,700	146,600	13,900

Source: California Employment Development Department

Components of Orange County Employment Growth, 1997-2000

	O.C. Job Growth Due to State Growth	O.C. Job Growth Due to O.C. Industrial Mix	O.C. Job Growth Due to O.C. Competitive Advantage
TOTAL COUNTY EMPLOYMENT	**120,606**	**610**	**24,684**
Breakdown by Industry			
Natural Resources and Mining	84	(66)	(219)
Construction	6,252	12,592	(1,044)
Durable Goods Manufacturing	15,546	(10,678)	1,332
Nondurable Goods Manufacturing	6,495	(7,099)	2,404
Wholesale Trade	8,005	(1,731)	(1,274)
Retail Trade	14,035	(3,235)	4,100
Transportation, Warehousing and Utilities	3,052	(695)	(857)
Information	3,432	4,571	996
Professional and Business Services	20,752	16,446	15,102
Educational and Health Services	11,216	(2,476)	(2,140)
Leisure and Hospitality	13,476	(3,503)	3,127
Other Services	4,245	(498)	253
Government	14,014	(3,017)	2,903

Source: Orange County Business Council analysis of data from California Employment Development Department

Orange County Employment Growth, by Industry, 2001-2002

	2001 Employment	2002 Employment	Growth (Loss) from 2001 to 2002
TOTAL ORANGE COUNTY EMPLOYMENT	**1,307,800**	**1,292,300**	**(15,500)**
O.C. Employment by Industry			
Natural Resources and Mining	600	500	(100)
Construction	80,700	79,200	(1,500)
Durable Goods Manufacturing	147,800	133,000	(14,800)
Nondurable Goods Manufacturing	60,700	57,000	(3,700)
Wholesale Trade	83,900	81,300	(2,600)
Retail Trade	150,100	152,400	2,300
Transportation, Warehousing and Utilities	30,400	28,500	(1,900)
Information	40,200	36,000	(4,200)
Professional and Business Services	248,400	249,200	800
Educational and Health Services	114,600	117,800	3,200
Leisure and Hospitality	154,300	156,400	2,100
Other Services	45,200	45,900	700
Government	150,900	155,100	4,200

Source: California Employment Development Department

Components of Orange County Employment Growth, 2001-2001

	O.C. Job Growth Due to State Growth	O.C. Job Growth Due to O.C. Industrial Mix	O.C. Job Growth Due to O.C. Competitive Advantage
TOTAL COUNTY EMPLOYMENT	**(13,356)**	**(5,712)**	**3,569**
Breakdown by Industry			
Natural Resources and Mining	(6)	(52)	(41)
Construction	(824)	161	(837)
Durable Goods Manufacturing	(1,509)	(12,880)	(411)
Nondurable Goods Manufacturing	(620)	(2,401)	(679)
Wholesale Trade	(857)	(35)	(1,708)
Retail Trade	(1,533)	2,362	1,471
Transportation, Warehousing and Utilities	(310)	(755)	(835)
Information	(411)	(3,489)	(300)
Professional and Business Services	(2,537)	(4,336)	7,673
Educational and Health Services	(1,170)	5,344	(974)
Leisure and Hospitality	(1,576)	3,578	98
Other Services	(462)	1,069	93
Government	(1,541)	5,722	19

Source: Orange County Business Council analysis of data from California Employment Development Department

Orange County Had Competitive Advantage in Communications, Semiconductor, and Aerospace Manufacturing from 1997 through 2000, but That Advantage Did Not Continue During 2001-2002 Time Period

Description of Indicator

This indicator uses a technique called shift-share analysis to decompose employment growth in Orange County industries into three categories – employment growth that can be attributed to growth in the statewide employment, employment growth that is due to Orange County's mix of industries, and employment growth that can be credited to unique competitive advantages or disadvantages in Orange County. The analysis decomposes Orange County employment growth for two time periods – the high growth years from 1997 through 2000, and the slow growth period from 2001 to 2002. This analysis examines Orange County's competitive advantage in the manufacture of durable goods and non-durable goods. Durable goods manufacturing is the creation of items such as fabricated metals, industrial machinery, semiconductors and aerospace equipment. Non-durable goods manufacturing involves the creation and/or processing of items such as food, textiles, clothing and paper.

Why is it Important?

Understanding the pattern of Orange County's competitive advantage, relative to statewide employment trends, can help policymakers assess where to focus workforce training initiatives. Furthermore, understanding the County's competitive advantage during periods of both rapid and slow growth provides a perspective on the County's advantages in differing economic contexts. Given the importance of manufacturing in an economy's ability to create long-term sustainable wealth for its residents, understanding Orange County's competitive advantage in durable goods and non-durable goods manufacturing is essential

How is Orange County Doing?

From 1997 through 2000, Orange County experienced growth in fabricated metal production, computers and peripherals, communication equipment, semiconductors and aerospace products. During that time period, California's strong employment growth contributed positively to the employment growth in all of these Orange County industries. From 1997 through 2000, Orange County showed a competitive advantage in generating job growth in fabricated metal products, computers and peripherals, communications equipment, semiconductors, aerospace products, and miscellaneous manufacturing. For non-durable goods, Orange County had a competitive advantage in paper manufacturing and printing and related support activities.

From 2001 to 2002, Orange County experienced job losses in all durable goods and non-durable goods manufacturing sectors. Furthermore, from 2001 through 2002, the weak State economy contributed negatively to employment growth in all Orange County industries in this sector. Orange County showed competitive advantages in job generation in only in the fabricated metal, magnetic media, industrial machinery and other transportation equipment sectors for durable goods. For the non-durable goods sectors, Orange County had a competitive advantage in textile and apparel, paper manufacturing and printing and related materials.

Orange County Durable Goods Manufacturing Employment Growth, by Industry, 1997-2000

	1997 Employment	2000 Employment	Growth (Loss) from 1997 through 2000
TOTAL ORANGE COUNTY DURABLE GOODS MANUFACTURING EMPLOYMENT	**147,400**	**153,400**	**6,000**
O.C. Employment by Industry:			
Fabricated Metal Product Mfg	24,000	25,000	1,000
Machinery Manufacturing	14,200	13,500	(700)
Computer and Peripheral Equipment Manufacturing	5,700	5,900	200
Communications Equipment Manufacturing	3,900	5,000	1,100
Semiconductor & Electronic Component Manufacturing	18,700	20,100	1,400
Electronic Instrument Manufacturing	17,300	16,600	(700)
Magnetic Media Manufacturing & Reproducing	4,500	3,100	(1,400)
Aerospace Product and Parts Manufacturing	13,100	14,300	1,200
Other Transportation Equipment Manufacturing	6,800	6,500	(300)
Residual-Miscellaneous Manufacturing	39,200	43,400	4,200

Source: California Employment Development Department

Components of Orange County Durable Goods Manufacturing Employment Growth, 1997-2000

	O.C. Job Growth Due to State Growth	O.C. Job Growth Due to O.C. Industrial Mix	O.C. Job Growth Due to O.C. Competitive Mix
Fabricated Metal Product Mfg	357	(357)	1,000
Machinery Manufacturing	211	(211)	(700)
Computer and Peripheral Equipment Manufacturing	85	(85)	200
Communications Equipment Manufacturing	58	(58)	1,100
Semiconductor and Electronic Component Mfg	278	(278)	1,400
Electronic Instrument Manufacturing	257	(257)	(700)
Residual-Magnetic Media Mfg and Reproducing	67	(67)	(1,400)
Aerospace Product and Parts Manufacturing	195	(195)	1,200
Other Transportation Equipment Mfg	101	(101)	(300)
Residual-Miscellaneous Manufacturing	582	(582)	4,200

Source: Orange County Business Council analysis of data from California Employment Development Department

Orange County Durable Goods Employment Growth, by Industry, 2001-2002

	2001 Employment	2002 Employment	Growth (Loss) from 2001 to 2002
TOTAL ORANGE COUNTY DURABLE GOODS MANUFACTURING EMPLOYMENT	**147,900**	**133,200**	**(14,700)**
O.C. Employment by Industry			
Fabricated Metal Product Mfg	25,300	22,700	(2,600)
Machinery Manufacturing	12,300	11,400	(900)
Computer and Peripheral Equipment Mfg	5,800	5,500	(300)
Communications Equipment Manufacturing	5,200	4,100	(1,100)
Semiconductor & Electronic Component Mfg	19,800	16,600	(3,200)
Electronic Instrument Manufacturing	16,200	15,200	(1,000)
Magnetic Media Manufacturing & Reproducing	2,500	2,200	(300)
Aerospace Product and Parts Manufacturing	13,000	11,600	(1,400)
Other Transportation Equipment Manufacturing	6,500	6,300	(200)
Residual-Miscellaneous Manufacturing	41,300	37,600	(3,700)

Source: California Employment Development Department

Components of Orange County Non-Durable Goods Employment Growth, 1997-2000

	O.C. Job Growth Due to State Growth	O.C. Job Growth Due to O.C. Industrial Mix	O.C. Job Growth Due to O.C. Competitive Advantage
Food Manufacturing	749.21	(549.98)	(799.23)
Textile & Apparel	1,158.66	3,074.80	(2,133.45)
Paper Manufacturing	365.89	(227.00)	161.11
Printing and Related Support Activities	862.46	(959.67)	1,197.21
Residual-Beverage and Tobacco Product Mfg	2,221.49	50.79	(3,372.28)

Source: Orange County Business Council analysis of data from California Employment Development Department

Orange County Non-Durable Goods Employment Growth, by Industry, 1997-2000

	1997 Employment	2000 Employment	Growth (Loss) from 1997 through 2000
TOTAL ORANGE COUNTY NON-DURABLE GOODS MANUFACTURING EMPLOYMENT	**61,500**	**63,300**	**1,800**
O.C. Employment by Industry:			
Food Manufacturing	8,600	8,000	(600)
Textile & Apparel	13,300	15,400	2,100
Paper Manufacturing	4,200	4,500	300
Printing and Related Support Activities	9,900	11,000	1,100
Residual-Beverage and Tobacco Product Mfg	25,500	24,400	(1,100)

Source: California Employment Development Department

Components of Orange County Durable Goods Employment Growth, 2001-2002

	O.C. Job Growth Due to State Growth	O.C. Job Growth Due to O.C. Industrial Mix	Job Growth Due to O.C. Competitive Advantage
Fabricated Metal Product Mfg	(1,190.00)	(1,491.00)	81.00
Machinery Manufacturing	(578.54)	(806.39)	484.92
Computer and Peripheral Equipment Mfg	(272.81)	203.51	(230.70)
Communications Equipment Manufacturing	(244.58)	197.10	(1,052.51)
Semiconductor & Electronic Component Mfg	(931.30)	174.21	(2,442.90)
Electronic Instrument Manufacturing	(761.98)	857.67	(1,095.70)
Magnetic Media Manufacturing & Reproducing	(117.59)	(226.16)	43.75
Aerospace Product and Parts Manufacturing	(611.46)	785.96	(1,574.50)
Other Transportation Equipment Manufacturing	(305.73)	77.97	27.76
Residual-Miscellaneous Manufacturing	(1,942.57)	(535.43)	(1,222.00)

Source: Orange County Business Council analysis of data from California Employment Development Department

