

# A Profile Of Older Workers In Oregon

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## Local Employment Dynamics

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### Executive Summary

A new information source, the Local Employment Dynamics (LED) program for Oregon, shows:

- The workforce is aging. From 1991 through 2002, an increasing percentage of the workforce was 45 years and older. The proportion of people 65 years and older who continue working has also increased, but slightly.
- Industries in which more than 1-in-5 workers were 55 years and older in 2002 include: private households, local and suburban transit, oil and gas extraction, and membership organizations. The first three had relatively few workers.
- Examples of industries with high turnover rates for older workers include: private households, paper and allied products, and local and suburban transit.
- Examples of industries with more stable employment for older workers include the petroleum refining and textile mill products industries.
- Industries where workers 65 years and over are most likely to be employed include the service industries of eating and drinking places, business services, and health services. Membership organizations are also an important source of work for the oldest workers.
- On average, in 2002, for workers 65 years and over, about 2,800 jobs were created and nearly 5,400 were lost.

- The industry with the highest average monthly earnings in 2002 for workers 65 years and older was primary metals (\$5,535), but the number of such workers was only 112. Of the industries that employed more than 500 workers 65 years and older, the highest paying was lumber and wood products (\$3,361 a month).

### Introduction

Across the country, firms are beginning to plan for the large wave of workers born during the Baby Boom of 1946 to 1964 who will be leaving the workforce over the next few decades. A larger share than in past generations may “retire” to collect the pensions they earned over their work life and then continue working part-time or in more flexible working arrangements.<sup>1</sup>

An extensive range of political, economic, and social issues for the United States and for Oregon will be substantially affected by the retirement choices of this large group of workers. Decisionmakers are consequently looking at the economic and policy implications for a wide range of programs and institutions, including social security and medicare; financial markets; the housing market; and recreation, transportation, and health-care systems.

<sup>1</sup> The term “retirees” refers to workers who collect pensions — who may have varied labor market experiences. Some may completely leave the labor force and others may continue to work. Of those who continue to work while they receive pensions, some may work fewer than 35 hours a week, some may work only part of the year, and others may continue in the labor force year-round and full-time.

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A report from the Urban Institute sums up the national issue if past retirement behavior is replicated and if immigrant workers do not fill the void:

*The United States will lose the services of millions of highly skilled, experienced workers. Because of the baby dearth that followed the Baby Boom, there will not be many new workers to replace them, even as the senior adult population grows significantly. Labor force growth is expected to fall from 1.1 percent per year in the 1990s to 0.36 percent per year in the period 2010 to 2020.<sup>2</sup>*

Information about these changes can be useful to a number of groups. Decisionmakers in Oregon need to know which industries and regions of the state will be most affected by changes in the size and composition of the labor force in coming decades. Similarly, businesses need such information both to make more informed plans for transitions and to pinpoint potential problem areas and new opportunities. Older workers who want to continue working need to know in what industries and in what areas of Oregon jobs are available, how flexible businesses are about their working arrangements, and the level of earnings they can expect.

The Census Bureau, together with state partners, is developing several new sources of information to support these needs. The Local Employment Dynamics (LED) program, one of the newest resources, produces workforce indicators that are updated every quarter for each partner state and its metropolitan areas, counties, and

<sup>2</sup> Penner, Perun, and Steuerle "Legal and Institutional Impediments to Partial Retirement and Part-Time Work by Older Workers," The Urban Institute, 2002.

Workforce Investment Areas.<sup>3</sup> Statistics are available without cost on the program's Web site <http://lehd.dsd.census.gov/> and additional indicators are available from partner states. The statistics are historical and come from multiple, high-quality information sources that include most of the working population (see Technical Appendix A for additional information about coverage).

The LED program is a partnership between the Census Bureau and participating states. As of January 2004, 27 states are partners with the Census Bureau in creating this information.<sup>4</sup> Those 27 states cover about 65 percent of America's workers. Additional states are planning to join the partnership.

This report uses Quarterly Workforce Indicators (QWIs) from the LED program for the state of Oregon to focus on two groups of older workers: those who are likely to be receiving pension income (65 and older) and the preretirement group (55-64 years old).<sup>5</sup> People in the preretirement group may collect pensions within the next ten years, but may or may not continue to participate in the labor force.

With the LED, we can respond to questions such as:

<sup>3</sup> Other related information sources from the Census Bureau include the American Community Survey [www.census.gov/acs/www/](http://www.census.gov/acs/www/) and the economic census [www.census.gov/epcd/www/econ2002.html](http://www.census.gov/epcd/www/econ2002.html).

<sup>4</sup> As of January 2004, the partner states whose data were being processed were: CA, CO, FL, IA, ID, IL, KS, MD, MN, MO, MT, NC, NJ, NM, OK, OR, PA, TX, VA, WA, WI, and WV. Additional partner states include: DE, GA, KY, MI, and ND. This is an ongoing project and additional states are expected to join.

<sup>5</sup> This paper reports the results of research and analysis undertaken by Census Bureau staff. It has undergone a more limited review than official Census Bureau publications. This report is released to inform interested parties of research and to encourage discussion.

*What changes are occurring in the age composition of the workforce in a geographic area?*

*Which industries will be most affected by the departure of older workers from the workforce?*

*In what industries do older people tend to continue working and under what circumstances?*

*Which industries create jobs for older workers? Suffer the most job losses?*

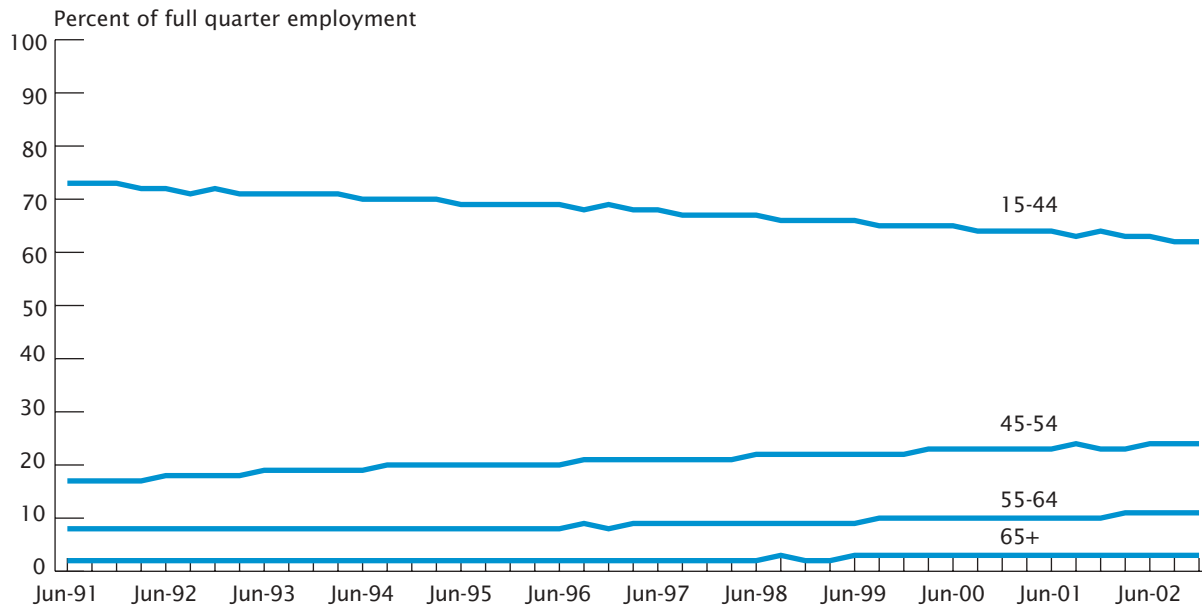
*Which industries are the most stable (that is, which have the lowest job turnover rate)?*

*How much do older workers earn in various industry groups and geographic areas?*

As the LED statistics in this report show, older workers in Oregon have been an increasing proportion of the labor force. We learn from the LED information that older workers tend to be employed in the same industries that employ a large proportion of younger workers, but the best-paid are those who work in financial and scientific firms with relatively few older workers. We do not know yet whether Oregon will undergo rapid and massive changes, or gradual changes due to the retirement of experienced workers of the Baby Boom generation along with the movement of workers into and out of Oregon. We do know that both have the potential to affect the age distribution of the workforce significantly. Planners in Oregon will be able to keep an eye

Quarterly Workforce Indicators for partner states and detailed information about the LED program are available at:  
<http://lehd.dsd.census.gov/>.

