

---

# 2002 Washington State Labor Market and Economic Report



*The Right Connection for  
Labor Market Information*



This report has been prepared in accordance with  
*RCW 50.38.040* State of Washington

Washington State Employment Security Department  
Dr. Sylvia Mundy, *Commissioner*

Labor Market and Economic Analysis Branch  
Greg Weeks, *Director*

Economic and Policy Analysis Unit  
Kirsta Glenn, *Chief Economist*  
(360) 438-4800  
[kglenn@esd.wa.gov](mailto:kglenn@esd.wa.gov)

December 2002

**Acknowledgements:** The *Labor Market and Economic Report* was produced through the collaboration of members of the Economic and Policy Analysis Unit:

Carolyn Cummins, *Economic Analyst/Project Manager*  
Dave Wallace, *Economic Analyst*  
Alexander Roubinchtein, *Economic Analyst*  
Karen Thorson, *Graphic Designer*  
Bonnie Dalebout, *Graphic Designer*

The team wishes to acknowledge the analysis, data, and intelligence provided by Felix D'Allesandro, Gary Kamimura, Don Ayers, Charlie Saibel, Ivars Graudins, Jialing Huang, and Guanghong Shen.

*Data appendices for selected chapters are available in hard copy, on diskette, and on the "Economy" page of the Workforce Explorer ([www.workforceexplorer.com](http://www.workforceexplorer.com)). For more information, contact Carolyn Cummins at (360) 438-4814 or the Labor Market Information Center at 1-800-215-1617.*

# 2002 Washington State Labor Market and Economic Report

## Fast Facts

### Washington Labor Force and Unemployment, 1980-2002

Year	Labor Force	Employment	Unemployment	Unemployment Rate
1980	1,985,000	1,828,000	156,000	7.9%
1985	2,091,000	1,921,000	170,000	8.1%
1990	2,537,955	2,412,815	125,140	4.9%
1995	2,809,977	2,630,924	179,053	6.4%
2000	3,045,244	2,887,530	157,714	5.2%
2001	2,995,696	2,804,086	191,610	6.4%
<b>2002</b>	<b>3,041,988</b>	<b>2,827,390</b>	<b>214,598</b>	<b>7.1%</b>

Note: 2002 data are averages for year-to-date as of November.

### Labor Force and Unemployment, Washington Metro Areas, 2002

Metro Area	Labor Force	Employment	Unemployment	Unemployment Rate
Washington State	3,041,988	2,827,390	214,598	7.1%
Bellingham MSA	80,737	75,667	5,070	6.3%
Bremerton PMSA	95,658	89,775	5,882	6.1%
Clark County	183,366	167,702	15,664	8.5%
Olympia PMSA	102,342	96,605	5,737	5.6%
Seattle-Bellevue-Everett	1,373,290	1,282,587	90,694	6.6%
<b>Spokane MSA</b>	<b>206,719</b>	<b>192,747</b>	<b>13,972</b>	<b>6.8%</b>
Tacoma PMSA	339,839	315,026	24,813	7.3%
<b>Tri-Cities MSA</b>	<b>100,762</b>	<b>94,290</b>	<b>6,472</b>	<b>6.4%</b>
<b>Yakima MSA</b>	<b>107,490</b>	<b>96,926</b>	<b>10,564</b>	<b>9.8%</b>

Note: 2002 data are averages for year-to-date as of November.

### Nonagricultural Employment by Industry, 2000-2002

Industry Division	2000	2001	2002
Total Nonagricultural Employment	2,711,200	2,697,800	2,645,427
Manufacturing	353,100	338,400	310,091
Mining	3,600	3,400	3,100
Construction	160,100	154,500	145,127
Transportation, Communications, Utilities	146,600	146,300	137,636
Trade	645,100	634,700	623,745
<b>Finance, Insurance, and Real Estate</b>	<b>137,500</b>	<b>141,000</b>	<b>143,864</b>
Services	781,900	773,700	767,591
<b>Government*</b>	<b>483,300</b>	<b>505,700</b>	<b>514,273</b>

\*Certain Tribal employment, including gaming, was reclassified from services to government in 2001. Note: 2002 data are averages for year-to-date as of November.

### Average Covered Wages by Industry, 2000-2001

	2000 Constant 2001 \$	2001 Constant 2001 \$	Real Change
<b>Washington State Average</b>	<b>\$37,804</b>	<b>\$37,478</b>	<b>-0.9%</b>
Manufacturing	\$48,218	\$48,000	-0.5%
Transportation and Public Utilities	\$47,909	\$47,478	-0.9%
Mining	\$47,664	\$47,138	-1.1%
Finance, Insurance, and Real Estate	\$45,059	\$46,737	3.7%
Wholesale Trade	\$44,474	\$45,146	1.5%
Government	\$42,408	\$43,257	2.0%
Construction	\$38,260	\$38,504	0.6%
Services	\$39,361	\$38,243	-2.8%
Retail Trade	\$21,279	\$20,967	-1.5%
Agriculture, Forestry, and Fishing	\$18,382	\$18,388	0.0%

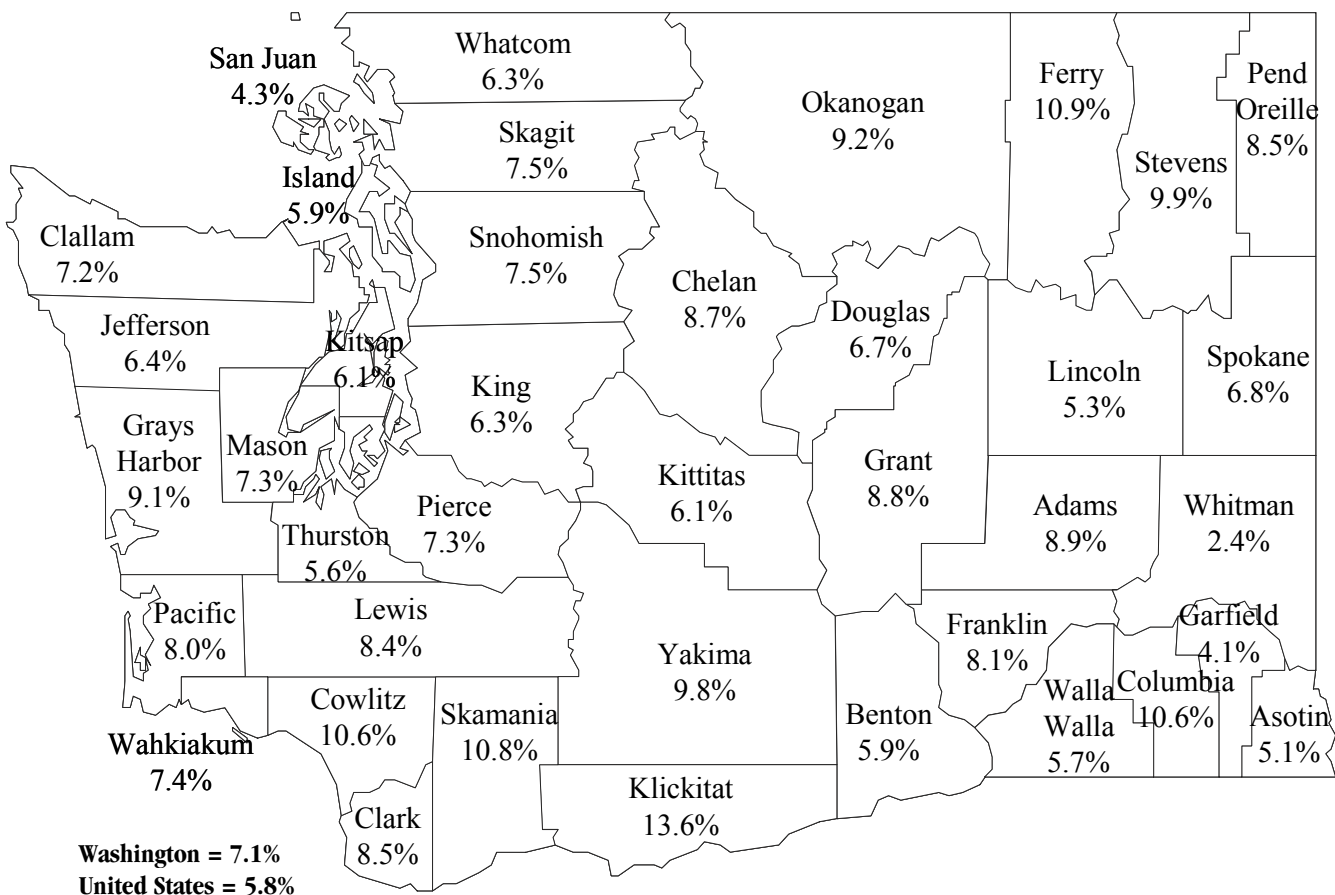
Source: Washington State Employment Security Department, Labor Market and Economic Analysis (LMEA)

## Unemployment Insurance Claims by Industry, and Occupation Group, November 2002

Industry Division	Continued Claims November 2002	Change from November 2001	Occupation Group	Continued Claims November 2002	Change from November 2001
Aircraft	5,773	319%	Service	14,548	7%
Health Services	3,766	31%	Installation, Maintenance, and Repair	6,370	3%
Finance, Ins., Real Est.	4,289	15%	Professional	14177	1%
Personal Services	640	12%	Sales and Related	8,395	-1%
Eating & Drinking Places	4,702	10%	Management, Business, and Financial	14,757	-2%
Ship & Boat Building	1,081	8%	Production	18,604	-8%
Gov't., Military, & Nonclassifiable	11,058	-2%	Office and Administrative	15391	-11%
Forestry & Fishing	832	-5%	Construction and Extraction	18,252	-12%
Business Services	28,382	-6%	Farming, Fishing, and Forestry	8,959	-13%
Agriculture	8,667	-9%	Transportation and Material Moving	11,792	-17%
Trade	15,303	-10%			
Mining	330	-10%			
Trans., Comm., Utilities	7,436	-12%			
Food Products	4,701	-14%			
Construction	20,572	-15%			
Other Mfg.	10,971	-22%			
Lumber & Paper	2,632	-49%			



## Unemployment Rates by County, 2002 (Year to Date Averages as of November) Not Seasonally Adjusted



*Source: Washington State Employment Security Department, Labor Market and Economic Analysis (LMEA)*