Orange County Non-Durable Goods Employment Growth, by Industry, 2001-2002

	2001 Employment	2002 Employment	Growth (Loss) from 2001 to 2002
TOTAL ORANGE COUNTY NON-DURABLE GOODS MANUFACTURING EMPLOYMENT	**60,700**	**57,000**	**(3,700)**
O.C. Employment by Industry			
Food Manufacturing	7,900	7,600	(300)
Textile & Apparel	14,400	13,100	(1,300)
Paper Manufacturing	4,300	4,200	(100)
Printing and Related Support Activities	10,700	10,100	(600)
Residual-Beverage and Tobacco Product Mfg	23,400	22,000	(1,400)

Source: California Employment Development Department

Components of Orange County Non-Durable Goods Employment Growth, 2001-2002

	O.C. Job Growth Due to State Growth	O.C. Job Growth Due to O.C. Industrial Mix	O.C. Job Growth Due to O.C. Competitive Mix
Food Manufacturing	(429.14)	304.21	(175.08)
Textile & Apparel	(782.22)	(545.29)	27.52
Paper Manufacturing	(233.58)	(23.14)	156.72
Printing and Related Support Activities	(581.23)	(337.10)	318.34
Residual-Beverage and Tobacco Product Mfg	(1,271.11)	1,271.11	(1,400.00)

Source: Orange County Business Council analysis of data from California Employment Development Department

After Rapid Employment Growth in Late 1990s, Computer Software Shows Largest Percentage Employment Decrease Among Orange County Clusters from 2001 to Mid-Way Through 2002

Description of Indicator

This indicator shows employment in 10 major Orange County industry clusters from 1991 through 2000 and from 2001 through the second quarter of 2002. The clusters were chosen to reflect the diversity of Orange County employment, major economic drivers within the county, and important industry sectors for workforce development. The data are divided into two time periods – 1991 through 2000 and first quarter of 2001 through second quarter of 2002 – because the California Employment Development Department (EDD) changed their method for classifying industry data in 2001. Through 2000, the EDD utilized the Standard Industrial Classification system (SIC). For 2001 and later years, the EDD uses the North American Industrial Classification System (NAICS). Because the NAICS includes many changes in industry classification that are intended to improve upon the SIC system, the 1991-2000 and 2001-2002 data series cannot be directly compared. Instead, the two series are shown separately in this indicator.

Why is it Important?

Approximately forty percent of all Orange County jobs are in the ten clusters described in this indicator. These clusters were chosen to reflect both key economic drivers for the Orange County economy and industries that are central to workforce development. Understanding employment trends in those clusters can inform workforce policy.

How is Orange County Doing?

The three largest clusters are Business and Professional Services, Health Services, and Tourism – reflecting the importance of the service sector in the Orange County economy. These three large clusters posted solid employment growth during the 1990s – with Business and Professional Services growing at a 3.15% annualized rate over the ten year period, Health Services posting 1.12% growth and Tourism growing at a 1.78% annual rate. From first quarter 2001 through the first quarter of 2002, Orange County Business Services employment grew 4.02% rate, Health Services employment grew 6.10%, and Tourism jobs grew by 7.25%. The growth in the Tourism cluster occurred despite the impact of September 11, but note that Tourism includes many restaurant and food service jobs that also serve Orange County residents. In both comparison periods, the total job growth in those three clusters was larger than the growth in any other cluster – stated differently, the three largest clusters also accounted for the most new jobs. Thus, whether from a perspective of new jobs created or turnover in existing jobs, workforce development policy should include a strong focus on the Business and Professional Services, Health Services, and Tourism clusters.

The most rapidly growing clusters during the 1990s were Computer Software and Communications. Employment in Computer Software increased 205 percent from 1991 to 2000 (a gain of 21,713 jobs), and employment in Communications increased 85 percent during the same time period (a gain of 10,591 jobs). Yet those high-growth clusters have lost ground since 2001. Computer software lost more jobs in percentage terms than any other cluster from 2001 through the second quarter of 2002. Other technology clusters, such as computer hardware, defense/aerospace, and energy and environment, have lost jobs since the first quarter of 2001.

Orange County Cluster Employment, Percentage Change, 1991 through 2000

	O.C. Employment, 1991	O.C. Employment, 2000	Percent Change, 1991 through 2000
Biomedical	24,468	28,540	17%
Business and Professional Services	101,995	138,643	36%
Communications	12,444	22,731	83%
Computer Hardware	41,975	45,203	8%
Computer Software	10,586	32,818	210%
Construction	46,813	61,347	31%
Defense & Aerospace	40,603	23,509	-42%
Energy & Environment	11,126	12,819	15%
Health Services	67,754	75,432	11%
Tourism	124,686	149,415	20%

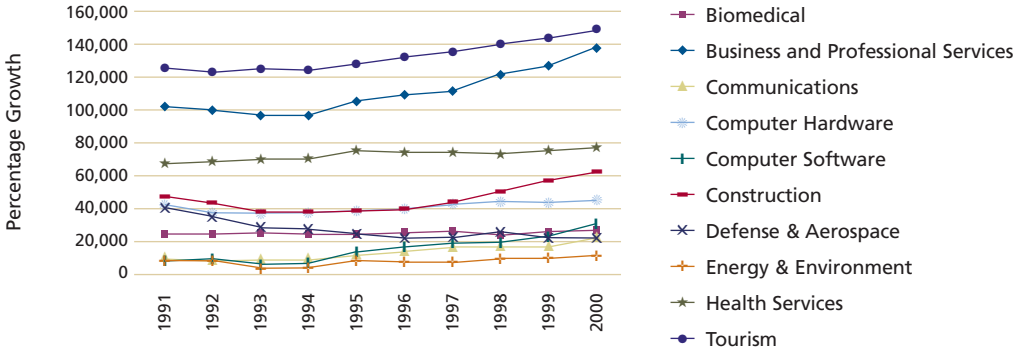
Source: OCBC Analysis of California Employment Development Department data

Orange County Cluster Employment, Percentage Change, First Quarter 2001 through Second Quarter 2002

	OC 1st Quarter 2001 Employment	OC 2nd Quarter 2002 Employment	Percent Change, 2001 Q1 to 2002 Q2
Biomedical	30,036	28,343	-5.64%
Business and Professional Services	138,659	144,231	4.02%
Communications	25,933	23,946	-7.66%
Computer Hardware	39,427	32,936	-16.46%
Computer Software	27,446	21,042	-23.33%
Construction	78,272	73,603	-5.97%
Defense & Aerospace	27,086	24,649	-9.00%
Energy & Environment	19,243	16,950	-11.92%
Health Services	85,376	90,586	6.10%
Tourism	117,271	125,779	7.25%

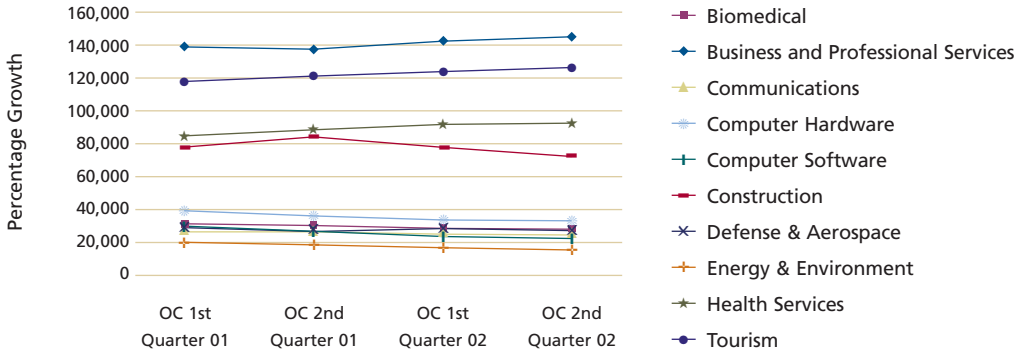
Source: OCBC Analysis of California Employment Development Department data

Orange County Employment Growth in Selected Clusters 1991-2000



Source: California Employment Development Department data, Orange County Business Council Analysis

Orange County Employment Growth, 2001-2002



Source: California Employment Development Department data, Orange County Business Council Analysis

Health Services Wages Were Fastest Growing Among Orange County Clusters from 2001 to Mid-Way Through 2002; Computer Software Wages Showed Largest Percentage Decrease During that Time Period

Description of Indicator

This indicator shows salaries in 10 major Orange County industry clusters, 1991 to 2000 and from 2001 to the second quarter of 2002. The indicator also shows each cluster's percentage wage growth in the first quarter of 2001 to the second quarter of 2002. As a comparison with the state, this indicator gives salaries in clusters for Orange County and California. The data are decomposed into the 1991 to 2000 and 2001 to second quarter of 2002 time periods because the EDD utilized the Standard Industrial Classification system (SIC) prior to 2001 but switched to the North American Industrial Classification System subsequently. Comparisons between the two sets of data are not possible, so the two time periods are reported separately.

Why is It Important?

Understanding comparative salary levels, and salary growth trends, is vital for workforce development policy. This information, combined with information from the indicator on cluster employment growth trends, allows workforce development professionals to understand how the County's economy is performing in terms of generating jobs at differing salary levels. Growth of low wage jobs, for example, if that is not balanced by growth of high wage jobs, is a problem – especially so in a high cost of living location like Orange County.

How is Orange County Doing?

The two clusters with the largest amount of job growth in the 1990s – business and professional services and tourism – were among the lowest paying clusters. Tourism jobs paid, on average, $16,630 in 2001 (the equivalent of $8.31 per hour for 50 weeks per year of full time work), declining to $16,341 ($8.17 per hour) by the second quarter of 2002. Business and professional services jobs paid an average of $43,973 per year in 2001 declining to $41,574 by the second quarter of 2002. Tourism is the lowest paying cluster among the ten clusters summarized in this indicator, and business and professional services is the third lowest paying cluster (with health services paying less, an estimated $40,669 per year in the second quarter 2002).

The highest paying clusters in 2002 were computer software and computer hardware, but salaries in the computer software cluster dropped from 2001 to the second quarter of 2002. Computer software jobs paid $81,158 in 2001 and an estimated annual salary of $77,764 in second quarter of 2002. Jobs in computer hardware paid $55,122 in 2001 and an estimated annual salary of $57,829 in the second quarter of 2002. Compared to salary growth in other clusters, the one-year drop in computer software was dramatic, but the decline in pay in computer software and communications jobs followed what appeared to be an even more dramatic one-year increase in pay in both clusters from 1998 to 1999. The net effect of the move up, then down, in computer software and communications salaries from 1998 to 2002 is to roughly return long-term wage growth in this cluster to the trend for the previous decade. Thus the upward spike in wages in the late 1990s appears to be the anomaly, likely due to the exceptionally tight labor market for technology professionals in those years. The drop down in computer software wages since 2000 might be a sign that demand for those professionals lessened a bit, possibly as an effect of the economic slowdown since 2001.

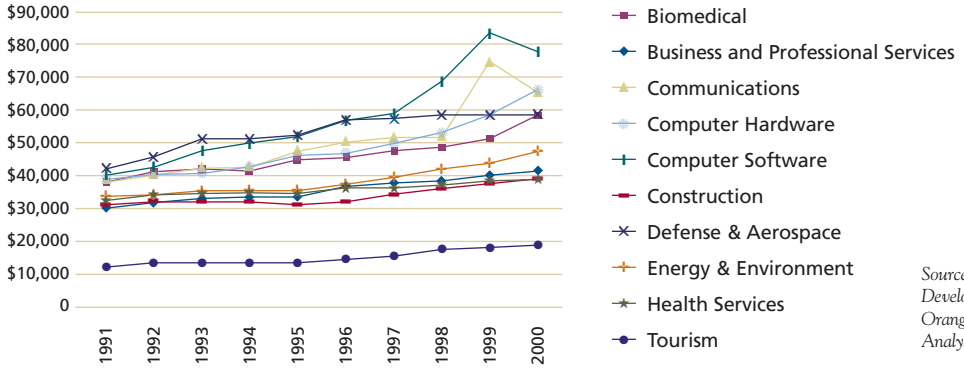
Overall, the preponderance of employment growth in relatively low-wage clusters suggests a long-term issue for Orange County workforce development policies. At the end of this indicator, salaries in the ten clusters in Orange County are compared to California averages for 2001. Orange County annual salaries are below the average annual salaries for eight of the ten clusters. Only in the construction and health services clusters are Orange County salaries higher than the state average. Overall, Orange County annual salary averages in these ten clusters ($49,625) are below the state average ($57,825). Wage and salary growth is not keeping pace with the state average, and in some clusters wage and salary growth is not keeping pace with increases in the cost of living. 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.