Figure 1.  
**Oregon Workforce by Age Group: 1991 to 2002**



Source: U.S. Census Bureau and the Oregon Employment Department, Local Employment Dynamics program's Web site: <http://lehd.dsd.census.gov>.

on the impact of such factors and emerging trends by using the LED statistics.

**How is the age composition of the workforce in Oregon changing?**

The aging of Baby Boom workers led to an increase in the proportion of the workforce 45 years and older from 1991 to 2002 in Oregon. Many planners anticipate this proportion will grow even more rapidly over the next two decades unless a large influx of younger workers comes into

Oregon. In 1991, about 73 percent of Oregon workers were 15-to-44 years old (Figure 1). By 2002, that figure had dropped to about 62 percent of workers. Seventeen percent of Oregon workers were 45-to-54 years old in 1991 and 24 percent were in that age group in 2002.

The falling share of younger workers occurred across the economy of Oregon. The share of workers in Oregon who are 65 years and older, the traditional age when most workers leave the labor force permanently, increased slightly, from about 2 percent to 3 percent from 1991 to 2002.

**Which industries will be most affected by the aging workforce?**

Over the next two decades, we expect the United States and Oregon to see significant changes

in the demographic characteristics of their workforces, and many firms will be affected by a large loss of skilled workers to retirement. In 2002, about 24 percent of workers in Oregon were 45-54 years old and 11 percent were 55-64 years old (Appendix Table 1). The labor market faces important transitional issues even though some workers may continue to work past age 65, and younger workers may fill many of the positions left vacant by retirees.

In which industries are older workers most concentrated? Unless there is an infusion of new workers from outside Oregon, or from other Oregon industries, the

*Full Quarter Employment*

Total number of workers who were employed by the same employer in the reference quarter, previous, and subsequent quarter.

*Skill Level*

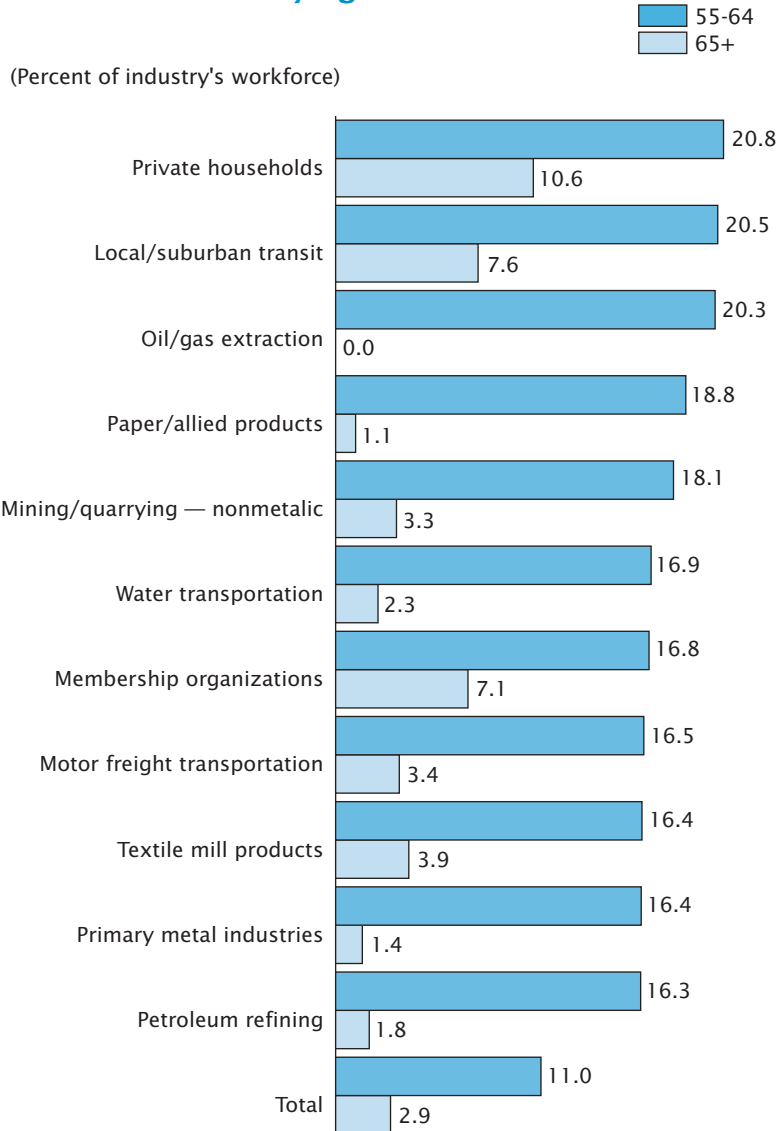
Quarters of work experience

industries identified in Figure 2 are those likely to be most affected by the aging of the workforce.<sup>6</sup> If older workers seek either more flexibility in hours or leave these industries completely, companies may suffer a considerable loss of skills and knowledge. Thus, industries with a high proportion of workers near retirement might need to plan for increased training to respond to the loss of older workers and their institutional knowledge.

Figure 2 shows that the private households industry in Oregon may be particularly vulnerable to a loss of older workers in the coming decade. In that industry in 2002, about 21 percent were 55-64 years old and about 11 percent were 65 years and older. Other industries with a relatively high proportion of workers 55 years and older included local and suburban transit (28 percent), oil and gas extraction (20 percent) and membership organizations (24 percent). Even though the proportions are relatively large, the first three industries have a small number of older workers (Appendix Table 1). Workers 65 and older were about 8 percent of the local and suburban transit industry.

Some industries with high proportions of workers 55-64 years old appear also to have relatively high proportions of workers 65 years

Figure 2.  
**Oregon Industries With a High Proportion of Older Workers by Age: 2002**



Note: Details do not cover the total workforce in these age categories.  
Source: U.S. Census Bureau and the Oregon Employment Department, Local Employment Dynamics program, 2002, Appendix Table 1 and Web site: <http://lehd.dsd.census.gov>.

<sup>6</sup> Because the QWIs come from a mixture of sources, they are not directly comparable with statistics from worker-based surveys such as the decennial census, the American Community Survey, and the Current Population Survey. Industries are based on the Standard Industrial Classification (SIC) system. The LED program will convert from the SIC system to the North American Industry Classification System (NAICS) in early 2004. Some classification titles appear to be similar but the detailed industry groups that compose the categories may differ between the SIC and NAICS systems.

and older, such as membership organizations and local/suburban transit. Those industries might be more likely to lose the skills of older workers than those industries that have very few workers 65 years and over, such as paper and allied products, water trans-

portation, and primary metal industries.

### The demand for older workers and job stability.

An indicator of the degree to which businesses need older workers is the turnover rate of older workers

Table 1.  
**Job Stability in Oregon by Industry: 2002**

(Top 10 industries statewide employing workers 65 and older)

Industry	Number of workers 65 and older	Average quarterly turnover rate for workers 65 and older (percent)	Average quarterly turnover rate for workers 14 and older (percent)	Number of workers 14 and older
Eating and drinking places .....	2,411	12.6	17.6	75,752
Business services .....	2,217	14.8	19.3	68,895
Health services .....	2,067	8.6	8.9	94,916
Membership organizations.....	1,493	8.1	9.7	21,063
Real estate .....	1,355	9.7	12.1	18,316
Social services .....	1,250	12.1	14.0	37,147
Agricultural production—crops .....	1,223	18.6	15.9	15,458
Miscellaneous retail.....	1,134	8.1	12.7	25,695
Car dealers and gas stations .....	1,109	8.9	13.1	27,357
Wholesale trade—durables .....	1,023	7.1	8.1	38,976

Source: U.S. Census Bureau and the Oregon Employment Department, Local Employment Dynamics program, 2002, Appendix Tables 1 and 2. See Web site: <http://lehd.dsd.census.gov>.

### Turnover Rate

Turnover rate =

$$\frac{1}{2} * \left( \frac{\text{accessions}_t + \text{separations}_t}{\text{average employment}_{t,t-1}} \right)$$

A worker that retires is included in the turnover rate.

within an industry. Industries with a history of relatively high turnover rates may have little need for specific skills and may find it easy to replace employees. As a result, firms in such industries may be likely to pay relatively low wages. A relatively low turnover rate for a specific age group, such as older workers, may indicate that workers in that age group are relatively skilled or not readily replaced. The LED data enable us, for the first time, to identify the nature of demand for older workers in particular industries.