---

---

# Contents

---

Executive Summary .....	i
Labor Market and Economic Developments .....	1
National Outlook .....	1
Employment Change in Washington State .....	4
Snapshot of Industrial Employment Loss .....	5
Detailed Examination of Employment Change by Industry .....	6
Regional Breakdown .....	13
Unemployment and Its Dimensions .....	15
National Unemployment Outlook .....	15
Washington State Unemployment Outlook .....	16
Unemployment Insurance Programs .....	17
Industry Breakdown .....	17
Mass Layoff Statistics .....	19
Dislocated Workers .....	21
Occupations in the Recession .....	23
Exhaustion of Unemployment Insurance Benefits .....	24
Seasonal, Cyclical, and Structural Employment .....	28
How Seasonal, Cyclical, and Structural Industries are Identified .....	29
Seasonal Industries .....	30
Cyclical Industries .....	31
Structural Industries .....	33
Regional Patterns .....	34
Labor Force and Employment Forecast .....	37
Labor Force Forecast .....	37
Industry Employment Projections .....	39
Industry Projection Highlights .....	40
Regional Industry Outlook .....	42
Occupational Employment Forecast .....	43
Major Occupational Groups - Highlights .....	44
Detailed Occupations .....	45
Income, Earnings, and Wages .....	49
Per Capita Income .....	53
Average Covered Wages .....	56
Wage Distribution and Inequality in Washington State .....	61
Average Hours and Earnings .....	62
Occupational Wages .....	63
Poverty .....	65

---

---

---

# Executive Summary

---

- Nonagricultural employment fell by 85,100 between December 2000 and October 2002. The decline appears to have slowed recently, having fallen by 79,900 between December 2000 and December 2001 and then by only 5,200 jobs between December 2001 and October 2002. Those job losses were concentrated in manufacturing, especially aircraft and parts, transportation, communications, construction, trade, and business services. Computer and data processing appears to have found its bottom and the health services industry has remained strong throughout the downturn.
- Washington's unemployment rate rose dramatically in 2000 and 2001, but appears to have stabilized in 2002. Aircraft and parts saw the largest percent increase in unemployment claims from November 2001 to November 2002. Health services and finance, insurance, and real estate saw some increase in claims as employment growth leveled off. Eating and drinking places saw increases in jobless claims as they were hit by the secondary effect of the recession. The largest declines in claims were seen in lumber, agriculture, and food products industries, which did very well in 2002. Construction, manufacturing (other than aircraft), transportation, communications, and utilities, and business services also saw declines in unemployment claims.
- The fruits and tree nuts industry was the largest seasonal employer in 2001, followed by the related preserved fruits and vegetables, then landscape and horticultural services. Vegetables and melons, and farm labor management showed the most seasonal volatility. By far, eating and drinking establishments was the largest sector strongly affected by cyclical employment patterns. Computer and data processing and grocery stores also exhibited similar tendencies. Among industries that experienced significant long-run (structural) changes in employment, aircraft and parts, grocery stores, and nursing and personal care facilities were the largest.
- Due to significant employment declines in the near term and a slow recovery coming out of the recession, nonagricultural employment growth is projected to be significantly slower, about 1.0 percent on average each year, between 2000-2005 compared to the anticipated 1.6 percent annual average growth rate for 2005-2010.
- Computer-related occupations are clustered among the occupations projected to be fastest growing over the coming decade. Health care occupations are the most visibly represented among fast growth occupations, representing 11 of the 20 hottest jobs in 2000-2005.
- Washington's per capita income was \$32,025 in 2001, which translated into an over-the-year decline of 0.5 percent (adjusted for inflation), the first negative over-the-year hit since 1993. Despite this slip in real value, Washington's per capita income maintained its advantage over the nation's per capita income at 105 percent.

---

# Labor Market and Economic Developments

---

## National Outlook

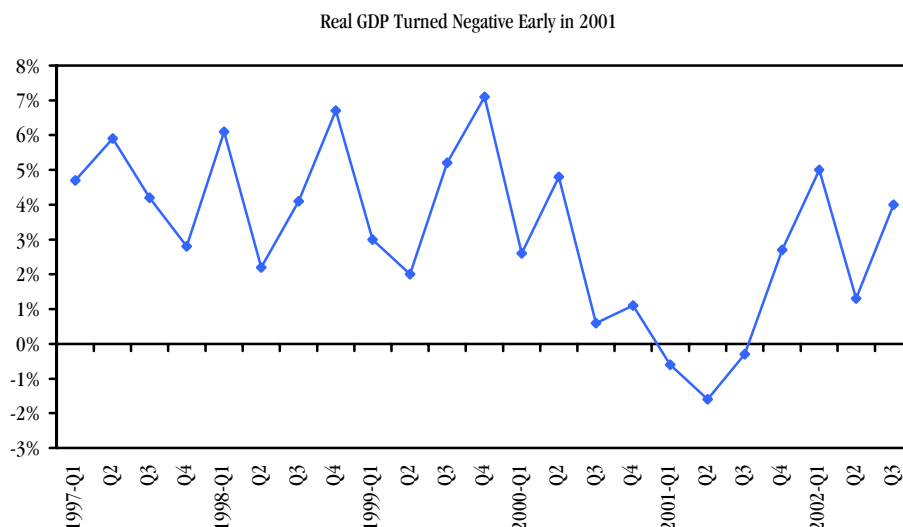
Although the recession officially started during the first three quarters of 2001, real Gross Domestic Product (GDP) had started to slow during the third and fourth quarters of 2000. Real GDP then declined during the first three quarters of 2001. GDP grew in 2002, but below the average rate of 3.2 percent since 1997. The behavior of GDP illustrates the shallowness of the initial recession and the tentative nature of the following recovery.

**Figure 1**

Real GDP Percent Growth

United States, 1997-2002 (Quarterly)

Source: U.S. Department of Commerce, Bureau of Economic Analysis



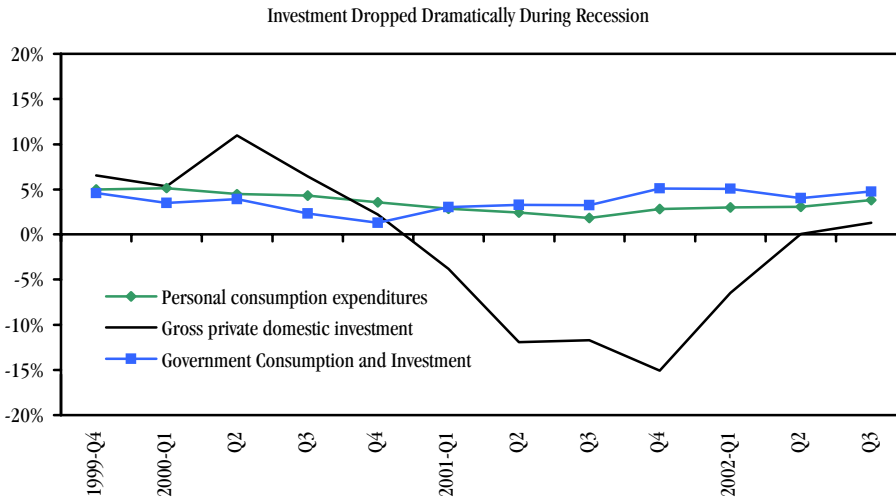
The first quarter of 2002 brought good news with strong GDP growth of 5.0 percent, but the second quarter was very disappointing with GDP growth of just 1.5 percent. The third quarter of 2002 seems to have rebounded with the economy exceeding expectations, growing at a rate of 4.0 percent, up from an initial estimate of 3.1 percent. This upward adjustment was both due to unexpected inventory build-ups by businesses and to higher than expected federal government spending.

Consumer spending, which accounts for over 70 percent of GDP, has remained strong throughout the recession and recovery. This spending seemed to be in jeopardy during the third quarter of 2002, but seemed on a firmer footing as the fourth quarter unfolded. The Conference Board's Consumer Confidence Index, which declined for five straight months, rebounded in November 2002. The Index stood at 84.1 (1985=100) that month, up from 79.6 in October 2002. "The rebound in expectations suggests consumers do not expect economic conditions to become worse," the Director of The Conference Board's Consumer Research Center, Lynn Franco reported during the fourth quarter of 2002. "This comeback, combined with [recent] upbeat forecasts for Christmas spending, signals a brighter holiday spending season than was anticipated only a month ago."

**Figure 2**

Real Percent Growth, Components of GDP  
United States, 1999-2002 (Quarterly)

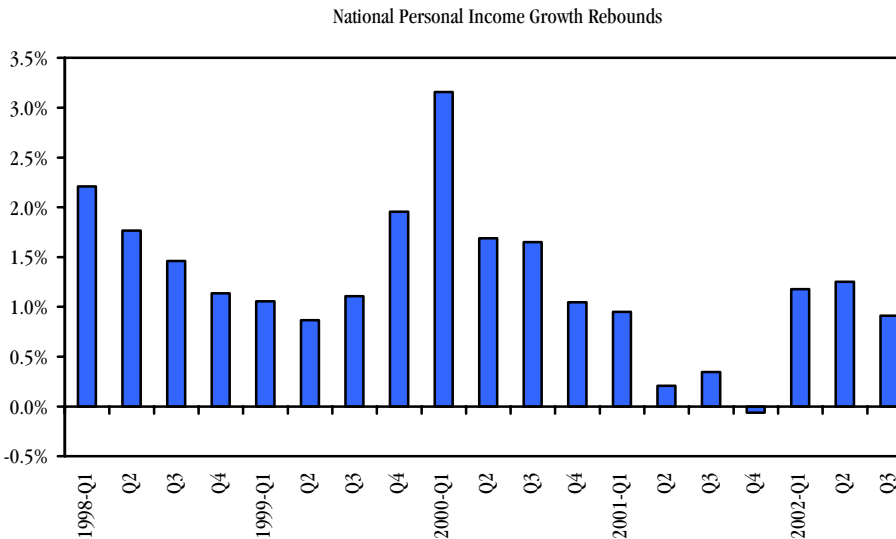
Source: U.S. Department of Commerce, Bureau of Economic Analysis



**Figure 3**

Personal Income Growth  
United States, 1998-2002 (Quarterly)

Source: U.S. Department of Commerce, Bureau of Economic Analysis

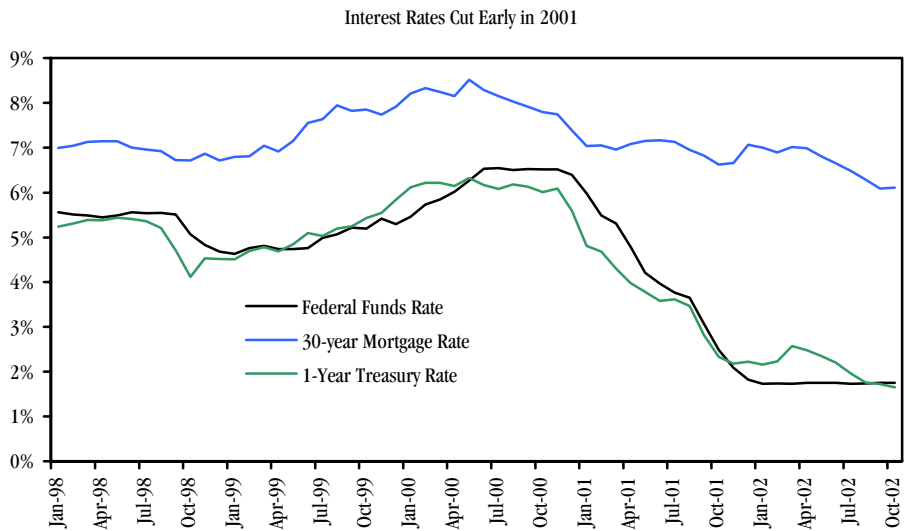


Nationally, personal income grew at anemic levels during the first three quarters of 2001 before declining during the fourth quarter. Growth has rebounded to normal levels in 2002 and is another indication that consumer spending may remain strong into 2003.

