

STATE OF THE WORKFORCE

Report



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LANE WORKFORCE PARTNERSHIP



WORKSOURCE
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Introduction

Globalization, demographic changes, and never ending technological improvements, set the stage for the future economic growth in Lane County. Central to this growth is a skilled workforce. Workforce will define the competitive advantage of our community. It is the imperative for sustained long term economic vitality. Workforce will limit community and economic development, or, it will promote prosperity for decades to come.

This first State of the Workforce Report for Lane County brings together information on: the changing landscape of our economy and workforce; growing industry clusters in our community; and, key workforce challenges and proposed responses to these challenges.

This Report, presented by the Lane Workforce Partnership, is intended to be a catalyst for a community dialogue on the need for, and strategies to develop, a skilled workforce that positions Lane County businesses and residents to benefit from a 21st Century economy. Policy makers can use the Report to make informed economic development and workforce development decisions. Information in this Report can be used by career advisors to inform students and job seekers on future job and career opportunities. And, the Report can be used by employers as they invest in their employees.

The Lane Workforce Partnership and the Oregon Employment Department are pleased to present this first State of the Workforce Report for Lane County. We hope you find it thought provoking and strongly encourage your comments and feedback as together we pursue strategies to build the best skilled workforce in Oregon.

Executive Summary

What is the State of the Workforce Report?

This State of the Workforce Report for Lane County is a collaboration of Lane Workforce Partnership and the Oregon Employment Department and brings together information on: the changing landscape of our economy and workforce; growing industry clusters in our community; and, key workforce challenges and proposed responses to these challenges. This summary highlights some of the major findings.

Lane County, an Overview

Lane County is the fourth-most populous county in Oregon and the third-most populous metropolitan statistical area (MSA) after the Portland and Salem areas. The county's 331,594 residents are concentrated within a relatively small region around the Eugene/Springfield urban area. Sixty-six percent of the county's residents live in incorporated cities within a 30 mile radius of Eugene and along Interstate 5. Lane's other population centers outside of the Eugene/Springfield area include the corridor between Florence and Dunes City on the Pacific Coast, and the Oakridge/West Fir area in the Cascade foothills.

The Lane County Economy

Employment growth has been rebounding since the latest economic downturn (2001-2003) and many of the losses in manufacturing have been recovered. The economy is expected to continue growing and diversifying. Employment growth is projected to grow by 14.8%.

Lane County wages are 15% less than the statewide average based on 2004 data.

The Lane County Workforce

- The fastest growing jobs in Lane County require post secondary education and training. To be competitive, job seekers will increasingly be required to attain post-secondary education.
- Lane County's traditionally high educational attainment levels continue to increase. Of those over age 25, only 12.5% of residents have not completed high school and 25.5% of residents have at least a Bachelor's Degree. In addition, Lane County has one of the lowest dropout rates in the state.
- Aging baby-boomers will create challenges as experienced workers retire. Industries most likely to be impacted include wood products, metals and machinery manufacturing; finance; professional, scientific and technical services; management of companies; education services, health care and social assistance.
- The Hispanic population makes up 5.1% of the total Lane County population and is the fastest growing segment with a 20% increase over the past four years.
- There are increasing numbers of residents who work full time, but are unable to support themselves and their families, often referred to as the "working poor."

Industry Profiles

Industry profiles feature information from the Oregon Employment Department's Workforce Analyst and Labor Economist and from business surveys on the Lane Workforce Partnership's 5 targeted industry clusters and 2 emerging clusters. *Projections are based on the 10-year time period 2004-2014.*

Health Care

- Health care is one of the fastest growing sectors of Lane County's economy and has a projected growth rate of 28%*, creating an additional 4,200 jobs. The industry offers an

annual average wage of \$38,499 compared to the county average wage of \$31,338.

- The main workforce trend reported by survey respondents is a new emphasis on managers as “change agents” and training in change management due to the rapid pace of change in the industry.

Wood Products

- Increased efficiency and diversity in the wood products industry has helped to minimize the impact of cyclical downturns. The industry remains a major economic force with over 4,700 employees.
- Employment is projected to decline by 6.4%*, however 18% of this industry’s workers are age 55-64, so opportunity will continue to exist in the form of replacement openings.
- The main workforce trend reported by survey respondents is competition from Asia, Mexico and Canada leading to more local use of automation and lean production methods.



RV/Transportation Equipment Manufacturing

- Employment in this industry is projected to grow by 19%, adding 800 new jobs*.
- The main workforce trend reported by survey respondents is an increased emphasis on leadership and supervisory training to improve productivity and quality.

Software/Computer System Design

- This average annual wage in this industry is \$58,991, about twice the Lane County average wage.
- One of many workforce trends cited by survey respondents is that E-learning is the fastest growing segments of the industry with growth rates projected at 25% each year through 2009.

High Technology

- The local average wage in Lane County in the high tech industry is a \$51,221, well above the average for Lane County. Projected growth estimates are 11%* based on growth in communications, computer electronics, robotics and other areas.
- One of many workforce trends cited by survey respondents is that employees in this industry must be able to adapt quickly due to the continual shortening of product life spans.

Biomedical--Emerging

- Lane County has the strongest biomedical cluster in the state outside of the Portland metro area. There are 54 biomedical businesses in Lane County with employment of 500 in 2004. The average annual wage in the industry was \$46,659.
- Employment in biomedical grew by 17% from 2002-2005 in Lane County.

Scientific Research and Educational Support--Emerging

- Due in large part to the University of Oregon, the Eugene-Springfield area has become a hub for scientific research and educational

support. There are 61 businesses in Lane County in this cluster employing 674 workers. The average wage is \$36,000, \$46,459 if only scientific research jobs are looked at as a separate group.

Major Workforce Challenges Facing Lane County

After reviewing all of the data and trends gathered for the workforce report, several significant workforce challenges emerged:

- Many youth are not ready to enter the labor market due to low math, reading and technology literacy and a lack of basic work readiness skills. They are also often unaware of opportunities in local high-demand occupations.
- Employers in growing and emerging industries report serious skill shortages in their applicant pools and concerns about a lack of capacity of the current education and training system to meet business training needs.
- A rapidly changing business environment demands that workers be more flexible and adaptable than ever before. A worker's knowledge and skills can easily become obsolete without continued training throughout their career span. Businesses are struggling with the challenge of keeping their current workers' skills up to date.
- Changes in the global environment have put new pressures on businesses in Lane County, particularly in manufacturing, resulting in increased automation and use of high performance manufacturing techniques. Many cannot afford to retool and retrain workers in these new manufacturing techniques.

- As baby boomers retire, Lane County will face a growing shortage of skilled workers particularly in the trades, transportation, health care and education.
- As the labor pool shrinks, many employers will turn to the "untapped labor pool" to fill open positions. This pool includes older workers, people with disabilities, minority populations and people re-entering the workforce or changing careers.
- The "working poor," those working full time and still not able to maintain a decent standard of living, continue to struggle in Lane County. This issue in combination with the lack of affordable housing impacts the livability and vitality of the area.



BUILDING A WORLD CLASS WORKFORCE: Policy and Planning Recommendations

- Improve alignment among business, education, workforce and economic development organizations and resources. Convene these organizations to have regular dialogs with the purpose of identifying common interests, goals and strategies to grow the Lane County economy.
- Support industry-led consortia development in the targeted clusters in order to increase career awareness and training capacity. Continue to target workforce development resources toward training for targeted cluster skill sets and high wage jobs.
- Assist employers in addressing skill shortages by helping to prepare and train untapped labor pool workers to enter the workforce. The Workforce Network, an initiative of Lane Workforce Partnership, will be an integral part of this solution.
- Increase resources and capacity to deliver on-going education to current workers. This could include increasing and diversifying government funding for current worker training and increasing accessible training options for workers such as distance learning, computer-based training and modularized coursework.
- Support employers in implementing high performance business and manufacturing strategies in response to global competition. Work with the Oregon Manufacturing Extension Partnership and the Northwest High Performance Enterprise Consortium to improve access and affordability of this training.
- Encourage employers to embrace a “grow your own” strategy that includes well-articulated career pathways and ongoing training for employees. This will result in increased retention and lays the groundwork for succession-planning as baby boomers retire. It will also increase wage and advancement opportunities for entry-level workers.
- Explore creative partnerships with affordable housing agencies and organizations such as the United Way to improve the economic success of the working poor.

The Lane County Economy:

Past, Present and Future

Prior to the downturn of the early 1990s Lane County’s (Region 5’s) economy was much more dependent on the wood products industry. During the expansion of the 1990s, the area attracted high-tech companies such as Symantec and Hynix Semiconductor. In addition, a homegrown recreational vehicle manufacturing industry expanded toward the end of the 1990s. As a result, Lane County’s economy is more diverse. The University of Oregon and other state and federal government jobs add to that diversity.

[Figure 1 in Appendix](#) shows the county’s top employers.

During the economic expansion of the 1990s, the region’s 20.1 percent job growth rate was close to the national rate of 19.6 percent. The unemployment rate in Lane County tracked well with the national rate until the second half of the decade. By 2000 the national rate dropped to a low of 4.0 percent compared to the county rate of 5.4 percent. ([see Figure 2 in Appendix](#))

Although the economic recession of 2001-2003 did not affect Lane County as severely as other areas of the state, the annual average

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unemployment rate rose to 7.8 percent by 2003 (compared to 8.1 percent statewide and 8.5 percent in the Portland area). The region lost 3,200 jobs over the recessionary period. More than half of the job losses were in a broad array of manufacturing industries.

The most recent data show employment growth rebounding in 2004 and 2005. Many of the losses in manufacturing have been recovered. Many of the new manufacturing jobs are in the recreational vehicle-heavy transportation equipment manufacturing industry, which added 700 jobs between 2003 and 2004. The recovery is also broad-based. Other industries adding notable growth include wholesale trade (+400), financial activities (+200), administrative and support services (+900), health care (+300) and leisure and hospitality (+200).

Halfway through 2005, the June figures show employment growth at 2.6 percent (+3,800) and the unemployment rate down by one percent over the past year to 6.6 percent, indicating the economic recovery is continuing into 2005. (see Figures 3 & 4 in Appendix)

Lane County's economy is expected to continue growing and diversifying into the future. Overall employment is expected to grow by 14.8 percent between 2004 and 2014. Some industries that are expected to grow more rapidly than the average rate include construction because of planned residential, commercial and public projects; transportation equipment manufacturing, largely from RVs; information due to software; professional and business services due to new call center employment; and health care from demand created by an aging population. Other industries, such as wood products, natural resources and mining, and government are expected to grow more slowly than the average. (see Figure 5 in Appendix)



Wages and Income

After bottoming out in 1994 after the loss of high wage timber jobs, real average wages have had a small increase of eight percent, up \$2,446 to \$31,338 in 2004. In comparison, the rest of the state, which is very much influenced by the Portland area, grew 12 percent. The addition of high tech manufacturing and stabilization in wood products has helped turn wages in a positive direction in Region 5, but not enough to keep the wage gap with the rest of the state from expanding. In 1994 Region 5 wages were 11 percent less than the rest of the state. By 2000 the gap had expanded to 19 percent, largely due to rapid growth in high tech manufacturing in the Portland area. The economic downturn that lasted from 2001

through 2003 was particularly hard on the high tech manufacturing industry. Although Region 5 had some losses in high tech, its other industries were relatively stable. On the other hand, the Portland area's economy was more high tech manufacturing dependant, leading to large losses of high paying jobs. Correspondingly, the wage gap between Region 5 and the rest of the state dropped to 15 percent by 2004. (see Figure 6 in Appendix)

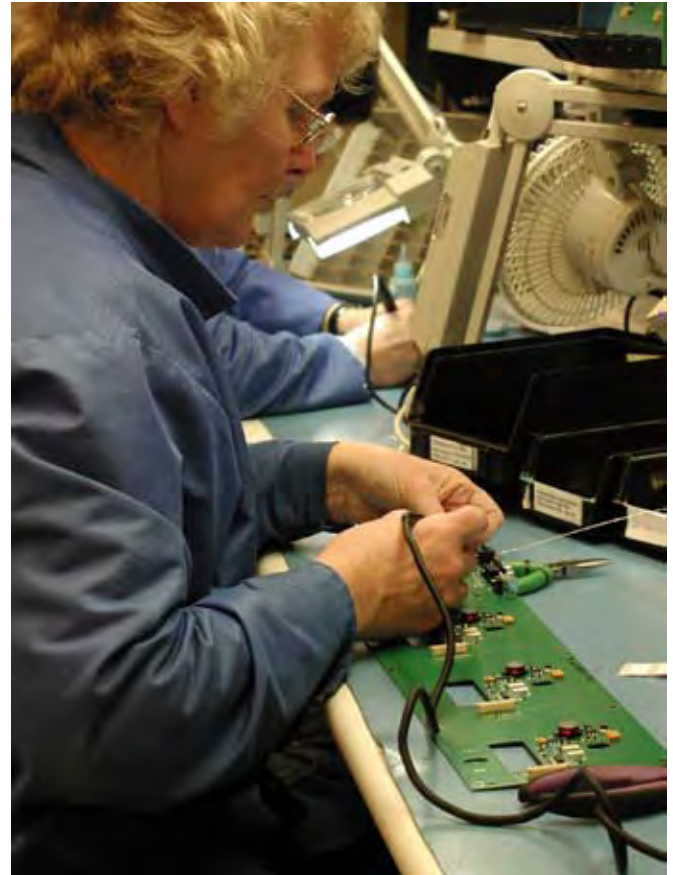
Although an industry mix made up of lower paying industries than the Portland area explains some of the wage gap between Region 5 and the rest of the state, quality of life issues such as less congestion and proximity to outdoor recreation may lower wages for any particular occupation. Employers may be able to offer lower wages because Lane County is a desirable location in which to live.

Although the earnings of the average worker in Region 5 were above \$31,338 in 2004, many earned considerably less. Thirty-seven percent of the jobs in Region 5 averaged less than \$25,000 while 61 percent were less than the overall average of \$31,338. Most of the largest occupations in Region 5 pay less than \$35,000. Three of the largest: retail sales persons, cashiers and general office clerks pay less than \$26,000. Registered nurses and post-secondary teachers are the exception for large occupations, paying \$53,973, and \$71,440 respectively. (see Figure 7 in Appendix)

Although more total job openings over the next decade are in the lower paying occupations, the mid and higher paying jobs are expected to grow as rapidly (Figure 7). Jobs paying over \$38,000 are expected to grow by 15 percent, producing 13,629 total openings, 39 percent from growth. In comparison, jobs paying less than \$25,000 will see about 21,000 total openings over the next decade, but only 32 percent from growth. Total openings in higher paying jobs are rising due to replacement needs from increasing retirements of experienced workers. (see Figure 8 in Appendix)

Personal Income

Personal income is an important indicator of the economic health of an area since it represents



what is available to spend on goods and services. When used with population data to create per capita personal income, this statistic becomes an indication of the relative prosperity of state or county residents.

Overall, Lane County's personal income grew slowly between 2002 and 2003. Total personal income grew by approximately \$207 million to reach \$8.7 billion. In terms of growth rate, Lane County's personal income grew by 2.4 percent. When the data are adjusted for inflation, however, total personal income grew by only \$91million or 1.1 percent.

The components of personal income for Lane County show that 62 percent is from earnings, 20 percent from dividends, interest and rent, and 18 percent from transfer payments, primarily in the form of Social Security and Medicaid. Lane County has similar component portions of personal income compared to the U.S. and Oregon although slightly higher portions of income from dividends interest and rent and transfer payments are likely due to the University of Oregon and retirees, particularly



at the coast. At the national level, 69 percent of personal income is from earnings, 16 percent is from dividends, interest and rent, while transfer payments make up around 15 percent. Statewide, 66 percent of personal income is from earnings, 18 percent from interest, dividends and rent and 16 percent from transfer payments.

Due to the lingering effects of an economic downturn, Lane County's real (inflation adjusted) *per capita* personal income increased only by \$20 in 2003 to reach \$26,340. The percent increase of 0.1 percent was more than the statewide decrease of -0.4 percent and less than the U.S. increase of 0.8 percent. Relative to other areas, Lane County's per capita personal income remained about 92 percent of the statewide and 84 percent of the U.S. Lane County's per capita personal income ranks 9th among Oregon's 36 counties.

Wage Trends Coming out of Recession

According to local employment statistics, the most recent economic downturn lasted from late 2000 into late 2003. Like the rest of the state

and nation, the local downturn was driven by losses in the high paying manufacturing sector. At the statewide level many of the losses were associated with a worldwide correction in high tech manufacturing. Locally, wood products and transportation equipment were also part of the manufacturing losses. Over the period, Region 5 lost 4,100 jobs or 5.6 percent in the high wage category.¹ The majority of the jobs in this category were in the manufacturing sector, but job losses were also experienced in government (-300), construction (-300), wholesale trade (-200) and information (-200). Many of the job losses in information were because of the closure of the Sony disk plant in Springfield. Due to low interest rates, the financial activities industry was the one high paying industry that grew during the downturn, adding 400 jobs. Region 5 added 600 medium wage jobs or 1.7 percent growth during the period, largely due to gains in health care. Low wage jobs lost 500 or 1.3 percent mostly in leisure and hospitality. These losses were related to the lack of travel after the September 11th attacks. (see Figure 9 in Appendix).

As the region and state pulled out of recession, Region 5 gained back many of the high wage jobs lost during the recession, adding 1,800 jobs or 2.6 percent. Manufacturing gained 1,100 between June 2003 and June 2004. These gains were made in durable goods, where transportation equipment had an especially strong recovery adding 700 jobs. Wood products had a milder recovery adding 200 jobs. Growth was also experienced in the average and low wage jobs adding around 100 and 200 jobs respectively. In contrast, a similar study done at the statewide level for the same period showed stronger growth in the low wage category and weaker growth in the high wage category as the state pulled out of recession. This can be contributed to losses in high tech manufacturing in other areas of the

¹Low-wage industries are defined as industries where the average annual wage is more than 10 percent below the county average (<\$28,280). Average wage industries are defined as industries where the average annual wage is equal to or less than 10 percent below the county average and equal to or less than 10 percent above the county average (>+\$27,280 and <+=\$33,342). High wage industries are defined as industries where the average annual wage is more than 10 percent above the county average (>\$33,342).

state that did not recover as quickly after the recession.

As the recovery matures, Region 5 continues to add jobs. Preliminary data show that manufacturing has added 400 jobs from June 2004 to June 2005 due to a stable wood products industry and continued, albeit slower, growth in transportation equipment. Other high paying sectors adding jobs include 600 in financial activities, 600 in construction. The fastest growth over the past year has come from the average wage industries where the health care gained 300.

The Lane County Workforce

Skills in Demand

A 2002 survey of employers in Region 5 found that many employers expected to have increasing skill requirements. The survey asked respondents to think about the future workforce needs of their organizations and, particularly, how these organizations' need for employees with each of a variety of skills will change in the coming five years. (see Figure 10 in Appendix)

It is clear that employers do not feel



many skills will be in less demand in the future. This result is consistent with statewide results. Computer software application skill was noted by the largest share of respondents as the skill most likely to be needed more in the future. Some of the “soft skills” ranked high on employers future needs as well. Work ethic, problem solving and critical thinking, and interpersonal skills were cited by more than a quarter of the surveyed employers. Increased need for Spanish language skills was cited by 18 percent of employers.

Projected Educational Requirements

The majority of jobs in Region 5 require little in the way of training or education, but the fastest growing occupations require post secondary education and training. The minimum required education for almost 70 percent of positions in 2014 will require only on-the-job training or work experience. Many of these jobs are in lower paying services and retail occupations. These jobs are expected to grow more slowly at 14.4 percent than many other occupations. Jobs that require an associates degree or other post-secondary training are expected to grow 18.8 percent while those requiring a professional or graduate degree will grow by 16.2 percent. To be competitive job seekers will increasingly be required to attain higher degrees. Jobs requiring a bachelor's degree to be competitive will grow by 16.3 percent compared to 14.5 percent for work experience. (see Figure 11 in Appendix)

A Highly Educated Population

Data for the U.S. shows a direct correlation between education levels and earnings and unemployment. Generally the higher the education level, the higher the pay and the lower the chances of being unemployed. People with less than a high school diploma averaged \$384 in weekly earning and an unemployment rate of 11.9 percent in 2004 while a people with a bachelor's degree had \$883 in weekly earnings and a 3.1 percent unemployment rate. (see Figure 12 in Appendix)

Lane County's traditionally high educational attainment levels have increased over the past decade. The share of the 25 and older population with less than a high school degree declined



from 17 percent in 1990 to 12.5 percent in 2000 while the share with a bachelor's degree or higher increased from 22.2 percent to 25.5 percent. These percentages compare favorably with those from Oregon and the U. S. (see [Figure 13 in Appendix](#))

In 2000, the percentage of the population 25 and older with less than a high school diploma was much lower in Region 5 (12.5%) than Oregon (14.9%) and the U.S. (19.6%). The population with a bachelor's degree or higher was slightly better in Region 5 at 25.5 percent compared to 25.1 percent for Oregon and 24.4 percent for the U.S.