The job turnover rate is also a measure of job stability. Older workers who work in low turnover industries are more likely to have stable employment, and hence,

may spend less time looking for work and retraining for new jobs. The average quarterly turnover rate for all workers in Oregon was 11.5 percent in 2002 (although this includes the relatively high turnover rates of teenagers and young adults).<sup>7</sup> For workers 65 years and older, it was 11.0 percent; for those 55 - 64 years old, 7.9 percent.

The industries in Figure 2 with the highest average quarterly turnover rates for workers 55-64 years old in 2002 were private households (average quarterly turnover rate 93 percent), motor freight transportation (8 percent), and local and suburban transit (8 percent). Industries from Figure 2 with lower average quarterly turnover rates for this age group include primary metal industries and paper and allied products (with turnover rates of 4 percent to 5 percent each). Average quarterly turnover rates for 2002 for these and other industries are shown in Appendix Table 2.

<sup>7</sup> This is a simple average of four quarters in a calendar year.

Of the top ten industries in Oregon employing workers 65 years and older in 2002 (Table 1), the eating and drinking places (13 percent) and business services (15 percent) industries had high average quarterly turnover rates; the lowest were the membership organizations industry (8 percent) and wholesale trade industry.

### Where do older workers work?

The previous section identifies which industries are the most vulnerable to an aging workforce. This section asks where older workers are most concentrated and what their working conditions are like. While 86 percent of the United States population 65 years and older was not in the labor force in 2000, many experts forecast that the proportion of older workers in the labor force will grow.<sup>8</sup> The types of work performed by today's older workers may indicate the work that older people will perform in the future. Planners should also examine the type of work done by younger age groups, such as those 35-44 years

<sup>8</sup> U.S. Census Bureau, The Older Population in the United States: March 2000, 2001.

old, for the changes they might expect among older workers, given differences in the type of education different age groups received and changes in the needs of industries. Such factors affect the needs, resources, and choices of tomorrow's older workers as well as of potential employers.

As shown in Figure 3, the industries where workers 65 years and over were most likely to be employed in Oregon in 2002 were eating and drinking places, business services, health services, (employing 7 percent to 8 percent of the workforce 65 years and older, over 2,000 workers each), and membership organizations (5 percent). Half of workers 65 years and older in Oregon were employed in the first ten industries shown in Figure 3, compared with 41 percent of all workers. Older and younger workers may be employed in distinctly different types of firms within these industries, however, and younger workers may be assigned different tasks.

Between 1991 and 2002, there were substantial changes in the top ten industries that employed the largest number of workers 65 years and older in 2002 (Table 2).<sup>9</sup> Despite the shuffling in rank, service industries have long been the major employers of the oldest workers in Oregon.

### Employment dynamics and older workers.

The employment numbers in the preceding section show only one part of the employment picture. Even when *levels* of employment in an industry change little, enormous change can occur in the underlying numbers. Economists refer to the underlying changes as "job creation" and "job destruction." Even if

<sup>9</sup> Historical statistics are consistent in the LED program, so it is possible to make comparisons of statistics over time.

Figure 3.  
**Percentage of Workers 65 Years and Older in Oregon by Industry: 2002**

(Percent of workers aged 65+ years)



Source: U.S. Census Bureau and the Oregon Employment Department, Local Employment Dynamics program, 2002, Appendix Table 1 and Web site: <http://lehd.dsd.census.gov>.

employment levels in an industry stay the same, some firms add jobs and others eliminate jobs. So, while Figure 3 identifies the industries that employed a high proportion of older workers in Oregon in 2002, LED program data reveal more detail. LED indicators also tally the number of jobs gained and lost by older workers in the Oregon economy.<sup>10</sup>

<sup>10</sup> Job losses for older workers can happen in two ways — a firm can actually reduce employment, or it can substitute a younger worker for an older worker.

**Job Creation** — New jobs are created either by new businesses opening or by existing firms adding new jobs.

**Job Destruction** — Jobs are lost to the economy when businesses close or reduce employment.

**Net Job Flow** — The difference between current and previous full quarter employment across all businesses.



Table 2.  
**Top Ten Employers in Oregon Employing Workers 65 and Older by Rank: First Quarter 1991 and 2002**

1991 rank	2002 rank	Industry	Number of workers 65 and older		Percent change, first quarter, 1991-2002	Number of workers 14 and older, 2002
			First quarter, 1991	First quarter, 2002		
3	1	Eating and drinking .....	1,043	2,659	154.9	75,752
5	2	Business services .....	945	2,420	156.1	68,895
1	3	Health services .....	1,512	2,307	52.6	94,916
2	4	Membership organizations .....	1,115	1,500	34.5	21,063
4	5	Real estate .....	961	1,372	42.8	18,316
8	6	Social services .....	657	1,351	105.6	37,147
14	7	Agricultural production—crops .....	451	1,267	180.9	15,458
12	8	Car dealers, gas stations .....	527	1,180	123.9	25,695
7	9	Miscellaneous retail .....	839	1,167	39.1	27,357
6	10	Wholesale trade—durables .....	903	1,065	17.9	38,976

Source: U.S. Census Bureau and the Oregon Employment Department, Local Employment Dynamics program, 1991 and 2002, Appendix Table 3. See Web site: <http://lehd.dsd.census.gov>.

Table 3.  
**Job Gains and Losses Among Industry Groups in Oregon by Industry: 2002**

(Average number of jobs a quarter)

Top ten industries that created jobs for workers 65 and over	Jobs created	Jobs destroyed	Net change	Total employment	
				65 and older	Workers 14 and older
Eating and drinking places .....	257	512	-255	2,411	75,752
Business services .....	238	441	-203	2,217	68,895
Agricultural production—crops .....	221	184	38	1,223	15,458
Health services .....	155	386	-231	2,067	94,916
Social services .....	133	256	-123	1,250	37,147
General merchandise stores .....	124	305	-182	785	27,129
Real estate .....	123	151	-28	1,355	18,316
Hotels/other lodging places .....	113	154	-42	793	15,591
Construction—special trade .....	101	121	-21	836	39,676
Membership organizations .....	91	157	-66	1,493	21,063

Source: U.S. Census Bureau and the Oregon Employment Department, Local Employment Dynamics program, 2002, Appendix Tables 4 and 5. See Web site: <http://lehd.dsd.census.gov>.

The LED statistics reveal that, on average in Oregon in 2002, for workers 65 years and older, 2,822 jobs were created a quarter (Appendix Table 4) and 5,368 were lost (Appendix Table 5) — on average, a net decrease of 2,546 such workers employed a quarter. The industries that created the most jobs for workers 65 years and older (Table 3) were eating and drinking places, with 257 jobs created on average a quarter, followed by business services (238 jobs). The industries that destroyed the most jobs for the oldest workers were eating and drinking places (512 jobs a quarter destroyed on

average), business services (441 jobs), and health services (386 jobs). These changes represented, in Oregon in 2002, an average net loss of 255 jobs in eating and drinking places, 203 jobs in business services, and 231 jobs in health services.

#### What do older workers earn?

How much do older workers earn in the industries most likely to employ them? On average, full-quarter workers 65 years and older in 2002 earned \$1,861 a month in Oregon, and workers of all ages averaged \$2,890 a month (Table 4 and Appendix Table 6).

As is the case for all workers, the average earnings levels of older workers vary greatly among industries. For example, in eating and drinking places, which employed 8 percent of all workers 65 years and older in Oregon in 2002, the average monthly earnings were \$1,062. Workers 14 and

#### Average Earnings for Full-Quarter Employees —

Total earnings of all workers employed the full quarter divided by the number of such workers.

Table 4.  
**Average Monthly Earnings Among Top Ten Industries in Oregon by Age: 2002**

Industry	Average monthly earnings for workers 65 and older (dollars)	Average monthly earnings 14 and older total workers (dollars)	Workers 65 and older (number)	Workers 14 and older (number)
<b>Total.....</b>	<b>1,861</b>	<b>2,890</b>	<b>30,168</b>	<b>1,027,592</b>
Eating and drinking places .....	1,062	1,155	2,411	75,752
Business services .....	1,340	2,829	2,217	68,895
Health services .....	2,749	3,413	2,067	94,916
Membership organizations.....	935	1,604	1,493	21,063
Real estate .....	1,484	2,331	1,355	18,316
Social services.....	1,187	1,701	1,250	37,147
Agricultural production—crops .....	1,358	1,749	1,223	15,458
Miscellaneous retail.....	1,145	1,862	1,134	25,695
Car dealers/gas stations .....	1,911	2,820	1,109	27,357
Wholesale trade—durables .....	2,967	4,089	1,023	38,976

Source: U.S. Census Bureau and the Oregon Employment Department, Local Employment Dynamics program, 2002, Appendix Table 6. See Web site: <http://lehd.dsd.census.gov>.