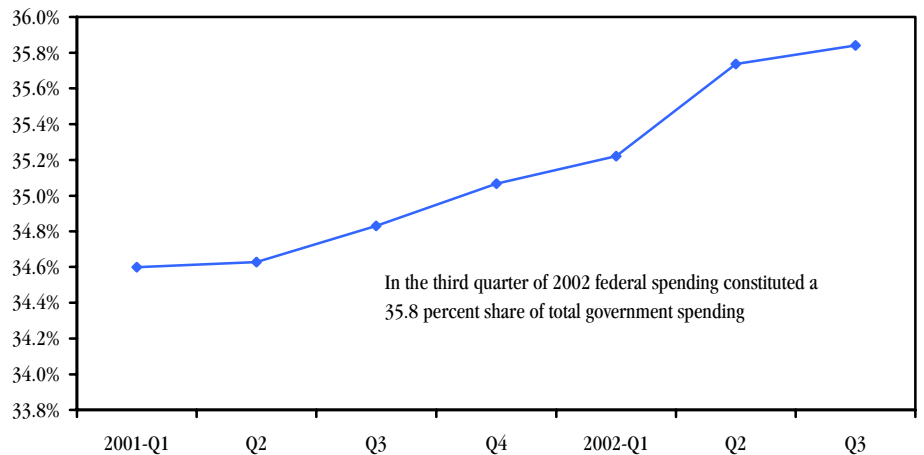
Low interest rates have helped to bolster consumer spending. The Fed aggressively lowered interest rates in the beginning of 2001 helping to ensure that the recession would remain a mild one. The lower federal funds rate has also brought down thirty-year mortgage rates sparking a boom in home buying and showing that inflationary expectations have been kept in check.

“Despite widespread reports that worried consumers will sharply curtail their holiday spending, the Board’s annual survey projects a 5 percent increase in Christmas spending this year,” said Lynn Franco, Director of The Conference Board’s Consumer Research Center in November 2002. “While job growth has clearly slowed, real incomes are still rising at a rate of about 3 percent. Continued discounting by retailers, both online and in the stores, is likely to prop up Christmas spending.”

**Figure 4**  
**Interest Rates**  
 United States, 1998-2002 (Monthly)  
*Source: Board of Governors of the Federal Reserve System*



**Figure 5**  
**Federal Spending as a Share of Total Government Spending**  
 United States, 2001-2002 (Quarterly)  
*Source: U.S. Department of Commerce, Bureau of Economic Analysis*



Government spending has maintained fairly constant growth since early 2000. This growth, however, has increasingly been concentrated on the federal level. Specifically, federal spending as a share of total government spending has risen from a level of 34.6 percent in the first quarter of 2001 to 35.8 percent in the third quarter of 2002. This trend is likely to intensify over the next year as state and local budget constraints restrain spending while at the federal level there is increased spending on security. The overall change in government spending is uncertain.

Business investment, however, has fallen dramatically during the past two years. Investment is the most volatile component of GDP and has failed to recover with any strength. Most of the increase in investment has been in inventories, which have reacted unusually quickly in this recession. Inventories were initially brought down early in 2001 and then were rebuilt quickly leading to the strong first quarter growth. The lack of a return of other kinds of business investment, though, continues to constrain economic growth.

Business spending fell by 0.7 percent in the third quarter of 2002, constituting the eighth consecutive quarter of decline. Expenditures on computers and equipment were up for the second quarter rising 6.6 percent in the third quarter of 2002 after rising 3.3 percent in the second quarter of 2002. After tax, corporate profits rose for the third quarter, growing 2.1 percent in the third quarter of 2002 after growing by 1.7 percent in the second quarter. Falling prices may be constraining profit margins.

Prices received by U.S. corporations, excluding financial companies, declined in each of the last five quarters, the longest such decline in the last fifty years. Although U.S. manufacturers saw gains in the early part of the third quarter, there are still mixed signals throughout the industry. Producer prices for non-energy manufactured goods excluding computers rose 1.2 percent in 2000, were flat in 2001, and fell 0.8 percent in 2002. Imported goods contributed substantially to these price changes. The price of imported goods were flat in 2000, then fell by 1.3 percent in 2001, and fell by 1.5 percent in the first nine months of 2002.

## Employment Change in Washington State

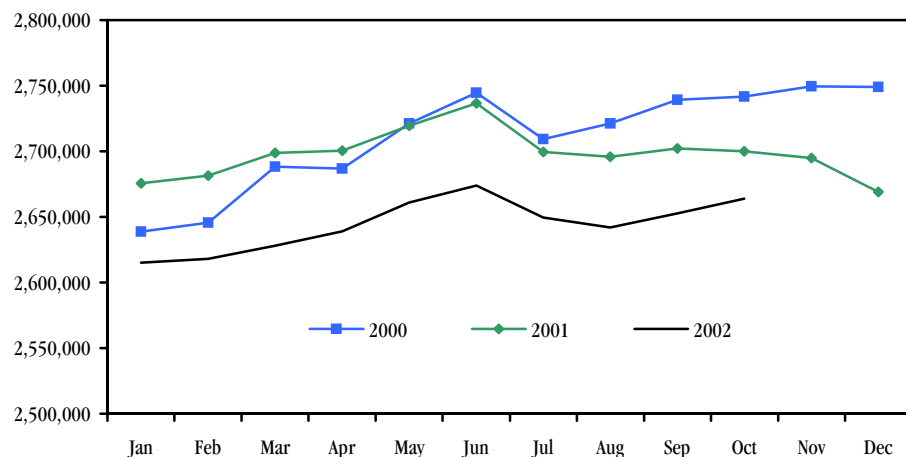
From December 2000 to October 2002, Washington lost 85,100 nonagricultural jobs. Employment climbed by over 100,000 during 2000 and then declined 79,900 between December 2000 and December 2001. So far in the most recent year, from December 2001 to October 2002, employment has declined by 5,200. Even if the fourth quarter of 2002 is slow, we will likely see many fewer job losses than occurred in 2001. Although layoffs appear to be slowing, employment has not yet expanded and employment as of the end of 2002 remains somewhat below the level in 1999.

The gap between employment from 2001 to 2002 has been narrowing since mid-summer. While September and October of 2001 saw employment levels stabilizing and then falling, 2002 has seen employment gains over the same months. Still, low levels of employment throughout 2002 indicate that while the recession may officially be over in terms of production, a substantial turnaround has not yet occurred in terms of employment.

**Figure 6**

Nonagricultural Employment Trends  
Washington, 2000-2002 (Monthly)

Source: Employment Security Department



The most widely used measure of the business cycle is **Gross Domestic Product (GDP)**. Gross Domestic Product is the value of all goods and services produced within the geographic boundaries of the United States. **Gross State Product (GSP)** is the state equivalent of GDP. Unfortunately, GSP is only available on an annual basis and there is usually a two-year lag in producing this number. The last year for which GSP is available is 2000, largely recognized as Washington State's strongest year in recent times. **Because of the lag in GSP, economists often use employment as a judge of current economic activity.**

There are two factors though that can interfere with the relationship between employment and economic activity. The first is the desire of firms to smooth employment. Except for temporary workers, firms are unlikely to lay off workers at the first sign of a slowdown and similarly they are unlikely to hire workers at the first sign of increased sales. To the extent that firms are able to smooth their employment, employment changes are likely to lag changes in economic activity typically associated with a business cycle. A second reason that employment does not change directly with economic activity is that productivity changes over time. Although productivity changes often occur over a longer time horizon than a contraction in a business cycle, it is still difficult to differentiate a lack of hiring due to productivity increases and a lack of hiring due to low sales.



---

## Snapshot of Industrial Employment Loss

The loss of 85,100 jobs since December of 2000 was distributed across all industrial sectors except finance, insurance, and real estate and government. Manufacturing is the sector that has lost the most jobs in the state. In fact, the manufacturing sector accounts for over half the job loss experienced in Washington. Furthermore, of the job loss in manufacturing, almost 90 percent has been in the durable goods sector. The service sector and trade have also lost large numbers of jobs. Transportation, communications, and utilities, construction, and mining have lost smaller numbers of jobs, while finance, insurance, and real estate and government gained in employment over the period. Over 75 percent of the change in government was an increase in local government due, in part, to the reclassification of tribal casinos from services to local government.

### Figure 7

Nonagricultural Employment Losses by Industry

Washington, December 2000 - October 2002

Source: Employment Security Department

<b>Industry Division</b>	<b>Employment Decline Dec. 2000-Oct. 2002</b>	<b>Percentage Decline</b>
Total Nonagricultural Employment	-85,100	-3.2%
Manufacturing	-44,400	-13.1%
<b>Durable Goods</b>	<b>-39,400</b>	<b>-16.8%</b>
<b>Nondurable Goods</b>	<b>-5,000</b>	<b>-4.8%</b>
Mining	-200	-5.9%
Construction	-5,300	-3.4%
Transportation, Communications, Utilities	-14,800	-10.1%
Trade	-32,400	-5.1%
<b>Wholesale Trade</b>	<b>-5,700</b>	<b>-3.9%</b>
<b>Retail Trade</b>	<b>-26,700</b>	<b>-5.4%</b>
Finance, Insurance, and Real Estate	5,500	3.9%
Services	-24,800	-3.2%
Government	31,300	6.2%

The durable goods sector of manufacturing has experienced by far the largest percent decline in employment. It is followed by transportation, communications, and utilities. Retail trade has also declined significantly. This sector tends to be a follower rather than a leader in a downturn and is highly dependent on personal income and discretionary consumer spending. Although mining accounts for a rather small percentage of the total decline in employment in Washington, the percent decline within this industry has been large indicating a significant hit to this sector. Services, although accounting for almost a third of the state's employment loss, have experienced a decline of less than 5 percent.