Dropout Rates

Region 5 has historically had a lower dropout rate than the rest of the state. In addition, the rate has been dropping in Region 5 and statewide. During the 1996 to 1997 school year, the one-year high school dropout rate in Region 5 was 5.6 percent

compared to 6.7 percent statewide. By the 2003 to 2004 school year, the rate had dropped to 3.3 percent in Region 5 and 4.6 percent statewide. (see [Figure 14 in Appendix](#))

While dropout rates are typically higher among Oregon's racial and ethnic minorities, their dropout rates are also declining. No dropout rates by race and ethnicity are available locally, but among African American students in Oregon, the dropout rate has declined from 13 percent in 1995-96 to 8.3 percent in the 2003-04 school year. Similarly, dropout rates for Hispanic students in Oregon were 18 percent in 1994-95 and had dropped to 9.8 percent by 2003-04. Locally, Hispanics make up seven percent of the student population, but 11 percent of dropouts.

Oregon high school students are increasingly going to college. Seventy-four percent of the high school graduating class of 2003 was enrolled in college within two terms of graduating, up from



69 percent in 1995.¹ Oregon's rate of college enrollment compares well with the national average. In 2001, 69 percent of Oregon graduates enrolled immediately following graduation, compared to 63 percent nationally.²

Demographics

The 2004 population estimates indicate that Lane County (Region 5) is the fourth-most populous county in Oregon and the third-most populous metropolitan statistical area (MSA) after the Portland and Salem areas. The county's 331,594 residents are concentrated within a relatively small region around the Eugene/Springfield urban area. Sixty-six percent of the county's residents live in incorporated cities within a 30 mile radius of Eugene and along Interstate 5. Lane's other population centers outside of the Eugene/Springfield area include the corridor between Florence and Dunes City on the Pacific Coast, and the Oakridge/West Fir area in the Cascade

¹ Oregon University System. 2004 Fact Book

² Oregon University System. Where Have Oregon's Graduates Gone? Survey of the Oregon high school graduating class of 2001.

foothills.

Lane County's population grew at a rate of 14.2 percent from 1990 to 2000. This was below the statewide rate of 20.4 percent, but ranked Lane County 17th fastest growing out of Oregon's 36 counties.

Long-term projections indicate that the county's population should continue to increase, but the rate of growth should slow and remain below the projected statewide growth rate. According to forecasts by the Oregon Department of Administrative Services, Office of Economic Analysis, the total increase in Lane County's population in the 20-year period between 2005 and 2025 is expected to amount to roughly 75,300 people, or 23 percent compared with 28 percent growth statewide.

In-migration Drives Population Growth

In-migration has been the driving force behind population growth in Lane County for the past decade. Strong economic growth in Oregon throughout much of the decade – accompanied by recession in surrounding states, particularly California – caused a wave of in-migration. For most of the 1990s, net migration (in-migration less out-migration) outpaced the natural increase (births less deaths). Of the population increase between 1990 and 2000, roughly 13,000 was due to natural increase while 32,000 was due to net migration. The peak year of net migration during the 1990s was 1997, with a gain of 4,600. Since then, net migration has slowed, reaching a low of 550 during the depth of the most recent recession in 2001. (see Figure 15 in Appendix)

During 2004, a year of job gain for Lane County, net migration again outpaced natural increase. Net migration added 2.6 people per 1,000 residents, or about 862 people, while natural increase added 1.6 people per 1,000 residents, or about 530 people.

An Aging Population

The age distribution of Lane's population has a higher proportion of its population in the young-adult (20-29) age group. The higher concentration in young adults can be explained easily by the

fact that the University of Oregon and Lane Community College enroll thousands of out-of-county people – estimates run as high as 10,000 during a typical school year. (see [Figure 16 in Appendix](#))

As Graph 2 shows, the statewide and county age distributions show two distinct high points, the age groups that include 40 to 54 year olds and the age groups that include 10 to 24 year olds. The former represents the baby-boom generation and the latter, the echo of the baby boom. While boomers are starting to reach early retirement age, the echo is just entering the workforce. The result may be a temporary skill shortage as more people retire than there are skilled people to replace them. How serious this skill gap will become is uncertain, but the aging of the baby boomers should create opportunities for younger people who develop the right skills and education.

Among the working age population, aging trends are driven by the baby boom generation -- those born between 1946 and 1964. In 1970, before most baby-boomers entered the workforce, the share of the 45 to 64 year olds of the working-age population was slightly less than 40 percent. (see [Figure 17 in Appendix](#))

As young workers entered the workforce, the working-age population became much younger, with the 45-64 age group falling to a little over 20 percent of the working-age population. As the baby-boom generation has aged, so has the workforce. The 45-64 share rose from 23 percent to 53 percent of the working age population by 2000. It is expected to peak at 60 percent in 2010 and then level off at around 50 percent, increasing slightly out to 2040.

Although the echo-boomers and in-migration will help lower the 45-64 age group's share of the working age population and help close any skill or labor gaps that develop in the future, the overall aging of the population will have an impact on the economy. As the baby-boomers age, there is expected to be more demand for health care services and possibly labor shortages in several industries.

Age by Industry

The aging of the baby-boomers will create challenges as a wave of experienced workers retires. The Employment Policy Foundation has projected that labor demand will outstrip supply in the U.S. by 2008. Industries that have high proportions of people in the preretirement years may experience labor or skill shortages in the coming years. [Figure 18 in the Appendix](#) shows the broad industry sectors and their percentage of workers in the 55 to 64 year age group. Twelve percent of Lane County's workforce is in this age group compared to 11.5 percent statewide.

In 2004 at the broadest industry level, many of the "blue collar" industries such as mining, utilities, manufacturing, wholesale trade, and transportation and warehousing have above average levels of workers in the 55 to 64 age group.

Metals manufacturing employed 1,213 in 2004 in Region 5. The percentage of workers in the pre-retirement age group is 14 percent.

Machinery manufacturing is another industry with a large segment in the 55-64 age group. This industry employed 1,531 in 2004 and has 15.7 percent of its workforce in the preretirement age group.



Wood products is one of the larger industries in Lane County employing 4,711 in 2004 that has a workforce with an above average share of workers in the 55-64 age group at 18.3 percent. A high number of retirement related openings are expected in this industry.

A large portion of the transportation and warehousing industry is in trucking, which has 21 percent of its 1,446 workers in the 55-64 age group. Transit and ground transportation has a very high proportion of its 749 workers in the pre-retirement age group at 28.2 percent. Warehousing makes up a relatively small portion of the sector with 92 workers in 2004, but its proportion of 20.1 percent in the 55 to 64 age group is well above average.

The “white collar” industries of finance, real estate; professional, scientific and technical services, management of companies, education services, and health care and social assistance have above average levels in the 55 to 64 age group. Most of these industries have established career ladders or have many occupations that require high levels of education or experience, leading to employment in higher age groups. Real estate may be one industry that people move into as they retire as opposed to retiring out of.

In the professional, scientific and technical services industry, legal services was the largest

with an above average portion in the 55-64 group (19.1%) with 2004 employment of 1,215. Three other industries within the sector had an above average portion in the pre-retirement age group. They include accounting services with 2004 employment of 847 and 19.5 percent in the age group; architecture, engineering and related services (930, 14.1%); and scientific research and development services (615, 16.6%).

Two of the largest industry sectors -- Education and health and social services -- also have above average employment in the 55-64 age group. Educational services with 13,082 workers in 2004 is largely made up of the local school districts, the University of Oregon and Lane Community College, although there is significant employment in private education (1,187). This industry sector had 14.2 percent of its workers in the pre-retirement age group.

Health Care employs roughly 14,500 in Lane County in hospitals, offices of physicians and dentists, and residential care facilities. The share of workers in the pre-retirement age group is 14.7 percent. Social services employs about 3,000 with a 13.5 percent share in the 55-64 age group.

Race and Ethnicity

Although slightly smaller, minority racial and ethnic proportions in Lane County are similar to the statewide proportions. Lane County is



92.6 percent white, compared with 90.8 percent statewide. The next highest racial category in the county is Asian, at 2.4 percent. The reported Hispanic and Latino ethnicity is 5.1 percent in Lane County, compared with 9.2 percent statewide.

Hispanic Population

Although the Hispanic population only makes up 5.1 percent of the total population in Lane County, it is the fastest growing segment, growing by 117 percent between 1990 and 2000 to reach 14,874. The latest estimate from the U.S. Bureau of Census puts the Lane County Hispanic population at 17,877, a 20 increase over the past four years. The Impact of this ethnic group will continue into the future because of its age structure. (see [Figure 19 in Appendix](#))

While Hispanics in Lane County account for a little over four percent of the working age population, they account for over ten percent of the under 5 population and almost seven percent of the school age population. Therefore, the Hispanic population will continue to grow as a part of the school age and working age population into the future.

Foreign-Born Residents

In 1990, only 3.4 percent of Region 5 residents were born outside the United States. Although growing less rapidly than the rest of Oregon or the national average, foreign born residents have increased as a proportion of the total population to 4.9 percent.

Census data indicates that among the foreign-born residents entering the U.S. between 1990 and 2000 the most common place of birth was Mexico. In Lane County, however, the most common region for foreign-born residents entering the country in the 1990s was Asia at 39 percent. About 33 percent of Lane County foreign-born residents who entered the country in the 1990s were from Mexico.

Non-English Speakers

With a growing foreign-born population, the population with difficulty speaking English has

grown. The share of the population five and older with a language other than English spoken at home increased from 5.2 percent to 7.9 percent between 1990 and 2000. The increase in the rest of Oregon was more dramatic however. Spanish was the most common other language spoken at 4.1 percent of the population over five years of age. However, 41 percent of Spanish speakers spoke English less than very well. (see [Figure 20 in Appendix](#))

People with Disabilities

According to the U.S. Census Bureau's 2004 American Community Survey, it is estimated that out of a population aged 16 to 64 of 219,172 in Lane County there were 27,150 disabled persons. Disabled meaning that they had a physical or mental disability that made it difficult to perform such activities as walking, climbing stairs, dressing, bathing, learning or remembering. Of the disabled population, 11,176 were employed while 15,974 were not, making disabled persons about seven percent of total employment. Of the disabled population 16 to 64 years of age, 18,287 had an employment disability meaning that they answered yes to a survey question that asked if they had a "physical, mental, or emotional condition lasting six months or more that made it difficult to work at a job or a business."

The Working Poor

Economic hardship is not only felt by the unemployed. There are also an increasing number of people who work full time but are unable to support themselves and their families, often referred to as the "working poor."¹ People who have jobs in Lane County continue to make less money than the Oregon statewide average. In 2004, Lane County's average payroll was over \$4,000 behind the Oregon statewide average of \$35,621. People in Lane County also continue to have lower per capita incomes than people in the rest of Oregon. In 2003, the per capita income in Lane County was 90 percent of the Oregon and 86 percent of the United States average. The fact that people in Lane county have lower

1 Lane County United Way. 2005 State of Caring—Leading Indicators Report

wages and per capita income than people in the rest of the state also means that people have less disposable income to spend in the local economy.

According to the National Low Income Housing Coalition, in 2004, in order to pay rent on an average 2-bedroom housing unit in Lane County, a worker would need to make \$13.21 per hour and work 40 hours per week. Many jobs in Lane County pay below this threshold. (see Figure 21 in Appendix)

A major concern for the working poor is rapidly increasing health care costs. Over the past ten years, the percentage of people in Lane County that do not have health insurance has increased from about 11 percent to 19 percent. Correspondingly, bad debt at Lane County hospitals has increased from 6.2 million to 13.2 million from 2000 to 2003 – well over the rate of inflation and population growth. Bad debts are the unpaid obligation for care provided to patients who were determined by the hospital to be able to pay, but have not yet done so.

Another indicator of need is people receiving food stamps. According to the Oregon Department of Human Services, children and family (CAF) households receiving food stamps in service delivery area 5² increased from 6,774 in fiscal year 1999-2000 to 17,139 in fiscal year 2004-2005, well above the rate of population growth. Much of the increase came during the recession years of 2000 and 2001. Some of the increase is due to regulations that made more non-public assistance children and families eligible for food stamps. These regulations were changed in response to Oregon's high ranking for food insecurity.

(see Figure 22 in Appendix)

Industry Cluster Profiles

What are Industry Clusters?

Industry cluster development is an integral part of the Oregon Business Plan and the Governor's vision for a statewide workforce investment

2 Service delivery area 5 covers Lane County

system. Industry clusters are defined by the Oregon Business Plan as “groups of similar and related firms in a defined geographic area that share common markets, technologies, worker skill needs, and which are often linked by buyer-seller relationships.”

Firms and workers in an industry cluster benefit from their proximity to each other. A strong industry cluster builds a skilled workforce, specialized suppliers, a shared base of knowledge, and ultimately, a competitive advantage and more opportunities for growth for firms and workers in the cluster.

The Five “Priority” Clusters

For the last two years, Lane Workforce Partnership has worked to identify regional industry clusters that are economically vibrant, promise growth, wage progression/career ladder opportunities for employees, and create a balanced competitive advantage for the region's workforce and business community. With the assistance of the Oregon Employment

Labor Market Lingo

Traded Sector Industries: A traded sector consists of businesses that sell their goods and services in competition with firms in other locations (also known as exporters.) Traded sectors are typically targeted by economic development because they infuse new money into local economies, which creates opportunities for growth and development.

Location Quotient (LQ): the employment concentration of a cluster in a region relative to the state average. An LQ greater than “1” indicates that an area is producing beyond what is needed in that area which typically results in cluster formation due to developed networks and infrastructure. An LQ of “1” is a baseline and indicates the same employment concentration as the state. An LQ of “2” would indicate twice the concentration.

Department, this intensive effort has involved study and analysis of clusters using a number of criteria, including location quotient, employment concentration, average pay and total employment. Available data was compiled, and where necessary to fill in gaps, primary research was conducted through focus groups, roundtables and local business surveys. New data is sought annually and the targeted clusters for Lane County are updated as needed to reflect changes. General themes from business surveys and roundtables are included in each targeted cluster area.

Lane Workforce Partnership has developed a cluster-specific workforce development strategy designed to grow and develop workforce for each of these targeted clusters. The hope is that this will ultimately influence the development of a more highly integrated workforce development system in Lane County that is responsive to the needs of high-wage, high-demand industries. This demand-driven, targeted cluster strategy will be implemented throughout Lane Workforce Partnership's system and will impact program design and resource allocation. Workforce investment planning will address the full pipeline from emerging workers to jobseekers to incumbent workers in each of these clusters. Current Lane County targeted clusters include:

- Health Care
- Wood Products
- Software
- RV/Transportation Equipment Manufacturing
- High Tech Manufacturing

The Two Emerging Clusters

The criteria used to identify emerging clusters were similar to those used to identify the priority ones. The main difference between the emerging and priority clusters is employment size. The emerging clusters are smaller. Despite their size, they demonstrate potential for growth based on recent employment trend data. Like the priority clusters, the emerging ones also pay more than average wages. Current Lane County emerging clusters include:

- Biomedical
- Scientific Research and Educational Support

HEALTH CARE

Health care is the largest targeted cluster. The health care cluster is comprised of ambulatory health care facilities, hospitals, and nursing and residential care facilities. Health care is the only cluster profiled in this report that is not a traded sector. Health care is not a traded sector because the services it provides are consumed locally, but it is of regional importance since it employs a higher percentage of the workforce than average and pays higher than average wages.

Health care is the fastest growing cluster in Lane County. Health care employment is projected to grow 28.4 percent between 2004 and 2014 in Lane County and add 4,200 jobs, more than any other industry. Health care currently comprises 10.3 percent of employment in Lane County. By 2014, that number is expected to grow to 11.5 percent. The 2004 average annual wage in health care was \$38,499, compared to the county average of \$31,338. Higher than average wages, in addition to high employment growth, make the health care cluster particularly



attractive to workers who are looking for ample job opportunities and the ability to earn a family wage. (see Figure 23 in Appendix)

Lane County’s growing and aging population is driving the growth in health care. As the baby boomer generation gets older, the demand for health care will increase. In response, the two hospitals in the Eugene-Springfield metro area are planning to expand and relocate. PeaceHealth has already begun construction on its new RiverBend hospital in the Gateway area of Springfield. Conversely, McKenzie Willamette hospital in Springfield is looking to relocate and expand somewhere in Eugene. The Eugene-Springfield metro area may have two new hospitals in just a few years.

Many health care occupations require specific training or postsecondary degrees. Lane Workforce Partnership and Lane Community College, along with other workforce partners, have prepared for growth in health care. Training programs exist for several health care occupations to help residents prepare for careers in health care.

Health Care Business Survey Results

Workforce Trends:

- A new emphasis on managers as “change agents” and in hiring and training managers in change management due to an increasing pace of change

Difficult positions to fill:

- Nurse Managers
- Specialized Nursing Positions
- Pharmacists
- Physical Therapists

Workforce Challenges:

- Lack of specialty training in the area
- Competing with large sign-on bonuses offered by larger metropolitan areas
- High turnover of entry level positions in long-term care
- Lack of affordable housing for health care employees in the Florence area

Staffing Solutions:

- Recruiting workers while they are still students and offering to pay tuition in exchange for labor commitment
- Career pathways programs with tuition assistance
- Mentorship and workforce development programs

See Figure 24 : Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in Health Care in Lane County



LOGGING, PAPER AND WOOD PRODUCTS MANUFACTURING

Region 5's lumber and wood products industry was the mainstay of the economy through much of the 19th Century and well into the 20th Century. In recent years, however, the industry has been battered by economic recessions and timber supply reductions. In response to these events, the industry has become more efficient through larger mills that can process a wider range of raw material and more diverse with a shift toward secondary wood products.

These changes have helped the sector better handle cyclical downturns and remain a major economic force. Between 1990 and 2000 wood products, including paper and logging, declined by 3,014 jobs or 28 percent. In recent years low interest rates and the resulting strong housing market have helped stabilize the industry. In 2004 the sector employed 5,975, down from 6,003 in 2003. The 2004 average annual pay was well above the county average at \$43,438.

Employment in this sector in Region 5 is projected to decline by 5.6 percent from 2004 to 2014, a net loss of about 290 jobs. However, the sector's workers are older than the average for all industries. Roughly 18 percent of the



sector's workers are in the pre-retirement 55 to 64 age class, compared to 12 percent for all manufacturing and 11 percent for all industries. Despite the expected net loss of jobs in this industry, opportunity will exist in the form of replacement openings from retirement in the coming years. (see [Figure 25 in Appendix](#))

Wood Products Business Survey Results

Workforce Trends:

- Competition from Asia, Mexico and Canada is forcing more automation and lean production methods
- High competition locally for employees causes them to jump to other jobs

Difficult positions to fill:

- Assembly Positions
- Cabinetry Positions
- Draftspeople

Workforce Challenges:

- Work is physically challenging
- New hires are lacking basic shop skills that used to be taught in high school
- Employers cite a lack of work readiness skills in applicants and new hires such as dependability and problem solving skills

Staffing Solutions:

- More resources are being devoted to employee training and development programs
- Supervisory training is being pursued to improve employee retention
- New training delivery methods are being used such as computer-based training
- Better cross-training leads to greater job satisfaction and more valuable employees

See [Figure 26: Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in Wood Products in Lane County](#)

RV/TRANSPORTATION EQUIPMENT MANUFACTURING

Transportation equipment manufacturing has quickly become one of the largest and most important manufacturing industries in Lane County. This cluster is comprised of motor vehicle manufacturing and other forms of transportation such as aircraft, boats, and bicycles. The manufacture of RVs dominates this cluster in Lane County. Employment between 2004 and 2014 is projected to grow faster than average at 19 percent, adding 800 jobs. With wood product manufacturing projected to decrease in employment by 6.4 percent over the same period of time, transportation equipment manufacturing is expected to surpass wood products as the largest manufacturing sector in Lane County before 2014. The 2004 average annual wage for this cluster was \$31,896, just slightly above the countywide average of \$31,338.

Growth in RV manufacturing is being driven by the same factors affecting health care – a growing and aging population. According to the Recreation Vehicle Industry Association, baby boomers are expected to increase sales of RVs as they enter retirement. Unlike the health care cluster, transportation equipment manufacturing is a traded sector as it supplies RVs and other vehicles to dealers and buyers all over the nation. Job creation in this cluster can proportionately increase employment and wealth in our community faster and more effectively than non-traded sector industries.