Table 5.  
**Average Monthly Earnings of Workers in Oregon by Age: 2002**

(Includes only industries that employed 100 or more workers 65 and older)

Industry	Average monthly earnings of workers 65 and older (dollars)	Average monthly earnings of workers 14 and older (dollars)	Workers 65 and older (number)	Workers 14 and older (number)
Primary metal industries.....	5,535	4,016	112	7,772
Measuring/analyzing instruments.....	4,165	4,370	142	8,968
Legal services .....	4,122	4,276	204	9,284
Industrial/commercial machinery .....	3,604	4,179	265	16,057
Insurance carriers .....	3,437	4,136	105	11,980
Lumber and wood products.....	3,361	3,144	771	35,813
Construction other than building.....	3,251	3,699	171	6,656
Electrical, gas, and sanitary services .....	3,063	5,451	101	8,823
Electronic/electrical equipment.....	3,025	5,079	195	31,640
Wholesale trade—durables .....	2,967	4,089	1,023	38,976

Source: U.S. Census Bureau and the Oregon Employment Department, Local Employment Dynamics program, 2002, Appendix Tables 1 and 6. See Web site: <http://lehd.dsd.census.gov>.

older in that industry had average monthly earnings of \$1,155. About 7 percent of the oldest workers in Oregon were employed by the business services industry, and they had average monthly earnings of \$1,340. Of the top ten employers of older workers in Oregon in 2002, the industry with the highest average monthly earnings was wholesale trade - durables, with an average of \$2,967 a month; the lowest was membership organizations, with an average \$935 a month.

Among all industry groups, primary metal industries had the highest average monthly earnings in 2002 for workers 65 years and older - \$5,535 - compared with \$4,016 for all workers in this industry (Table 5). The number of workers 65 years and older in this industry is relatively small — 112 workers. Other high paying industries include measuring and analyzing instruments, legal services, and industrial and commercial machinery. Only 1 of the 2 industries that employed 500 or more workers 65

years and older — lumber and wood products — was relatively high paying, with average earnings of \$3,361 a month.

### Summary

This report provides answers to several key questions related to the aging of Oregon's workforce:

- What is the age composition of the workforce and what are the changes since 1991?



- Which industries may be most at risk of being affected by the aging of the workforce?
- How stable are the jobs of older workers?
- In which industries are older workers most likely to be employed?
- How much do older workers earn?

In Oregon in 2002, the industries that employed the highest proportions of workers 55-64 years old, and hence were likely to be substantially affected by retirements in the coming decade were: private households, local and suburban transit, oil and gas extraction, and membership organizations.

The local and suburban transit and private households industries had high proportions of workers 65 years and older, suggesting older people may continue working in these industries in coming years. The industries in which people 65 and older were most likely to be employed, eating and drinking places, business services, and health services were the same ones that employed a larger proportion of younger workers. This is not to say that these industries were similar to each other in all respects. Indeed, health services had a turnover rate similar to the average for all older workers, while business services and eating and drinking places had higher turnover. In terms of pay, older workers tended to fare best in industries with relatively few older workers and, as for all workers, in industries many highly trained, professional employees, such as in financial and scientific firms.

## TECHNICAL APPENDIX

### Background

The U.S. Census Bureau and partner states produce Quarterly Workforce Indicators (QWIs) for each state, metropolitan area, county, and Workforce Investment Board area. QWIs for other geographic areas are available through the state partners.

The QWIs are updated each quarter and annual averages are available at <http://lehd.dsd.census.gov>.

### Overview

The QWIs are key economic indicators selected jointly by the Census Bureau and its partner states. Each QWI provides a critical measure of an area's economy and is a tool to understand changes in the core performance of local economies.

The QWIs are updated 7 months after the end of a quarter, which makes them a current and a historical time series to monitor economic change. They serve as early indicators to states and local areas of emerging trends and help to identify turning points in the dynamics of the workforce and specific industries.

The database covers about 98 percent of the labor force.<sup>11</sup> The QWIs are derived from state administrative records and basic demographic information from other existing sources. Some information about

<sup>11</sup> Self-employed workers are not part of the LED database. The 2 percent of the labor force that are not part of covered employment are primarily railroad workers, independent contractors, some agricultural workers, and workers for some nonprofit organizations (such as religious organizations). See: U.S. Census Bureau, David W. Stevens and Julia Lane, "Employment That Is Not Covered By State Unemployment," Technical Paper No. TP-2002-16, January 2002, available on <http://lehd.dsd.census.gov>.

the workforce is not now available in this database, including hours and weeks worked, educational attainment, occupation, and whether workers worked for an entire quarter or a part of the quarter. The Census Bureau is working on long-term plans to include information of this type, particularly the lack of educational and occupational information.

Because the QWIs come from a mixture of sources, they are not directly comparable with statistics from worker-based surveys, such as the decennial census, the American Community Survey, and the Current Population Survey. Industries are based on the Standard Industrial Classification (SIC) system. The LED program will convert from the SIC system to the North American Industry Classification System (NAICS) in early 2004. Some classification titles appear to be similar but the detailed industry groups that compose the categories may differ between the SIC and NAICS systems.

Enhanced Unemployment Insurance (UI) wage records are the basic data source for the QWIs. Administrative records and the surveys differ in coverage, the timing of data collection, and concept definitions. The QWIs are not exactly comparable with establishment surveys either, such as those from the Bureau of Labor Statistics' ES202 program, which capture employment at an establishment on the 12th of the month.

The LED database can respond to a wide variety of questions about the workforce because it allows multiple definitions of "employment." That is because the QWIs are job-based statistics and different from the worker-based statistics familiar

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to many researchers.<sup>12</sup> The LED database includes all jobs held:

- In a quarter, regardless of length of time the job is held.
- At the beginning of a quarter.
- At the end of a quarter.
- **For a full quarter (the measure used in this report).**

The measure that is closest to the ES202 definition of employment is the second one, jobs held at the beginning of a quarter. This second measure has the additional advantage that the trends are similar to those shown by worker-based surveys such as the decennial census, although the levels differ.

Another difference among datasets is measurement of earnings. According to the *BLS Handbook of Methods* (1997), UI wage records measure “gross wages and salaries, bonuses, stock options, tips, and other gratuities, and the value of meals and lodging, where supplied.” They do not include OASDI, health insurance, workers’ compensation, unemployment insurance, private pensions, and welfare funds. The LED database does not include the number of hours or weeks an employee worked. Thus, what appears for an industry such as retail trade to be low average earnings in a given year or quarter may be the result of relatively low hourly wages, not working many hours in the time period, or both. In retail trade, much of the work is part-time and this affects the LED measure of average earnings.

### **The confidentiality of the statistics is protected.**

The Census Bureau and the state partners are committed to

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<sup>12</sup> For the QWIs, a “job” is defined as equivalent records for an employer and employee.

protecting the confidentiality of the data in the LED files. Technically, the approach to avoid disclosure of individual information is to combine cell suppression methodology with the addition of statistical noise, controlling key measures to county employment levels as reported by the Bureau of Labor Statistics. In plainer English, the technical techniques the Census Bureau uses mean that the final statistics are not shown if the numbers in a cell are small and the statistics that are shown are “fuzzy,” that is, close to the actual information but not exact.

Only Census Bureau employees or individuals who have special sworn status are permitted to work with the data. Those who work with the data must have an official security clearance based on a background check, including fingerprinting, of everyone who has access to Title 13 data. Additionally, they are subject to a \$250,000 fine and 5 years in jail if the identity of an individual or business is disclosed. The Census Bureau and state data custodians review all projects before release to avoid disclosure of confidential information.

More detailed information about the confidentiality protection system is available under the “Confidentiality” menu at: <http://lehd.dsd.census.gov/>.

### **Why the Census Bureau produces the LED statistics.**

The Census Bureau and the state partners are committed to protecting the integrity of information and producing the highest quality statistics. We accomplish this by ensuring that the LED program is consistent with the Census Bureau’s legal authority and mission, that the methodologies used are the best alternatives, and that the LED program produces demonstrated benefits.