The usual understanding of this recession is that Washington was hit by the bursting of the high-tech bubble in early 2001 when many of the "dot.coms" went bust, taking away the euphoria of high-paying jobs and start-ups of the late 1990s. Just as the economy was beginning to absorb this shock, the terrorist attacks and the national slowdown led to dramatic layoffs in aircraft and parts manufacturing. This second body blow brought the Washington economy to the top of the nation's unemployment list along with Oregon. This scenario is borne out in the numbers presented above with the large declines in services, where the high-tech dot.coms resided and large declines in durable goods manufacturing where

aircraft and parts manufacturing is located. Furthermore, the hit to transportation, communications, and utilities is consistent with falling air travel and pain in the high-tech communications sector. A more detailed examination of the behavior of employment over this period in each industry will help to determine if this snapshot understanding of this recession is correct.

## Detailed Examination of Employment Change by Industry

### Manufacturing

Manufacturing accounts for over half the employment loss since December 2000. The annual rate of employment change in manufacturing became negative in the second quarter of 1998. Growth in total output remained high, not becoming negative until nonmanufacturing employment began to decline in the first quarter of 2001. So the initial scenario that manufacturing sector growth was strong until the third quarter of 2001 doesn't seem to be true.

**Figure 8**

Manufacturing Employment Trends  
Washington, 1997-2002 (Quarterly)

Source: Employment Security Department

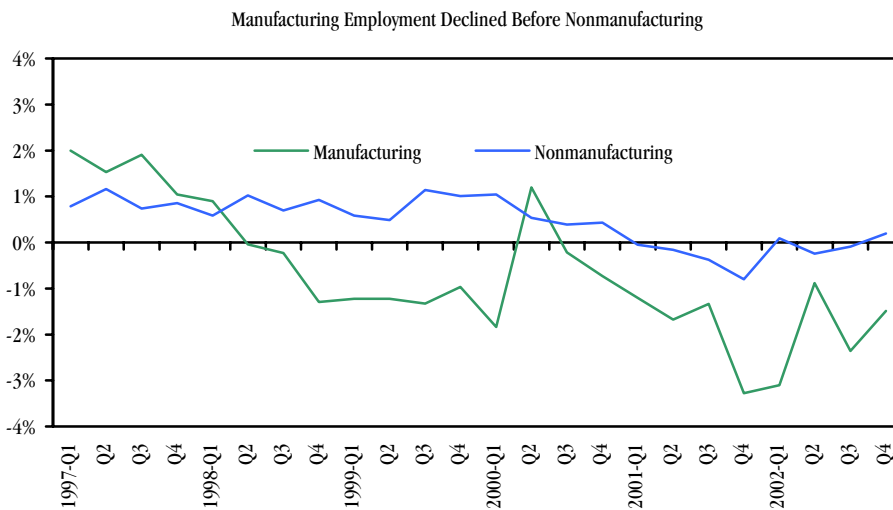
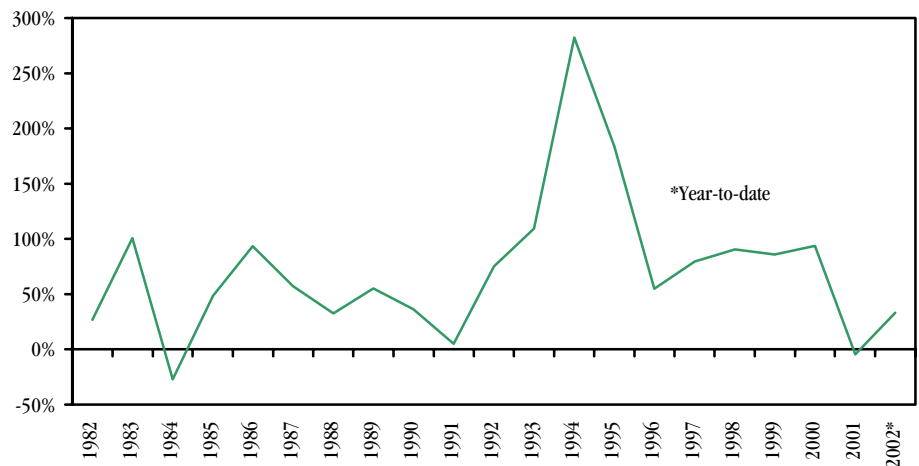


Figure 9 shows the annual change in aircraft and parts employment as a share of the annual change in manufacturing employment. Changes in aircraft and parts employment drive changes in manufacturing employment. In fact, aircraft and parts employment is so much more volatile than manufacturing employment that the absolute change in aircraft and parts employment is often larger than that for manufacturing as a whole. The current downturn in aircraft and parts manufacturing began in 1999. From January 1999 to January 2000 aircraft and parts manufacturing declined by a total of 18,500 jobs. From January 2000 through September 2001, aircraft and parts manufacturing employment only declined by 2,300. Then from September 2001 to October 2002 aircraft and parts employment declined by an additional 15,400 jobs. The Washington economy was, thus, hit much earlier by a decline in aircraft and parts employment than the commonly believed scenario of the recession. The first hit came with the dramatic decline in aircraft and parts employment in 1999. This was followed by

**Figure 9**

Annual Change in Aircraft and Parts Employment as a Share of the Annual Change in Manufacturing Employment  
Washington, 1982-2002

Source: Employment Security Department



a second hit from September 2001 through the present. Recent announcements by Boeing of further layoffs in 2003 have put off estimates of employment recovery in this industry<sup>1</sup>.

Manufacturing employment, other than aircraft and parts, did follow the recession more closely with very slight declines in 1999 (-0.8 percent) and 2000 (-0.3 percent) and then steep declines in 2001 (-5.0 percent) and 2002<sup>2</sup> (-8.0 percent). The sectors losing substantial amounts of employment since December of 2000 include furniture and fixtures (-12.0 percent), primary metals (-34.0 percent), fabricated metals (-12.0 percent), industrial machinery and equipment (-18.0 percent), electronic equipment (-33.0 percent), paper and allied products (-12.0 percent), and chemical and allied products (-15.0 percent). Smaller declines have affected every sector in manufacturing. Manufacturing is typically one of the most cyclical industries, although many non-cyclical factors affect manufacturing as well. The decline in primary metals, for example, was caused in part by high energy prices that exacerbated an already challenging global market characterized by excess supply, weak demand, and low prices.

<sup>1</sup>Future employment estimates for aerospace conducted in cooperation with the Washington State Forecast Council, <http://www.wa.gov/ofc/>.

<sup>2</sup>The numbers for 2002 are year-to-date through October of 2002.

---

## The Nonmanufacturing Sector

### Trade

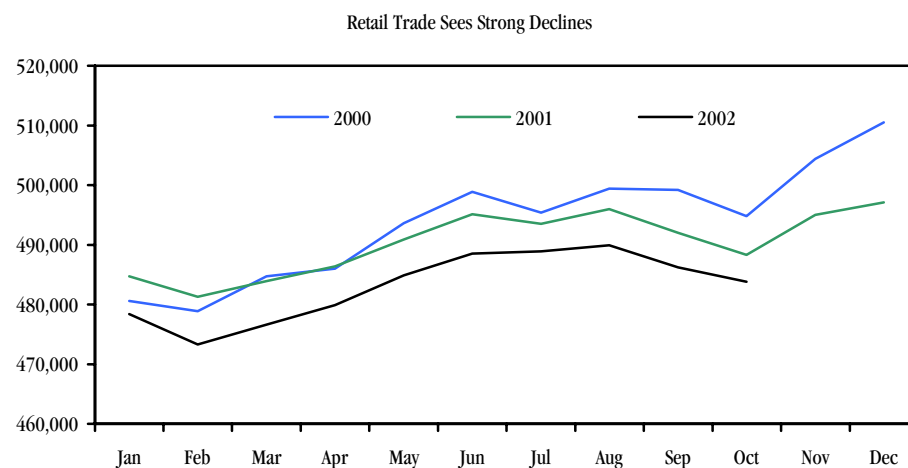
The nonmanufacturing sector is harder to interpret than the manufacturing sector, as there were several large losers and some gainers as well. Construction and trade are sectors that typically follow the business cycle. Trade is a barometer of both consumer and business spending. The dramatic decline of 26,700 jobs in retail trade is a clear indication of the extent to which the recession curtailed consumer spending and is also an example of the multiplier effect as job losses elsewhere in the economy filter down to the retail sector.

**Figure 10**

Retail Employment Trends

Washington, 2000-2002

Source: Employment Security Department



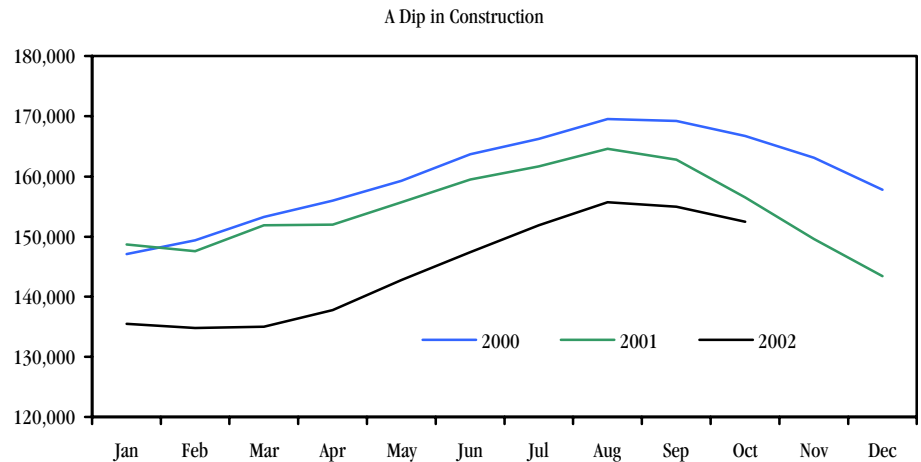
The typical seasonal pattern is apparent in retail trade with a spike each year in December and a steep decline in January. As of October 2002, the extent of the December spike was as yet unknown. The year 2000 was strong and 2001 started out with employment above that of 2000. The late start to the employment decline in retail trade is caused as the recession starts in other sectors of the economy and then is slowly passed down to the retail sector. By mid-2001, however, the retail sector has employment levels below that of 2000. As job losses continue, 2002 has been a much weaker year for the retail sector. General merchandise and apparel and accessory stores were particularly hard hit over this period.