Cluster Salary Trends - Continued

	2001 Average OC Wage	2001 OC Wage Above State Average?
Total All Ten Clusters	$49,625	$57,825 (no)
Biomedical	$55,524	$67,120 (no)
Business and Professional Services	$43,973	$45,560 (no)
Communications	$51,957	$66,193 (no)
Computer Hardware	$55,122	$80,942 (no)
Computer Software	$81,158	$94,527 (no)
Construction	$44,460	$42,788 (yes)
Defense & Aerospace	$63,634	$72,467 (no)
Energy & Environment	$44,166	$52,399 (no)
Health Services	$39,635	$38,862 (yes)
Tourism	$16,630	$17,397 (no)

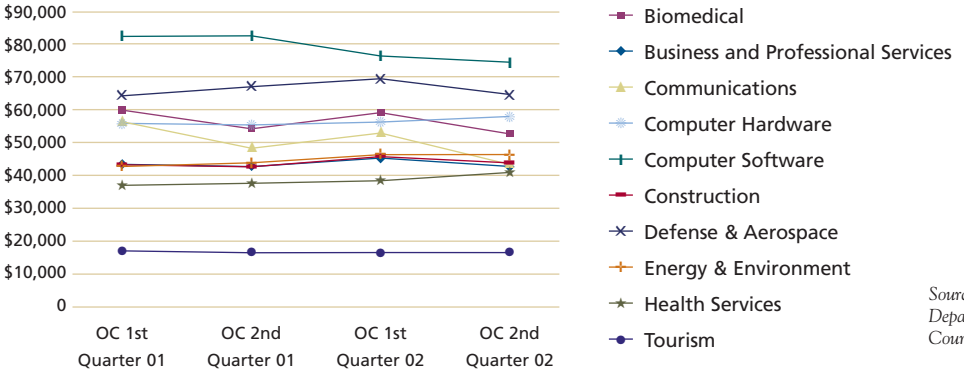
Source: OCBC analysis of California Employment Development Department data

Orange County Cluster Salary Trends 1991-2000



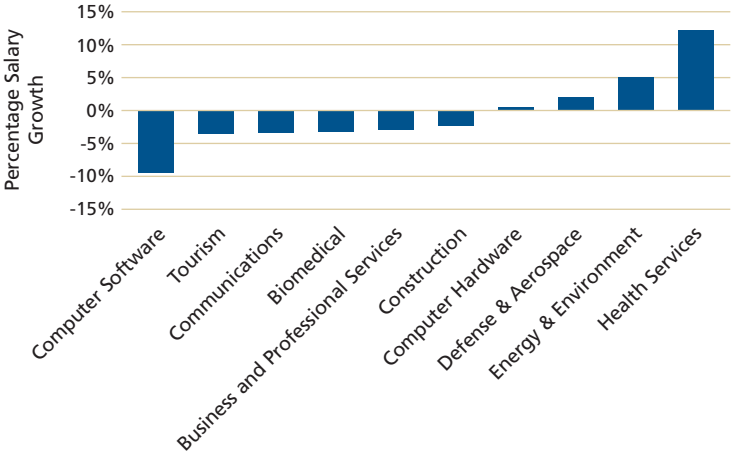
Source: California Employment Development Department data, Orange County Business Council Analysis

Orange County Salary Trends 2001-2002 in Selected Clusters



Source: California Employment Development Department data, Orange County Business Council Analysis

Percentage Salary Growth, Orange County Clusters, 2001 First Quarter Through 2002 Second Quarter



Source: California Employment Development Department data, Orange County Business Council Analysis

Orange County Housing Costs Continue to Rise; Home Ownership Out of Reach for Many Residents

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 income needed to afford the typical apartment in Orange County. Additionally, this indicator compares fair market rents with neighbor and peer regions. Home purchasing power is based on the approximate size of a mortgage that a homeowner could obtain with a given income level.

Why is it Important?

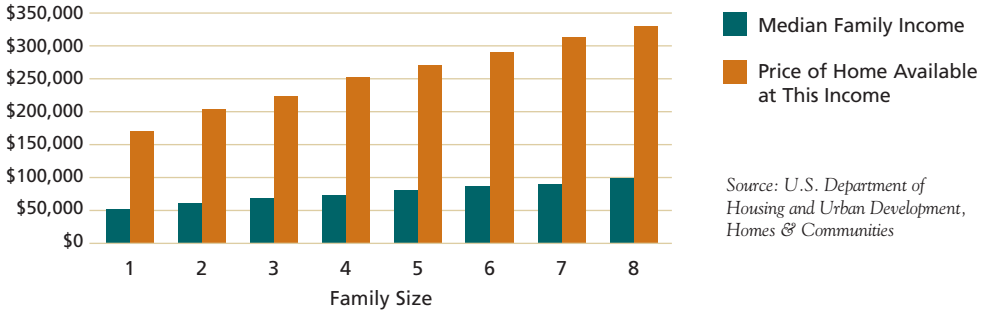
It is important to understand what wages are required to purchase a home or rent an apartment in Orange County. The County's high cost of homeownership and rental properties requires either that some low-wage workers live in crowded conditions or that they commute from locations outside of the County. More generally, workforce development efforts that target higher wage occupations, while holding the skill level constant, can provide wages that are better suited to Orange County's cost of living.

How is Orange County Doing?

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 2002 was $75,600 and the purchasing power for that level of income is a $252,000 home. The median priced single family home in Orange County was $439,410 for the fourth quarter 2002, an increase of over $100,000 from fourth quarter 2000. Median homes prices rose 12% from fourth quarter 2000 to fourth quarter 2001 and 22% from fourth quarter 2001 to fourth quarter 2002. This information suggests that the gap between the purchasing power of income for County residents and what a home costs is substantial.

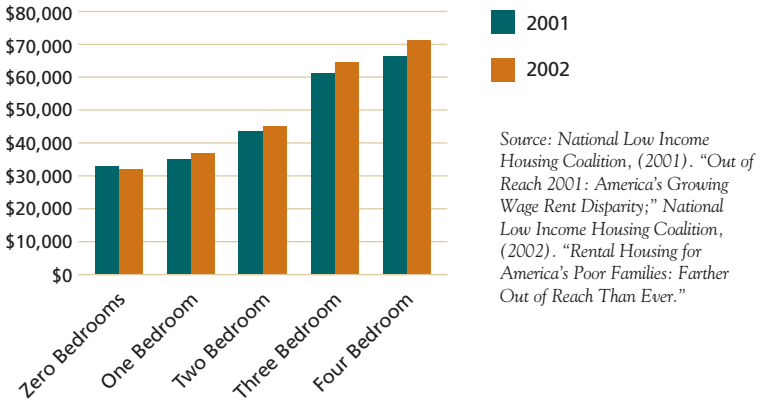
The situation is not much better for renters. According to the National Low Income Housing Coalition, Fair Market Rent in Orange County for a two-bedroom unit in 2002 is $1,155 and a three-bedroom unit rents for $1,607. The income needed to afford a two-bedroom rent is $46,200 ($22.21 per hour) and the income needed to afford a three-bedroom rent is $64,280, or $30.90 per hour (assuming no more than 30% of income is spent on housing costs). These costs reflect a 5% increase over 2001 costs. While a two-bedroom or three-bedroom unit is affordable for families making the median family income, families earning minimum wage ($6.75/hr) would have to work 117 hours per week to afford just a two-bedroom unit. Given that middle-income families can only easily afford rental units and that low income families who typically live in rental units need to work an extraordinary number of hours to afford Fair Market Rent, housing costs in Orange County are beyond the income that many workers are able to earn in this economy. By comparison, fair market rents for most peer and neighbor regions are below those of Orange County with the exception of Boston and San Francisco.

Purchasing Power of Orange County
Annual Median Income, 2002



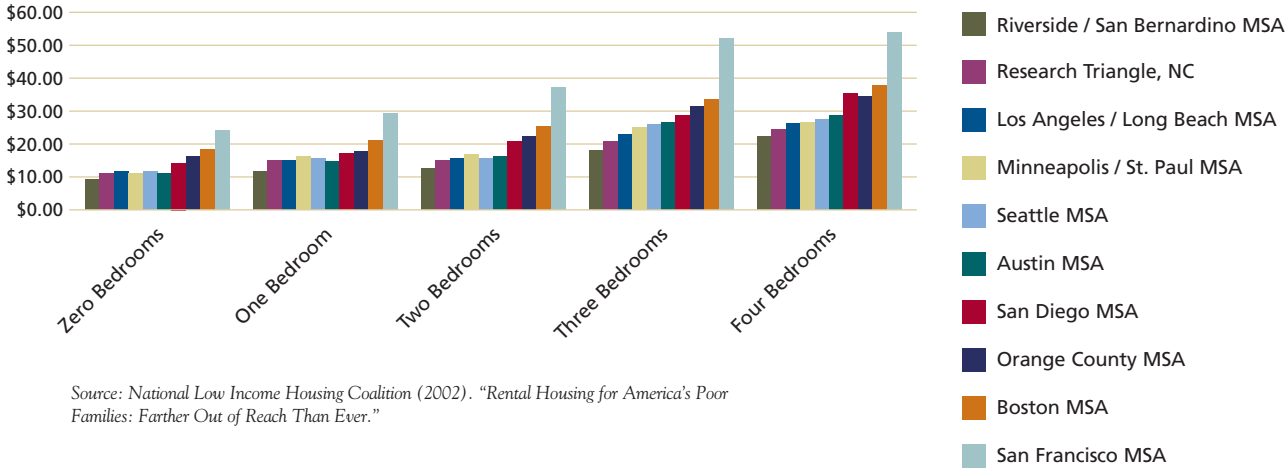
Source: U.S. Department of Housing and Urban Development, Homes & Communities

Income Needed to Afford Fair Market Rent in Orange County, 2001/2002



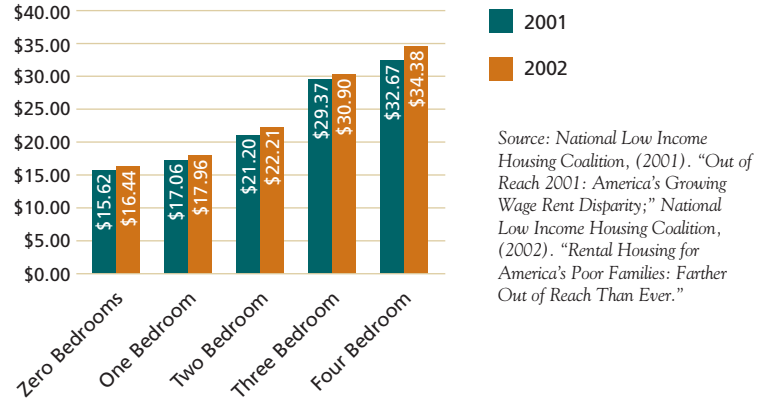
Source: National Low Income Housing Coalition, (2001). "Out of Reach 2001: America's Growing Wage Rent Disparity;" National Low Income Housing Coalition, (2002). "Rental Housing for America's Poor Families: Farther Out of Reach Than Ever."