The state partners and the Census Bureau both benefit from the LED program. The state partners fulfill their mandate to provide high-quality regional labor market information and the Census Bureau improves the economic and demographic survey estimates and intercensal population estimates. Specifically, the LED program supports Census Bureau research on improving the quality, use, and analysis of its census, survey, and estimation-based data products.

Estimates of the employed population by demographic, geographic, and industrial detail enhances the Census Bureau’s existing agency-wide programs. In particular, estimates of workers in each county and industry, in conjunction with statistical information about employers, will provide long-needed and critical but previously unavailable information for key programs such as the demographic survey estimates and the intercensal population estimates program. Census Bureau programs will benefit from new information on turnover, job creation, and job destruction by age and sex, and information on the employment of individuals in each county.

More information about the benefits of the LED program may be found on the LED Web site at: <http://lehd.dsd.census.gov/>.

### **ACKNOWLEDGEMENT**

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## APPENDIX TABLES

Table A1. **Oregon Employment by Industry and Age: 2002**

(Full Quarter Employment)

Industry	14-44 years	45-54 years	55-64 years	65 years and older	14 years and older
<b>Total, age group</b> .....	<b>643,219</b>	<b>241,152</b>	<b>113,053</b>	<b>30,168</b>	<b>1,027,592</b>
<b>Agriculture</b>					
Agricultural production—crops.....	9,553	3,153	1,529	1,223	15,458
Agricultural production—livestock.....	1,366	442	225	141	2,174
Agricultural services.....	8,061	2,147	784	428	11,420
Forestry.....	2,136	761	328	230	3,455
Fishing, hunting, and trapping.....	128	80	19	9	236
<b>Mining</b>					
Metal mining.....	*2	*4	*4	-	10
Oil/gas extraction.....	17	*7	*6	-	30
Mining/quarrying—nonmetallic.....	723	427	265	48	1,463
<b>Construction</b>					
Building construction—general contractor.....	9,191	3,722	1,417	280	14,610
Construction other than building.....	3,933	1,731	821	171	6,656
Construction—special trade.....	26,771	8,674	3,395	836	39,676
<b>Manufacturing</b>					
Food/kindred products.....	10,705	4,860	2,250	518	18,333
Textile mill products.....	229	159	81	19	488
Apparel from fabrics.....	1,333	583	273	84	2,273
Lumber and wood products.....	20,896	9,415	4,731	771	35,813
Furniture/fixtures.....	2,221	813	323	67	3,424
Paper/allied products.....	2,453	1,761	986	57	5,257
Printing/publishing.....	7,507	3,308	1,582	350	12,747
Chemicals.....	1,833	879	359	57	3,128
Petroleum refining.....	198	108	61	7	374
Rubber and plastics.....	3,302	1,322	592	133	5,349
Leather and leather products.....	176	74	24	7	281
Stone, clay, and glass.....	2,528	1,215	521	90	4,354
Primary metal industries.....	4,115	2,272	1,273	112	7,772
Fabricated metal products.....	6,757	2,959	1,430	262	11,408
Industrial/commercial machinery.....	9,320	4,454	2,018	265	16,057
Electronic/electrical equipment.....	21,786	7,461	2,198	195	31,640
Transportation equipment.....	8,135	3,837	1,658	193	13,823
Measuring/analyzing instruments.....	4,946	2,708	1,172	142	8,968
Miscellaneous manufacturing.....	2,137	847	390	79	3,453
<b>Transportation, Communication, and Utilities</b>					
Railroad transport.....	-	-	-	-	-
Local/suburban transit.....	1,864	1,071	836	311	4,082
Motor freight transportation.....	9,984	5,864	3,266	675	19,789
Water transportation.....	1,033	614	344	46	2,037
Transportation by air.....	5,630	1,912	705	86	8,333
Pipelines, except natural gas.....	-	-	-	-	-
Transportation services.....	2,551	1,041	487	106	4,185
Communications.....	7,385	3,029	1,031	80	11,525
Electrical, gas, and sanitary services.....	4,370	3,165	1,187	101	8,823
<b>Wholesale Trade</b>					
Wholesale trade—durables.....	22,987	10,235	4,731	1,023	38,976
Wholesale trade—nondurables.....	20,262	7,504	3,210	827	31,803

See footnotes at end of table.

Table A1. **Oregon Employment by Industry and Age: 2002—Con.**

Industry	14-44 years	45-54 years	55-64 years	65 years and older	14 years and older
<b>Retail Trade</b>					
Building materials, hardware .....	5,639	2,077	1,102	340	9,158
General merchandise stores .....	17,788	5,680	2,876	785	27,129
Food stores .....	21,229	5,428	2,578	742	29,977
Car dealers, gas stations .....	17,712	5,591	2,945	1,109	27,357
Apparel and accessory stores .....	7,216	1,345	721	274	9,556
Home furniture stores .....	7,720	2,148	1,070	290	11,228
Eating and drinking places .....	60,437	8,986	3,918	2,411	75,752
Miscellaneous retail .....	15,876	5,571	3,114	1,134	25,695
<b>Finance, Insurance, and Real Estate</b>					
Depository institutions .....	10,222	3,807	1,705	192	15,926
Nondepository institutions .....	6,011	1,713	700	78	8,502
Security and commodity brokers .....	2,047	840	397	77	3,361
Insurance carriers .....	7,156	3,381	1,338	105	11,980
Insurance agents/brokers .....	4,828	2,285	1,262	257	8,632
Real Estate .....	9,714	4,368	2,879	1,355	18,316
Holding/other investment offices .....	690	409	198	84	1,381
<b>Services</b>					
Hotels/other lodging places .....	9,923	3,130	1,745	793	15,591
Personal services .....	5,747	1,865	1,040	372	9,024
Business services .....	46,628	13,749	6,301	2,217	68,895
Car repair, services, and parking .....	8,243	2,406	1,150	475	12,274
Miscellaneous repair services .....	1,785	820	401	85	3,091
Motion pictures .....	4,205	651	271	76	5,203
Amusement and recreation services .....	9,798	2,266	1,088	532	13,684
Health services .....	50,921	29,246	12,682	2,067	94,916
Legal services .....	5,336	2,521	1,223	204	9,284
Educational services .....	8,071	4,329	2,288	483	15,171
Social services .....	22,653	8,760	4,484	1,250	37,147
Museums, galleries, and gardens .....	634	271	138	56	1,099
Membership organizations .....	9,973	6,061	3,536	1,493	21,063
Engineering, accounting, and research .....	15,513	6,357	3,013	626	25,509
Private households .....	775	369	347	177	1,668
Services, not classified .....	188	102	28	11	329

- Represents zero. \* The value has been significantly distorted to protect confidentiality

Source: U.S. Census Bureau and Oregon Employment Department, Local Employment Dynamics program, 2002, Web site: <http://lehd.dsd.census.gov>.

Table A2. **Average Quarterly Turnover Rates in Oregon by Industry and Age: 2002**

(In percent)