### Construction

Construction is both cyclical and a very seasonal sector with highs generally during the summer months and lows in the winter. That seasonal employment pattern has been repeated at lower levels each year. Comparing year-over-year changes, construction employment began its decline early in 2001. By the end of 2001 employment in construction was significantly below where it had been at the end of 2000. By late spring of 2002, however, the over-the-year gap in employment began to narrow and by October the two series were nearing the same level. This could be a bit of an illusion though, as uncommonly good weather in October 2002 offset the normal seasonal decline in construction employment. Construction has historically been about 5.5 percent of total employment. During the building boom in the Puget

Sound region in the late 1990s construction moved to almost six percent of total employment. However, construction declined faster than total employment during the recent recession to a low of just over 5.6 percent. This would be expected with a very cyclical industry.

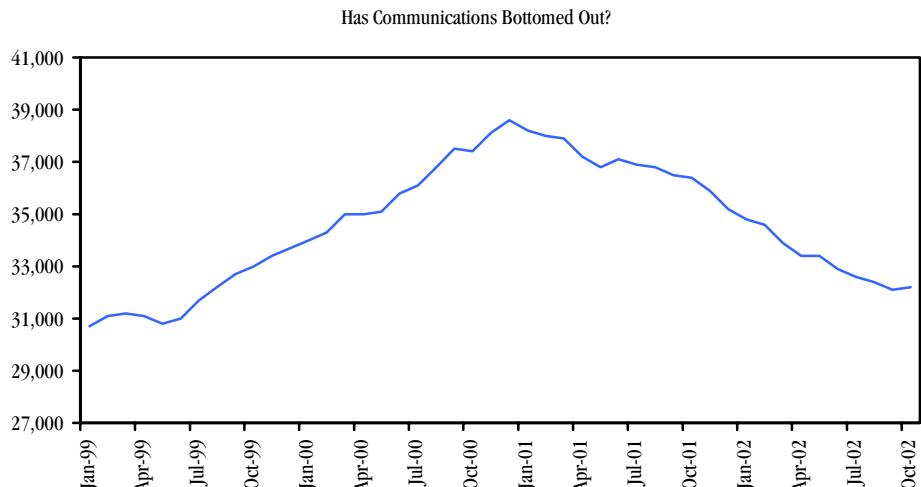
**Figure 11**  
 Construction Employment Trends  
 Washington, 2000-2002  
 Source: Employment Security Department



### Transportation, Communications, and Utilities

Different forces have impacted each division within transportation, communications, and utilities. Transportation and especially airlines were hurt after the September 11 attack. However, transportation had begun to fall in early 2001. There was a slight seasonal rebound over the summer that disappeared after September 11. The decline from December 2000 to September 2001 was 2,900 while the decline from September 2001 to September 2002 was 3,400. A small sharp drop of 1,500 is apparent in October 2002. This is due to the reclassification of airport screeners as the jobs are moved from private to federal employment. At last count, about 25 percent of the private screeners found employment as federal screeners nationally.

**Figure 12**  
 Communications Employment Trends  
 Washington, 1999-2002 (Monthly)  
 Source: Employment Security Department



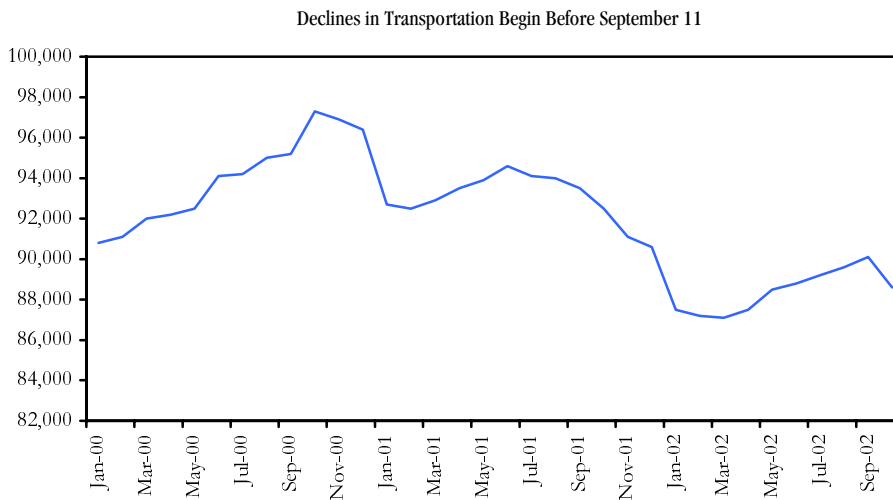
Communications employment shows the effect of the tech bubble and the over investment of the late 1990s and 2000. The peak was reached in December 2000 with employment of 38,600, by October 2002 employment stood at 32,200. The effects of a boom in investment in the telecommunications sector will last longer than that in computer software and the Internet. Technology changes slower in telecommunications and the laying of cable has caused over-capacity that is likely to last into next year. Telecommunication firms were not able to generate enough revenue to recoup their costs in laying cable and there has been large-scale investor flight from the industry. The needed consolidation within the telecommunications sector will cause further restructuring and probably employment declines before the sector can again begin to grow.

**Figure 13**

Transportation Employment Trends

Washington, 2000-2002 (Monthly)

Source: *Employment Security Department*



**Services**

So transportation and communications have contributed to the downturn along with the broad-based decline in the manufacturing sector. To understand the full impact on the economy, though, we still need to look at the services sector. Services is the largest sector of the economy and has largely been the engine of growth for the Washington economy since the early 1980s. Between 1990 and 2000 employment grew by 50 percent in the services sector while growing by about half that for the economy as a whole. Payroll in services grew by 188 percent between 1990 and 2000, while it only grew by 108 percent for the economy as a whole.

The service sector lost 24,800 jobs since December 2000. Within the sector though, employment change was mixed with some industries gaining workers as others lost. The largest loser was business services with a job decline of 26,400 or a decline of about 13.5 percent. This sector includes high-tech jobs as well as temporary help agencies.



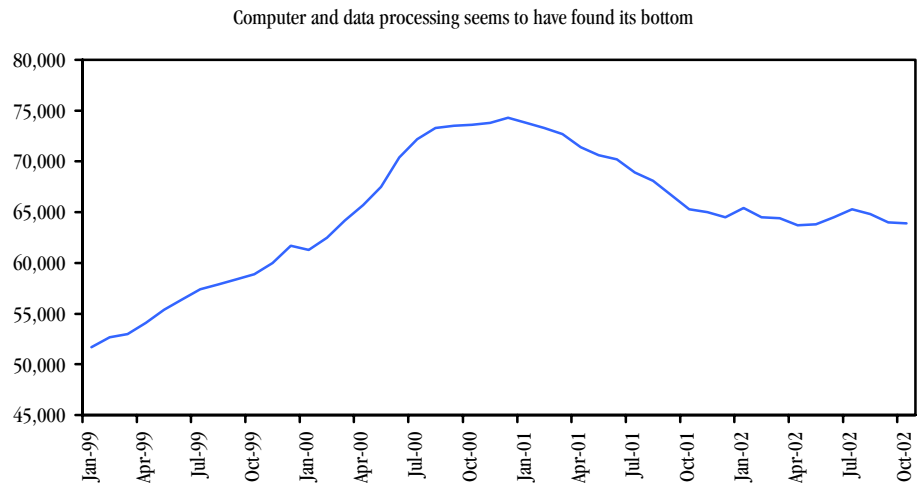
Employment in business services and its central component, computer and data processing, increased dramatically during 1999 and 2000. The most dramatic declines in employment occurred during the first nine months of 2001, before September. Those declines did continue after September leading to a total decline of 14 percent for computer and data processing from December 2000.

Unlike communications, computer and data processing appears to have found its bottom. The growth during the late 1990s included both real productivity gains and a speculative bubble. If computer and data processing has deflated then the level reached now is based on sound fundamentals. As business investment throughout the country has remained anemic, growth in this sector is likely to occur when business investment picks up. To this point, mixed economic reports, corporate wrong doing, and an uncertain geopolitical environment have discouraged business investment.

**Figure 14**  
 Services Employment Declines  
 Washington, December 2000 - October 2002  
 Source: Employment Security Department

Industry Segment	Employment Decline December 2000-October 2002
Services	-24,800
Hotels and Lodging	-200
Personal Services	-700
Business Services	-26,400
Amusement and Recreation	-8,200
Health Services	11,300
Legal Services	-300
Educational Services	2,000
Social Services	3,700
Engineering and Management	-2,500

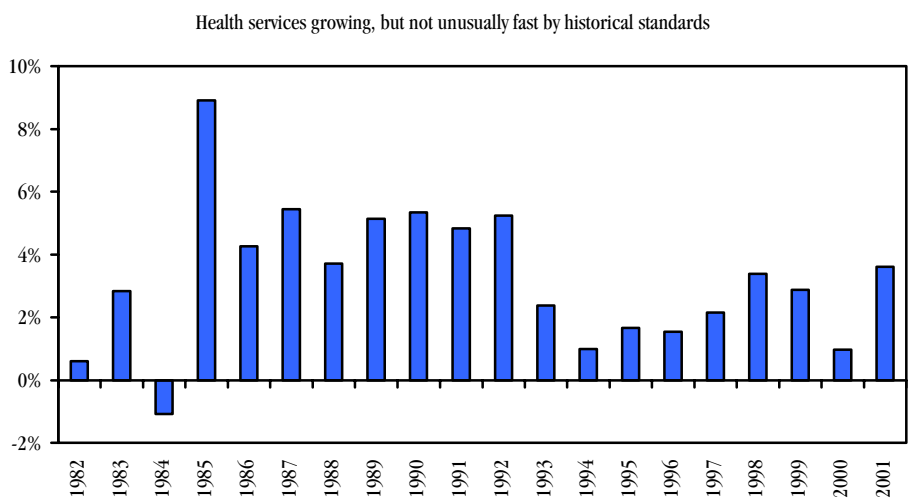
**Figure 15**  
 Computer and Data Processing Employment Trends  
 Washington, 1999-2002 (Monthly)  
 Source: Employment Security Department



Amusement and recreation services is also a sector that has been hit hard over the period since December 2000. Some of this decline is difficult to discern because this very seasonal industry varies dramatically from month to month. The decline from October 2000 to October 2002 is much less than the 8,200 drop from December of 2000 at only 6,500. The decline may, in part, be due to tribal casinos being reclassified to local government. Still, the amusement and recreation services sector has undoubtedly been hurt by the September 11 terrorist attacks, the resulting decline in air travel, and a generally weak economy.