Hourly Wage Needed to Afford Fair Market Rent, 2002



Source: National Low Income Housing Coalition (2002). "Rental Housing for America's Poor Families: Farther Out of Reach Than Ever."

Hourly Wage Needed to Afford Fair Market Rent in Orange County, 2001/2002



Source: National Low Income Housing Coalition, (2001). "Out of Reach 2001: America's Growing Wage Rent Disparity;" National Low Income Housing Coalition, (2002). "Rental Housing for America's Poor Families: Farther Out of Reach Than Ever."

Many Low Income Earners Must Stretch to Afford Rental Housing; Income of $37,000 Needed to Afford County's Typical One-Bedroom Apartment

Description of Indicator

The rental affordability indicator measures the Housing Wage – the hourly wage a resident would need to afford Fair Market Rent.[3]

Why is it Important?

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?

The Housing Wage in Orange County ranges from $17.96 per hour for a one-bedroom apartment to $30.90 per hour for a three-bedroom apartment. The hourly wage needed for a one-bedroom apartment ($17.96) is equivalent to an annual income of $37,357. Orange County's Housing Wage rates have increased since 2000, when Housing Wages were $15.23, $18.85, and $20.86 for, respectively, one-bedroom, two-bedroom, and three-bedroom apartments. According to the National Low Income Housing Coalition, an Orange County household earning minimum wage can afford to pay no more than $351 per month in rent. A household earning 30% of the Orange County median family income ($22,680) can only afford to pay $567 in rent. Among state and national peer metropolitan areas, only Boston, Santa Clara County, and San Francisco have higher Housing Wages (in other words, less affordability rental housing) than Orange County.

Renting in Orange County

Fair Market Rent	
One Bedroom	$ 934
Two Bedroom	$1,155
Three Bedroom	$1,607
Estimated Orange County Median Family Income, 2001	$75,600

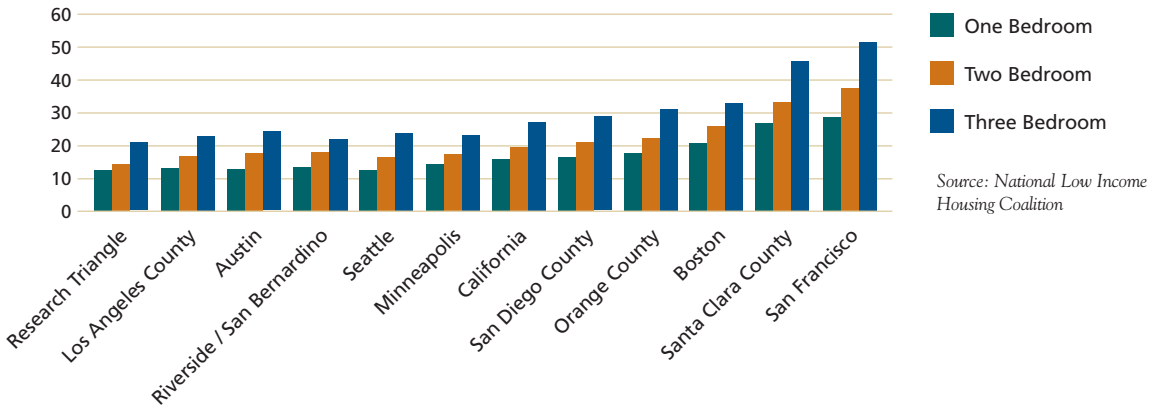
Source: National Low Income Housing Coalition

Who can help pay the rent?

Section 8 is a federally-funded housing program that issues vouchers to low-income families and individuals to help them pay rent. Unfortunately, the demand for the vouchers far outweighs the supply of funds. In June 2001, the waiting list was opened and over 16,000 applications were submitted. As of the fall of 2002, the waiting list had decreased to approximately 11,000. Between 300 and 500 vouchers are issued per month. The waiting list is currently closed. It is expected to reopen 2003/2004.

Source: County of Orange Housing Authority

Hourly Wage Needed to Afford Fair Market Rent, 2002



Source: National Low Income Housing Coalition

[3] For Orange County, Fair Market Rent is the 50th percentile (or median) rent in the market.

Almost Half of Occupations with High Education Requirements Pay More Than $30 Per Hour; Most of Those Occupations Require a College Education

Description of Indicator

This indicator shows the three occupations that have the highest education requirements in each of ten Orange County industry clusters, based on the occupational breakdown used in a 2002 survey of Orange County firms conducted by Godbe Research and Analysis.[4] For each occupation, the indicator shows the average educational requirements, as specified by Orange County firms that responded to the survey. The indicator also shows projected job growth in the occupations in Orange County from 1999 through 2006 and average 2002 hourly wage, from the California Employment Development Department. Lastly, this indicator shows how job growth projections can vary as the health California economy changes.

Why is it Important?

As this indicator shows, occupations with high education requirements often pay more than $30 per hour, but those occupations also typically require either an associates degree, a bachelors degree, or in some cases higher levels of education. Because these occupations are high paying, they play an important role in providing job opportunities that can meet Orange County's high cost of living. Yet the education requirements in many of these occupations are substantial. Understanding those education requirements can help workforce professionals assess how to prioritize training in high-education occupations that provide high return for high levels of education.

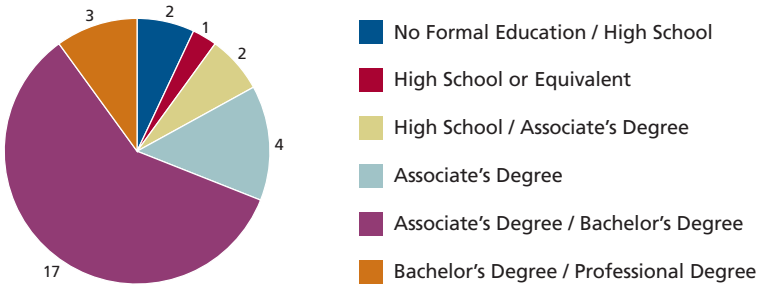
How is Orange County Doing?

Of the 29 occupations shown in this indicator, the largest group (14 occupations) pays more than $30 per hour. Twenty of the twenty-nine occupations require an associates degree or higher, and many of those occupations require bachelors or professional degrees. The high education occupations in the Computer Software and Communications clusters are among the highest paying occupations shown in this indicator. The occupations in the Construction and Health Services clusters require relatively modest education levels compared to many of the other occupations shown in this indicator. Both the Construction and Health Services clusters have high-paying occupations that require an associates degree or less. Among the clusters, Tourism stands out as having occupations that have relatively low education requirements and that are low-paying. The employment growth projections are similar across many of the cluster occupations shown here, with the exception that the occupations in the Business and Professional Services cluster are projected to generate more openings than most occupations in other clusters.

At the bottom of this indicator, we compare projected occupation openings from the California Employment Development Department (EDD) with projected openings from the Orange County Workforce Investment Board's Early Warning System. The comparisons show one-year projected Orange County openings for different State employment growth rates for Sales Engineers, Electrical and Electronic Engineers, Registered Nurses, and Software Engineers. All of those sample occupations are sensitive to economic conditions; all of those occupations generate openings when the California economy is growing (employment growth of 2 percent per year), but growth in all four occupations vanishes during recessions (employment growth of –0.67 percent per year). The EDD projections appear to reflect strong economic conditions, and so might overstate occupation growth when the State economy slows. Also, for some occupations, the Early Warning System under-predicts growth compared to the EDD.

[4] Only two occupations are shown for the Energy and Environment cluster, due to the small size of that cluster.

Mean Education Requirements for Top 29 Occupations With High Education Requirements



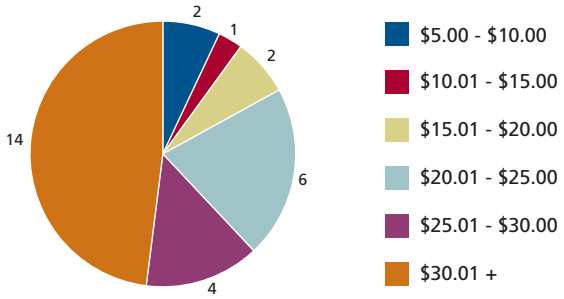
Note: Godbe Research and Analysis, Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002

How Job Growth in Selected Occupations Responds to Statewide Economic Conditions

	Statewide Employment Growth (one year change)			California EDD Projection (converted to one year growth)
Occupation	-0.67%	2.00%	2.92%	
Sales Engineers (Computer Hardware)	-3	18	25	25
Electrical and Electronic Engineers	-6	40	56	173
Registered Nurses	-279	40	149	245
Software Engineers	3	185	200	304

Source: Labor Market Early Warning System, developed for Orange County Workforce Investment Board by the Orange County Business Council, and California Employment Development Department

Hourly Wage Range for Top 29 Occupations with High Education Requirements



Source: Godbe Research and Analysis, Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002 and California Employment Development Department.

Occupations With High Educational Requirements, Orange County Clusters - Continued

Cluster	Occupation	Mean Educational Requirement	OC Job Growth, 1999-2006	OC Mean Hourly Wage (2002)
Biomedical				
	Biological Scientists	Bachelor's Degree/Professional Degree	130	$32.79
	Chemical Technicians	Bachelor's Degree/Professional Degree	90	$15.71
	Chemists	Bachelor's Degree/Professional Degree	150	$23.70
Computer Hardware				
	Electrical Engineers	Bachelor's Degree/Associate's Degree	1380	$32.50
	Sales Engineers	Associate's Degree/Bachelor's Degree	200	$34.56
	Electrical Technologists	Associate's Degree	890	$21.12
Communications				
	Field Engineers	Associate's Degree/Bachelor's Degree	1850	$51.00
	Communications Systems Engineers	Associate's Degree/Bachelor's Degree	1380	$32.50
	Digital and Hardware Engineers	Associate's Degree/Bachelor's Degree	2430	$32.50
Construction				
	Construction Managers	Associate's Degree	540	$37.44
	Electricians	High School/Associate's Degree	750	$23.46
	Plumbers, Pipefitters, and Steamfitters	High School/Associate's Degree	400	$19.29
Defense-Aerospace				
	Mechanical Engineers	Bachelor's Degree/Associate's Degree	540	$33.37
	Electrical and Electronic Engineers	Bachelor's Degree/Associate's Degree	1380	$32.50
	Engineering Technicians	Associate's Degree/Bachelor's Degree	500	$21.12
Energy & Environment				
	Instrumentation/ Calibration Technicians	Associate's Degree/Bachelor's Degree	140	$13.21
	Environmental Analysts & Health Specialists	Associate's Degree/Bachelor's Degree	160	$29.21
Health Services				
	Radiology Technologists	Associate's Degree/Bachelor's Degree	200	$24.43
	Registered Nurses	Associate's Degree	1960	$26.45
	Occupational Therapists	Associate's Degree	70	$35.16
Computer Software				
	Software Engineers	Bachelor's Degree/Associate's Degree	2430	$37.95
	Project Managers	Bachelor's Degree/Associate's Degree	1850	$51.00
	Technical Writers	Associate's Degree/Bachelor's Degree	150	$29.19
Tourism				
	Food Service and Lodging Manager	High School or Equivalent	320	$20.93
	Guards/Watch Guards	High School/No Formal Education	3630	$10.00
	Bartenders	High School/No Formal Education	170	$8.49
Business & Professional Services				
	Systems Analysts	Bachelor's Degree/Associate's Degree	5090	$32.66
	Accountants and Auditors	Bachelor's Degree/Associate's Degree	1570	$27.87
	Financial Managers	Associate's Degree/Bachelor's Degree	1240	$44.04

Source: Godbe Research and Analysis, Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002 and California Employment Development Department.