Transportation equipment manufacturing employment is highly concentrated in Lane County in comparison with the statewide average. It has the highest location quotient (LQ) of all clusters in Lane County. With an LQ of 2.85, higher than average wages, and strong employment growth, transportation equipment manufacturing has clearly identified itself as an important cluster, now and in the future for Lane County. (see [Figure 27 in Appendix](#))

RV/Transportation Equipment Manufacturing Business Survey Results

Workforce Trends:

- More emphasis on leadership/supervisory training to improve productivity and quality
- Lean Manufacturing approaches are increasingly utilized

Difficult positions to fill:

- Assemblers
- Welders
- Painters
- Electrical/Mechanical positions
- Woodworking positions

Workforce Challenges:

- Overcoming stereotypes of the industry as low-tech or dirty
- Lack of local training availability at the high school and community college level
- Lack of basic skills and workforce readiness in new hires and applicants

Staffing Solutions:

- Employee training and development programs
- Outreach to youth to interest them in future careers in the industry
- Career pathways; building leaders from within



- Establishing an RV Consortium to strengthen local RV manufacturing workforce

See [Figure 28 Wage, and Educational Requirements for Largest Occupations in Transportation Equipment Manufacturing in Lane County](#)

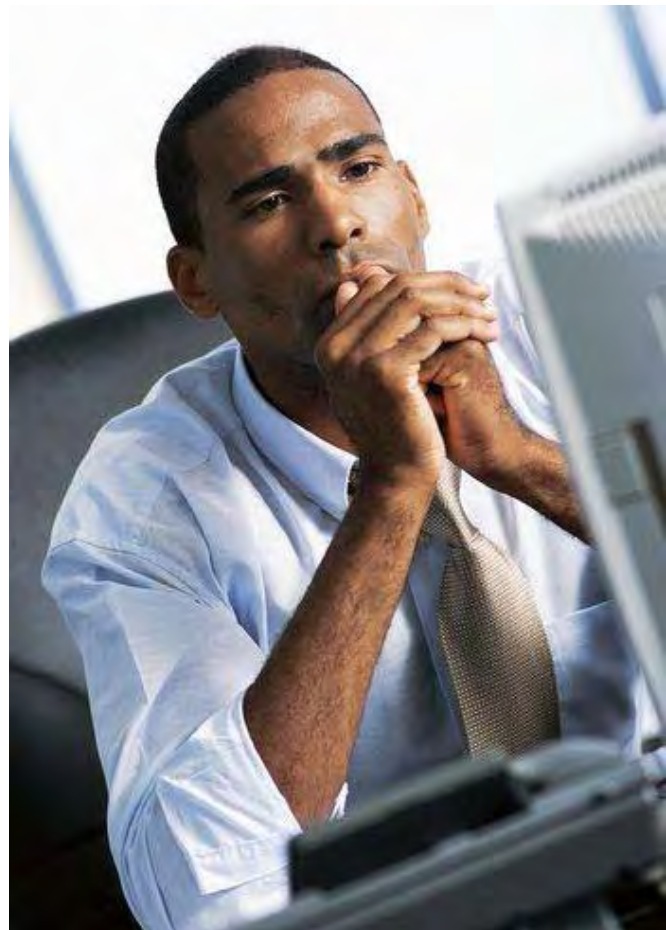
SOFTWARE AND COMPUTER SYSTEMS DESIGN

Software and computer systems design has become a strong industry cluster in Lane County. This cluster includes software publishers and computer systems design and related services. Software publishers are businesses engaged in computer software publishing and/or reproduction. Computer systems design and related services are businesses engaged in providing expertise in the field of information technologies through one or more of the following activities: (1) writing, modifying, testing, and supporting software to meet the needs of a particular customer; (2) planning and designing computer systems that integrate computer hardware, software, and communication technologies; (3) on-site management and operation of clients' computer systems and/or data processing facilities; and (4) other professional and technical computer-related advice and services.

Software and computer systems design is the smallest primary cluster in this report. 2004 covered employment (all employees covered under Oregon unemployment insurance) for this cluster was 1,629 with 121 businesses. Employment is projected to grow 25.3 percent between 2004 and 2014, making it the second fastest growing cluster behind health care. The 2004 average annual wage was \$58,991, nearly twice the county average of \$31,338. In addition to the covered employment, it is assumed that there are quite a few individuals working in software and computer systems design who are not covered under unemployment insurance, including the self-employed. It is difficult to quantify how many of these individuals there are, especially because many of them may be working from home or in a "virtual office." For example,

nationwide, the Bureau of Labor Statistics estimates that 2.8 percent of computer software engineers are self-employed. This would equal 10 computer software engineers in Lane County.

Software and computer systems design has a location quotient of 1.26 in Lane County, indicating a strong concentration of employment here compared to the statewide average. Growth in this cluster should remain strong nationally and internationally as the use of computers continues to increase around the world. This cluster is very mobile, competitive, and susceptible to changes in the business cycle. In many cases, software publishing and computer systems design can be done from almost anywhere, which makes it difficult to determine just how large and sustainable this cluster will be in Lane County. We can see in [Figure 29 in the Appendix](#) that this cluster lost jobs during the recent recession. Lane County rebounded strongly after the recession and has since added jobs much faster than the state. Despite these fluctuations, high wages and opportunity for growth make this cluster



increasingly important to the economy of Lane County. In general, a bachelor's degree is required to be competitive for many jobs in software and computer systems design, such as computer software engineers. Excellent job opportunities exist for those without bachelor's degrees in the form of computer support specialists and customer service representatives, but these jobs typically pay half of what software engineers earn.

Software Business Survey Results

Workforce Trends:

- "Integration software" which is used by companies to allow their internal business applications, such as mainframe, financial and human resources software, to communicate. There is also web-based integration software that allows companies to link their different computing systems so they can exchange data and conduct business over the internet.
- Emerging skills that will be required by the industry include multi-language skills, mobile device technology, Radio Frequency Identification (RFID) technology, and manufacturing software technology
- E-learning is one of the fastest growing segments of the software industry with growth rates projected at 25% each year through 2009.

Difficult positions to fill:

- SQL and Oracle Systems Developers
- Senior Software Architects
- Technical Writers
- J2EE (Java 2 Enterprise Edition) Developers
- Software Project Managers
- Software Marketers and Salespeople.

Workforce Challenges:

- Lack of locally available training
- Inability to match the salaries and perks that are offered in "Software Hub" areas such as San Francisco and Seattle
- Difficulty in getting people with the required skills to relocate to Lane County due to the lack of a critical mass of Software employers that would allow for lateral moves and other career opportunities
- Spouses of potential recruits are often in

similar high-tech fields face and difficulty in finding employment in Lane County

Staffing Solutions:

- Hiring people out of the area and allowing them to telecommute
- Hiring people out of the country via H-1B visas
- Sponsoring internships with High School and Community College Students
- Providing training on-the-job training in hard to find software skills. This can take from three months to one year, but is often the best method of training because it takes place in a project/work context.

[See Figure 30: Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in Software and Computer Systems Design in Lane County](#)

HIGH TECHNOLOGY

High tech manufacturing has been a relatively small industry with a few large players in Region 5. This industry, which includes Hynix semiconductor and PSC Scanning, and other smaller firms such as Versalogic and Electrical Geodesics, employed 1,734 at 17 businesses in 2004. The 2004 average annual wage was \$51,221 -- well above the county average of \$31,338.

The recent national economic downturn was largely caused by an economic correction in the high tech manufacturing industry. Oversupply of some products led to price reductions, losses to investors and layoffs. Losses to the local economy included Komag, a manufacturer of computer disks to outsourcing, and layoffs and temporary closures at other high tech manufacturing firms. But, the losses were not as severe as other areas of the country and the state. Since the downturn, which ended in late 2003, many of these firms have increased employment and solidified their position financially.

Although the rapid growth of the 1990s has slowed for much of this industry, there are still

opportunities for growth in communications, medical equipment, robotics and other areas. Employment Department projections show that high tech manufacturing is expected to grow by around 11 percent over the next ten years in both Oregon and Region 5. (see [Figure 31 in Appendix](#))

High Tech Manufacturing Business Survey Results

Workforce Trends:

- The life spans of products have continually declined. Employees must be able to adapt quickly to new processes and procedures.
- Leadership skills are increasingly important to manage pace of change and increased workforce diversity
- Growth in research and development area
- Advancements in software development, optics and Radio Frequency Identification
- High performance manufacturing techniques such as Demand Flow Technology (DFT) are increasingly utilized

Difficult positions to fill:

- Entry-level Manufacturing
- Factory Automation Engineers and Technicians
- Software Engineers
- Industrial Design Engineers

Workforce Challenges:

- Lack of local training
- Finding local applicants with relevant work experience and readiness
- Lack of math and computer skills in applicants

Staffing Solutions:

- Fill leadership and technical positions internally
- Tuition assistance for employees
- In-house computer-based training
- Use of Interns

See [Figure 32: Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in High Technology in Lane County](#)



Emerging Industry Sectors

BIOMEDICAL

The State of Oregon has recognized the biomedical industry as a growth sector for the Oregon economy. Lane County has the strongest biomedical cluster in the state outside of the Portland metro area. Biomedical employment in Lane County grew by 17 percent from 2002 to 2005, faster than any other industry profiled in this report ([Figure 33 in Appendix.](#)) High wages and an interdependence on the fast growing health care industry, also support the case for biomedical as an emerging industry cluster in Lane County.

Biomedical includes industries involved with the manufacture of pharmaceutical and medical products, supplies, equipment, and devices. There are 54 biomedical businesses in Lane County with employment of 500 in 2004. The average annual wage in this industry in 2004 was \$46,659, about 150 percent of the county average for all industries.

On the national scale, Oregon does not have any significant location quotients in the biomedical industry, suggesting that biomedical does not have an employment cluster in Oregon. Despite this, economic development has targeted biomedical because it pays high wages and has excellent growth potential based on national growth trends.

Lane County and the Portland metro area are the two regions with the highest location quotients in biomedical within the state. Lane County is positioned well in this industry cluster compared to most other regions in the state, but it remains to be seen whether biomedical will be an engine of economic growth in Lane County. Employment trends over the past five years show growth since the end of the recession. Biomedical is projected to grow by 14.8 percent between 2004 and 2014, equal to the county average from all industries.

Probably the biggest challenge to the growth of biomedical in Lane County is the need for a workforce with the appropriate skills and education. There are few workers in Lane County with experience working in the biomedical industry. In addition, some businesses find it necessary to bring in workers from outside the state or country to fill some of their most highly skilled and educated positions. The University of Oregon is able to produce some of the highly educated workers this industry requires, and opportunities may exist between biomedical firms in Lane County and the university to supply more workers for this industry.

Due to confidentiality restrictions, we are not able to provide a staffing pattern for biomedical in Lane County. A statewide staffing pattern was considered, but is not included because it does not accurately portray the staffing pattern of biomedical in Lane County.

SCIENTIFIC RESEARCH AND EDUCATIONAL SUPPORT

The Eugene-Springfield metro area has become a hub for scientific research and educational support in Oregon. This emerging cluster owes much of its growth to connections with the University of Oregon. Many owners, employees, and researchers of these businesses have ties

with the university. Some have worked there; others have attended. The symbiotic relationship between the university and the research industry has helped this cluster grow and produce or contribute to the success of many new and innovative businesses.

This cluster is comprised of businesses in scientific research and development services and educational support services. Scientific research and development services include businesses conducting research in the physical, engineering and life sciences, as well as social sciences and humanities. Educational support services include businesses providing non-instructional services that support educational processes or systems. These can include activities related to educational research such as educational consulting and testing.

Scientific research and educational support had 61 businesses in 2004 with average employment of 674, making it smaller than software and computer systems design, but larger than biomedical. Average wage was \$36,000. Within this cluster, businesses in research of the physical, engineering, and life sciences pay the most, with an average wage of \$46,459. The National Institutes of Health (NIH) awarded \$54.35 million to eleven research businesses in Lane County in fiscal 2004. This represented 21 percent of the \$258 million in NIH funding awarded statewide. The University of Oregon received more than one-third of the \$54.35 million, with the rest going to businesses in Lane County such as Oregon Research Institute, Oregon Social Learning Center, and Oregon Center for Applied Science.

Between 1998 and 2003, Oregon schools saw the largest percentage increase – 150 percent – in research and development funding in the nation, according to the National Science Foundation, which tracks industry-financed research and development expenditures at colleges and universities. This increase in research funding at Oregon schools, of which the University of Oregon is the main recipient in Lane County, fosters growth and development of private-sector businesses related to and created from university research.

Despite gains in funding, one of the threats to the growth and development of scientific research and educational support in Lane County is, in fact, grant funding. Some of these businesses rely on grants. By their very nature, grants are unpredictable and susceptible to changes in the business cycle. Foundations and industry organizations can also rapidly change the focus of funding, which can leave some research businesses without grants if they cannot adapt. While grants are vital to the sustainability of some of these businesses, many sell their products and services on the open market. This not only provides an element of sustainability to this cluster, it also provides more opportunities for economic and employment growth. Educational requirements for jobs in research range from short-term, on-the-job training to

advanced postsecondary degrees. Average annual wages range from around \$20,000 for interviewers to more than \$77,000 for economists. Scientific research and educational support is projected to grow 25 percent – well above the countrywide average of 14.8 percent between 2004 and 2014. Social science research assistants and psychologists are projected to account for nearly one-third of all new jobs in research. These occupations require bachelor's and master's degrees.

[See Figure 34: Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in Scientific Research and Educational Support in Lane County](#)

Industry Cluster Data Summary
(see Figure 35-37 in Appendix)

BUILDING A WORLD CLASS WORKFORCE:

Policy and Planning Recommendations

Prior sections of this report have presented the issues and challenges facing the Lane County workforce, as well as quantitative and qualitative information on a number of key indicators for gauging the state of the Lane County workforce. The purpose of the report is to encourage a dialog about critical workforce issues and challenges facing Lane County and to motivate and empower the community to act within their own capacities to establish priorities and implement solutions. The following summation of challenges, responses and recommendations are offered to promote this dialog.

A WORKFORCE FOR THE 21st CENTURY

Preparing Youth for the Labor Market

Challenge/Situation Recap:

Responding to the critical shortage of employees, the emerging workforce will have an increasing role to play in the economic vitality of Lane County. Yet employers report that high school and college graduates lack basic skills in academics, technology and work readiness. In addition, employers, particularly in manufacturing, report that this population has little interest in some of the fastest growing local occupations and lack knowledge about local opportunities and skills required to succeed in them.

Response:

- **Support for Low-Income and At-Risk Youth**
Youth service agencies, education institutions and the Lane Workforce Partnership are collaborating to address these critical needs. Those agencies under contract to implement the Lane Workforce Partnership's youth programs are addressing the following priorities:



- Education completion is the first step in workforce development
- Literacy in reading comprehension, mathematics, writing skills and computer literacy is a primary program goal
- All youth must demonstrate work readiness skills
- **Dropout Prevention**
Locally, other education and service providers are responding with a similar focus. School districts have collectively assembled options in addition to traditional education leading to a diploma to keep young people engaged in their education plans. Alternative high schools, as well as support for GED programs and modified diplomas have not only reduced Lane County's dropout rates, but also emphasize the importance of completing high school and progressing on to postsecondary education and training.
- **Linking School to Work**
Resources are being pooled to provide career exploration opportunities, not only to introduce youth to high-growth occupations, but to connect them with local employers. Examples of activities happening throughout Lane County include:
 - Participation in the annual Lane County Youth Career Fair
 - The **College Now Program** at Lane Community College (LCC) for local students who can take these classes at the college campus and earn both high school and college credit simultaneously
 - Provision of paid and unpaid work experience, industry-based internships, informational interviews with employers and community service options, all of which result in credit for high school graduation
 - Participation in the **Regional Technical Education Center (RTEC)**. RTEC emphasizes manufacturing and trades skills through existing programs in area high schools and at Lane Community College. A relatively new program, it was designed by school district personnel, LCC staff, business representatives and workforce development

LANE WORKFORCE PARTNERSHIP

professionals to address the decreasing number of professional-technical programs in County high schools. Similar to **College Now**, it allows students to earn community college credit and high school credit.

Recommendation:

- Expand career education opportunities in middle and high schools to expose youth to career opportunities and employer expectations.
- Support the efforts of the State Board of Education to increase the value of a high school diploma including the Board's emphasis on more rigorous math and literacy standards for high school graduation and their goal of preparing all young people for post-secondary education.
- Emphasize science and technical literacy at all levels of education. One of the greatest drivers of innovation in our economy is a strong foundation in science and technology.

- Increase the availability of professional-technical and occupational training opportunities in high schools and community colleges.
- Integrate Workforce Readiness skills into existing curriculum to help students prepare for workplace expectations.
- Expand the opportunities for local businesses to participate in K-12 and post-secondary education in order to develop curriculum that meets real workplace needs.

The Untapped Labor Pool

Challenge/Situation Recap:

An increasing shortage of workers will present new opportunities for previously overlooked job applicants. In an effort to keep at full employment, human resources professionals around the country are taking a second look at populations that have historically faced challenges in entering the workforce, such as older workers, people with



disabilities, minority populations, and workers re-entering the workforce or changing careers. This trend will result in an increasingly diverse workforce requiring new skills and adaptability on the part of both businesses and workers in Lane County.

Response:

The Workforce Network, an initiative of Lane Workforce Partnership, provides career and employment services to all citizens of Lane County, including additional support and training services for many in this untapped workforce. Under one roof, the Oregon Employment Department, the Division of Vocational Rehabilitation Services, Lane Workforce Partnership, The American Association of Retired Persons (AARP) Senior Community Service Employment Program and Lane Community College all work together to assist these and other workers to get the help they need to stay current and productive in the workplace. Free computer skills training is available on site and “Be a More Valuable Employee Workshops” on topics such as Workplace Ethics, Effective Communication and Problem Solving and Teamwork are offered. Training scholarships for low-income and laid off workers help to make new careers possible for people who otherwise could not afford it.

Recommendation:

- Encourage businesses to adopt recruitment and retention policies and practices that accept and encourage a diverse workforce, such as providing accommodations for workers with disabilities, ESL training for supervisors and on-going diversity training.
- Continue to expand efforts to develop a community open to people with diverse backgrounds and cultures.

Finding and Keeping Skilled Workers

Skills for Success

Challenge/Situation Recap:

Rapid growth in high technology and knowledge based industries, large numbers of retirements in the skilled trades, businesses’ reports of low basic skills and lack of worker readiness in entry level workers all point to serious gaps in the skill levels required to maintain a healthy and vibrant workforce in Lane County. The specific issue of specialized and highly skilled workers will be addressed in a separate section.

Response:

The response to this challenge must be as multidimensional as the challenge itself. In other words, it takes a community working together to build and maintain a world class workforce.

Lane Workforce Partnership has developed strong alliances with industry and education in order to monitor and help develop solutions to these gaps.

• **Targeted Cluster Strategies**

Lane Workforce Partnership’s targeted cluster approach toward workforce investment and development has assisted in the process of identifying the most critical skill gap areas. As part of this targeted strategy, Lane Workforce Partnership, in cooperation with Oregon Employment Department Labor Market and Economic Analysts, identifies sectors of our local economy that hold the most promise for growth, stability and family wage jobs. These industries receive a thorough analysis of occupational trends and skills.

• **Providing a Forum**

Once these industries are identified, the most effective approach to identifying and addressing skill gaps has been to convene groups of employers in roundtable or panel discussions of their workforce needs. Local discussions have taken place in several targeted cluster areas highlighted in this report including health care, software, RV manufacturing and lean/high performance manufacturing. In addition, a group of human

resources personnel from diverse industries was convened to discuss general workforce readiness issues. These forums allow workforce needs and trends to be examined in aggregate and give a real-time, real world perspective to stakeholders in education and workforce development. Roundtables can also create a springboard for more intensive group work and projects. The Community Health care Education Network, a health care workforce consortium and the RV Manufacturing Consortium were formed as a result of initial roundtables.

• Workforce Readiness

At a Workforce Readiness Roundtable held in spring 2005, local businesses stated a willingness to train new hires in technical skills, but have increasingly discovered a lack of “soft skills” both in applicants and current employees. Examples of soft skills were specified as: dependability, adaptability, problem solving skills, communication and teamwork skills, among others. A taskforce was formed of employers from this roundtable and several pilot projects were launched within businesses and high schools to test the effectiveness of a worker readiness screening tool. If successful, steps will be taken to replicate the process at additional employers and to integrate the system into the one-stop system and the Lane Workforce Partnership’s youth funded programs.

Recommendation:

- Convene forums where business, workforce development and education can meet with the goal of assisting these systems in becoming better aligned.
- Continue to target workforce development resources toward training for targeted cluster skill sets.
- Continue to explore the viability of a workforce readiness credential. For this effort to be

successful, it will need to have strong buy-in, validation and recognition from industry.