Health services has continued its growth path through the economic downturn. In fact, the rate of increase picked up in the industry starting in the late spring of 2000. Looking at an historical series, the mid-1980s to the early 1990s was the period of highest growth. There are several explanations for growth in health services. First would be the normal increase in employment in health services with population growth. Second, the increasing proportion of elderly in the population in the early part of the 21st century should cause an increase in health services per capita.

**Figure 16**  
 Health Services Employment Growth Trends  
 Washington, 1982-2001 (Annual Growth)  
*Source: Employment Security Department*



The availability and cost of health insurance may also have a dramatic affect on health care use. The cost of health services has risen dramatically in recent years, as have the premiums for health insurance. Coverage has likewise fallen on average and over the recent downturn increasing numbers of people are uninsured. If these trends continue, changes in health insurance coverage are likely to decrease health care use per capita. Finally, the health care sector has experienced great technological change. Technological change in itself usually leads to an increase in use per capita.

All the factors influencing health care together lead to an uncertain prognosis for the industry. A boom, though, is unlikely in health care. Health care services tend to meet the needs of the population and do not expand beyond that point. Since this is a service that follows population, some regions will always be in short supply, particularly those with poorer populations and those that are more isolated.

---

## Government

Historically the government sector tends to be counter-cyclical, spending more during a recession when the need for social services is greater and spending less during an expansion. While this has been true somewhat on the federal level, state and local governments face declining budgets during recessions and are typically forced to cut services. The increase of 31,300 jobs between December 2000 and October 2002 in government employment belies some of the changes that have occurred in this sector. Over 75 percent of the increase in government was due to local government. This increase wasn't an increase in employment, but was rather the result of several classification changes, the largest being the reclassification of all tribally-owned enterprises, including but not limited to gaming activities, from services to local government. The increase in government employment over the past year from October 2001 to 2002 was just 7,800. Over this period the federal government increased by just under 2,000, state government only increased by 300 in state education. Local government increased by 5,600, most of which was in local education.

## Conclusion

Altogether, stress on Washington's economy began long before September 2001. The largest decreases in aircraft and parts occurred between January 1999 and January 2000. Although these cuts were absorbed by continued strong growth in the services sector, pain was being felt in manufacturing and many high paying jobs were lost. It was not until 2001 when the business service sector experienced dramatic declines that the economy moved into a period of overall employment decline. The terrorist attacks worsened an already bad situation for aircraft manufacturing. The bursting of the tech bubble across the country was a significant factor leading to a decrease in air travel. Although the second round of layoffs in aircraft and parts began after September 11, they were probably already coming albeit in a milder form. General weakness in demand across the country led to overall declines in manufacturing, construction, and trade. As of the end of 2002, it can only be said that the Washington economy is struggling out of the recession with some uncertainty. When the Washington economy clearly emerges from stagnant growth, the recovery will likely be fueled by the high-tech sector. This will not occur until business investment rebounds nationwide.

## Regional Breakdown

While Washington lost 85,100 jobs from December of 2000 to October of 2002, King County lost 91,100 jobs over the same time period. The decline in employment in King County was 6.3 percent compared to the Washington decline of 3.1 percent. Spokane comes in a distant second with job declines of 6,700 or 3.4 percent. The only other major metropolitan area experiencing a job decline over that time period is Clark County with a decline of only 300.

Some of the job losses in the eastern part of the state are masked by unusually good weather through the month of October 2002. The corresponding late end to the harvest season led, in turn, to unseasonably high employment numbers for October 2002. The Richland-Kennewick-Pasco MSA added the most jobs with a gain of 9.8 percent in employment due to the construction of the nuclear waste vitrification plant. The construction of this plant will be done by 2005 when employment figures should drop dramatically. Clean-up will continue until 2010 at much lower levels of employment. The benefit to this area is thus likely to be short lived unless other businesses can be attracted to the area.

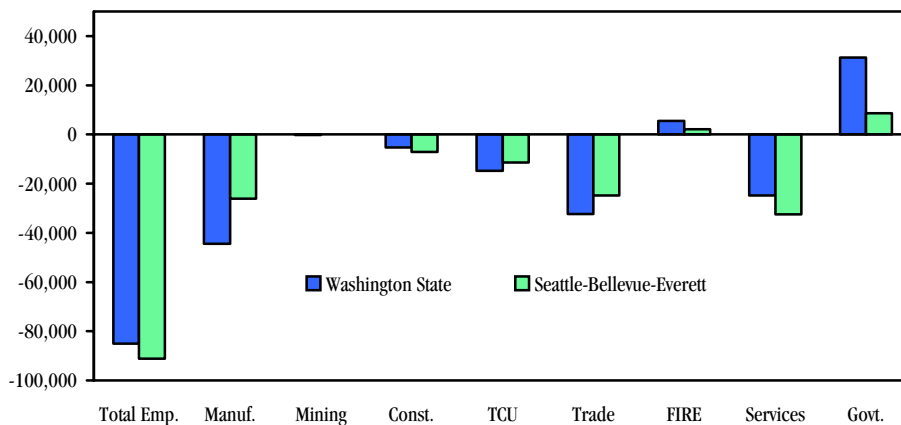
Although there was little overall employment decline in Clark County, there were notable losses in the manufacture of electrical equipment, computers, and industrial machinery and in transportation. In Spokane, the losses were widespread in manufacturing, transportation, and trade. Health services gained employment, while employment in the government sector was the same in October 2002 as in December 2000.

This recession has undoubtedly been centered in the Seattle Metropolitan area. Compared to Washington as a whole, the Seattle area lost fewer jobs in manufacturing and more in services. In Seattle, as in the state, the service sector losses were concentrated in business services. Of the 29,000 jobs lost in the service sector in the Seattle Metro area from December of 2000 to October of 2002, only 9,200 came from computer and data processing. Business services includes temporary help agencies, which have played an important part in Seattle's high-tech sector. These agencies often absorb a disproportionate share of layoffs during a downturn.

**Figure 17**  
 Nonagricultural Employment Losses by Metro Area  
 Washington, December 2000 - October 2002  
 Source: Employment Security Department

Metro Area	Employment Change Dec. 2000 - Oct. 2002	Percent Change in Employment
Washington State	-85,100	-3.1%
Bellingham	500	0.7%
Bremerton	2,000	2.7%
Clark	-300	-0.3%
Olympia	2,100	2.4%
Richland-Kennewick-Pasco	7,500	9.8%
Seattle-Bellevue-Everett	-91,100	-6.3%
Spokane	-6,700	-3.3%
Tacoma	1,900	0.8%
Yakima	2,900	3.9%

**Figure 18**  
 Industry Employment Losses  
 Seattle-Bellevue-Everett and Washington, December 2000 - October 2002  
 Source: Employment Security Department



---

# Unemployment and Its Dimensions

---

## National Unemployment Outlook

The national seasonally adjusted unemployment rate has remained consistently below the Washington rate during the recession and recovery. The gap between the Washington and the U.S. rate began to widen in September of 1999 when the Washington rate rose before the national rate. That gap continued to grow until stabilizing by the end of 2000. Since that time the gap has remained fairly constant between 1 and 1.5 percentage points.

The national seasonally adjusted unemployment rate seems to have topped off at about 6 percent. The rate jumped by half a percentage point in October of 2001, to 5.3 percent, and then rose gradually. Unemployment rates normally lag the business cycle and so the high rates during 2002 do not necessarily indicate a lack of recovery.

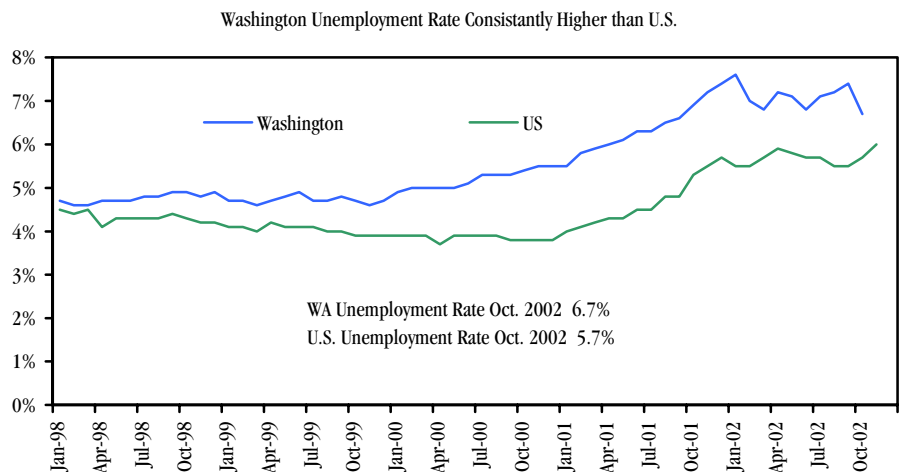
**Figure 19**

Unemployment Rates

United States and Washington, 1998-2002 (Monthly)

Source: *Employment Security Department*

and *U.S. Department of Labor, Bureau of Labor Statistics*



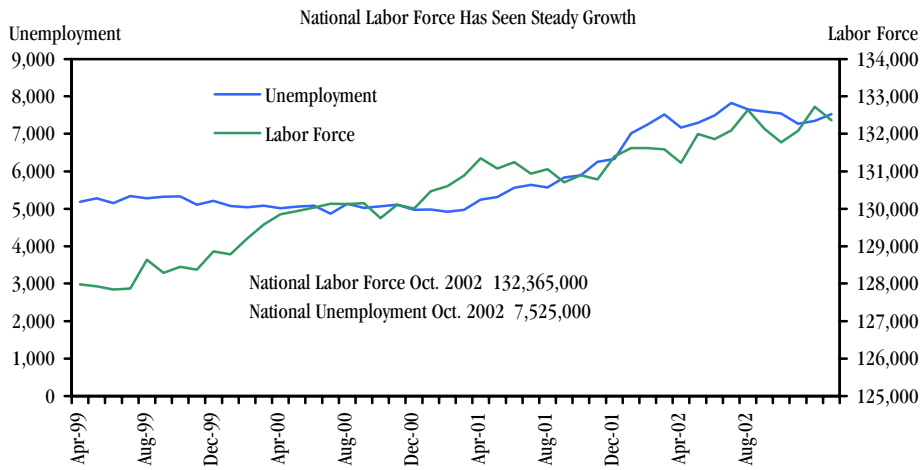
Over the past year other indicators of unemployment have changed little. Unemployment is lowest among white males and females and higher among blacks and Hispanics. Total employment seems to have edged up a bit in recent months (late 2002), although no clear trend is yet discernable.