Most Occupations with Low Educational Requirements Pay Less Than $15 Per Hour; Top Paying Low Education Occupations are in Computer Software and Energy and Environment Clusters

Description of Indicator

This indicator shows the three occupations that have the lowest education requirements in each of ten Orange County industry clusters, based on the occupational breakdown used in a 2002 survey of Orange County firms conducted by Godbe Research and Analysis.[5] For each occupation, the indicator shows the average educational requirements, as specified by Orange County firms that responded to the survey. The indicator also shows projected job growth in the occupations in Orange County from 1999 through 2006 and average 2002 hourly wage, from the California Employment Development Department. Lastly, this indicator shows how job growth projections can vary as the health California economy changes.

Why is it Important?

Understanding which occupations have low educational requirements is vital for workforce policy. As this indicator shows, occupations with low education requirements span a range of hourly wages, and those occupations also have different forecasts for new job growth. This helps workforce professionals assess how training programs can be tailored to produce wage and employment growth among persons with modest formal education levels.

How is Orange County Doing?

Of the 29 occupations shown in this indicator, the largest group (10 occupations) pays wages between $10 and $15 per hour. Among the clusters, Business and Professional Services, Computer Software, and Energy and Environment show the greatest potential for high-paying occupations with modest education requirements. When focusing on occupations with low education requirements, the Tourism and Health Services clusters tend to have the lowest paying occupations. Those two clusters also have modest employment growth projections. High-paying/high-growth occupations with relatively strong job growth projections include technology occupations such as Computer Software Sales Representatives, Computer Support Specialists, and Electric and Electronic Engineers. Note that Computer Support Specialists, an occupation that pays an average of $21.89 per hour, has a robust 4,090 new job openings expected in the County from 1999-2006. Sales Agents in the Business and Professional Services cluster, who earn an average of $24.61 per hour, are also projected to see 4,090 new job openings in the County from 1999-2006. Of the top four highest paying jobs with low education requirements, all typically require an associates degree, suggesting an important role for community colleges in job training.

The employment growth projections should be interpreted with some caution. The projections are based on data from the late 1990s, when the State and County economies were growing rapidly. At the time this report went to press, some analysts were predicting future growth scenarios that ranged from 2 percent annual employment growth in California to a recession. If the state economy enters a recession, the employment growth projections for many of the technology occupations in particular should be revised substantially downward. To illustrate this, we show how growth in four Orange County occupations changes depending on the health of the state economy. Those projections were developed using the Workforce Investment Board's Labor Market Early Warning System. The four occupations are among the highest paying occupations shown in this indicator. For comparison, growth projections from the California Employment Development Department are also shown. Note that job growth in the Computer Software Sales Agents and Computer Support Specialists occupations is strong when the state economy is growing (215 and 226 new Orange County jobs, respectively, in those occupations, when statewide employment grows at 2 percent per year), but job growth in both those occupations essentially vanishes in a recession (statewide employment growth of –0.67 percent per year). Also note that Early Warning System projections, which use data specific to Orange County from 2002, give lower job growth estimates than the Employment Development Department (EDD) for Sales Agents (in Business or Professional Services) or Electric and Electronic Engineers, even when the state economy is growing. The Early Warning System is restricted to clusters, while the EDD projections are for the entire Orange County economy.

[5] Only two occupations are shown for the Energy and Environment cluster, due to the small size of that cluster.

Occupations With Low Educational Requirements, Orange County Clusters - Continued

Cluster	Occupation	Mean Educational Requirement	OC Job Growth, 1999-2006	OC Mean Hourly Wage (2002)
Biomedical				
	Assemblers/Fabricators	High School or Equivalent	160	$10.00
	Optical Goods Workers	Associate's Degree/High School	130	$16.53
	Product Inspectors, Testers, Graders	Associate's Degree	350	$13.21
Computer Hardware				
	Electrical Assemblers	High School or Equivalent	310	$10.58
	ASIC Engineers	Associate's Degree/High School	N/A	N/A
	Facility or Quality Control Manager	Associate's Degree/High School	N/A	N/A
Communications				
	Electrical and Electronic Assemblers	High School or Equivalent	310	$10.58
	Product Inspectors, Testers, and Graders	High School/Associate's Degree	350	$13.21
	Service Representatives	Associate's Degree/High School	420	$15.03
Construction				
	Painters and Paperhangers	High School/No Formal Education	750	$14.22
	Cement Masons	High School/No Formal Education	1060	$19.85
	Roofers	High School/No Formal Education	130	$15.34
Defense/Aerospace				
	General Maintenance Repairers	No Formal Education	1720	$16.23
	Assemblers and Fabricators	High School/No Formal Education	160	$10.00
	General Machinists	High School or Equivalent	980	$16.90
Energy & Environment				
	Refuse Collectors	No Formal Education/High School	10	$14.66
	Electric and Electronic Engineers	Associate's Degree	1380	$35.31
Health Services				
	Non-Certified Home Health Aides	High School/Associate's Degree	560	$8.99
	Medical Assistants	Associate's Degree/High School	1130	$12.45
	Certified Nursing Aides	Associate's Degree	890	$10.25
Computer Software				
	Data Entry Keyers	High School/Associate's Degree	550	$12.52
	Sales Representatives	Associate's Degree	1350	$32.81
	Customer Support Specialists	Associate's Degree	4090	$21.89
Tourism				
	Maid and Housekeeping Cleaner	No Formal Education	108	$7.95
	Food Preparation Workers	No Formal Education/High School	1200	$8.86
	Amusement/Recreation Attendants	No Formal Education/High School	850	$7.21
Business & Professional Services				
	Telemarketers and Solicitors	High School or Equivalent	2210	$12.55
	Accounting Clerks	Associate's Degree/High School	1120	$16.23
	Sales Agents	Associate's Degree/High School	4090	$24.61

Source: Godbe Research and Analysis, Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002 and California Employment Development Department.

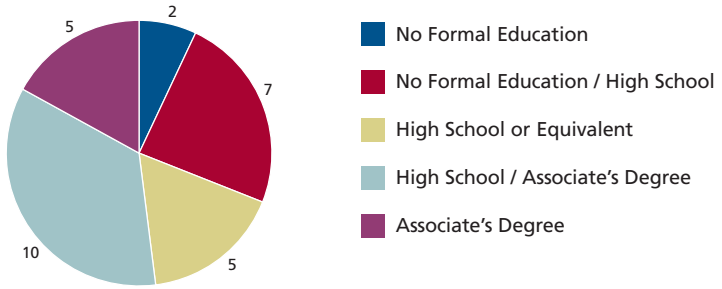
"N/A" denotes occupations from the Godbe survey of firms for which comparable classifications are not available in California Employment Development Department data.

How Job Growth in Selected Occupations Responds to Statewide Economic Conditions

	Statewide Employment Growth (one year change)			California EDD Projection (converted to one year growth)
Occupation	**-0.67%**	**2.00%**	**2.92%**	
Electric and Electronic Engineers	-3	16	26	173
Sales Agents (Bus and Prof Services)	-22	93	111	511
Sales Representatives (Computer Software)	4	215	232	116
Computer Support Specialists	4	226	244	511

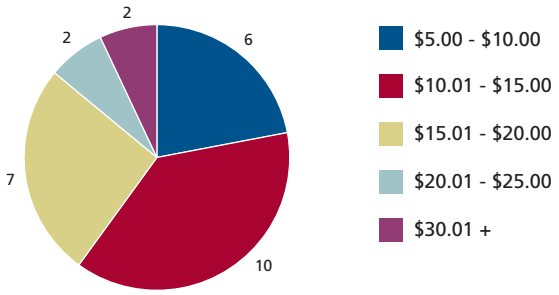
Source: Labor Market Early Warning System, developed for Orange County Workforce Investment Board by the Orange County Business Council, and California Employment Development Department

Mean Education Requirements for Top 29 Occupations With Low Education Requirements



Note: Godbe Research and Analysis, Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002

Hourly Wage Range for Top 27 Occupations with Low Education Requirements



Note: Data not available for wages for two of the top 29 occupations.
Source: Godbe Research and Analysis, Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002 and California Employment Development Department.

Communication and Defense/Aerospace Firms Report the Greatest Difficulty Finding Experienced Workers

Description of Indicator

This indicator shows the average difficulty that employers have finding experienced workers in each of ten Orange County clusters, based on a survey of firms conducted by Godbe Research and Analysis for the Orange County Workforce Investment Board in 2002. The data on average difficulty is for the top three occupations in each cluster for which employers stated they had difficulty finding experienced workers. Those occupations are shown in a table in this indicator. This indicator also shows projected job growth in those same three cluster occupations from 1999-2006, for Orange County. The indicator also shows a supply-demand index which is based on job projected growth cluster occupations and the difficulty of finding experienced workers in those occupations, both for Orange County.[6] Lastly, the indicator shows average wage in the same three cluster occupations.[7]

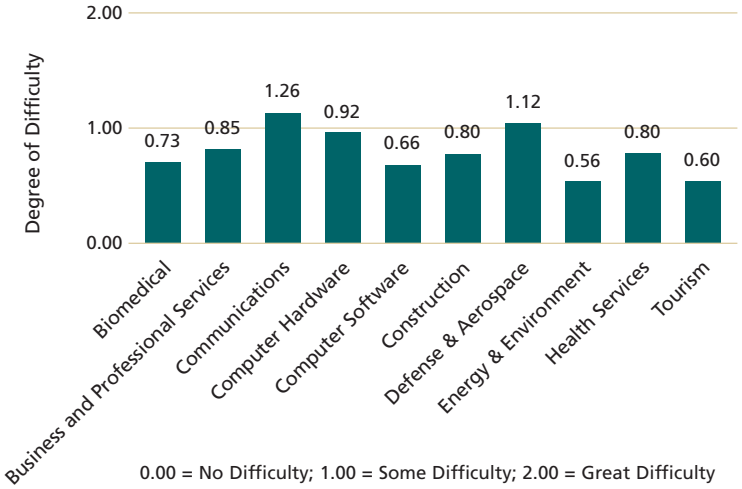
Why is it Important?

This indicator gives information on supply and demand for training services that can be used as a supply-demand reconciliation analysis. In particular, one might wish to focus training services for experienced workers on clusters with occupations where employers have more difficulty finding workers. More broadly, training should be allocated to clusters based on a combination of the difficulty of finding workers and the number of new job openings generated in the cluster. Higher values of the supply-demand index show clusters where one or both of those conditions are met. Because expected wages are another possible criterion for allocating training resources, this indicator also shows average wages.

How is Orange County Doing?

Firms in the Communications and Defense and Aerospace clusters reported the most difficulty finding experienced workers in 2002, while firms in the Tourism, Energy and Environment, and Computer Software clusters reported the least difficulty finding experienced workers in 2002. Looking at job openings, the Communications, Business and Professional Services, and Computer Software clusters are projected to generate the most openings, from 1999 through 2006, in the occupations for which firms reported difficulty finding experienced workers. (Recall that all of the analysis in this indicator is based on three occupations per cluster, where those are the three occupations in each cluster for which firms reported the greatest difficulty finding workers. So projected job growth, or average wages, are not for the entire cluster, but only for those three occupations within the cluster.)