Specialized and Highly Skilled Workers

Challenge/Situation Recap:

As the U.S. economy continues to be more technology and knowledge based, the demand for better-educated and specialized workers will continue to grow as a share of new workforce needs. Lane County businesses in technical and specialty fields report difficulties in retaining and recruiting workforce. Barriers cited in local surveys include lack of training and continuing education infrastructure to support these jobs and a lack of a “critical mass” of highly specialized and technical jobs and businesses in the region. Examples of these types of positions cited in local business surveys include Software Architects, PhD-level Scientists, Master’s Degree level Engineers, high-level Programmers, and SQL and Oracle Developers. This lack of concentration of high-tech jobs creates higher risk for those relocating from other areas, difficulty placing similarly educated spouses of those relocating and a lack of local training, supplier and networking capacity. In addition, salary packages are often not competitive with the larger metropolitan areas such as Seattle and San Francisco that host a larger concentration of these businesses.



Response:

Lane Workforce Partnership has funded and overseen several training projects within the computer and electronic manufacturing, bio-tech and software industries in Lane County during the past year that have increased training capacity and the skills base in this area. This, in addition to high-tech industry roundtables and panels has helped to clarify workforce needs and issues among these businesses.

Recommendation:

- Promote partnerships between business, education and national industry associations to develop local training solutions such as distance-learning programs.
- Explore a multi-regional approach to training and economic development to grow and attract higher wage knowledge-based businesses e.g. a bio-tech triangle from Portland to Corvallis to Eugene.
- Convene employers that hire these specialized and highly skilled workers to identify common needs and issues. The University of Oregon should be included in these discussions as they both employ and produce workers with these skill sets. Can a cross-industry critical mass be developed?

**Keeping Current Workers Current****Challenge/Situation Recap:**

A rapidly changing business environment demands that workers be more flexible and adaptable than ever before. A worker's knowledge and skills can easily become obsolete without continued training throughout their career span.

Response:

- **Training Resources for Businesses**

Much emphasis has been placed on the training of current workers in the State of Oregon. Governor Kulongoski has dedicated federal Workforce Investment Act funds toward incumbent worker training in his Employer Workforce Training Fund and Governor's Strategic Training Fund. The state's current workforce training funds have provided significant support to Lane County businesses in training their workforce. Over the past two years, Lane Workforce Partnership has accessed almost two million dollars for Lane County businesses and their employees. These funds have been prioritized for businesses and workers in the five targeted cluster areas. Over 1,200 Lane County employees from nineteen businesses are receiving training in areas from high performance manufacturing techniques, nursing, industry-specific computer software, wood products machinery and employee development projects.

- **Career Pathways**

Well-articulated career pathways within businesses can assist workers in understanding the skills and education required to progress in their career within a company or an industry as a whole. Lane Workforce Partnership has assisted several companies in mapping careers within their organizations. Career maps are step-by-step wage and skill progressions in a job category or within a company. Sometimes called "career ladders" or "career pathways," career maps lay out a clear path of the skills, education, and experience a worker must have at each step of their career path in order to reach their goal.

- **Better Access to Training**

A recent statewide initiative, *Pathways to Advancement* will improve access of working Oregonians to the community college system. The Pathway to Advancement concept repackages traditional community college coursework into a series of modularized or “chunked” education courses offered in a convenient, accelerated format designed to help working adults upgrade their skills, complete a credential or gain an associate’s degree. Pathways to Advancement initiatives are currently being developed and implemented through a collaborative effort for a variety of occupations and careers at community colleges throughout Oregon. Locally, Lane Community College has initiated a Pathways to Advancement effort in manufacturing.

Recommendation:

- Urge the Governor and the legislature to establish a diversified statewide fund for current worker training. As of now, only federal Workforce Investment Act funds are used for this purpose. Other funding sources such as the Unemployment Insurance Trust Fund could supplement this sole source.
- Encourage businesses to develop career ladder programs that focus on career development, career pathways, additional skill competencies, and progression over time to higher-wage levels. Career ladders can also be integral to a company’s succession planning.
- Increase access to lifelong learning opportunities for working adults through creative delivery systems like the Pathways to Advancement program under development in Oregon’s Community Colleges.
- Promote financial incentives such as tax credits for businesses to upgrade the skills of their employees. This tax credit could be extended directly to employees as well.

A Changing Environment

Think Globally, Act Locally

Challenge/Situation Recap:

Changes in the global environment have put new pressures on business. Lane County has felt these changes earlier than some other regions because of our dependence on the manufacturing industry. Manufacturers are beginning to look toward high performance manufacturing methods and to shift toward filling more specialized niches in design and highly technical engineering tasks in the place of manual and repetitive tasks. High Performance Manufacturing (HPM) is an inclusive term incorporating many existing theories and approaches to productivity and waste reduction in manufacturing. Examples of HPM include: Lean Manufacturing, Total Quality Management, Value Stream Mapping, Six Sigma and Kaizen. The focus of HPM is on identifying and eliminating non-value-adding activities in design, production, supply chain management, and customer service.

Response:

- **Going Lean**

Increasingly, Lane Workforce Partnership works with companies and training vendors that are engaged in High Performance Manufacturing, particularly in our targeted sectors focused on manufacturing, which include RV/Transportation Equipment Manufacturing, Wood Products and Computer and Electronics companies. The Lane Workforce Partnership Employer Workforce Training Committee has invested \$473,000 in nine High Performance training projects over the last two years. The Oregon Manufacturing Extension Partnership (OMEP) and the Northwest High Performance Enterprise Consortium (NWHPEC) are valuable allies in this community in supporting these endeavors.

In summer 2005, the Oregon Workforce Investment Board formed a Statewide Manufacturing Committee. Several Lane County manufacturers were represented

on this committee and will be helping to implement strategies to retain and grow Oregon's manufacturing industry. These strategies include: development of a statewide High Performance Consortia Network that allows business leaders in High Performance Manufacturing to share expertise and to mentor suppliers and smaller companies; and the integration of high performance training into current college professional and technical curriculum.

Recommendation:

The process of local economic development in a global context will require the creation of a Lane County workforce that is capable of meeting these challenges—adaptable, innovative workers who can successfully navigate a changing business environment. Many steps can be taken to support the Lane County response to global competition:

- Support the local implementation of the Statewide Manufacturing Committee recommendations.
- Leverage workforce investment resources to provide training to current workers and job seekers to better compete in the global marketplace.
- Support the development of High Performance and Cultural Competency curriculum development and integration of its principles into current high school and community college coursework.
- Enhance Lane County's connection to NWHPEC; this would increase local access to peer-to-peer learning tours, training, links to consultants, staff support; an existing and engaged business network, and established best practices.
- Continue a strong linkage with OMEP as a high performance manufacturing trainer with national ties.
- Find more affordable delivery systems or resources for small businesses to access costly high performance training and consultants.

- Investigate the possibility of High Performance Manufacturing certification.

The Baby Boomer Bust

Challenge/Situation Recap:

Like the rest of the country, Lane County is facing a growing shortage of skilled workers, particularly in the trades, as baby boomers retire. These long-term employees take with them valuable experience, industry contacts and knowledge that are difficult to replace.

Understanding the boomers' work and retirement plans will be critical in order to develop the right kinds of strategies for the workforce. Different areas of Lane County may be impacted in different ways. The demographics in Florence are different than the Eugene/Springfield area. Continued monitoring of this situation is vital. Many variables could shift and result in trend changes. An example would be workers staying in positions longer than anticipated because of a need for medical benefits.

Response:

• Succession Planning

Lane Workforce Partnership is working with the Oregon Employment Department and local businesses to identify occupations and skills most likely to be impacted by these demographic changes. Several current worker grants administered by Lane Workforce Partnership have already been granted to training projects that address anticipated skill shortages and succession planning.

• Career Pathways

Many businesses are embracing a "grow your own" strategy where in-house talent is identified and prepared for anticipated openings left by retiring boomers. Lane Workforce Partnership has developed a replicable career pathways program model that can support businesses in this endeavor.

Recommendation:

- Groom companies' future leaders by instituting succession plans and providing professional development opportunities to high-potential employees.
- Support strategies such as current worker training, career pathways programs, targeted recruitment and retention efforts and other incentives.

Aligning Business, Workforce and Economic Development

Challenge/Situation Recap:

Growing and emerging industries face challenges in recruiting and maintaining a skilled workforce. Several different “targeted cluster” lists exist in the community based on differing criteria among workforce, government and economic development entities. Better integration of economic development and workforce development programs and activities could maximize resources to serve the business community.

Response:

Targeted Cluster Support

- **Continual Assessment**

Challenges faced by the current and emerging targeted clusters in Lane County are detailed in the **Industry Cluster Profiles** section of this report. Workforce needs, trends and demographics in these industries are reviewed annually by Lane Workforce Partnership so that training funds and other workforce resources for current workers, adults and youth can be allocated toward these promising economic drivers.

- **Consortia**

A dynamic approach to cluster development is the establishment of industry consortia. In this context, a consortium is a group comprised of industry leaders and workforce and education representatives that organize

and work together to solve industry workforce and training challenges. The intent is that these groups be “industry-led”, in other words, the public entities present are there to listen and help facilitate solutions to industry workforce challenges rather than lead these initiatives. Consortia can be powerful advocates for the industry and can leverage resources that individual businesses cannot. A better price-point for training and other services can often be negotiated by a group of employers. Surprisingly, consortia members within related industries do not see collaboration and competition as contradictory activities. Competition is now perceived globally and workforce challenges are often universal. Once established workforce consortia may expand their focus to other areas like suppliers and different industry concerns. Lane Workforce Partnership has convened two consortia groups since the inception of its targeted cluster strategy.

- In 2001, a health care consortium was developed. Still active, the Community Healthcare Education Network has leveraged over \$500,000 in workforce training and development funds, impacted local educational offerings in health care and developed detailed industry-wide career paths.



- In 2005, an RV Manufacturing Workforce and Training consortium began to meet. Recent consortia projects have included comprehensive industry training needs assessments, the development of career awareness campaigns, joint training projects, and the formulation of career pathways within the industries.

Workforce and Economic Development, Working Together

(See Figure 38 in Appendix)

• Workforce Response Team

Our increasingly complex economic and workforce development needs require a more coordinated response than ever before. Lane County's **Workforce Response Team** serves as a catalyst for this kind of cooperation within our community. This team has been meeting since 2004 in an effort to provide a coordinated response to the needs of business and industry. Representatives from Lane Workforce Partnership, Lane Metro Partnership and Oregon Economic and Community Development Department, the Oregon Employment Department and Lane Community College share information, develop strategic and integrated responses and help to prioritize resources and strategize solutions.



• Better Representation

In addition Lane Workforce Partnership has increased representation on other local economic development committees and boards to ensure representation of workforce issues and coordination of resources. These partnerships have resulted in significant state and federal dollars coming into Lane County to address workforce and economic development needs.

Recommendation:

- Work with other local government and economic development organizations that have targeted industry cluster lists to come to agreement on one or two clusters to focus on. From there a model of integrated services and resources could be created that could be replicated in other clusters.
- Local workforce and economic development resources should be increasingly targeted toward traded sector clusters identified as economic drivers and that offer higher wages and career opportunities for employees.
- Expand training capacity within secondary and post-secondary education institutions to provide a local skilled workforce for these clusters.
- Continue to increase the alignment of Workforce Development and Economic development. Through such partnerships such as the Workforce Response Team, leading planning agencies can create a shared vision of a healthy economy
- Convene an annual meeting of educational institutions, including higher education, local governments, economic development and workforce development organizations to inform each other of priorities, challenges and opportunities to grow Lane County's economy

Supporting Quality of Life

Help for the Working Poor

Challenge/Situation Recap:

Many working individuals in Lane County have earnings that are not enough to maintain a decent standard of living, and in some cases, not enough to lift them out of poverty. And while Oregon has recovered from the most recent recession, wages in Oregon continue to lag behind the national average and Lane County's average annual wage remains less than the statewide average. This situation impacts the livability and vitality of Lane County.

Response:

- **Career Pathways**

Assisting current workers in low-wage positions to obtain formal or on-the-job

training assists these workers to move up the career and wage ladder within their companies. Many low-income adults cannot afford to attend school full time to train for higher level positions so this solution allows the worker to obtain new skills while still earning an income. This is a win-win for the employer in that it allows them to build their workforce from within and avoid recruiting costs for higher level employees. Lane Workforce Partnership has established relationships with several area businesses to work with their lower income employees to assist them career advancement.

- **Earn It, Keep It, Grow It**

Lane Workforce Partnership is participating with the Annie E. Casey Rural Family Economic Success Project in the Cottage Grove area. The "Earn it, Keep it, Grow it" campaign believes that economic success can be attained when three goals are pursued



simultaneously—increasing income (“earn it”), stabilizing financial lives (“keep it”), and acquiring assets and building wealth (“grow it”). Though this program is targeted toward rural areas, this three pronged strategy has application in any community that is looking to strengthen opportunities for low-income residents. For more information on this initiative, go to www.aecf.org

- **The Workforce Network**

One-stop career centers like The Workforce Network, have career and job search services that any community member can access. Expanded resources at the center allow low-income adults and workers in transition to access training scholarships and individualized job search and career progression assistance.

- **Supporting High-Wage Industries**

Lane Workforce Partnership has made a concerted effort to target job training resources toward industries that provide high wages and career advancement opportunities.

Recommendation:

The complex social and a workforce issues involved in addressing the challenge of the working poor will require a broad community partnership and pooling of strategies and resources:

- Support the effort of the United Way to expand affordable health care options in Lane County
- Market the Earned Income Tax Credit to increase expendable income. The Anne E. Casey Foundation estimates that in 2003 over \$17,000,000 of eligible returns in Lane County were not requested.
- Promote the development of career ladder and “grow your own” strategies in the business community.
- Expand the use of individual development accounts (IDAs) to assist the working poor to save for education and training, home ownership or small business start-up. In Lane County, NEDCO, St. Vincent DePaul and Lane Micro Business are members of

Valley Individual Development Accounts, a collaborative of 31 non-profits in the Willamette Valley that offer IDAs. For more information, go to www.casaoforegon.org/what.html

Affordable Housing

Challenge/Situation Recap:

Combined with lower than average wages per capita, high housing costs contribute to the numbers of the working poor and mean that people have less disposable income to spend in the local economy. In addition, the lack of affordable housing in Lane County is a factor that affects the ability of the region to retain and draw skilled workers from other areas.

Response:

- **Creative Partnerships**

This challenge requires innovative and multi-agency approaches. This past year, Metropolitan Affordable Housing has formed alliances with Lane Workforce Partnership, Lane Community College and area employers to develop a program called “The Way Up as a Way Out”. This unique collaboration provides on-site career and training services to affordable housing residents. Relationships with nearby employers provide job opportunities to residents and eliminate transportation barriers. Residents receive support in career progression, continued training and home ownership education. For more information, go to www.metroaffordablehousing.org

Recommendation:

- Continue to support and investigate partnerships with low-income and affordable housing agencies.
- Replicate and expand “The Way Up as a Way Out” model to encompass other housing units and employers.
- Strengthen ties and access to The Workforce Network for low-income and affordable housing residents.
- Continue to grow the stock of affordable housing and home ownership opportunities for first time home buyers.

Conclusion and Next Steps

Overall, two primary themes emerge in the policy and planning considerations outlined above. First, business-driven approaches, including the engagement of industry in planning and prioritizing our investments, can help achieve workforce and economic development goals. Second, alignment of education, workforce, and economic development strategies and resources offers the most promising approach to regional prosperity.

Guided discussions based on this report will be scheduled over the next year to involve elected officials, businesses, educators, community leaders, labor, and interested citizens in forming a shared vision of a healthy workforce for Lane County. Readers of this report are encouraged to start the discussion now. Here are some questions to consider:

- How can we ensure that tomorrow's workers are better prepared to meet business expectations?
- How can we better educate our emerging workers of occupational and skill demands so that they may make more informed career decisions?
- How can we assist our secondary and post-secondary institutions in providing affordable and accessible education and training opportunities in Lane County demand occupations and growth clusters?
- What can we do to ensure ongoing access to affordable training for working adults?
- What role should employers or government play in providing and paying for training?
- What creative partnerships can be established to address issues brought up in this report such as skill gaps, recruitment challenges, the working poor and affordable housing?
- What can we do to retain older workers in occupations experiencing or at risk of experiencing severe skills and worker shortages?
- How can we attract and maintain highly skilled workers?
- How can we encourage current and emerging workers to prepare for occupations that are in greatest demand?
- What additional steps can be taken to align business, education, workforce and economic development?
- What can local government, businesses and community organizations do to establish an environment that is welcoming to diverse populations?

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STATE OF THE WORKFORCE REPORT: APPENDIX OF FIGURES

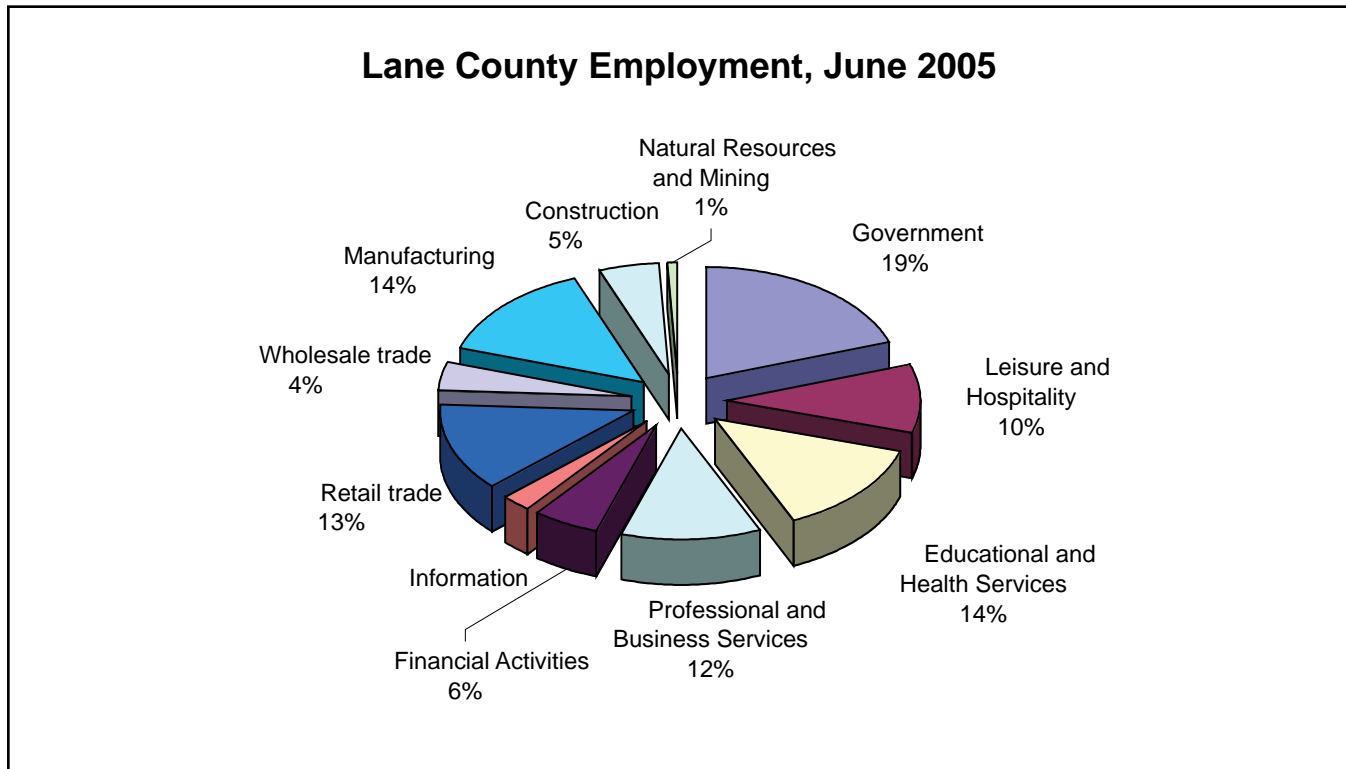


FIGURE 1 (click here to return)

Top 10 Lane County Employers		Top 10 Lane County Manufacturers	
Employer	No. of Employees	Manufacturer	No. of Employees
PeaceHealth Oregon	4,300	Monaco Coach Corporation	2,400
University of Oregon	3,676	Country Coach	1,600
Lane Community College	2,531	Hynix Semiconductor America	931
Eugene School District	2,025	Symantec Corporation	700
U.S. Government	1,800	PSC Scanning	600
Lane County	1,786	Weyerhaeuser Company	592
City of Eugene	1,452	Rosboro Lumber Company	475
Springfield School District	1,162	States Industries	475
State of Oregon	1,100	Marathon Coach	400
McKenzie-Willamette Medical Center	750	McKenzie Forest Products	350