Through 2000 the seasonally adjusted level of unemployment remained remarkably constant. There was, then, a steady rise throughout 2001 and a leveling off in 2002. The growth rate of the labor force did not dramatically change, showing only a slight leveling off since mid-2001. There do not appear to be large numbers of discouraged workers who have left the labor force over the past two years. This is consistent with official measures of discouraged workers at the national level that have remained constant over the past year at about 0.25 percent.

**Figure 20**

Labor Force and Unemployment (Thousands)  
United States, 1999-2002 (Monthly)

Source: U.S. Department of Labor, Bureau of Labor Statistics



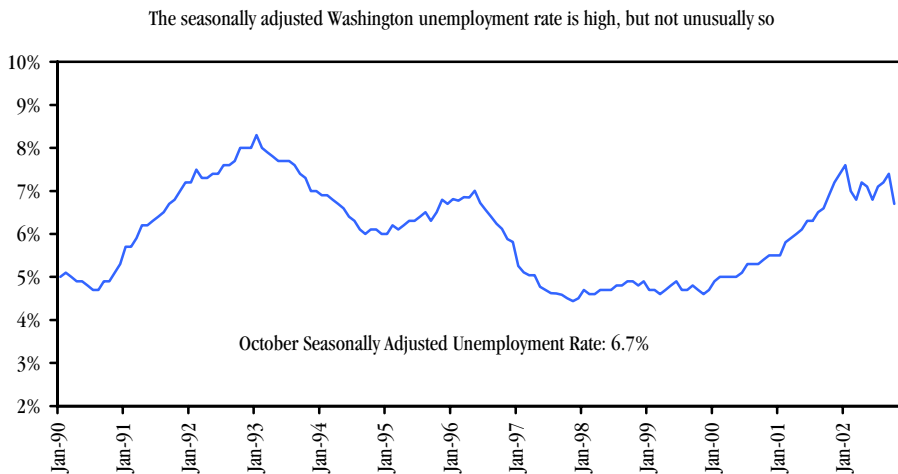
## Washington State Unemployment Outlook

In Washington State the unemployment rate rose dramatically in 2000 and 2001. The rate seems to have stabilized at a high level in 2002 and shows no clear signs of a turning point. Although the unemployment rate is not unusually high by historical standards, the recent rise has a different effect on individuals than would a consistently high natural rate. A sudden increase in the unemployment rate stretches social services and causes severe dislocation for individuals who are not habitually unemployed. Those individuals the hardest hit will tend to be involved in mass layoffs and need retraining or need to relocate to become employed in similar paying jobs.

**Figure 21**

Seasonally Adjusted Unemployment Rate  
Washington, 1990-2002 (Monthly)

Source: Employment Security Department





### Unemployment Insurance Programs

There are several programs in Washington State to help those individuals who exhaust their regular unemployment insurance claims. The criteria for each of the programs are listed below.

#### Regular Unemployment Insurance:

Paid entirely out of Washington State Unemployment Insurance Trust Fund

- Up to 30 weeks
- Must be unemployed through no fault of their own
- Must have sufficient earnings in base year
- Must have worked for a covered employer
- Must be actively looking for work

#### Extended Benefits:

Paid half out of the Washington State Trust Fund and half from Federal money

- Up to 13 additional weeks, but can be no more than 39 weeks, less regular unemployment insurance benefits. Claims having 27-30 weeks regular will get 39 minus regular, claims having 26 weeks will get 13 additional weeks, and claims less than 26 weeks get one-half the number of regular weeks.
- Must have exhausted regular unemployment insurance
- Only available in states with "unusually" high unemployment rates

#### Temporary Extended Unemployment Compensation:

Paid entirely from Federal funds—ends December 28, 2002

- States with "high unemployment" (either in an extended benefit period or having an insured unemployment rate greater than 4 percent) received up to an additional 13 week entitlement
- Must have exhausted Regular Benefits

#### Training Benefits:

- Up to eighteen months of benefits which can be spread out over up to two years
- An extension of regular unemployment benefits for those individuals who are coming from an occupation with an excess supply of trained applicants in their area and who would like to train for an occupation with excess demand for trained applicants in their area.

**Figure 22**

Unemployment Insurance Beneficiaries by Program Type  
Washington, November 2001-November 2002 (Select Months)  
*Source: Employment Security Department*

Program	Beneficiaries November 2002	Beneficiaries October 2002	Beneficiaries November 2001
Regular Benefits	128,839	113,839	137,487
Extended Benefits	9,221	9,138	NA
Temporary Extended	46,094	47,418	NA
Training Benefits	519	448	679

## Industry Breakdown

*Figure 23* shows the number of continued unemployment insurance claims in November 2002 and the percent change in the number from November 2001. November's numbers are the most current measure of claims, but do reflect normal seasonal fluctuations. Aircraft and parts stands out having the largest increase in claims, which is expected because in November of 2001 major layoffs had not yet begun in that industry.

Other sectors showing a significant increase in claims from 2001 include health services, finance, insurance, and real estate, and eating and drinking places. Health services serves as a warning that even in a sector that has seen strong growth, pockets of over-supply for some types of workers may exist. The over 30 percent increase in the number of claimants is indeed significant. Most of that increase took place in hospitals, doctor clinics, and skilled nursing care facilities. Similarly, the finance, insurance, and real estate sector, which did not lose jobs during this recession, is now showing some signs of softening. Eating and drinking places constitutes a secondary sector of the recession in that they are hit as unemployment rises in other sectors.

**Figure 23**

Continued Unemployment Insurance Claims by Industry  
Washington, November 2001-November 2002  
*Source: Employment Security Department*

Group Name	Continued Claims November 2002	Change from November 2001
Agricultural	8,667	-9%
Aircraft	5,773	319%
Business Services	28,382	-6%
Construction	20,572	-15%
Eating & Drinking Places	4,702	10%
Finance, Ins., Real Estate	4,289	15%
Food Products	4,701	-14%
Forestry & Fishing	832	-5%
Gov't., Military, & Nonclassifiable	11,058	-2%
Health Services	3,766	31%
Lumber & Paper	2,632	-49%
Mining	330	-10%
Other Manufacturing	10,971	-22%
Personal Services	640	12%
Ship & Boat Building	1,081	8%
Trade	15,303	-10%
Transportation, Comm., Utilities	7,436	-12%

Declines in claims in agriculture, construction, and food products could be a seasonal blip as the cold rainy weather came a bit late in 2002. The declines in claims for business services and other manufacturing, though, may indicate a shift in the Washington economy. These sectors were particularly hard hit during the recession, and may be showing some signs of stabilization. The small decrease in claims for business services was spread across computer and data processing, prepackaged software, and temporary help agencies.

Likewise most areas of the state have seen a decline in the number of claimants since November 2001 (see Figure 24). Snohomish, Pierce, and Benton and Franklin counties are the three areas seeing an increase. Snohomish had a large increase in the number of claims in the aircraft and parts industry reflecting the large number of residents in Snohomish County laid off from this industry. Pierce County saw increases in claims in aircraft, but also in business services and government. The increase in claims from government is in the area of national security and might reflect a temporary build up in this area in the months immediately following September 2001. Benton and Franklin counties saw increases in claims in construction, business services, and eating and drinking places. Benton and Franklin counties are likely just experiencing one of the fruits of much higher employment in that some of those people then become unemployed. The overall unemployment rate has been falling.

Of those Workforce Development Areas experiencing a decline in the number of claimants, King County saw the largest with 2,543 fewer continued claims over the year (November 2001 to November 2002). Although claims from the aircraft and parts industry experienced over a five fold increase, other sectors declined enough to compensate. Business services significantly reduced its number of claimants as did construction, other manufacturing, and trade. Spokane County saw fewer claims in construction and manufacturing, while the eastern rural counties saw declines in claims in manufacturing, food products trade, and construction. The southwest area saw declines in claims across the board in trade, manufacturing, construction, and business services. And, finally, Pacific Mountain, the Olympic consortium and the northwest saw large declines in the number of claimants from logging, sawmills, and paper and a smaller decline in construction.

**Workforce development areas (WDA)** were established under the Workforce Investment Act to provide workforce development services across the state's diverse regions. There are 12 WDAs in Washington, collectively representing all of the state's 39 counties.

**Northwest:** Island, Skagit, San Juan, Whatcom

Snohomish County  
Seattle-King County  
Tacoma-Pierce County

**Olympic:** Clallam, Jefferson, Kitsap

**Pacific Mountain:** Grays Harbor, Lewis, Mason, Pacific, Thurston

**North Central:** Adams, Chelan, Douglas, Grant, Okanogan

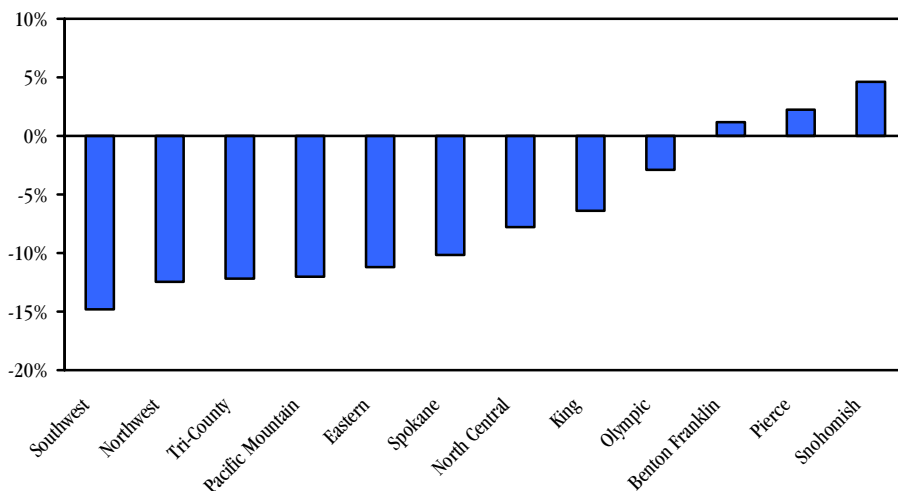
**Tri-County:** Kittitas, Klickitat, Yakima

Benton and Franklin Counties  
Spokane County

**Eastern:** Asotin, Columbia, Ferry, Garfield, Lincoln, Pend Oreille, Stevens, Walla Walla, Whitman

**Figure 24**  
Change in Unemployment Insurance Claims by Workforce Development Area  
Washington, November 2001-November 2002  
Source: *Employment Security Department*

Most areas of state saw a decline in claimants between November 2001 and 2002



Unemployment insurance claims are tracked by place of worker residence.

**The Mass Layoff Statistics** program is a federally funded program that began in 1996. This program collects information on firms that lay off fifty or more employees over a five week period. The rationale for this program is that large layoffs indicate areas of potential distress in the state and point to industries that may be in trouble. Also, since those involved in a mass layoff are more likely to have trouble finding re-employment than other laid off individuals, the mass layoff statistics program helps service providers target those unemployed most in need of services.