Average Difficulty Finding Experienced Workers, Top Three Cluster Occupations



0.00 = No Difficulty; 1.00 = Some Difficulty; 2.00 = Great Difficulty

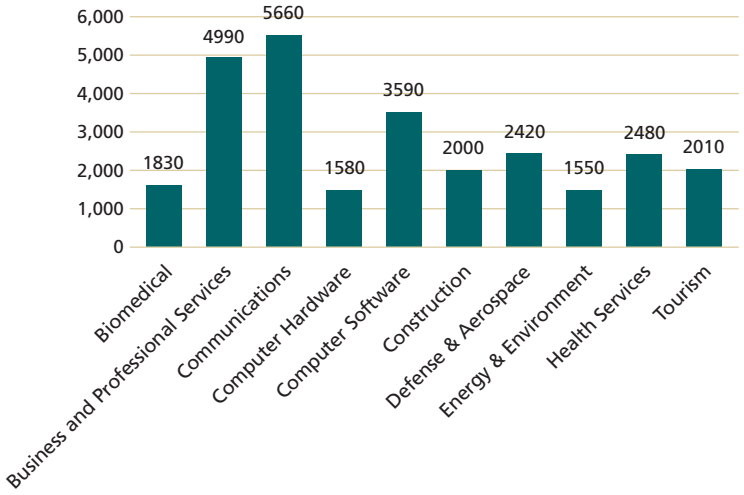
Source: Godbe Research and Analysis (Survey of Employees, Conducted for the Orange County Workforce Investment Board, 2002)

Combining information about the difficulty finding experienced workers and the projected Orange County job growth in those occupations, the cluster supply-demand index is the highest for Communications and Business and Professional Services. This suggests that job-training resources for experienced workers can be usefully focused on the occupations in those clusters shown in the table in this indicator. For the Communications cluster, the high value for the supply-demand index reflects both firm difficulties in finding experienced workers and high projected Orange County job growth in those same occupations. For Business and Professional Services, the high value for the supply-demand index is more due to high projected job growth, rather than firm difficulty in finding experienced workers. The Defense/Aerospace cluster has the third highest value for the supply-demand index for experienced workers, reflecting reported firm difficulties in finding experienced workers, but projected job growth in those occupations that, compared with the other clusters, is only moderate.

Looking at average wages, the Communications, Computer Hardware, Energy and Environment, and Defense/Aerospace clusters pay the highest average wages when focusing on the three occupations within each cluster for which firms have the most difficulty finding experienced workers. The Tourism and Business and Professional Services clusters pay the lowest wages, when focusing on the three occupations for which firms have the most difficulty finding experienced workers. Note that the average wage for Business and Professional Services is lower in this indicator ($24.36 per hour) than in the indicator on difficulty finding non-experienced workers (where average wage in Business and Professional Services was $30.85). In both indicators, the average wage refers to only three occupations; here, average wage is for the three occupations for which firms reported the most difficulty finding experienced workers, while in the other indicator the average wage was in the three occupations for which firms reported the most difficulty finding non-experienced workers. Because the occupations differ across the "difficulty finding experienced workers" and the "difficulty finding non-experienced workers" indicators, the average wages are not comparable across those two indicators. In the case of the Business and Professional Services cluster, firms report difficulty finding non-experienced workers in sales agents, systems analysts, and financial managers positions. Systems analysts and financial managers, in particular, are relatively high-paying occupations. Firm difficulty finding experienced workers in the Business and Professional Services cluster includes the more low-paying jobs in the paralegal and legal secretary occupations.

[6] The supply-demand index is calculated as the projected job growth in the three cluster occupations, divided by 2,000, plus 2 times the average difficulty finding workers in the cluster. Higher values indicate either a cluster with more projected job growth, more difficulty finding experienced workers, or both.
[7] Average wages calculated by weighting occupation wage by projected job growth in that occupation.

Projected Job Growth, Top Three Cluster Occupations, 1999-2006



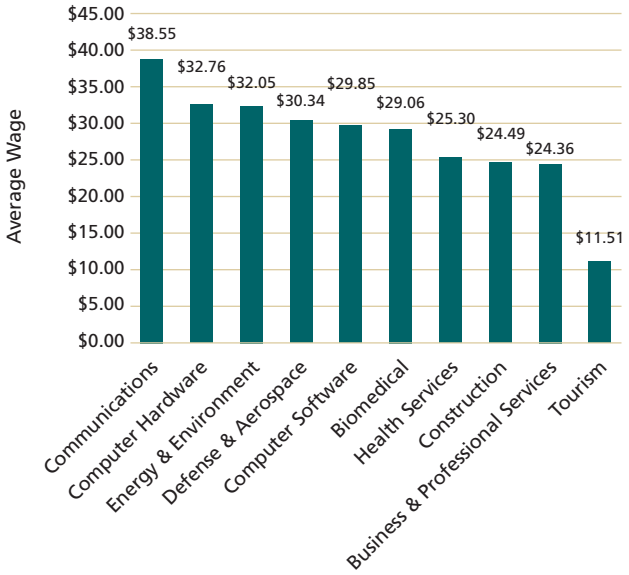
Source: Orange County Business Council Analysis of Data from California Employment Development Department and Godbe Research Analysis (Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002)

Top Three Occupations in Each Cluster for Which Firms Report Difficulty Finding Experienced Workers, 2002

Cluster	Occupation
Biomedical	Biological Scientists Sales Representatives Quality Assurance Auditors
Computer Hardware	ASIC Engineers Electrical Engineers Sales Engineers
Communications	Communications Systems Engineers Digital and Hardware Engineers Field Engineers
Construction	Cement Masons Construction Managers Plumbers, Pipefitters and Steamfitters
Defense/Aerospace	Electrical and Electronic Engineers Mechanical Engineers Engineering Technicians
Energy & Environment	Electric and Electronic Engineers Environmental Analysts and Health Specialists Refuse Collectors
Health Services	Registered Nurses Licensed Vocational Nurses Radiology Technologists
Computer Software	Inspectors, Testers, and QA Auditors Data Entry Keyers Software Engineers
Tourism	Restaurant Cooks Bartenders Food Service and Lodging Manager
Business & Professional Services	Paralegal Personnel Legal Secretaries Sales Agents

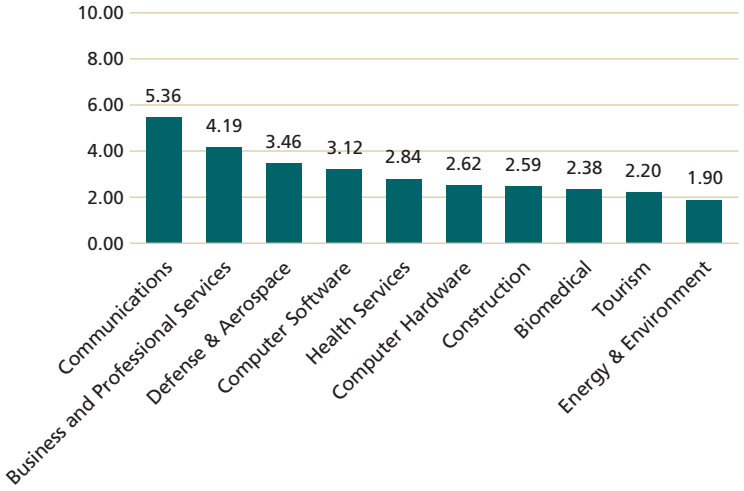
Source: Godbe Research and Analysis (Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002)

Average Orange County Wage, Top Three Cluster Occupations for Difficulty in Finding Experienced Workers



Source: Orange County Business Council Analysis of Data from California Employment Development Department and Godbe Research and Analysis (Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002)

Cluster Supply-Demand Index, Based on Top Three Cluster Occupations



Source: Orange County Business Council Analysis of Data from California Employment Development Department and Godbe Research Analysis (Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002)

Business and Professional Services and Communications Clusters Likely Training Targets When Focusing On Occupations for Which Firms Have Difficulty Finding Non-Experienced Workers

Description of Indicator

This indicator shows the average difficulty that employers have finding non-experienced workers in each of ten Orange County clusters, based on a survey of firms conducted by Godbe Research and Analysis for the Orange County Workforce Investment Board in 2002. The data on average difficulty is for the top three occupations in each cluster for which employers stated they had difficulty finding non-experienced workers. Those occupations are shown in a table in this indicator. This indicator also shows projected job growth in those same three cluster occupations from 1999-2006, for Orange County. The indicator also shows a supply-demand index which is based on job projected growth cluster occupations and the difficulty of finding non-experienced workers in those occupations, both for Orange County.[8] Lastly, the indicator shows average wage in the same three cluster occupations.[9]

Why is it Important?

This indicator gives information on supply and demand for training services that can be used as a supply-demand reconciliation analysis. In particular, one might wish to focus training services on clusters with occupations where employers have difficulty finding non-experienced workers. More broadly, training should be allocated to clusters based on a combination of the difficulty of finding workers and the number of new job openings generated in the cluster. Higher values of the supply-demand index show clusters where one or both of those conditions are met. Because expected wages are another possible criterion for allocating training resources, this indicator also shows average wages.

How is Orange County Doing?

Firms in the Communication cluster reported the greatest difficulty finding non-experienced workers in 2002, while firms in the Tourism, Construction, and Energy and Environment clusters reported the least difficulty finding non-experienced workers. Looking at projected job openings, the Business and Professional Services is projected to generate the most openings in Orange County from 1999 to 2006, while Communications will generate the second most openings. (Recall that all of the analysis in this indicator is based on three occupations per cluster, where those are the three occupations in each cluster for which firms reported the greatest difficulty finding workers. So projected job growth, or average wages, are not for the entire cluster, but only for those three occupations within the cluster.)

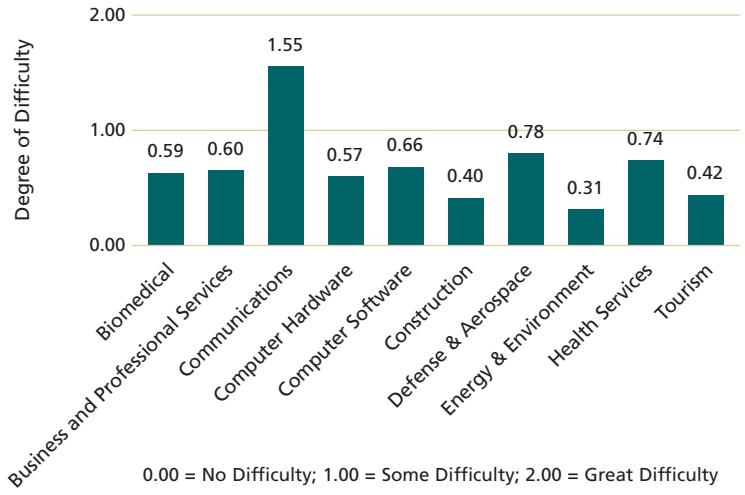
Combining information about the difficulty finding non-experienced workers and the projected Orange County job growth in those occupations, the cluster supply-demand index is the highest for Business and Professional Services and Communications. This suggests that job training resources can be usefully focused on the occupations in those clusters shown in the table in this indicator. In the case of Business and Professional Services, even though firms do not report much difficulty finding non-experienced workers in those occupations, the high projected job growth in those occupations suggests opportunities for training. The focus on Communications is more due to difficulty finding non-experienced workers among firms in that cluster. The supply-demand index also shows a "second tier" for job training focus composed of Defense and Aerospace, Tourism, and Computer Hardware. For the Tourism cluster, the supply-demand index reflects strong projected job growth, since firms in that cluster did not report much difficulty finding workers.