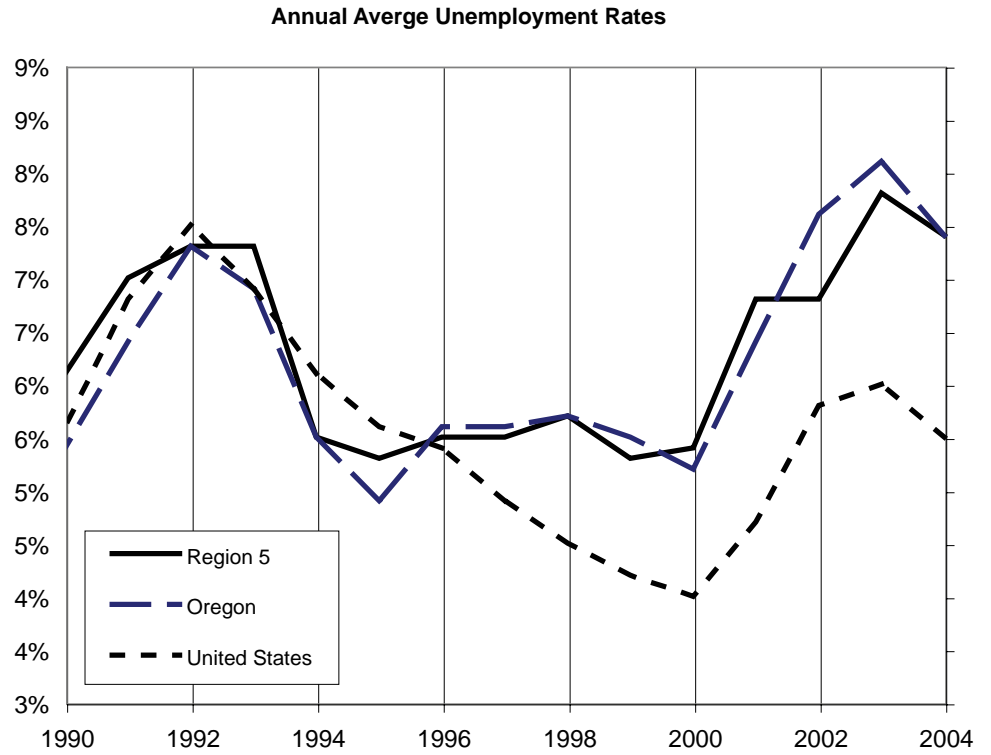
Source: Eugene Area Chamber of Commerce

FIGURE 2 (click here to return)



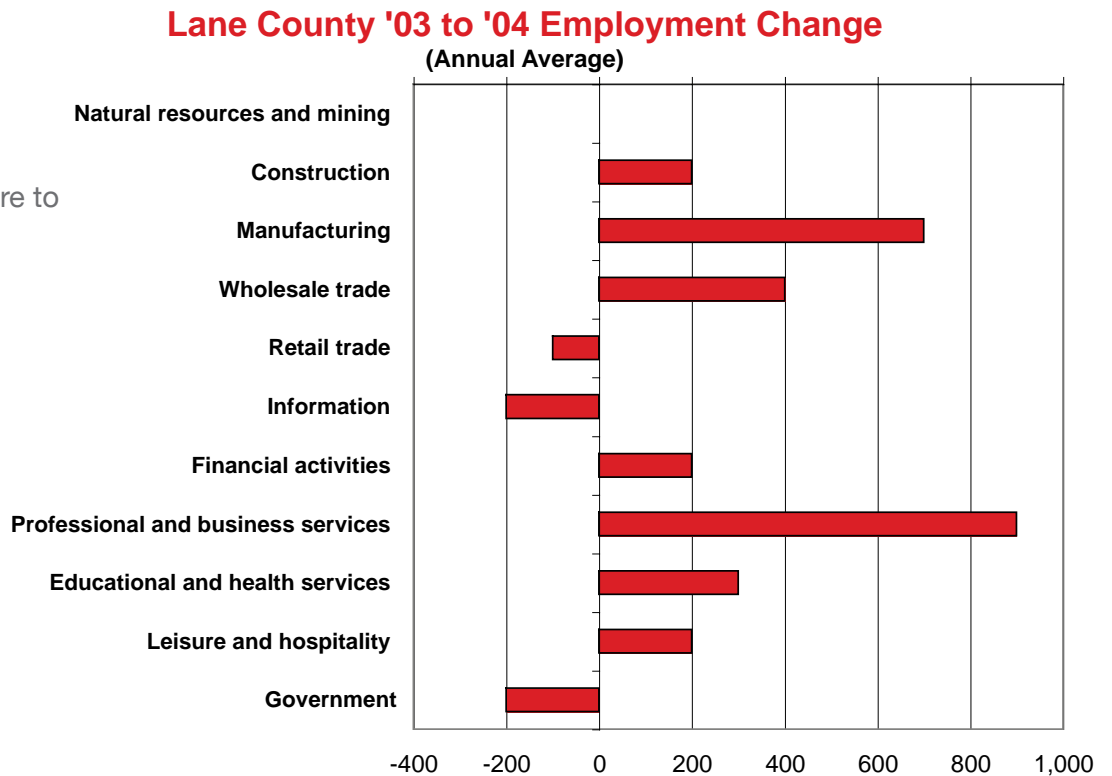
Source: Bureau of Labor Statistics—Oregon Employment Department

FIGURE 3 (click here to return)



Source: Bureau of Labor Statistics—Oregon Employment Department

FIGURE 4 (click here to return)



Source: Bureau of Labor Statistics—Oregon Employment Department

FIGURE 5 (click here to return)

Region 5: Industry Employment Forecast, 2004-2014
Lane County

	2004	2014	Change	% Change
Total nonfarm employment	143,700	164,900	21,200	14.8%
Total private	117,500	136,500	19,000	16.2%
Natural resources and mining	1,000	1,000	0	0.0%
Construction	6,700	7,900	1,200	17.9%
Manufacturing	19,400	20,500	1,100	5.7%
Durable goods	15,300	16,300	1,000	6.5%
Wood product manufacturing	4,700	4,400	-300	-6.4%
Transportation equipment manufacturing	4,200	5,000	800	19.0%
Nondurable goods	4,100	4,200	100	2.4%
Trade, transportation, and utilities	26,800	30,200	3,400	12.7%
Wholesale trade	5,600	6,300	700	12.5%
Retail trade	18,300	20,600	2,300	12.6%
General merchandise and clothing stores	4,900	5,500	600	12.2%
Food and beverage stores	3,700	4,000	300	8.1%
Transportation, warehousing, and utilities	2,900	3,300	400	13.8%
Information	3,300	3,800	500	15.2%
Financial activities	7,700	8,600	900	11.7%
Professional and business services	15,500	19,900	4,400	28.4%
Administrative and support services	7,800	10,800	3,000	38.5%
Educational and health services	18,600	23,600	5,000	26.9%
Health care and social assistance	17,300	22,000	4,700	27.2%
Health care	14,800	19,000	4,200	28.4%
Leisure and hospitality	13,600	15,500	1,900	14.0%
Accommodation and food services	11,600	13,300	1,700	14.7%
Food services and drinking places	10,100	11,600	1,500	14.9%
Other services	4,900	5,500	600	12.2%
Government	26,200	28,400	2,200	8.4%
Federal government	1,900	1,900	0	0.0%
State government	9,400	10,000	600	6.4%
State education	8,400	8,900	500	6.0%
Local government	14,900	16,500	1,600	10.7%
Local education	8,500	9,100	600	7.1%

FIGURE 6 (click here to return)

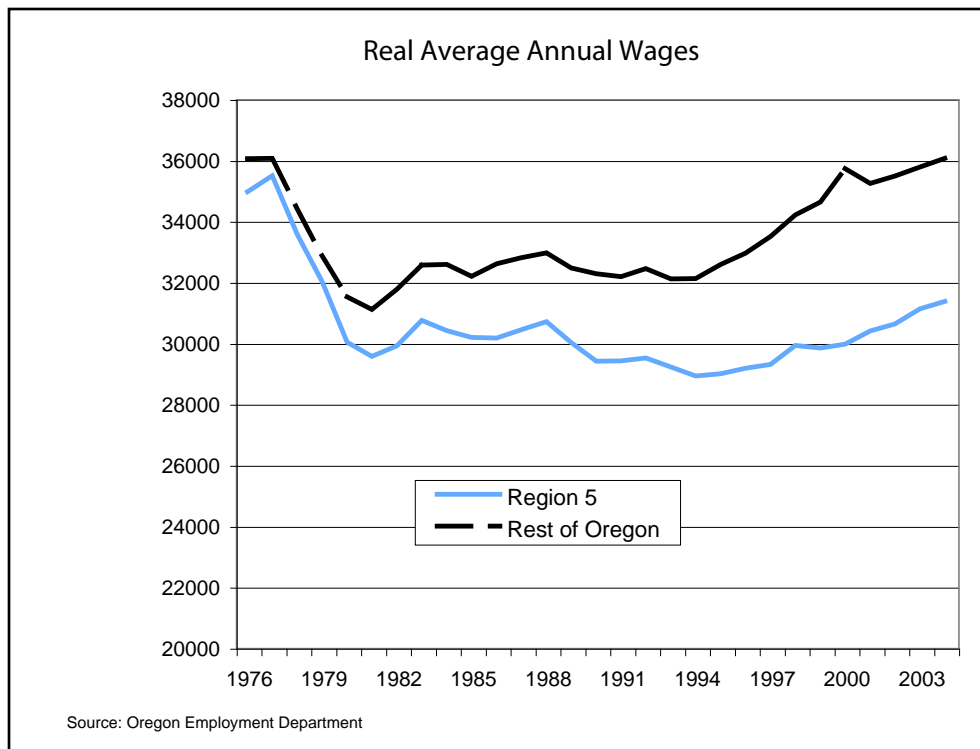


FIGURE 7 (click here to return)

Largest Occupations and Highest Paying Occupations in Region 5: 2004

	2004 Employment	Average Wages
Largest Occupations		
Retail Salespersons	4,604	\$23,693
Education, Training, and Library, All Other	3,753	\$21,946
Cashiers	3,050	\$19,411
Office Clerks, General	2,972	\$25,813
Registered Nurses	2,504	\$53,973
Combined Food Preparation and Serving Workers, Including Fast Food	2,290	\$17,364
Bookkeeping, Accounting, and Auditing Clerks	2,227	\$29,005
Teacher Assistants	2,225	\$23,729
Truck Drivers, Heavy and Tractor-Trailer	2,155	\$31,697
Waiters and Waitresses	2,121	\$18,287
Customer Service Representatives	2,012	\$26,402
Janitors and Cleaners	2,007	\$21,191
Postsecondary Teachers, Except Graduate Teaching Assistants	1,976	\$71,440
Highest Paying Occupations		
Engineering Managers	132	\$99,898
Sales Managers	251	\$91,439
Computer and Information Systems Managers	171	\$85,558
Optometrists	24	\$83,771
Physician Assistants	38	\$76,919
Financial Managers	326	\$76,720
Electrical Engineers	65	\$75,510
Postsecondary School Administrators	212	\$75,340
Industrial Production Managers	198	\$74,788
Psychologists, All Other	98	\$73,915
Medical and Health Services Managers	221	\$73,693
Computer Software Engineers, Systems Software	32	\$72,334
Postsecondary Teachers, Except Graduate Teaching Assistants	1,976	\$71,440

Source: Oregon Employment Department

FIGURE 8 (click here to return)

Region 5 Employment Forecast by Earnings					
	2004 Employment	2014 Employment	2004-2014 Growth	Growth Openings	Total Openings
Low (below \$25,000)	47,335	53,964	14%	6,629	21,004
Mid (\$25,000 to \$38,000)	44,477	51,163	15%	6,686	16,731
High (above \$38,000)	35,836	41,164	15%	5,328	13,629

FIGURE 9 (click here to return)

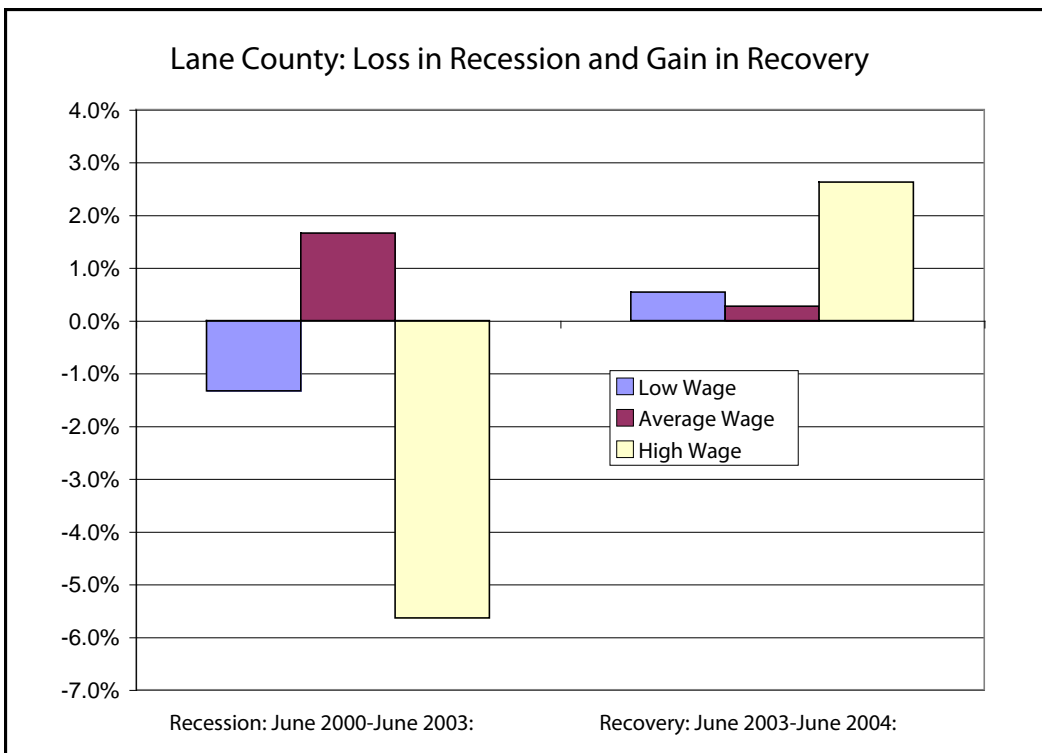


FIGURE 10 (click here to return)

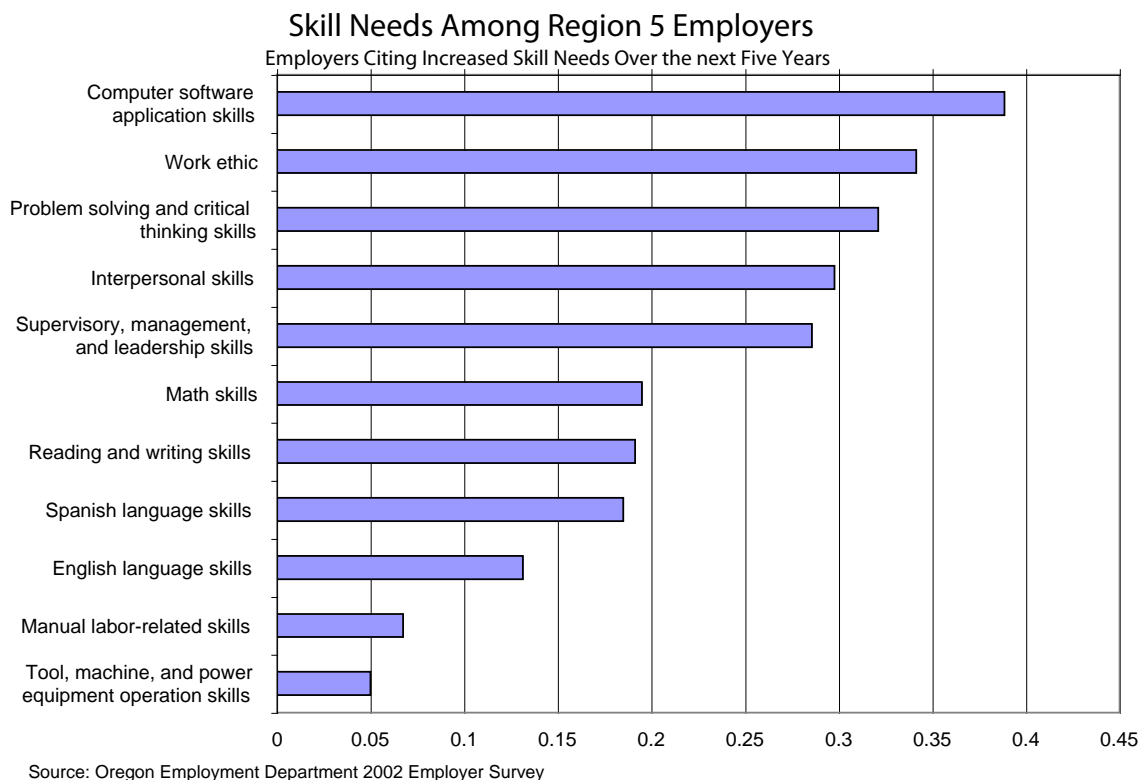


FIGURE 11 (click here to return)

Employment Projections by Educational Requirement							
Required Education Level	2004 Employment	2014 Employment	Percent of 2014 Jobs	2004-2014 Percent Growth	Growth Openings	Replacement Openings	Total Openings
Total Occupations	144,565	165,941	-	14.8%	21,376	36,839	58,215
OJT and work experience	100,745	115,288	69.5%	14.4%	14,543	27,319	41,862
Post-secondary and Associate's	13,464	15,994	9.6%	18.8%	2,530	3,026	5,556
Bachelor's	23,548	26,652	16.1%	13.2%	3,104	4,921	8,025
Master's, Professional and Doctorate	6,028	7,002	4.2%	16.2%	974	1,364	2,338
Ed. Requirement not listed	780	1,005	0.6%	28.8%	225	209	434
Competitive Education Level							
Related work experience	68,253	78,155	47.1%	14.5%	9,902	19,819	29,721
Postsecondary training	23,797	27,318	16.5%	14.8%	3,521	5,596	9,117
Associate	13,542	15,556	9.4%	14.9%	2,014	3,020	5,034
Bachelor's	24,786	28,815	17.4%	16.3%	4,029	5,121	9,150
Master's, Professional and Doctorate	9,817	11,123	6.7%	13.3%	1,306	2,321	3,627

Source Oregon Employment Department

FIGURE 12 (click here to return)

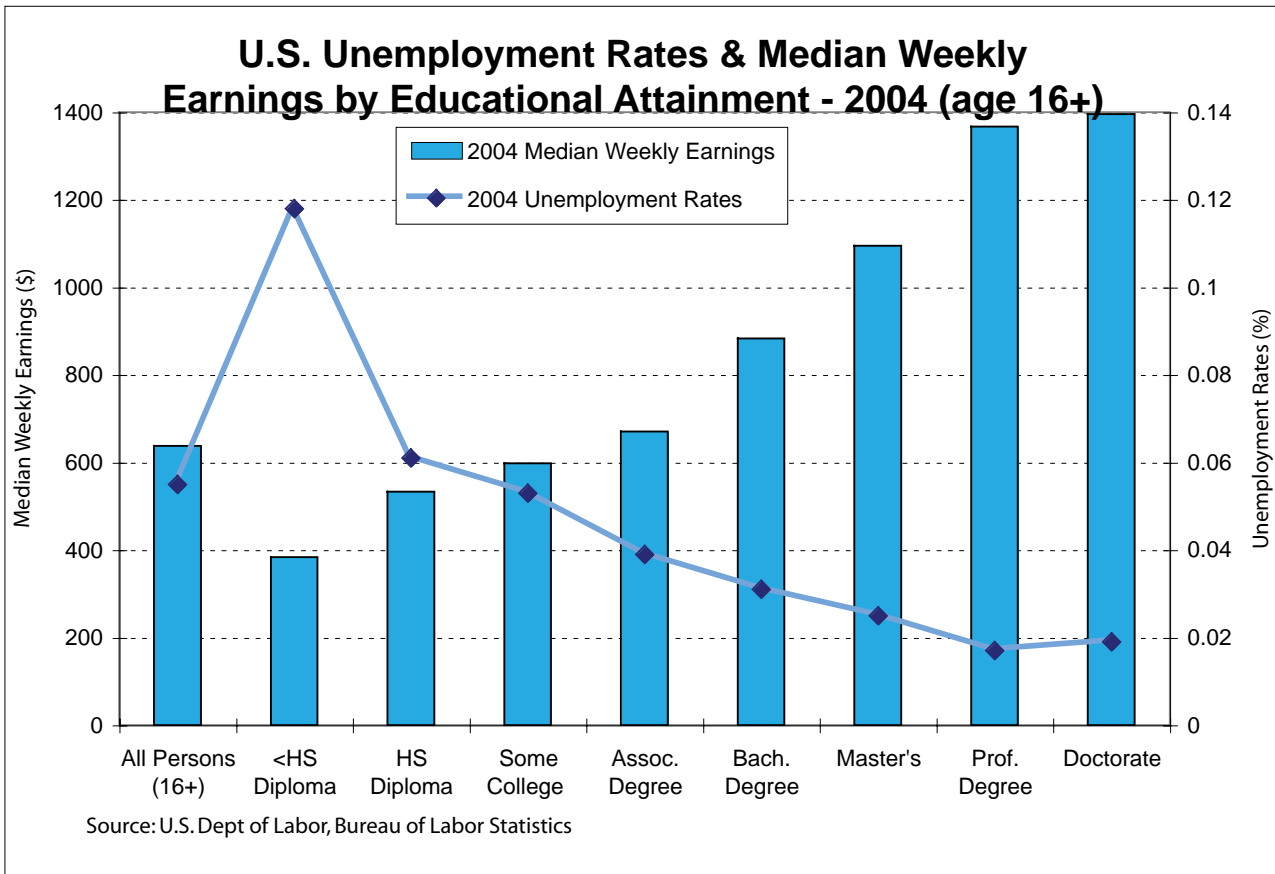


FIGURE 13 (click here to return)