Industry	14-44 years	45-54 years	55-64 years	65 years and older	14 years and older
<b>Total</b> .....	<b>13.46</b>	<b>7.93</b>	<b>7.89</b>	<b>11.03</b>	<b>11.48</b>
<b>Agriculture</b>					
Agricultural production—crops .....	16.88	12.68	13.55	18.58	15.87
Agricultural production—livestock .....	13.64	11.29	10.28	13.05	12.72
Agricultural services .....	15.65	10.73	11.27	20.78	14.58
Forestry .....	22.01	14.38	13.97	22.26	19.73
Fishing, hunting, and trapping .....	20.58	12.88	5.43	-	17.93
<b>Mining</b>					
Metal mining .....	-	-	-	-	-
Oil/gas extraction .....	-	-	-	-	-
Mining/quarrying—nonmetallic .....	9.92	5.58	5.79	7.28	7.54
<b>Construction</b>					
Building construction—general contractor .....	15.26	10.98	10.70	13.33	13.71
Construction other than building .....	16.62	11.79	11.88	14.00	14.61
Construction—special trade .....	14.57	10.58	10.73	13.81	13.35
<b>Manufacturing</b>					
Food/kindred products .....	11.10	6.84	6.60	15.14	9.53
Textile mill products .....	15.69	6.70	5.90	-	9.73
Apparel from fabrics .....	11.24	6.41	7.28	10.78	9.51
Lumber and wood products .....	9.90	6.06	6.08	10.36	8.45
Furniture/fixtures .....	10.25	6.93	6.18	12.68	9.08
Paper/allied products .....	6.73	3.91	5.40	6.62	5.50
Printing/publishing .....	11.30	8.90	8.48	9.96	10.26
Chemicals .....	8.29	5.20	5.68	7.82	7.03
Petroleum refining .....	5.69	3.11	6.45	-	7.49
Rubber and plastics .....	8.70	5.42	5.21	8.63	7.52
Leather and leather products .....	9.44	9.54	2.80	7.44	8.21
Stone, clay, and glass .....	8.25	4.99	4.57	7.16	6.77
Primary metal industries .....	6.68	4.21	4.83	9.48	5.61
Fabricated metal products .....	8.79	4.94	4.62	8.14	7.24
Industrial/commercial machinery .....	6.86	4.37	4.53	7.67	5.87
Electronic/electrical equipment .....	5.27	3.85	5.19	7.46	4.92
Transportation equipment .....	9.20	4.92	5.49	10.18	7.60
Measuring/analyzing instruments .....	5.29	3.37	3.37	7.17	4.44
Miscellaneous manufacturing .....	9.89	5.63	5.18	8.85	8.17
<b>Transportation, Communication, and Utilities</b>					
Railroad transport .....	-	-	-	-	-
Local/suburban transit .....	12.22	8.99	7.94	9.20	10.27
Motor freight transportation .....	10.88	7.69	7.68	9.96	9.46
Water transportation .....	10.53	7.81	6.74	8.48	8.95
Transportation by air .....	7.14	4.30	7.53	15.24	6.51
Pipelines, except natural gas .....	-	-	-	-	-
Transportation services .....	9.21	6.68	6.50	7.81	8.18
Communications .....	11.34	6.92	7.67	16.94	9.84
Electrical, gas, and sanitary services .....	6.59	2.74	4.05	10.03	4.88
<b>Wholesale Trade</b>					
Wholesale trade—durables .....	9.30	6.31	6.07	7.13	8.11
Wholesale trade—nondurables .....	9.55	6.30	6.52	9.46	8.48

See footnotes at end of table.

Table A2. **Average Quarterly Turnover Rates in Oregon by Industry and Age: 2002—Con.**

(In percent)

Industry	14-44 years	45-54 years	55-64 years	65 years and older	14 years and older
<b>Retail Trade</b>					
Building materials, hardware . . . . .	12.94	7.43	7.04	8.08	10.83
General merchandise stores . . . . .	15.22	10.12	9.53	9.01	13.43
Food stores . . . . .	12.95	5.99	5.83	8.24	10.96
Car dealers, gas stations . . . . .	15.23	9.14	8.45	8.85	13.09
Apparel and accessory stores . . . . .	17.36	7.63	6.37	7.96	14.97
Home furniture stores . . . . .	14.37	7.93	8.07	9.10	12.41
Eating and drinking places . . . . .	19.23	11.23	10.13	12.55	17.63
Miscellaneous retail . . . . .	15.19	8.99	8.24	8.12	12.74
<b>Finance, Insurance, and Real Estate</b>					
Depository institutions . . . . .	9.29	5.29	5.63	6.63	7.86
Nondepository institutions . . . . .	12.13	8.04	9.16	10.30	11.02
Security and commodity brokers . . . . .	8.11	4.58	5.44	7.42	6.88
Insurance carriers . . . . .	6.81	4.51	4.75	10.07	5.92
Insurance agents/brokers . . . . .	11.03	6.83	6.91	6.75	9.04
Real estate . . . . .	14.50	9.62	8.86	9.72	12.08
Holding/other investment offices . . . . .	10.76	7.29	8.30	6.18	9.02
<b>Services</b>					
Hotels/other lodging places . . . . .	19.23	13.32	12.63	14.31	17.05
Personal services . . . . .	15.60	8.83	8.93	11.49	13.16
Business services . . . . .	21.37	15.50	14.48	14.78	19.33
Car repair, services, and parking . . . . .	14.10	8.38	7.97	10.73	12.28
Miscellaneous repair services . . . . .	11.11	7.25	7.31	7.99	9.41
Motion pictures . . . . .	17.49	10.28	8.18	16.06	16.19
Amusement and recreational services . . . . .	19.50	12.11	13.54	14.70	17.65
Health services . . . . .	11.02	6.51	6.39	8.58	8.88
Legal services . . . . .	9.44	4.83	4.43	6.65	7.34
Educational services . . . . .	14.15	6.56	6.16	8.73	10.52
Social services . . . . .	16.33	10.55	9.80	12.05	13.99
Museums, galleries, and gardens . . . . .	12.87	6.10	8.18	7.77	10.28
Membership organizations . . . . .	12.98	6.82	6.58	8.08	9.73
Engineering, accounting, and research . . . . .	11.01	7.58	7.82	9.98	9.75
Private households . . . . .	86.60	98.70	92.59	74.91	90.67
Services, not classified . . . . .	16.63	10.66	9.87	-	12.63

- Represents zero. \* The value has been significantly distorted to protect confidentiality

Source: U.S. Census Bureau and Oregon Employment Department Local Employment Dynamics program, 2002, Web site: <http://lehd.dsd.census.gov>.



Table A3. **Oregon Employment by Industry and Age: First Quarter 1991 and 2002**

(Full Quarter Employment)

Industry	Under 65		65 and older	
	1991	2002	1991	2002
<b>Total.....</b>	<b>829,609</b>	<b>1,090,883</b>	<b>18,396</b>	<b>32,033</b>
<b>Agriculture</b>				
Agricultural production—crops .....	10,677	14,970	451	1,267
Agricultural production—livestock.....	1,871	2,142	99	147
Agricultural services .....	5,276	11,029	95	405
Forestry .....	2,190	3,220	71	234
Fishing, hunting, and trapping.....	399	228	6	9
<b>Mining</b>				
Metal mining.....	53	11	-	-
Oil/gas extraction.....	14	29	-	-
Mining/quarrying—nonmetallic .....	1,076	1,512	44	48
<b>Construction</b>				
Building Construction—general contractor .....	8,743	14,540	150	282
Construction other than building.....	5,317	6,467	105	172
Construction—special trade.....	24,169	39,123	342	835
<b>Manufacturing</b>				
Food/kindred products .....	19,615	19,360	292	511
Textile mill products.....	1,651	565	46	22
Apparel from fabrics .....	2,219	2,273	67	86
Lumber and wood products.....	50,744	38,794	552	777
Furniture/fixtures .....	2,460	3,375	42	61
Paper/allied products .....	9,231	6,051	48	62
Printing/publishing .....	13,227	13,368	327	374
Chemicals .....	2,476	3,200	34	59
Petroleum refining .....	589	380	12	7
Rubber and plastics .....	3,919	5,399	47	136
Leather and leather products .....	378	269	13	9
Stone, clay, and glass .....	3,719	4,617	65	93
Primary metal industries.....	10,986	8,273	80	117
Fabricated metal products.....	9,253	11,727	110	270
Industrial/commercial machinery .....	17,764	16,741	200	270
Electronic/electrical equipment.....	15,668	32,789	112	204
Transportation equipment .....	12,173	15,303	80	204
Measuring/analyzing instruments.....	10,288	9,600	79	143
Miscellaneous manufacturing .....	3,474	3,489	87	82
<b>Transportation, Communication, and Utilities</b>				
Railroad transport .....	-	-	-	-
Local/suburban transit .....	3,239	4,455	166	373
Motor freight transportation.....	20,910	20,681	354	688
Water transportation .....	1,716	2,142	37	51
Transportation by air.....	4,344	10,036	27	97
Pipelines, except natural gas .....	-	-	-	-
Transportation services .....	3,467	4,247	63	104
Communications .....	11,593	13,280	82	86
Electrical, gas, and sanitary services .....	9,523	10,490	74	111
<b>Wholesale Trade</b>				
Wholesale trade—durables.....	40,030	40,535	903	1,065
Wholesale trade—nondurables.....	28,806	34,221	641	837

See footnotes at end of table.