Looking at average wages, the Communications, Defense and Aerospace, and Business and Professional Services pay the highest average wages when focusing on the three occupations within each cluster for which firms have the most difficulty finding non-experienced workers. The high wages in Business and Professional Services might be surprising, but note that the occupations in that cluster are sales agents, systems analysts, and financial managers – all occupations that pay relatively well for non-experienced positions in the service sector, and also the occupations for which Orange County firms report the most difficulty finding non-experienced workers within that cluster.

[8] The supply-demand index is calculated as the projected job growth in the three cluster occupations, divided by 2,000, plus 2 times the average difficulty finding workers in the cluster. Higher values indicate either a cluster with more projected job growth, more difficulty finding workers, or both. The ranking of clusters based on the index is not sensitive to changes in how the index is constructed. For example, an index based on projected job growth divided by 1,000 plus two times the average difficulty finding workers gives essentially the same ranking of clusters.

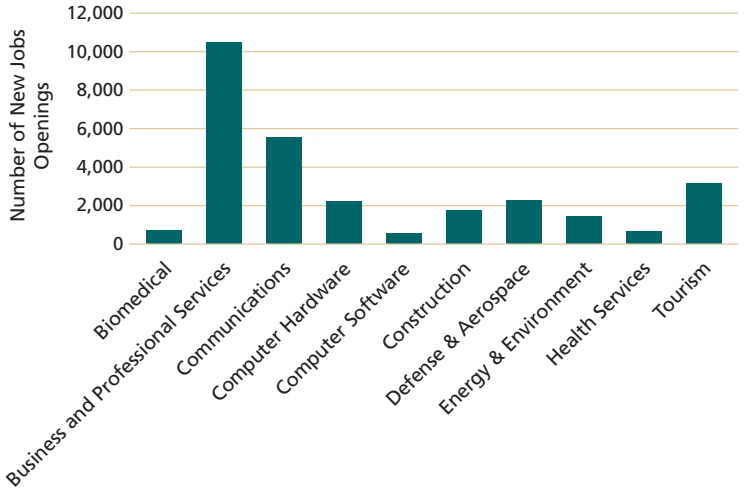
[9] Average wages calculated by weighting occupation wage by projected job growth in that occupation.

Average Difficulty Finding Non-Experienced Workers, Top Three Cluster Occupations



Source: Godbe Research and Analysis (Survey of Employees, Conducted for the Orange County Workforce Investment Board, 2002)

Projected Orange County Job Growth, Top Three Cluster Occupations, 1999-2006



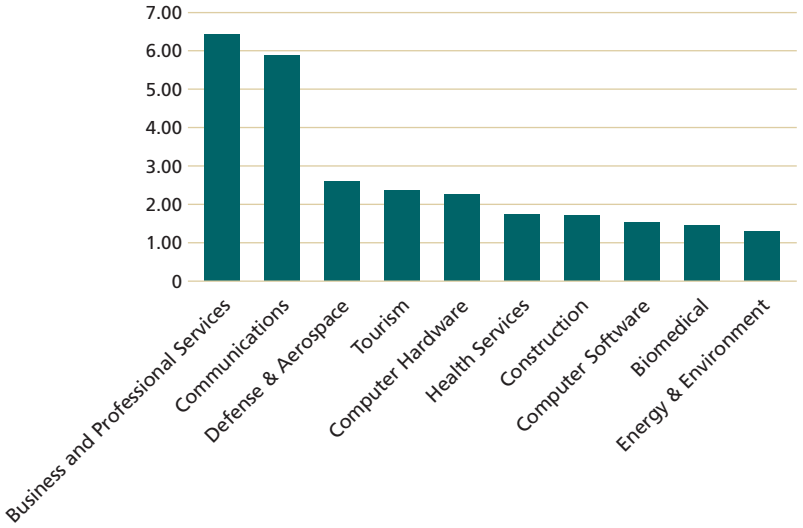
Source: Orange County Business Council Analysis of Data from California Employment Development Department and Godbe Research Analysis (Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002)

Top Three Occupations in Each Cluster for Which Firms Report Difficulty Finding Non-Experienced Workers, 2002

Cluster	Occupation
Biomedical	Biological Scientists Chemists Quality Assurance Auditors
Computer Hardware	ASIC Engineers Electrical Technicians Sales Representatives
Communications	Communications Systems Engineers Digital and Hardware Engineers Field Engineers
Construction	Cement Masons Construction Managers Operating Engineers or Construction Machine Operators
Defense/Aerospace	Electrical and Electronic Engineers Mechanical Engineers Sheet Metal Mechanics/Welders
Energy & Environment	Electric and Electronic Engineers Instrumentation/Calibration Technicians Refuse Collectors
Health Services	Occupational Therapists Licensed Vocational Nurses Radiology Technologists
Computer Software	Inspectors, Testers, and QA Auditors Technical Writers Project Managers
Tourism	Restaurant Cooks Food Preparation Workers Food Service and Lodging Manager
Business & Professional Services	Sales Agents Systems Analysts Financial Managers

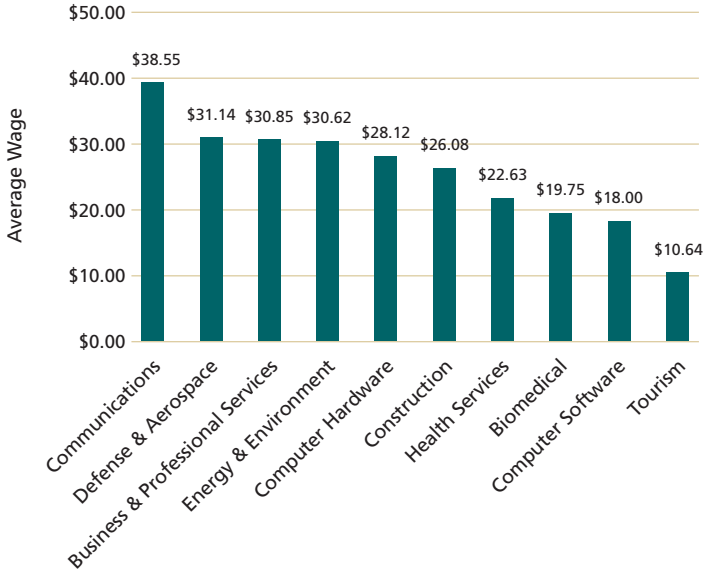
Source: Godbe Research and Analysis (Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002)

Cluster Supply-Demand Index, Based on Top Three Cluster Occupations



Source: Orange County Business Council Analysis of Data from California Employment Development Department and Godbe Research Analysis (Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002)

Average Orange County Wage, Top Three Cluster Occupations for Difficulty in Finding Non-Experienced Workers



Source: Orange County Business Council Analysis of Data from California Employment Development Department and Godbe Research and Analysis (Survey of Employers, Conducted for the Orange County Workforce Investment Board, 2002)

High Wage Growth Occupations are Mostly in Service Sector; Low Wage Growth Occupations Often in Tourism or Related Food Service Industries

Description of Indicator

This indicator compares average wages and entry-level wages for occupations in Orange County. The indicator shows the ratio of average wage divided by entry-level wage for the ten occupations with the largest ratio of average divided by entry-level wage, and for the ten occupations with the lowest value of that ratio. The indicator also shows 2001 Orange County employment in those occupations.

Why is it Important?

The gap between average wages and entry-level wages can be an indicator of return on investment in job training if training programs can substitute for job experience. More generally, occupations with a large ratio of average divided by entry-level wages have the potential for wage growth in the occupation. Those occupations might be good targets for training that seeks to accelerate an individual's wage progression within the occupation. Occupations with low ratios of average divided by entry-level wages do not provide much potential for within-occupation wage growth, and training resources for individuals in those occupations might be better focused on allowing those persons to move to other occupations.

How is Orange County Doing?

The occupations with the greatest potential for wage growth (and hence the greatest potential for within-occupation return on training investments) are largely in the service sector, including positions such as real estate agents, insurance agents, securities sales agents, and real estate brokers. Health occupations are also represented in the list of high potential wage growth. Occupations with low ratios of average wage divided by entry-level wage include occupations in food preparation, waiters and waitresses, dishwashers, dining room attendants, and baggage porters. This suggests that the Tourism cluster might be over-represented in the list of occupations with low within-occupation potential for wage growth.

The ten occupations with the lowest ratio of average divided by entry-level wages account for 63,320 jobs in Orange County, while the ten occupations with the highest ratio of average divided by entry-level wages account for 12,960 jobs in the County. This illustrates how, at least when looking at the extremes, occupations with low potential for wage growth are more prevalent in Orange County than occupations with high potential for wage growth. One implication is that job training resources should be focused on career ladders that can move persons through several occupations with increasing wage opportunities, since many jobs in Orange County are likely in occupations with low potential for wage growth within the occupation.

Return on Investment (Value of Experience) on Wages in Orange County Occupations: Top 10 Occupations with Highest Return to Experience

Occupational Title	Average Hourly Wage	Entry-Level Hourly Wage	Average Wage/ Entry Level Wage	2001 Employment Estimates
Real Estate Sales Agents	$19.85	$7.50	2.65	1,720
Insurance Sales Agents	$34.97	$14.63	2.39	3,350
Securities, Commodities, and Financial Services Sales Agents	$32.68	$13.85	2.36	3,060
Health Diagnosing and Treating Practitioners, All Other	$19.19	$8.15	2.35	400
Fitness Trainers and Aerobics Instructors	$15.66	$7.04	2.22	3,470
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	$21.41	$9.69	2.21	170
Real Estate Brokers	$33.15	$15.12	2.19	500
Cartographers and Photogrammetrists	$26.74	$12.26	2.18	50
Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	$14.48	$6.75	2.15	170
Transportation Inspectors	$14.48	$6.75	2.15	70

Source: EDD, 2002. Occupational Employment (2001) & Wage Data (2002) Orange County MSA. Available: http://www.calmis.ca.gov/file/occup$/oeswages/ORAN$oes2002.xls

Return on Investment (Value of Experience) on Wages in Orange County Occupations: Ten Occupations with Lowest Return to Experience

Occupational Title	Average Hourly Wage	Entry-Level Hourly Wage	Average Wage/ Entry Level Wage	2001 Employment Estimates
Combined Food Preparation and Serving Workers, Including Fast Food	$7.63	$6.75	1.13	16,610
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	$7.60	$6.75	1.13	700
Waiters and Waitresses	$7.54	$6.75	1.12	25,720
Sewers, Hand	$7.51	$6.75	1.11	510
Food Preparation and Serving Related Workers, All Other	$7.48	$6.75	1.11	1,140
Fire Inspectors and Investigators	$25.44	$23.74	1.07	70
Dishwashers	$7.17	$6.75	1.06	8,080
Dining Room and Cafeteria Attendants and Bartender Helpers	$6.93	$6.75	1.03	6,530
Baggage Porters and Bellhops	$6.90	$6.75	1.02	930
Ushers, Lobby Attendants, and Ticket Takers	$6.75	$6.75	1.00	3,030

Source: EDD, 2002. Occupational Employment (2001) & Wage Data (2002) Orange County MSA. Available: http://www.calmis.ca.gov/file/occup$/oeswages/ORAN$oes2002.xls

conclusion

On the basis of the data outlined in this report, the following general conclusions can be drawn. Future workforce indicator reports will provide recommendations on achieving industry cluster development and models for business participation:

1. There is a clear and definitive shortage of workers in the occupational categories that represent the most important needs of the high-tech, knowledge based economy of Orange County.
2. This mismatch is concentrated primarily in the knowledge categories that require an increased emphasis on science, math and computer skills.
3. "Low-educated workers", lacking the basic education to participate in the ongoing training and skills development now needed by most well-paying occupations, comprise a substantial amount of Orange County's current available workforce. If we do not focus on educating these workers to meet the needs of Orange County business identified in this report, these workers will not be able to participate in the growing sectors of Orange County's economy.
4. The clearly stated facts of this report must be communicated to students, parents, educators, and political leaders of the county.
5. Most of the education and training programs and activities, of which there are many, have not been market-driven. High schools, community colleges, colleges and universities and various state and federal programs need to be better coordinated, focused on market needs, and provide reasonable returns on the public investments being made.
6. Business and industry should be better engaged in the existing opportunities to provide leadership on workforce development issues, e.g. Orange County Workforce Investment Board. In addition, other easy formal mechanisms should be created to involve business leaders in the shaping of Orange County's education/workforce development system to assure that programs will match current and future needs.
7. The economy of Orange County will fail to meet the expectations of the vast majority of the population (Government, Business and Industry, and the Education and Workforce professional community) unless the issues discussed in this report are effectively addressed.