2000 - Educational Attainment in Population 25 Years and Older			
	Region 5	Oregon	United States
% less than high school	12.5%	14.9%	19.6%
% high school grad or higher	87.5%	85.1%	80.4%
% associate's degree	7.3%	6.6%	6.3%
% bachelor's degree or higher	25.5%	25.1%	24.4%

FIGURE 14 (click here to return)

Region 5 and Oregon Dropout Rates

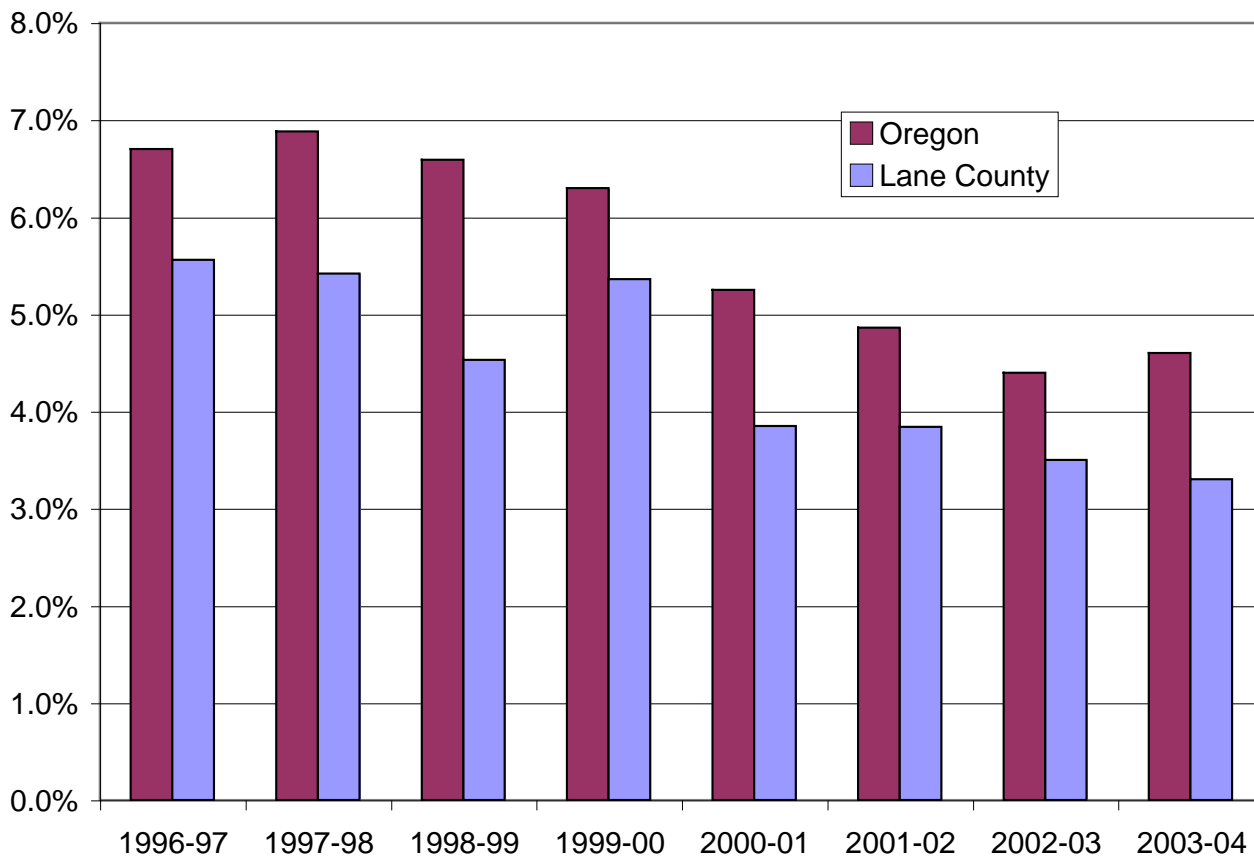
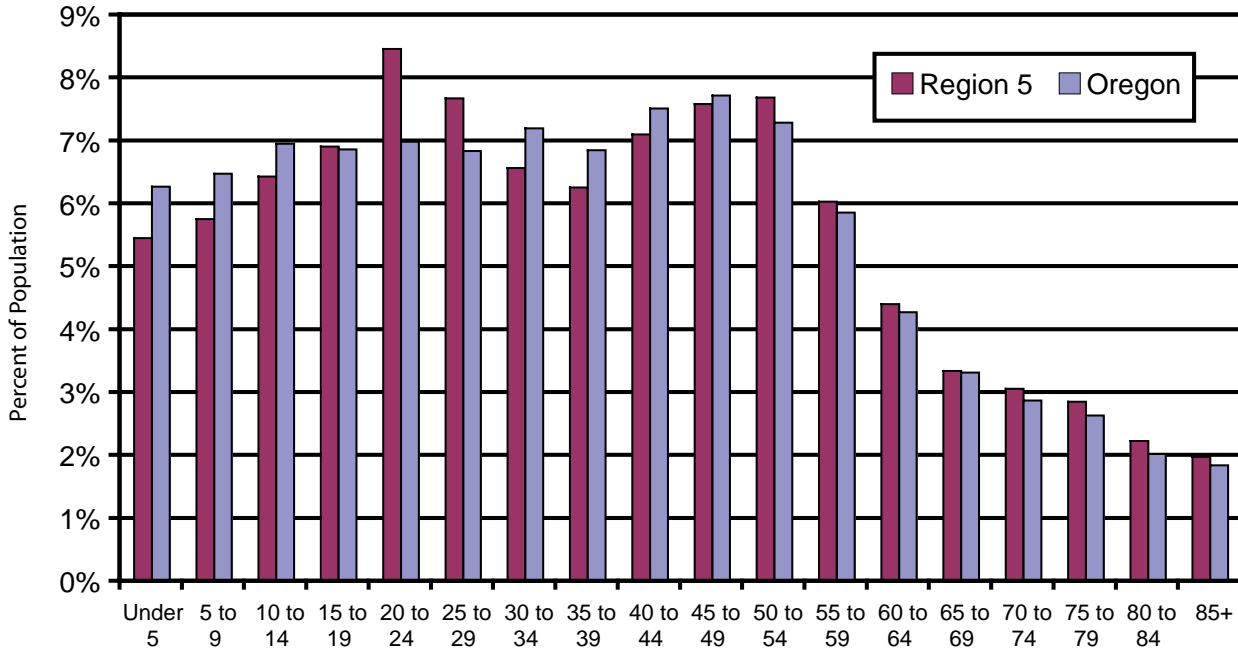


FIGURE 15 (click here to return)

Estimated Components of Population Change in 2004 Rates per 1,000 Population						Estimated Components of Population Change in 2004 Rates per 1,000 Population					
Natural Increase						Natural Increase					
Region	Total Change	Births	Deaths	Total (Births - Deaths)	Net Migration	Region	Total Change Rankings	Births Rankings	Deaths Rankings	Total (Births - Deaths) Rankings	Net Migration Rankings
Oregon	8.5	12.6	8.7	3.9	4.5	Region 1	6	8	7	10	6
Region 1	11.6	11.2	10.1	1.2	10.4	Region 2	12	1	13	1	13
Region 2	2.2	14.6	7.5	7.1	(4.9)	Region 3	4	2	11	3	7
Region 3	12.7	14.1	8.6	5.5	7.1	Region 4	8	9	9	7	8
Region 4	6.9	11.1	8.8	2.3	4.5	Region 5	10	12	10	9	9
Region 5	4.3	10.2	8.6	1.6	2.6	Region 6	7	13	2	14	5
Region 6	8.6	10.2	12.7	(2.6)	11.1	Region 7	5	15	1	15	2
Region 7	11.9	9.5	14.6	(5.2)	17.1	Region 8	3	11	3	13	3
Region 8	13.3	10.5	11.4	(0.8)	14.1	Region 9	11	5	6	8	10
Region 9	4.3	12.4	10.1	2.2	2.0	Region 10	1	6	12	4	1
Region 10	33.6	12.3	7.5	4.8	29.0	Region 11	13	10	4	12	11
Region 11	0.2	11.1	11.4	(0.3)	0.4	Region 12	9	3	14	2	12
Region 12	5.1	13.7	7.5	6.2	(1.2)	Region 13	15	14	8	11	14
Region 13	(5.0)	10.0	9.6	0.4	(5.3)	Region 14	14	4	5	6	15
Region 14	(3.0)	13.6	10.3	3.3	(6.3)	Region 15	2	7	15	5	4
Region 15	16.4	11.4	7.4	4.0	12.3						

FIGURE 16 (click here to return)

Age Distribution, 2003 Region 5 and Oregon



Source: U.S. Census Bureau
Region 5 includes Lane County

Age Class

FIGURE 17 (click here to return)

Region 5 45-64 Share of Working-age Population

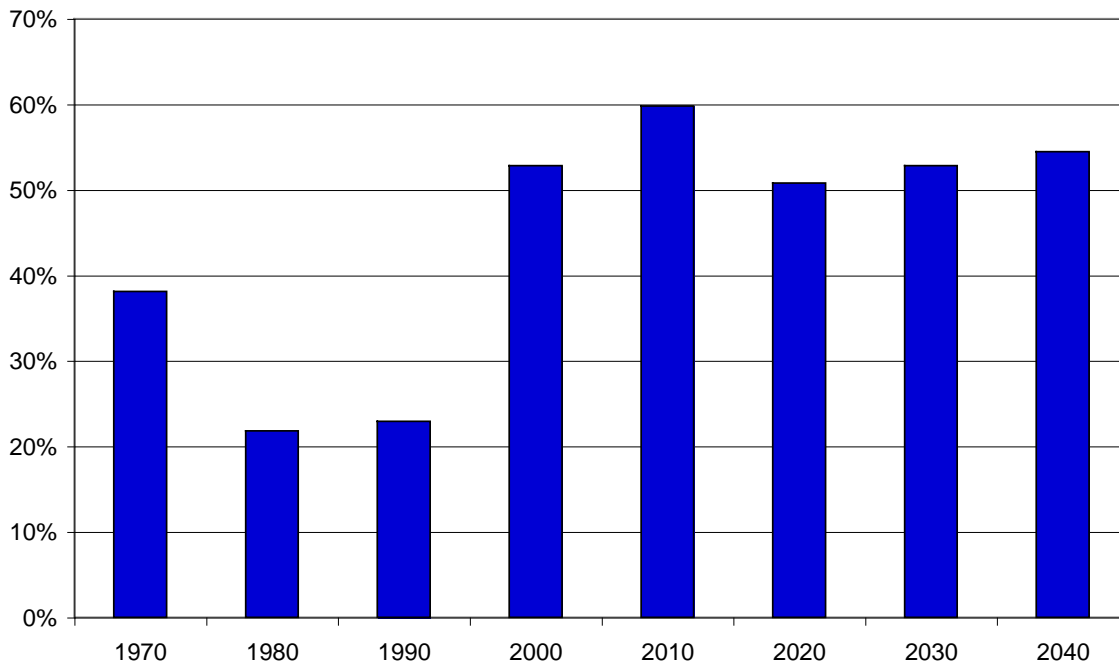


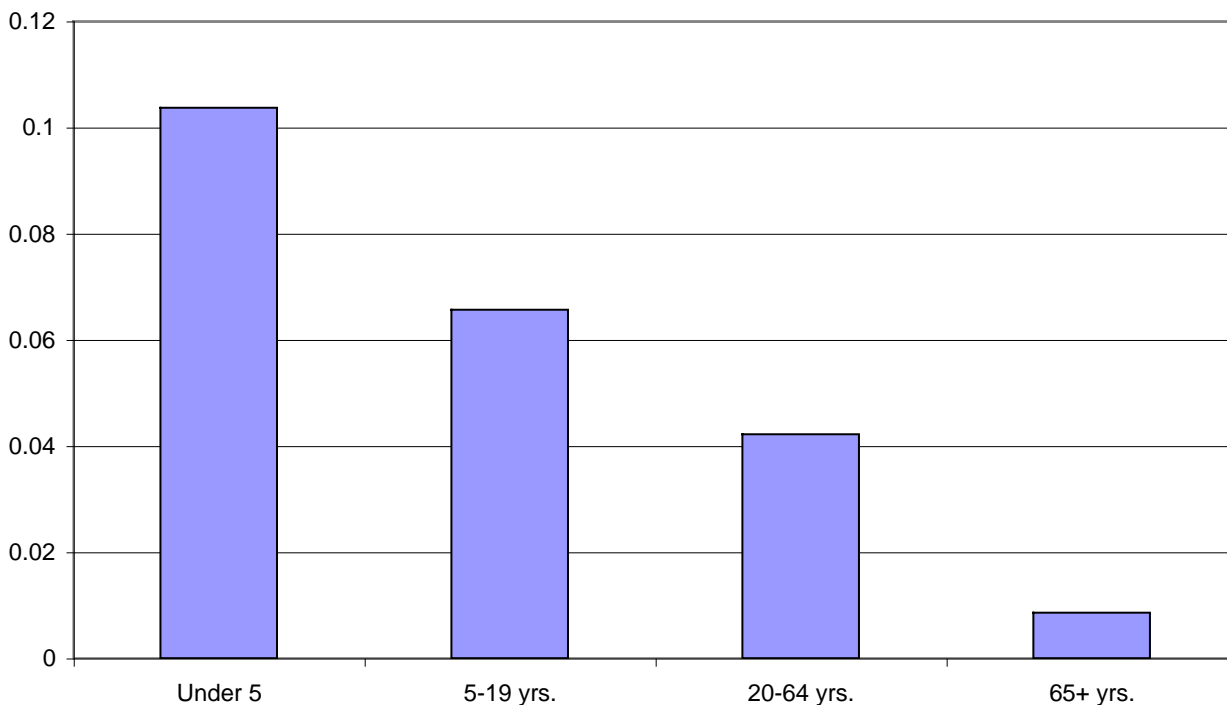
FIGURE 18 (click here to return)

Percentage of Industry Employment in the 55-64 Age Group
(all ownerships)

NAICS Sector	NAICS Title	Lane Percent of		Lane County 2004
		Industry that is 55-64 Years of Age	Statewide Percent of Industry that is 55-64 Years of Age	
	Total	12.0%	11.5%	139,599
11	Agriculture, Forestry, Fishing and Hunting	11.4%	10.4%	2,384
21	Mining	29.7%	19.3%	165
22	Utilities	19.2%	19.0%	830
23	Construction	11.0%	9.6%	7,003
31-33	Manufacturing	13.1%	12.7%	19,442
42	Wholesale	13.2%	12.3%	5,487
44-45	Retail	10.8%	10.4%	18,358
48-49	Transportation and Warehousing	18.2%	14.9%	4,013
51	Information	10.0%	10.2%	3,337
52	Finance	12.8%	12.4%	4,045
53	Real Estate	15.8%	14.1%	2,694
54	Professional, Scientific, and Technical Services	14.2%	12.2%	5,980
55	Management of Companies and Enterprises	15.5%	13.8%	1,544
56	Administrative and Support and Waste Management and Remediation Services	9.0%	9.7%	8,198
61	Educational Services	14.8%	15.5%	13,082
62	Health Care and Social Assistance	14.6%	14.3%	17,768
71	Arts, Entertainment, and Recreation	9.4%	8.7%	2,396
72	Accommodation and Food Services	5.0%	5.8%	11,520
81	Other Services	16.0%	13.9%	5,298
	Unclassified			55

FIGURE 19 (click here to return)

Hispanic Share of Population by Age



Source: 2000 Census

FIGURE 20 (click here to return)

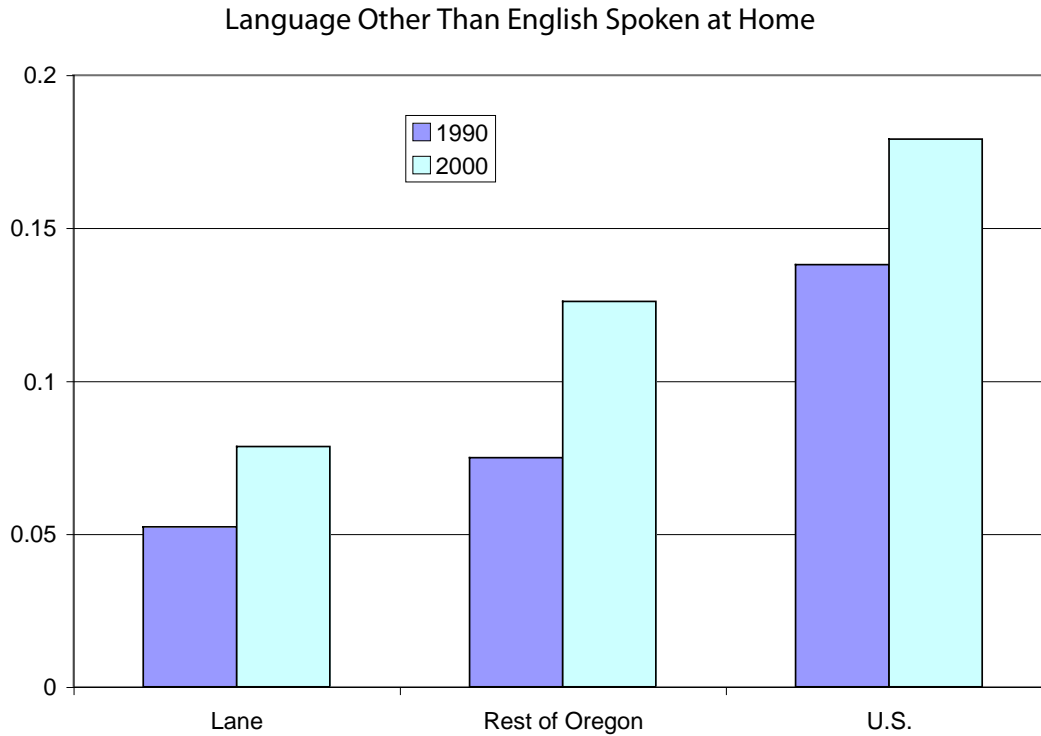


FIGURE 21 (click here to return)

HOUSEHOLDS FACING DIFFICULTY MEETING BASIC NEEDS				
Income	<\$10K	\$10-20K	\$20-34K	\$34-50K
<i>Lacking money for doctor/dentist</i>	59%	68%	54%	35%
<i>Lacking money for med insurance</i>	52	62	51	8
<i>Lacking money for prescriptions</i>	42	52	40	2
<i>Lacking money for clothes/shoes</i>	52	7	36	1
<i>Lacking money for utility bills</i>	68	49	34	20
<i>Lacking money for legal help</i>	38	39	31	28
<i>Housing needs major repairs</i>	37	42	31	22
<i>Lacking money for food</i>	43	36	30	15
<i>Not able to find work</i>	44	37	30	16
<i>Lacking money for housing</i>	49	43	25	22
<i>Not enough room in house</i>	20	34	22	16
<i>Trouble getting transportation to work, school, or doctor</i>	27	23	20	10
<i>Not able to get help for mental or emotional problem</i>	21	20	19	8

Households making between \$23-34K are now having much more difficulty meeting their basic needs according to these survey results from the Lane County United Way 2004 State of Caring Report

FIGURE 22 (click here to return)