Table A3. **Oregon Employment by Industry and Age: First Quarter 1991 and 2002—Con.**

Industry	Under 65		65 and older	
	1991	2002	1991	2002
<b>Retail Trade</b>				
Building materials, hardware .....	7,242	10,211	280	370
General merchandise stores .....	25,733	34,558	388	1,022
Food stores .....	30,633	34,462	429	855
Car dealers, gas stations .....	21,003	28,446	527	1,180
Apparel and accessory stores .....	9,280	10,813	319	312
Home furniture stores .....	7,972	11,737	249	297
Eating and drinking places .....	58,270	80,718	1,043	2,659
Miscellaneous retail .....	20,001	26,282	839	1,167
<b>Finance, Insurance, and Real Estate</b>				
Depository institutions .....	19,334	19,151	220	230
Nondepository institutions .....	3,161	9,064	31	80
Security and commodity brokers .....	1,863	3,793	53	90
Insurance carriers .....	13,009	14,472	87	120
Insurance agents/brokers .....	5,794	8,559	166	255
Real estate .....	11,492	17,509	961	1,372
Holding/other investment offices .....	1,527	1,284	77	79
<b>Services</b>				
Hotels/other lodging places .....	11,864	15,567	409	816
Personal services .....	8,304	9,185	335	391
Business services .....	32,632	71,023	945	2,420
Car repair, services, and parking .....	7,788	12,357	242	527
Miscellaneous repair services .....	3,793	3,069	86	82
Motion pictures .....	3,174	5,533	53	88
Amusement and recreational services .....	7,560	13,647	330	517
Health services .....	75,748	107,219	1,512	2,307
Legal services .....	7,822	9,214	152	199
Educational services .....	8,826	14,937	270	495
Social services .....	19,208	40,127	657	1,351
Museums, galleries, and gardens .....	,696	1,157	46	60
Membership organizations .....	14,152	19,751	1,115	1,500
Engineering, accounting, and research .....	16,852	25,815	394	648
Private households .....	1,233	1,947	169	231
Services, not classified .....	280	320	11	11

- Represents zero.

Source: U.S. Census Bureau and Oregon Employment Department, Local Employment Dynamics program, 2002, Web site: <http://ehd.dsd.census.gov>.

Table A4. **Composition of Job Creation in Oregon by Industry and Age: 2002**

Industry	14-44 years	45-54 years	55-64 years	65 years and older
<b>Total.....</b>	<b>70,817</b>	<b>17,287</b>	<b>7,818</b>	<b>2,822</b>
<b>Agriculture</b>				
Agricultural production—crops .....	1545	350	186	221
Agricultural production—livestock.....	181	48	25	19
Agricultural services .....	1130	218	82	83
Forestry .....	424	83	36	42
Fishing, hunting, and trapping.....	24	10	*2	*1
<b>Mining</b>				
Metal mining.....	-	-	-	-
Oil/gas extraction.....	*1	*1	-	-
Mining/quarrying—nonmetallic .....	54	16	11	4
<b>Construction</b>				
Building construction—general contractor .....	1322	376	136	33
Construction other than building.....	512	156	83	19
Construction—special trade.....	3531	851	314	101
<b>Manufacturing</b>				
Food/kindred products .....	988	291	121	74
Textile mill products.....	7	*2	*1	*1
Apparel from fabrics .....	133	31	19	8
Lumber and wood products.....	1456	327	135	59
Furniture/fixtures .....	160	33	16	8
Paper/allied products .....	78	21	8	2
Printing/publishing .....	884	367	167	31
Chemicals.....	126	42	15	2
Petroleum refining.....	19	*3	3	-
Rubber and plastics .....	207	48	18	7
Leather and leather products .....	9	*4	*1	-
Stone, clay, and glass .....	138	44	14	5
Primary metal industries.....	185	76	51	*3
Fabricated metal products.....	450	112	47	14
Industrial/commercial machinery .....	533	150	65	13
Electronic/electrical equipment.....	528	121	42	5
Transportation equipment .....	596	122	30	11
Measuring/analyzing instruments.....	171	52	20	5
Miscellaneous manufacturing .....	162	38	14	4
<b>Transportation, Communication, and Utilities</b>				
Railroad transport .....	-	-	-	-
Local/suburban transit .....	153	76	51	24
Motor freight transportation.....	800	308	165	51
Water transportation .....	66	30	9	1
Transportation by air.....	204	57	29	7
Pipelines, except naural gas.....	-	-	-	-
Transportation services .....	175	58	25	5
Communications .....	723	195	62	7
Electrical, gas, and sanitary services .....	389	119	39	8
<b>Wholesale Trade</b>				
Wholesale trade—durables.....	1872	621	246	52
Wholesale trade—nondurables.....	1722	450	184	63

See footnotes at end of table.

Table A4. **Composition of Job Creation in Oregon by Industry and Age: 2002—Con.**

Industry	14-44 years	45-54 years	55-64 years	65 years and older
<b>Retail Trade</b>				
Building materials, hardware .....	679	142	71	23
General merchandise stores .....	4179	1242	555	124
Food stores .....	1986	305	141	52
Car dealers, gas stations .....	1985	415	209	82
Apparel and accessory stores .....	704	80	38	17
Home furniture stores .....	851	149	79	22
Eating and drinking places .....	7983	906	370	257
Miscellaneous retail .....	1928	465	225	69
<b>Finance, Insurance, and Real Estate</b>				
Depository institutions .....	628	160	83	9
Nondepository institutions .....	565	117	60	7
Security and commodity brokers .....	149	47	21	5
Insurance carriers .....	394	143	55	6
Insurance agents/brokers .....	545	164	90	15
Real estate .....	1210	385	235	123
Holding/other investment offices .....	66	30	11	5
<b>Services</b>				
Hotels/other lodging places .....	1644	414	238	113
Personal services .....	772	147	92	39
Business services .....	7555	1597	699	238
Car repair, services, and parking .....	936	165	74	45
Miscellaneous repair services .....	181	53	23	5
Motion pictures .....	420	52	20	8
Amusement and recreational services .....	1603	273	154	81
Health services .....	5242	2003	814	155
Legal services .....	437	108	52	11
Educational services .....	876	225	106	26
Social services .....	2870	774	373	133
Museums, galleries, and gardens .....	45	10	7	3
Membership organizations .....	1108	345	191	91
Engineering, accounting, and research .....	1472	400	202	46
Private households .....	161	63	46	25
Services, not classified .....	24	11	*4	*1

- Represents zero. \* The value has been significantly distorted to protect confidentiality

Source: U.S. Census Bureau and Oregon Employment Department, Local Employment Dynamics program, 2002, Web site: <http://lehd.dsd.census.gov>.

Table A5. **Composition of Job Destruction in Oregon by Industry and Age: 2002**

Industry	14-44 years	45-54 years	55-64 years	65 years and older
<b>Total.....</b>	<b>109,385</b>	<b>36,293</b>	<b>18,489</b>	<b>5,368</b>
<b>Agriculture</b>				
Agricultural production—crops .....	1,262	355	190	184
Agricultural production—livestock.....	187	55	33	20
Agricultural services .....	1,054	225	100	81
Forestry .....	301	83	38	33
Fishing, hunting, and trapping.....	25	10	*3	*1
<b>Mining</b>				
Metal mining.....	-	-	-	-
Oil/gas extraction.....	*1	-	-	-
Mining/quarrying nonmetallic.....	108	52	33	7
<b>Construction</b>				
Building construction—general contractor .....	1,091	350	153	42
Construction other than building.....	599	251	140	33
Construction—special trade.....	3,061	839	388	121
<b>Manufacturing</b>				
Food/kindred products .....	1,705	784	395	105
Textile mill products.....	88	49	24	6
Apparel from fabrics .....	128	34	19	10
Lumber and wood products.....	3,819	1,809	1,067	144
Furniture/fixtures .....	164	57	25	8
Paper/allied products .....	600	433	291	12
Printing/publishing .....	1,076	480	251	73
Chemicals.....	175	79	47	6
Petroleum refining.....	22	13	6	-
Rubber and plastics .....	264	88	47	20
Leather and leather products .....	13	*3	*2	2
Stone, clay, and glass .....	329	164	88	16
Primary metal industries.....	692	367	184	24
Fabricated metal products.....	737	297	162	36
Industrial/commercial machinery .....	1,050	461	221	35
Electronic/electrical equipment.....	1,509	722	267	36
Transportation equipment .....	1,186	555	284	29
Measuring/analyzing instruments.....	505	404	193	19
Miscellaneous manufacturing .....	226	70	38	9
<b>Transportation, Communication, and Utilities</b>				
Railroad transport .....	-	-	-	-
Local/suburban transit .....	414	223	196	79
Motor freight transportation.....	1,555	844	491	102
Water transportation .....	134	98	72	8
Transportation by air.....	1,555	503	177	19
Pipelines, except natural gas .....	-	-	-	-
Transportation services .....	248	103	53	15
Communications .....	1,604	791	314	25
Electrical, gas, and sanitary services .....	912	764	326	22
<b>Wholesale Trade</b>				
Wholesale trade—durables.....	3,082	1,224	616	124
Wholesale trade—nondurables.....	3,473	1,101	471	123

See footnotes at end of table.