Orange County's Workforce Challenges

Orange County faces a series of difficult challenges in workforce development. If the County's future prosperity is to be assured, it will be essential that the challenges be successfully met. These challenges derive largely from a collection of programs and activities that are not coordinated and are largely not market-driven. Orange County's situation is not unique: nor are the Orange County's institutions the source of problem. It is rather a series of different funding streams developed at different times at both the Federal and State level. Orange County, however, has the opportunity to bring together varied elements of workforce development to assure the County's long-term prosperity is enhanced. It is especially important that we create a more strategic and closer working relationship between business and education and training providers.

There are a number of reasons why workforce development has become a particularly acute challenge in Orange County at this time, including:

- Changes in the structure of the County's economy, particularly the declining share of the workforce employed in manufacturing and the rising share of employment in the information technology, research and development, and service sectors;
- Changing technology that favors high- over low-skilled workers;
- Mismatches and gaps between training supply and employer demand;
- The effect of increasing global competition on Orange County companies;
- Lack of proper communication to Orange County's future workforce of the significant opportunities in high-tech and other high skilled occupations.

However, the state projects that job sectors with the largest growth will be concentrated in mostly low-wage occupation sectors. The State of California projects that 46% of Orange County job growth will occur in occupations requiring only short or moderate on-the-job training. However, our assessment shows that there is a significant shortage of job seekers with at least a college degree, causing Orange County companies to seek college-educated workers from outside the U.S. through immigration programs such as H1B visas. Other areas of potential labor shortage in Orange County include job seekers with doctoral degrees, professional degrees, and bachelor's degrees with work experience.

The total Federal, State, and local public workforce investment in Orange County is estimated to be approximately $1.3 billion annually. Despite much commendable effort on the part of many responsible institutions, challenges and barriers remain. However, by creating a unified county regional Workforce and Economic Development plan we can convene the critical partners and make a more focused effort to solve these problems.

Lastly, we must insist on public policy that holds all aspects of workforce development visible to the public and accountable. We must do this recognizing that we need all workers in this County to have the skills to not only earn a living but to continue support the economic growth and prosperity we currently enjoy. We cannot continue to ignore the large groups of workers and especially 'low-educated workers' if we are to succeed.

Significant Challenges

Some concerns/mismatches are:

- 'Low-educated workers' comprise a very substantial amount of the available workforce. US Census Data indicates that 25% of OC residents 25 years of age and older have less than a high school diploma. In the City of Santa Ana, the percentage of adults with less than a high school diploma is 56%. Lacking the basic education to participate in the ongoing training and skills development that is now needed, these workers will not be able to provide the output that business will require for the Orange County economy to continue to grow.
- Technical workers are in inadequate supply to support the growing high-tech industries in the County. As well, OCBC research indicates that technical workers in general and specifically those related to Computer Support are not being developed in adequate numbers. Demand for workers at the technical level in IT and many other industries have been filled recently by H1-B visa acquisition. In the current geopolitical environment, it is a difficult proposition to rely on this source of workers for this or any other category.
- Insufficient numbers of students are receiving preparation in science and mathematics that will enable them to fill the demand for technical, professional, and managerial careers in the high-tech growth areas of the County. This threatens the economic viability of these key growth industries of the County.
- Business and industry has no easy, formal, or objective way to provide the information education and training providers require assuring that programs match needs.

Orange County's Workforce Education and Training System

Emphasizing the Need for a Flexible and Everchanging Workforce System

Economic change happens more quickly than ever in our knowledge and skill intensive economy, necessitating ever quicker responses by workforce development, training, and education communities. A diverse economy made up of a diverse workforce requires a diverse set of partners and a diverse menu of services from which to assemble packages specifically tailored to the current needs of local employers and individual workers. Local WIBs have been granted maximum flexibility to determine the training programs they will fund and allocate state and federal workforce dollars to prioritized training programs. Individuals have unprecedented eligibility to choose from a diverse set of career paths. This resource is designed to give these partners access to the maximum amount of up-to-date information they need to make the best of these opportunities and how to align training resources with the unique economic and workforce development environment of Orange County.

The new realities of our knowledge economy require new partnerships and new coalitions working together. In addition to the WIBs and One-Stop Centers previously profiled, we outline some of those partners next:

Orange County Business Council (OCBC)

OCBC administers policies, programs, and projects that strengthen Orange County's regional economy by creating a climate where businesses can thrive and residents participate in this prosperity. The Business Council helps coordinate business recruitment activities, retention and expansion, business development with other regions and international trade. Many of these traditional economic development programs have been adapted to reflect and address workforce challenges. Because of the Business Council's close ties to the business community, it is in a good position to serve as an intermediary between players interested in collaborating on a comprehensive workforce development system by helping define and identify labor supply and demand, identifying specific employer needs, and sharing these needs with partners in the workforce development system. OCBC also helps Orange County businesses more clearly articulate their training and skill needs to workforce partners.

Orange County Business Council
2 Park Plaza, Suite 100
Irvine, CA 92614
(949) 476-2242
http://www.ocbc.org

Orange County's Workforce Investment Boards (WIBs)

To improve the responsiveness of federal training to businesses, WIA mandates that states create business-driven state and local WIBs to oversee and implement workforce development services. At the state level, the board creates and monitors the strategic plan for California's implementation of WIA. WIBs are the centerpiece of the reformed WIA workforce investment system. As WIA replaced JTPA, WIBs have replaced Private Industry Councils (PICs). Orange County has three WIBs – the City of Anaheim WIB, the City of Santa Ana WIB, and the Orange County WIB, covering the rest of the county. The boards are appointed by the County of Orange, the City of Anaheim, and the City of Santa Ana and must include:

- A majority of business representatives
- Education providers
- Labor organizations
- Community-based organizations
- Economic Development agencies
- One-Stop program partners

The fundamental advance that WIA and the WIBs make possible is that each region such as Orange County is now locally planned, managed, and administered. This is accomplished by a customized workforce development system that is unique to Orange County, relying on training needs defined by Orange County employers and taking into account local industry growth patterns in the planning and implementation of training programs. To do this, WIBs also oversee the collection and dissemination of information related to Orange County's regional labor workforce. In a partnership with the Orange County WIB to build Orange County's economic future through strong competitive businesses and a skilled workforce, the Orange County Business Council continues to study and analyze the County's unique portfolio of diverse industries, educational institutions, labor force skills, and population.

WIA and the three WIBS offer Orange County the opportunity to:

- Rethink, reform, and streamline the workforce system
- Adapt and tailor the regional workforce training system to be more responsive to Orange County's unique business needs
- Allow an unprecedented level of business and community input and decision making into the way Orange County's workforce dollars are spent
- Build a more demand-driven driven education and training system
- Provide training to job seekers that prepares them for sustainable career opportunities

To make this system work requires an unprecedented commitment and partnership of local workforce professionals; economic development organizations; social service; K-12 education professionals; higher education institutions, the business community and employers and, most importantly, teachers, students, and parents working together toward this common goal.

Training that is Demand-Driven

The current workforce system in the County needs to continue to evolve to more demand-driven education and training. Federal and State workforce policy that has created funding streams that have created a collection of programs located at a variety of educational institutions, government agencies, unions, and non-profits. If a well-coordinated and market-based workforce system is not constructed that is able to respond strategically, this may imperil future economic growth.

To meet this need, the Workforce Investment Act requires that training provided by local Workforce Investment Boards be provided only in occupations that are in demand in the local area. The Orange County WIB annually establishes a Demand Occupation List by considering the local labor market information, trends, and focused on skills that are in high demand in the regional economy. Once approved, training providers on the State Eligible Provider Training List can contract with the Orange County WIB and receive referrals. The intent of the legislative requirement is that individuals will be trained for jobs that are readily available in the local area.

Businesses as Key Customers, Partners

Most importantly, private businesses are identified as key customers and stakeholders in the new workforce development system for the basic reason that they create jobs. They recruit talent, hire from local training programs, and use local training providers. As employers and the ultimate end users, their input and oversight is essential to making WIA's vision of the workforce system more demand-driven. At least 50% of a WIB board must be made up of representatives of the private sector. In Orange County, such major employers as Boeing, Disneyland Resort, United Parcel Service, PacificCare, Unisys, Lockheed Martin, and Southern California Edison are represented on WIB boards.

In order to provide the level of input necessary to inform state-of-the-art workforce development initiatives, businesses have the responsibility to develop new and innovative ways to identify and articulate the skills they need for the positions they will demand in the future. This input and oversight can happen individually or through representative business organizations such as the Orange County Business Council. As WIA reforms are implemented throughout the regional workforce system, Orange County employers also have the responsibility to hold the local workforce system accountable by providing feedback on the quality and relevance of local training programs.

Businesses also may be training providers themselves by developing their own programs or partnering with local training providers such as WIBs, community colleges, and university extension programs to design a customized program that meets their specific needs.

Increased Accountability

Another crucial reform of WIA is to make workforce programs more accountable. Performance-driven standards are now directly measured by the outcomes that programs produce. If One-Stop career centers do not meet performance standards on rates of job placements, job retention, earning gains, and credential rates over a two-year period, they can be sanctioned or even reorganized.

WIA required performance standards include

- For adults, dislocated workers, and youths ages 19-21
    - Entered employment rate
    - Average earning change
    - Retention rate
    - Educational/occupational skills credential rate
- For youth programs (ages 14-18)
    - Skill attainment rate
    - Secondary school diplomas/GED rate
    - Retention rates

WIBs also develop their own performance standards to evaluate continuous improvement and customer satisfaction. Not only will One Stop centers be accountable, but also local training providers will be accountable for the performance of clients that attend their individual training programs. WIBs use performance measures to certify training programs annually. To receive program certification, providers must apply to the local WIB, which sets appropriate standards.
To remain eligible, training providers must disclose

- Completion rates of individuals
- Rates of participants who enter employment
- Wages at placement
- Program costs (tuition and fees)

Workforce on the Web

To complement the physical one-stop career centers, the WIBs are also working to develop "virtual" web-based systems that can be accessed from job seekers homes, employers place of business, or anywhere. You may view Orange County's workforce resources at these sites:

Orange County Workforce Investment Board
http://www.ocwib.org

Santa Ana Workforce Investment Board
http://www.santaanawib.com/

Anaheim Workforce Investment Board
http://www.anaheim.net/