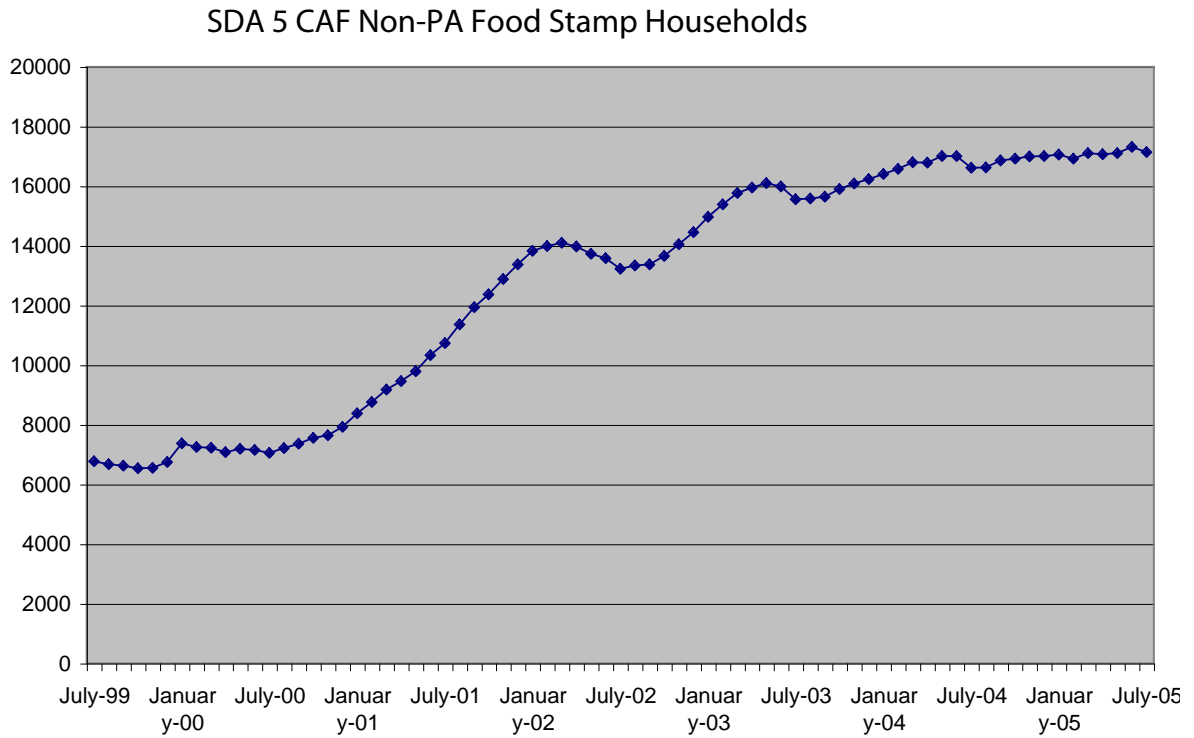


FIGURE 23 (click here to return)

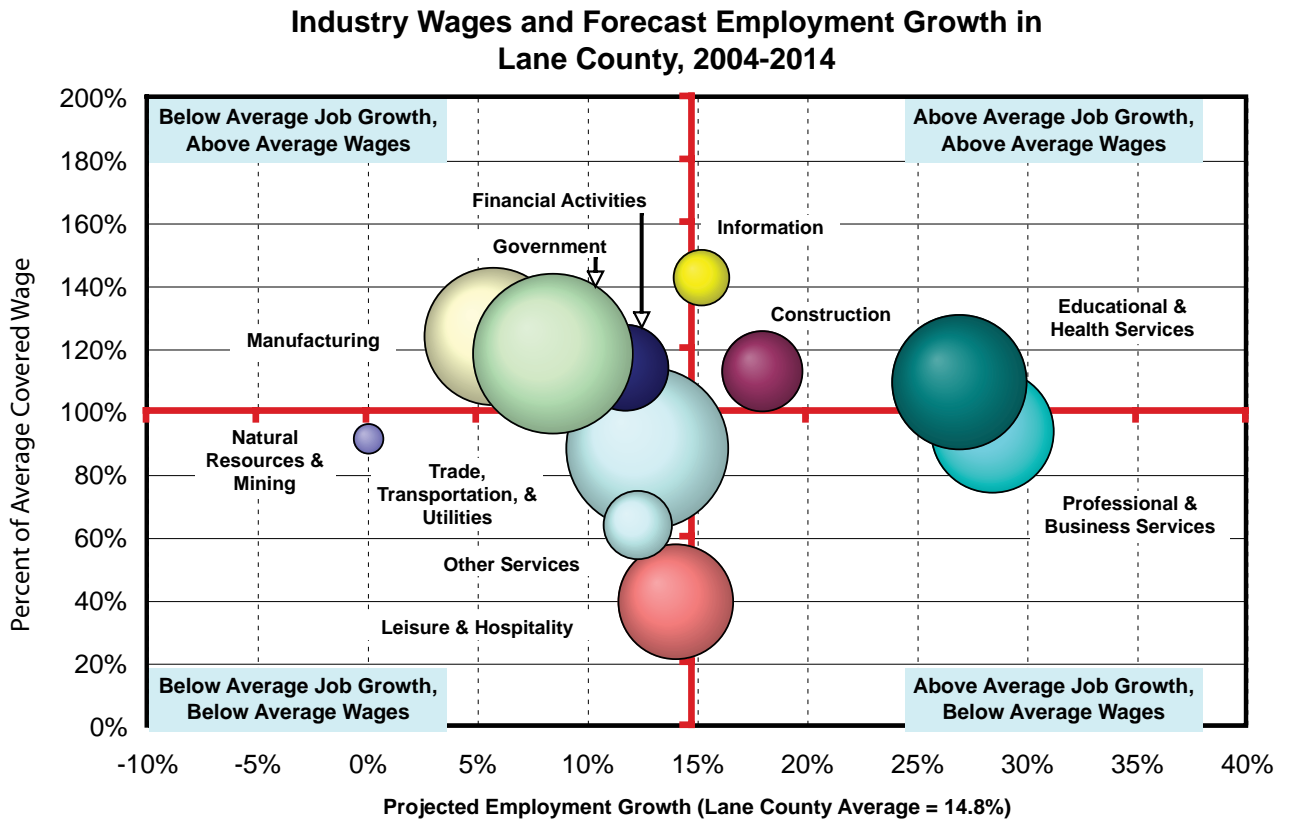


FIGURE 24 (click here to return)

Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in Health Care in Lane County

Occupation	Health Care						All Industries	
	2004 Employ-	2014 Employ-	Percent Growth	Growth Openings	Replace-ment	Total Openings	2005 Average	Minimum Education
Registered Nurses	2,286	2,965	30%	679	575	1,254	\$53,973	Associate
Nursing Aides, Orderlies, and Attendants	1,085	1,360	25%	275	166	441	\$23,847	Short OJT
Home Health Aides	963	1,245	29%	282	150	432	\$19,976	Short OJT
Medical Secretaries	519	630	21%	111	114	225	\$27,786	Post-sec.
Physicians and Surgeons	492	623	27%	131	78	209	NA ¹	1st Prof.
Receptionists and Information Clerks	443	567	28%	124	122	246	\$24,999	Short OJT
Medical Assistants	394	580	47%	186	91	277	\$28,884	Moderate OJT
Dental Assistants	357	457	28%	100	116	216	\$33,034	Moderate OJT
Licensed Vocational	326	411	26%	85	83	168	\$36,437	Post-sec.
Maids and Housekeeping Cleaners	311	401	29%	90	75	165	\$18,229	Short OJT
Office Clerks, General	304	398	31%	94	78	172	\$25,813	Short OJT
Personal and Home Care Aides	293	394	34%	101	56	157	\$20,099	Short OJT
Medical Records and Health Information	282	367	30%	85	49	134	\$27,089	Associate
Billing and Posting Clerks	259	298	15%	39	49	88	\$28,144	Short OJT
Customer Service Representatives	228	302	32%	74	40	114	\$26,402	Moderate OJT
Physical Therapists	205	266	30%	61	25	86	\$56,731	Master's
Dental Hygienists	196	251	28%	55	21	76	\$70,762	Associate
Medical and Health Services Managers	188	242	29%	54	44	98	\$73,693	Bachelor's
Supervisors and Managers of Office and Administrative	181	222	23%	41	45	86	\$41,526	Work Exp.
Mental Health Counselors	169	236	40%	67	48	115	\$38,403 ²	Master's
Medical Transcriptionists	166	217	31%	51	36	87	\$31,207	Post-sec.
Medical and Clinical Laboratory Technicians	160	211	32%	51	51	102	\$35,993 ²	Bachelor's
Health care Support Workers, All Other	154	202	31%	48	33	81	\$27,711	Short OJT
Cooks, Institution and Cafeteria	151	163	8%	12	43	55	\$23,089	Long OJT
Radiologic, CAT, and MRI Technologists and	142	184	30%	42	32	74	\$45,105	Associate
Medical and Clinical Laboratory Technologists	137	182	33%	45	44	89	\$46,554	Bachelor's

¹Wages are above \$76 per hour and are statistically unreliable.

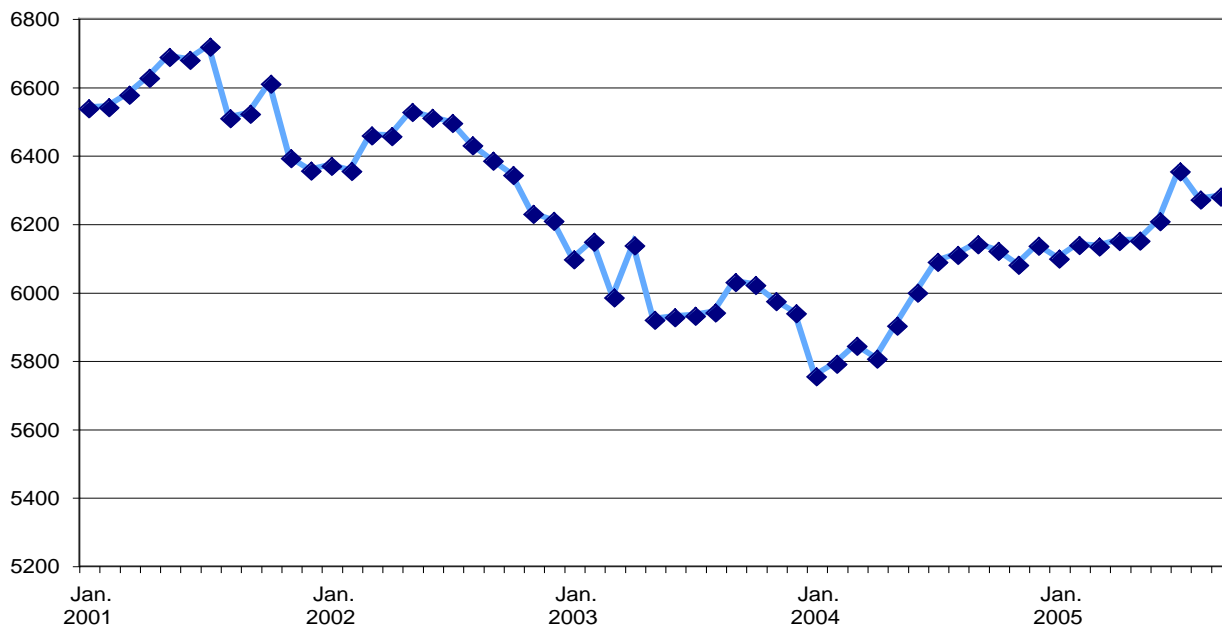
²Statewide wage. Lane County wage not available.

Source: Oregon Employment Department

Note: OJT = On-the-job training; short = less than one month; moderate = less than one year; long = more than one year
Work Exp. = Related work experience

FIGURE 25 (click here to return)

Region 5 - Recent Wood Products Employment



Source: Oregon Employment Department

FIGURE 26 (click here to return)

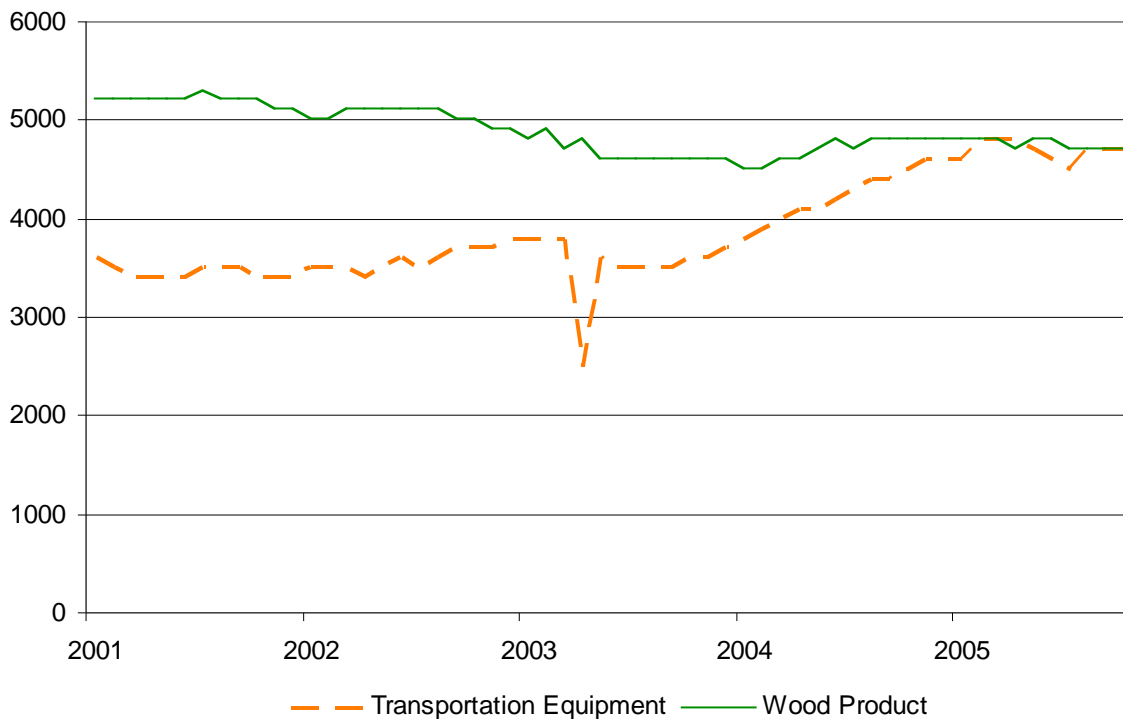
Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in Wood Products in Lane County

Occupation	Wood Products						All Industries	
	2004 Employment	2014 Employment	Growth	Openings	Replace-ment Openings	Total Openings	2005 Average Annual Wage	Minimum Education Requirement
Machine Feeders and Offbearers	660	631	-4%	-29	171	142	\$26,582	Short OJT
Industrial Truck and Tractor Operators	413	393	-5%	-20	78	58	\$28,750	Short OJT
Production Workers, All Other	384	359	-7%	-25	90	65	\$25,041	Moderate OJT
Sawing Machine Setters, Operators, and Tenders, Wood	260	233	-10%	-27	66	39	\$29,473	Moderate OJT
Industrial Machinery Mechanics	259	278	7%	19	56	75	\$38,892	Post-sec.
Woodworking Machine Setters, Operators, and Tenders, Except Sawing	255	221	-13%	-34	65	31	\$27,411	Moderate OJT
Logging Equipment Operators	245	233	-5%	-12	45	33	\$34,731	Moderate OJT
Truck Drivers, Heavy and Tractor-Trailer	245	231	-6%	-14	41	27	\$31,697	Moderate OJT
Laborers and Freight, Stock, and Material Movers, Hand	243	231	-5%	-12	73	61	\$23,429	Short OJT
Inspectors, Testers, Sorters, Samplers, and Weighers	230	218	-5%	-12	52	40	\$30,695	Moderate OJT
Logging Workers, All Other	177	164	-7%	-13	32	19	\$31,633	Moderate OJT
Supervisors and Managers of Production and Operating Workers	163	152	-7%	-11	34	23	\$44,999	Work exp.
Helpers--Production Workers	160	150	-6%	-10	43	33	\$22,534	Short OJT
Assemblers and Fabricators, All Other	112	97	-13%	-15	27	12	\$23,758	Moderate OJT
Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	102	94	-8%	-8	26	18	\$30,182	Moderate OJT
Team Assemblers	97	91	-6%	-6	24	18	\$26,609	Moderate OJT
Crane and Tower Operators	89	83	-7%	-6	19	13	\$41,977 ¹	Moderate OJT
Electricians	78	74	-5%	-4	15	11	\$47,812	Post-sec.
Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	67	65	-3%	-2	17	15	\$29,747	Moderate OJT
Cementing and Gluing Machine Operators and Tenders	67	62	-7%	-5	17	12	\$28,269	Moderate OJT
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	65	63	-3%	-2	12	10	\$21,191	Short OJT
Fallers	65	61	-6%	-4	12	8	\$51,610	Moderate OJT

¹Statewide wage. Lane County wage not available.
Source: Oregon Employment Department

FIGURE 27 (click here to return)

**Transportation Equipment and Wood Product
Manufacturing Employment in Lane County, 2001-2005**



Source: Oregon Employment Department

Note: Employment drop in transportation equipment manufacturing in Spring 2003 by temporary layoff

FIGURE 28 (click here to return)

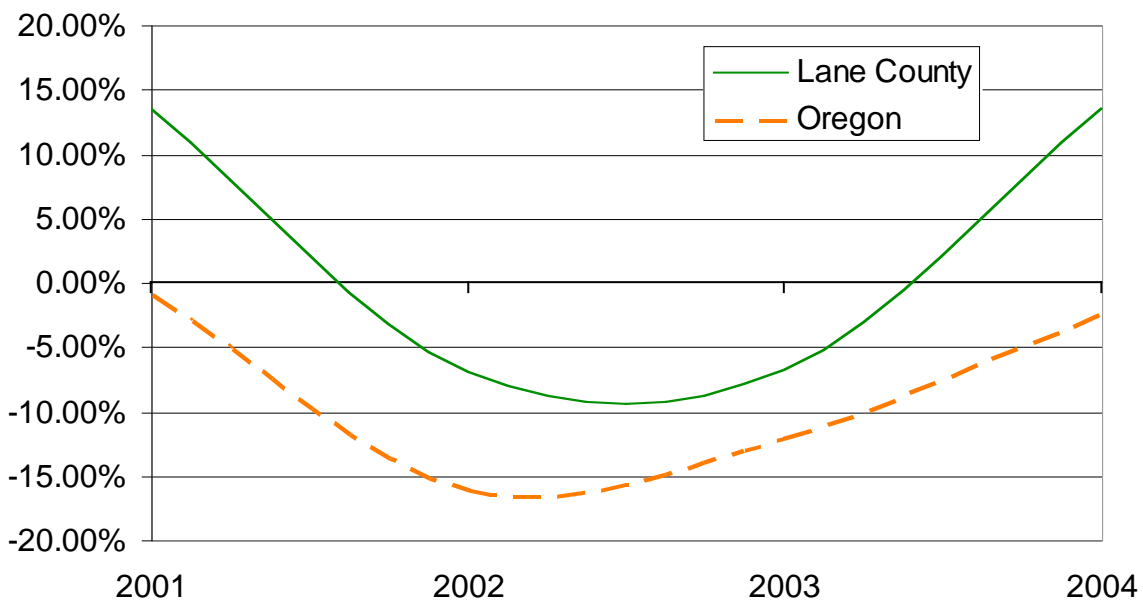
Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in Transportation Equipment in Lane County

Occupation	----- Transportation Equipment Manufacturing -----					----- All Industries -----		
	2004 Employment	2014 Employment	Percent Growth	Growth Openings	Replacement Openings	Total Openings	2005 Average Annual Wage	Minimum Education Requirement
Team Assemblers, Helpers--Production Workers	1,148	1,382	20%	234	329	563	\$26,609	Moderate OJT
Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	280	338	21%	58	85	143	\$22,534	Short OJT
Welders, Cutters, Solderers, and Brazers	191	228	19%	37	55	92	\$27,111	Moderate OJT
Cabinetmakers and Bench Carpenters	171	204	19%	33	54	87	\$31,122	Long OJT
Laborers and Freight, Stock, and Material Movers, Hand	169	201	19%	32	45	77	\$28,464	Long OJT
Electricians	149	180	21%	31	51	82	\$23,429	Short OJT
Structural Metal Fabricators and Fitters	138	167	21%	29	31	60	\$47,812	Post-sec.
Inspectors, Testers, Sorters, Samplers, and Weighers	134	156	16%	22	35	57	\$30,057	Long OJT
Supervisors and Managers of Production and Operating Workers	116	139	20%	23	30	53	\$30,695	Moderate OJT
Fiberglass Laminators and Fabricators	107	125	17%	18	25	43	\$44,999	Work Exp.
Customer Service Representatives	90	107	19%	17	26	43	\$25,631	Moderate OJT
Recreational Vehicle Service Technicians	86	118	37%	32	15	47	\$26,402	Moderate OJT
Mechanical Drafters	72	92	28%	20	32	52	\$34,656	Long OJT
Wholesale and Manufacturing Sales Representatives, Non-Technical and Scientific Purchasing Agents, Except Wholesale, Retail, and Farm Products	71	85	20%	14	22	36	\$35,088	Associate
Painters, Transportation Equipment	68	80	18%	12	20	32	\$46,241	Moderate OJT
Bookkeeping, Accounting, and Auditing Clerks	61	72	18%	11	16	27	\$41,984	Bachelor's
Executive Secretaries and Administrative Assistants	57	70	23%	13	16	29	\$30,431	Moderate OJT
Sewing Machine Operators	54	66	22%	12	12	24	\$29,005	Moderate OJT
Stock Clerks and Order Fillers	54	65	20%	11	12	23	\$35,291	Moderate OJT
Electronic Equipment Installers and Repairers, Motor Vehicles	51	61	20%	10	7	17	\$20,878	Moderate OJT
	47	47	0%	0	15	15	\$24,132	Short OJT
	42	46	10%	4	11	15	\$31,109 ¹	Post-sec.