Table A5. **Composition of Job Destruction in Oregon by Industry and Age: 2002—Con.**

Industry	14-44 years	45-54 years	55-64 years	65 years and older
<b>Retail Trade</b>				
Building materials, hardware .....	1,274	358	197	60
General merchandise stores .....	6,020	1,951	1,045	305
Food stores .....	5,589	1,339	661	192
Car dealers, gas stations .....	3,210	758	406	169
Apparel and accessory stores .....	2,049	326	171	68
Home furniture stores .....	1,432	255	136	42
Eating and drinking places .....	13,295	1,559	698	512
Miscellaneous retail .....	3,201	787	449	158
<b>Finance, Insurance, and Real Estate</b>				
Depository institutions .....	2,712	959	458	59
Nondepository institutions .....	914	238	103	12
Security and commodity brokers .....	351	154	87	18
Insurance carriers .....	1,835	853	353	33
Insurance agents/brokers .....	511	175	100	23
Real estate .....	1,263	465	299	151
Holding/other investment offices .....	64	24	18	5
<b>Services</b>				
Hotels/other lodging places .....	1,702	483	310	154
Personal services .....	1,097	274	149	57
Business services .....	6,230	1,865	983	441
Car repair, services, and parking .....	1,296	279	152	109
Miscellaneous repair services .....	215	83	50	13
Motion pictures .....	948	73	29	14
Amusement and recreational services .....	1,654	284	155	82
Health services .....	8,342	4,748	2,183	386
Legal services .....	493	173	77	17
Educational services .....	963	328	214	71
Social services .....	4,519	1,514	831	256
Museums, galleries, and gardens .....	125	33	21	7
Membership organizations .....	1,193	454	302	157
Engineering, accounting, and research .....	1,643	599	303	89
Private households .....	340	163	143	78
Services, not classified .....	25	9	*4	*1

- Represents zero. \* The value has been significantly distorted to protect confidentiality

Source: U.S. Census Bureau and Oregon Employment Department, Local Employment Dynamics program, 2002, Web site: <http://lehd.dsd.census.gov>.



Table A6. **Average Monthly Earnings in Oregon by Industry and Age: 2002**

(In dollars)

Industry	45-54 years	55-64 years	65 years and older	14 years and older
<b>Total.....</b>	<b>3,549</b>	<b>3,350</b>	<b>1,861</b>	<b>2,890</b>
<b>Agriculture</b>				
Agricultural production—crops .....	2,115	1,901	1,358	1,749
Agricultural production—livestock.....	2,082	2,342	1,546	1,989
Agricultural services .....	2,416	2,244	1,496	2,035
Forestry .....	3,485	3,745	1,483	2,518
Fishing, hunting, and trapping.....	2,648	3,240	765	2,674
<b>Mining</b>				
Metal mining.....	5,620	15,002	-	8,926
Oil/gas extraction.....	3,172	2,553	-	3,539
Mining/quarrying—nonmetallic .....	3,513	3,323	2,248	3,196
<b>Construction</b>				
Building construction—general contractor .....	4,014	4,216	2,372	3,419
Construction other than building.....	4,064	3,952	3,251	3,699
Construction—special trade.....	3,774	3,711	1,987	3,211
<b>Manufacturing</b>				
Food/kindred products .....	2,895	2,841	1,939	2,495
Textile mill products.....	4,390	4,112	2,959	3,601
Apparel from fabrics .....	2,401	2,461	1,616	2,112
Lumber and wood products.....	3,595	3,924	3,361	3,144
Furniture/fixtures .....	3,176	3,450	2,081	2,704
Paper/allied products .....	4,538	4,982	7,092	4,300
Printing/publishing .....	3,462	3,344	2,522	3,074
Chemicals.....	4,516	5,851	4,021	3,980
Petroleum refining.....	4,367	3,435	1,847	3,634
Rubber and plastics .....	3,210	3,536	2,750	2,774
Leather and leather products .....	2,607	2,276	1,716	2,278
Stone, clay, and glass .....	3,554	3,737	2,543	3,193
Primary metal industries.....	4,563	4,588	5,535	4,016
Fabricated metal products.....	3,472	3,568	2,628	3,034
Industrial/commercial machinery .....	4,633	4,396	3,604	4,179
Electronic/electrical equipment.....	5,711	5,137	3,025	5,079
Transportation equipment .....	4,073	4,481	2,727	3,503
Measuring/analyzing instruments.....	4,792	4,779	4,165	4,370
Miscellaneous manufacturing .....	3,099	3,228	1,923	2,594
<b>Transportation, Communication, and Utilities</b>				
Railroad transport .....	-	-	-	-
Local/suburban transit .....	1,817	1,627	1,113	1,708
Motor freight transportation.....	3,124	3,127	2,001	2,861
Water transportation .....	4,873	4,811	3,613	4,237
Transportation by air.....	3,359	3,426	1,867	2,713
Pipelines, except natural gas .....	-	-	-	-
Transportation services .....	3,618	3,642	2,006	3,224
Communications .....	4,319	4,342	2,667	3,746
Electrical, gas, and sanitary services .....	6,124	5,704	3,063	5,451
<b>Wholesale Trade</b>				
Wholesale trade—durables.....	4,682	4,471	2,967	4,089
Wholesale trade—nondurables.....	4,462	3,964	2,139	3,687

See footnotes at end of table.

Table A6. **Average Monthly Earnings in Oregon by Industry and Age: 2002—Con.**

(In dollars)

Industry	45-54 years	55-64 years	65 years and older	14 years and older
<b>Retail Trade</b>				
Building materials, hardware .....	2,619	2,643	1,461	2,235
General merchandise stores .....	2,428	1,989	1,220	1,890
Food stores .....	2,246	2,094	1,273	1,735
Car dealers, gas stations .....	3,476	3,311	1,911	2,820
Apparel and accessory stores .....	2,105	1,784	1,194	1,641
Home furniture stores .....	2,806	2,523	2,032	2,352
Eating and drinking places .....	1,521	1,434	1,062	1,155
Miscellaneous retail .....	2,317	1,932	1,145	1,862
<b>Finance, Insurance, and Real Estate</b>				
Depository institutions .....	3,762	3,914	1,928	2,989
Nondepository institutions .....	5,572	4,611	3,724	4,619
Security and commodity brokers .....	10,259	10,238	8,929	8,210
Insurance carriers .....	4,802	4,971	3,437	4,136
Insurance agents/brokers .....	4,403	4,147	2,462	3,640
Real estate .....	2,792	2,565	1,484	2,331
Holding/other investment offices .....	4,521	5,047	6,088	4,097
<b>Services</b>				
Hotels/other lodging places .....	1,685	1,558	1,061	1,435
Personal services .....	1,968	1,677	1,184	1,659
Business services .....	3,320	2,742	1,340	2,829
Car repair, services, and parking .....	2,709	2,316	1,367	2,345
Miscellaneous repair services .....	2,872	2,593	1,553	2,700
Motion pictures .....	3,577	3,057	1,337	2,365
Amusement and recreational services .....	2,301	1,864	1,255	2,155
Health services .....	4,008	4,044	2,749	3,413
Legal services .....	5,095	5,048	4,122	4,276
Educational services .....	2,553	2,839	1,768	2,194
Social services .....	2,005	1,989	1,187	1,701
Museums, galleries, and gardens .....	2,540	2,011	1,178	1,943
Membership organizations .....	1,945	1,866	935	1,604
Engineering, accounting, and research .....	4,768	4,537	2,849	3,956
Private households .....	1,368	1,421	1,148	1,373
Services, not classified .....	5,406	4,041	1,995	3,895

- Represents zero.

Source: U.S. Census Bureau and Oregon Employment Department, Local Employment Dynamics program, 2002, Web site: <http://ehd.dsd.census.gov>.



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