¹Statewide wage. Lane County wage not available.
Source: Oregon Employment Department

FIGURE 29 (click here to return)

Software and Computer Systems Design Employment Growth Rate



Source: Oregon Employment Department

FIGURE 30 (click here to return)

Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in Software and Computer Systems Design in Lane County

Occupation	Software and Computer Systems Design						All Industries	
	2004 Employment	2014 Employment	Percent Growth	Growth Openings	Replacement Openings	Total Openings	2005 Average Annual Wage	Minimum Education Requirement
Computer Support Specialists	305	382	25.2%	77	44	121	\$34,221	Post-sec.
Computer Software Engineers, Applications Customer Service Representatives	148	194	31.1%	46	18	64	\$61,110	Bachelor's
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	135	168	24.4%	33	23	56	\$26,402	Moderate OJT
Computer Specialists, All Other	127	160	26.0%	33	38	71	\$55,088	Moderate OJT
Computer Programmers	77	96	24.7%	19	11	30	\$53,155 ¹	Post-sec.
Computer Systems Analysts	53	61	15.1%	8	13	21	\$54,136	Bachelor's
Order Clerks	49	71	44.9%	22	7	29	\$59,511	Bachelor's
Technical Writers	44	40	-9.1%	-4	9	5	\$28,720	Short OJT
Computer and Information Systems Managers	36	44	22.2%	8	12	20	\$38,419	Bachelor's
Managers, All Other	33	43	30.3%	10	7	17	\$85,558	Bachelor's
Business Operations Specialists, All Other	33	42	27.3%	9	7	16	\$71,146	Bachelor's
Sales Managers	33	42	27.3%	9	7	16	\$45,435	Bachelor's
Network and Computer Systems Administrators	23	29	26.1%	6	5	11	\$91,439	Bachelor's
General and Operations Managers	23	30	30.4%	7	3	10	\$50,005	Bachelor's
Network Systems and Data Communications Analysts	22	28	27.3%	6	5	11	\$84,401	Bachelor's
Supervisors and Managers of Office and Administrative Support Workers	18	22	22.2%	4	2	6	\$50,173	Bachelor's
Executive Secretaries and Administrative Assistants	18	20	11.1%	2	4	6	\$41,526	Work exp.
Training and Development Specialists	18	24	33.3%	6	4	10	\$35,291	Moderate OJT
Marketing Managers	17	21	23.5%	4	3	7	\$47,702	Bachelor's
Telemarketers	16	21	31.3%	5	4	9	\$64,663	Bachelor's
Accountants and Auditors	16	15	-6.3%	-1	2	1	\$21,177 ¹	Short OJT
Office Clerks, General	15	19	26.7%	4	4	8	\$54,263	Bachelor's
Sales Engineers	14	17	21.4%	3	4	7	\$25,813	Short OJT
Office and Administrative Support Workers, All Other	13	16	23.1%	3	4	7	\$65,155	Bachelor's
Human Resources Managers, All Other	13	17	30.8%	4	3	7	\$21,041	Short OJT
Computer Software Engineers, Systems Software	11	13	18.2%	2	3	5	\$71,390	Bachelor's
	11	13	18.2%	2	1	3	\$72,334	Bachelor's

¹Statewide wage. Lane County wage not available.
Source: Oregon Employment Department

FIGURE 31 (click here to return)

High Tech Manufacturing Year-to-Year Percent Change

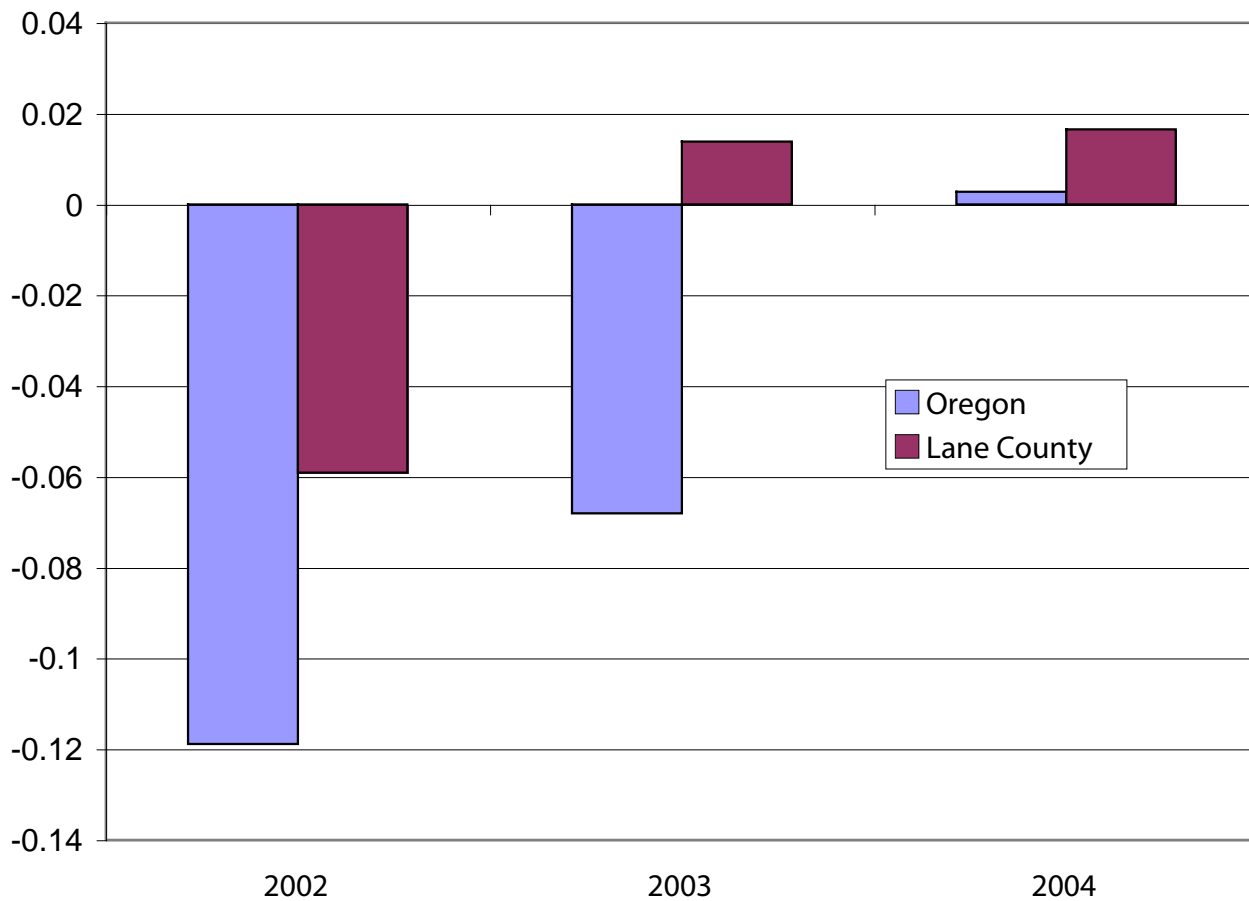


FIGURE 32 (click here to return)

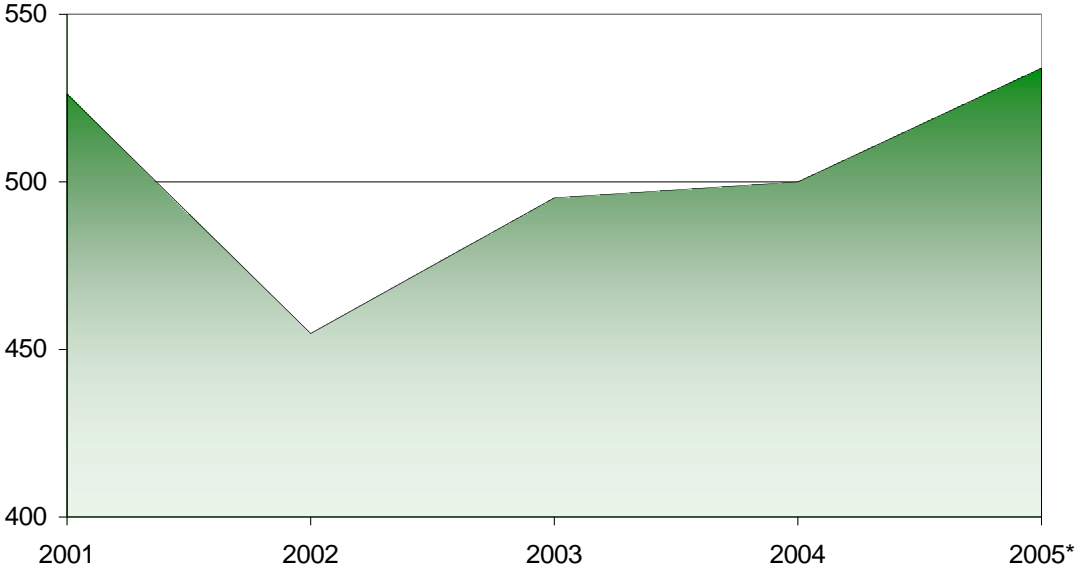
Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in High Technology in Lane County

Occupation	High Technology						All Industries	
	2004 Employment	2014 Employment	Percent Growth	Growth Openings	Replacement Openings	Total Openings	2005 Average Annual Wage	Minimum Education Requirement
Electrical and Electronic Equipment Assemblers	470	482	2.6%	12	113	125	\$27,072	Short OJT
Semiconductor Processors	159	178	11.9%	19	38	57	\$30,533 ¹	Associate
Engineers, All Other	126	141	11.9%	15	26	41	\$66,928	Bachelor's
Engineering Technicians, Except Drafters, All Other	116	130	12.1%	14	30	44	\$42,516	Associate
Computer Software Engineers, Applications	74	82	10.8%	8	8	16	\$61,110	Bachelor's
Electronics Engineers, Except Computer	56	64	14.3%	8	12	20	\$71,069	Bachelor's
Electrical and Electronic Engineering Technicians	49	56	14.3%	7	10	17	\$45,813	Associate
Supervisors and Managers of Production and Operating Workers	39	45	15.4%	6	8	14	\$44,999	Work exp...
Engineering Managers	37	41	10.8%	4	8	12	\$99,898	Bachelor's
Industrial Engineers	28	33	17.9%	5	7	12	\$68,591 ¹	Bachelor's
Electrical and Electronics Repairers, Commercial and Industrial Equipment	26	28	7.7%	2	6	8	\$48,113	Post-sec...
General and Operations Managers	22	26	18.2%	4	5	9	\$84,401	Bachelor's
Executive Secretaries and Administrative Assistants	22	26	18.2%	4	5	9	\$35,291	Moderate OJT
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	21	24	14.3%	3	7	10	\$55,088	Moderate OJT
Sales Engineers	19	21	10.5%	2	6	8	\$65,155	Bachelor's
Managers, All Other	18	20	11.1%	2	4	6	\$71,146	Bachelor's
Computer Support Specialists	18	23	27.8%	5	2	7	\$34,221	Post-sec...
Market Research Analysts	18	20	11.1%	2	5	7	\$74,256 ¹	Bachelor's
Accountants and Auditors	17	20	17.6%	3	4	7	\$54,263	Bachelor's
Inspectors, Testers, Sorters, Samplers, and Weighers	17	20	17.6%	3	5	8	\$30,695	Moderate OJT
Industrial Production Managers	14	16	14.3%	2	3	5	\$74,788	Bachelor's
Bookkeeping, Accounting, and Auditing Clerks	14	15	7.1%	1	3	4	\$29,005	Moderate OJT
Purchasing Agents, Except Wholesale, Retail, and Farm Products	13	14	7.7%	1	3	4	\$41,984	Bachelor's
Network Systems and Data Communications Analysts	13	15	15.4%	2	2	4	\$50,173	Bachelor's
Business Operations Specialists, All Other	12	13	8.3%	1	3	4	\$45,435	Bachelor's

¹Statewide wage. Lane County wage not available.
Source: Oregon Employment Department

FIGURE 33 (click here to return)

Biomedical Employment in Lane County, 2001-2005*



*First quarter, 2005
Source: Oregon Employment Department

FIGURE 34 (click here to return)

Staffing Pattern, Employment Projections, Average Wage, and Educational Requirements for Largest Occupations in Scientific Research and Educational Support in Lane County

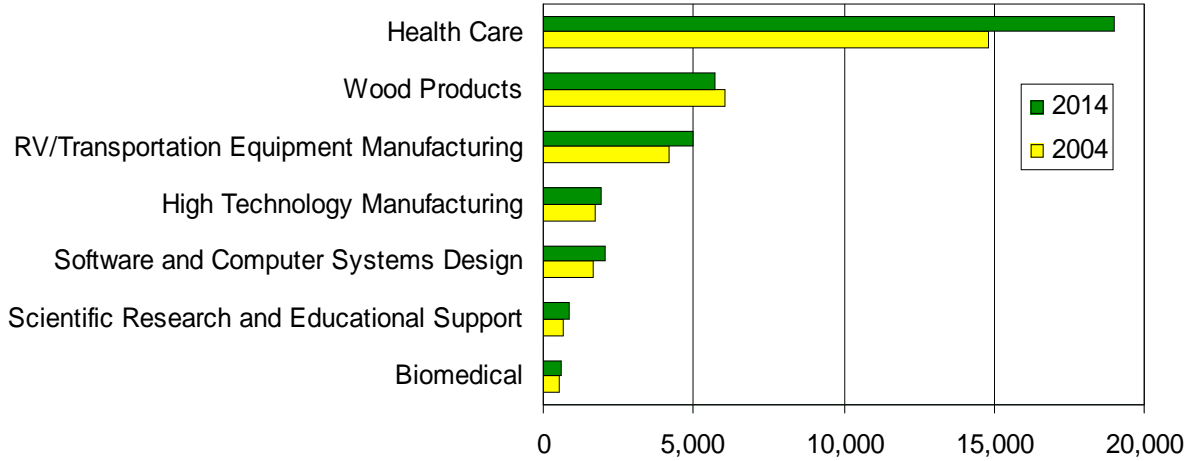
Occupation	Scientific Research and Educational Support						All Industries	
	2004 Employment	2014 Employment	Percent Growth	Growth Openings	Replacement Openings	Total Openings	2005 Average Annual Wage	Minimum Education Requirement
Social Science Research Assistants	117	148	26%	31	32	63	\$32,835	Bachelor's
Psychologists, All Other	90	114	27%	24	23	47	\$73,915	Master's
Interviewers, Except Eligibility and Loan	56	70	25%	14	16	30	\$20,109	Short OJT
Executive Secretaries and Administrative Assistants	55	68	19%	13	12	25	\$35,291	Moderate OJT
Recreation Workers	41	51	24%	10	11	21	\$22,177	Short OJT
Statistical Assistants	23	23	0%	0	4	4	\$35,889 ¹	Moderate OJT
Office Clerks, General	22	28	27%	6	6	12	\$25,813	Short OJT
Economists	21	27	29%	6	7	13	\$77,238 ¹	Bachelor's
Statisticians	20	26	30%	6	6	12	\$43,793	Bachelor's
Supervisors and Managers of Office and Administrative Support Workers	15	16	7%	1	3	4	\$41,526	Work Exp.
Bookkeeping, Accounting, and Auditing Clerks	15	19	21%	4	4	8	\$29,005	Moderate OJT
Network and Computer Systems Administrators	13	17	24%	4	1	5	\$50,005	Bachelor's
Clinical, Counseling, and School Psychologists	13	17	31%	4	3	7	\$54,939	Master's
General and Operations Managers	11	13	15%	2	2	4	\$84,401	Bachelor's
Information and Record Clerks, All Other	11	14	27%	3	2	5	\$32,266	Short OJT
Social Scientists and Related Workers, All Other	10	13	30%	3	3	6	\$66,964	Bachelor's

¹Statewide wage. Lane County wage not available.

Source: Oregon Employment Department

FIGURE 35 (click here to return)

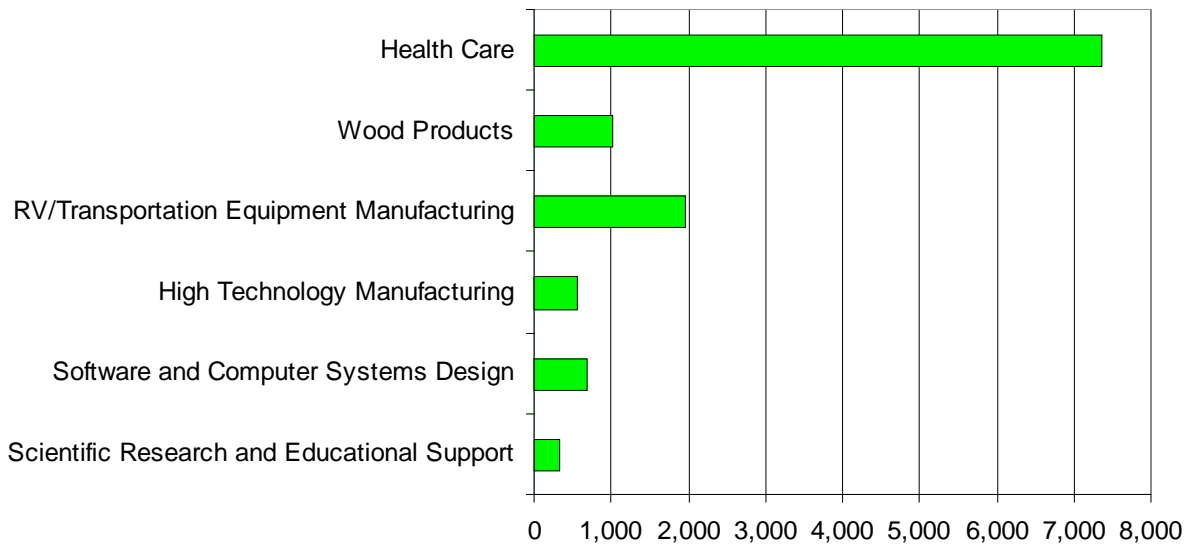
Projected Employment of Lane County Industry Clusters, 2004-2014



Source: Oregon Employment Department

FIGURE 36

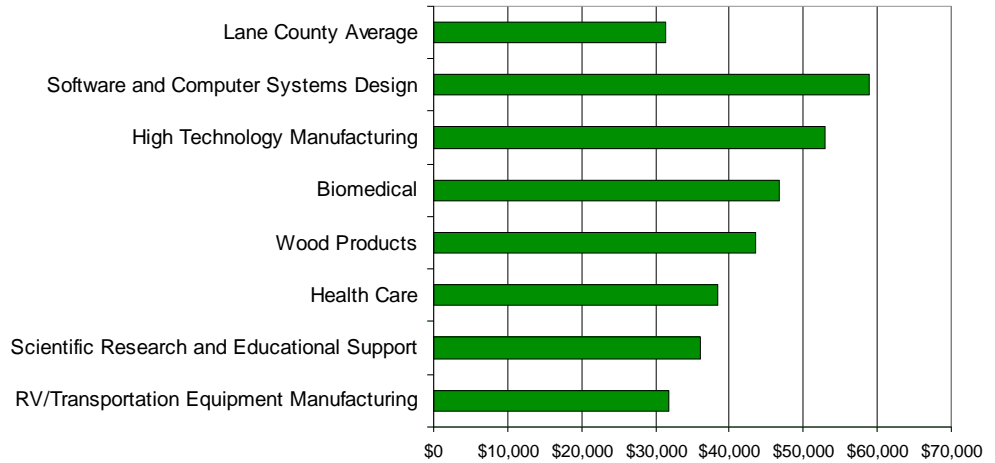
Projected Job Openings of Lane County Industry Clusters, 2004-2014



Source: Oregon Employment Department

FIGURE 37 (click here to return)

Average Wages of Lane County Industry Clusters, 2004



Source: Oregon Employment Department

FIGURE 38 (click here to return)