## Mass Layoff Statistics

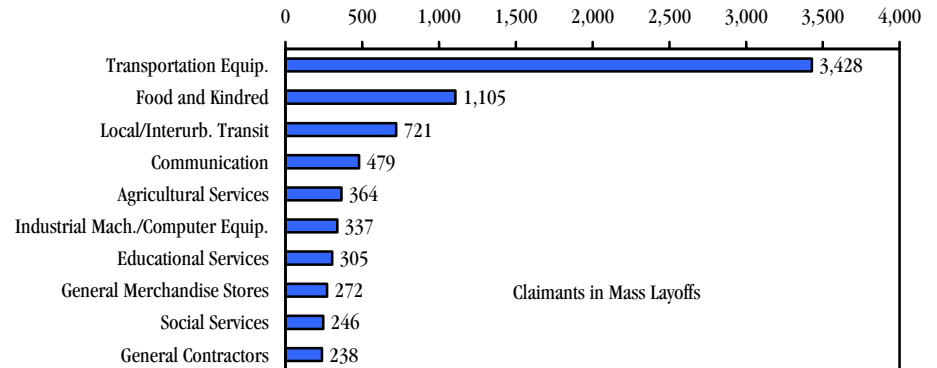
Figure 25 shows mass layoffs by industry for the second quarter of 2002, the most current data. The transportation equipment industry had by far the most workers affected by mass layoffs. Looking at mass layoffs by county, transportation equipment accounted for the most mass layoffs in Pierce, Snohomish, and King counties during the second quarter as well. In counties farther from Boeing other industries emerge as the top mass layoff producer. The area around Clark County had layoffs spread rather evenly through a number of industries with educational services just outweighing electronic equipment and the communication industry. Local and interurban transit laid off the most workers through mass layoffs in Spokane, the Olympia area, and throughout much of Eastern Washington.

Looking over the most recent quarters, the cyclical nature of layoffs in aircraft and parts emerges as the industry comes on and off the list of the top mass layoff producer. The transportation equipment industry has been the top mass layoff industry in six out of the last ten quarters. The fourth quarter of 2000 and the first quarter of 2001 stand out with the problems of high energy prices and drought related layoffs in food processing. The layoffs from dot.coms show up in the third quarter of 2001 with the business service industry being the largest originator of mass layoffs.

**Figure 25**

Top Ten Industries Affected by Mass Layoffs by Number of Claimants  
Washington, Second Quarter 2002

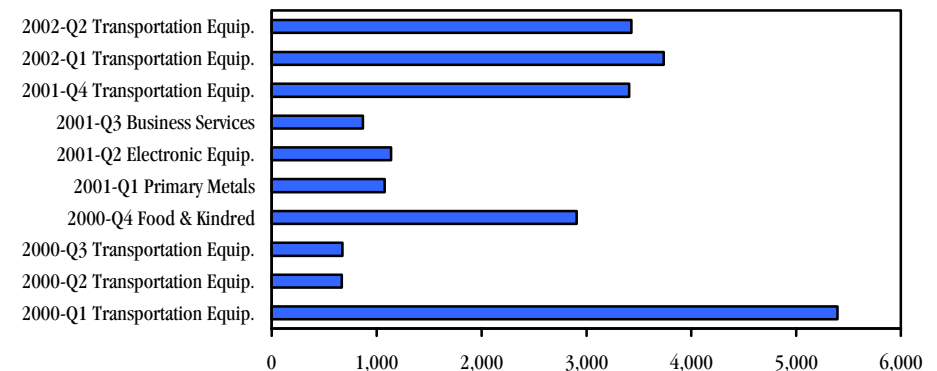
Source: Employment Security Department



**Figure 26**

Top Industry Producing Mass Layoffs Per Quarter  
Washington, 2000-2002 (Quarterly)

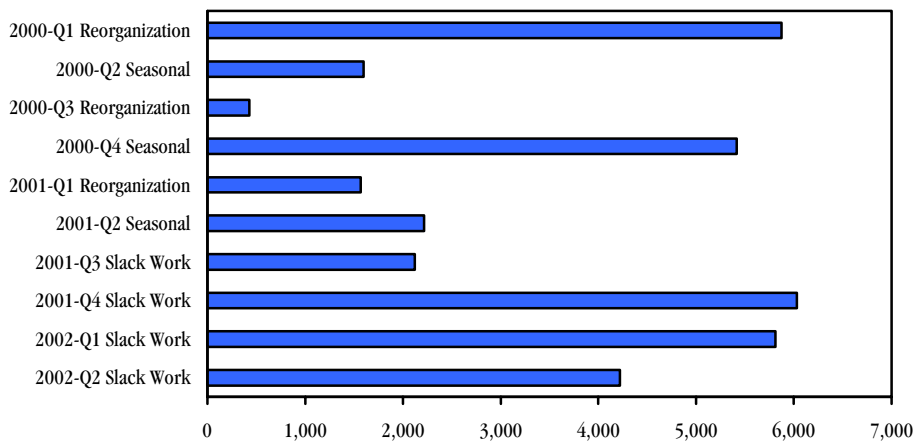
Source: Employment Security Department



The recent recession is also brought out in *Figure 27* on the dominant reason firms cited for having a mass layoff. In the most recent quarters slack work is the most common reason. Before that re-organization of the firm and seasonal trade were cited as the most common reason for a mass layoff.

*Figure 28* shows the number of people separated in mass layoff events against the layoff as a percent of firm employment. From 1996 through the end of 1998 there were relatively few people involved in mass layoffs, but the firms laying off the workers were significantly affected, laying off on average 20 to 50 percent of their workers. By 1999 the number of people involved in mass layoffs had increased, but firms were laying off a smaller percentage of their work force. Finally, by 2001 the number of people involved in mass layoff events had increased, but firms were also laying off a large percentage of their employees. This pattern has diminished through the end of 2001 and early 2002. These numbers are hard to interpret, but in early 2001 the bursting of the dot.com bubble may have initially led to bankruptcies leading small firms to lay off all their employees. As the recession spread and the pain was felt more widely, many larger, financially sound and more established firms were forced to lay off a small portion of their work force.

**Figure 27**  
 Dominant Reason for Mass Layoffs Per Quarter  
 Washington, 2000-2002 (Quarterly)  
 Source: Employment Security Department



**Figure 28**  
 Mass Layoff Separations Compared to Separations  
 as Share of Pre-Layoff Firm Employment  
 Washington, 1996-2002 (Quarterly)  
 Source: Employment Security Department

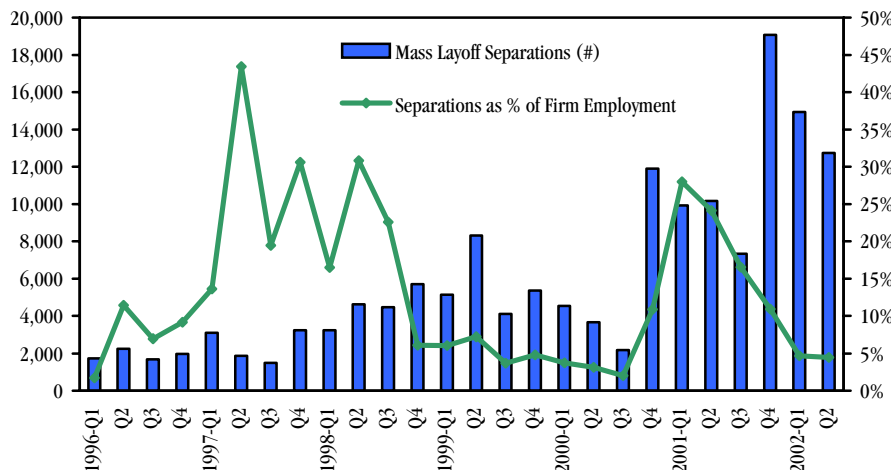


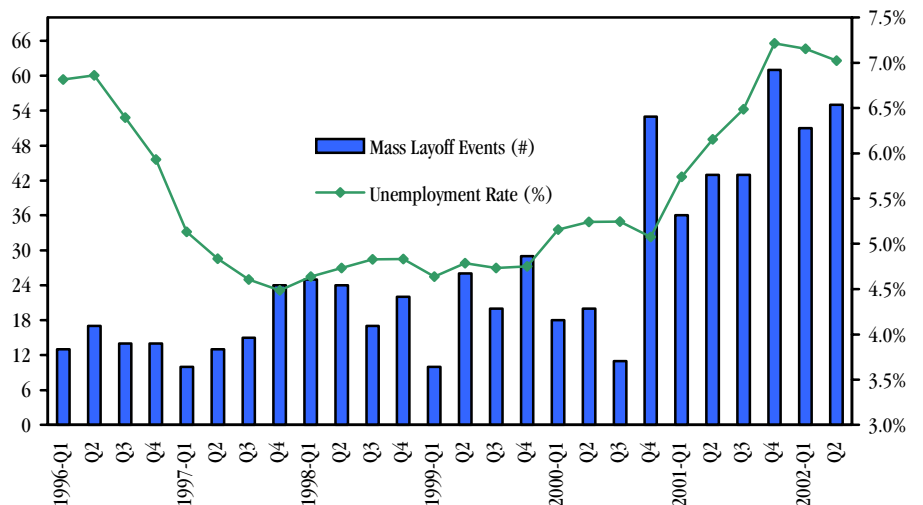
Figure 29 shows the number of mass layoff events against the unemployment rate. A high unemployment rate is not always associated with a large number of mass layoff events over this period. In 1996 and early 1997 the unemployment rate was relatively high while the number of mass layoff events was low. This may have been a period of high frictional unemployment when firms were doing fairly well, but it was difficult for workers to find jobs. The difficulty could be a lack of effective information on where jobs were, a lack of skills, or that people were located in the wrong places to find jobs. By the end of 1997 the unemployment rate had dropped, maybe showing that some of the above potential problems had been partially resolved. By late 2000, however, an opposite problem occurred when the number of mass layoff events increased. These mass layoff events seem to lead into the recession with the unemployment rate soon rising as well.

In summary, similar industries seem to have been involved in mass layoff over time. Aircraft and parts does come in as a recurrent dominant player. The importance of business service layoffs at the start of the recession is also highlighted in these data. Further analysis of mass layoff events is available through the Employment Security Department upon request.

**Figure 29**

Mass Layoff Events Compared to Quarterly Unemployment Rate  
Washington, 1996-2002 (Quarterly)

Source: Employment Security Department



The term **dislocated workers** has been used in many different ways and the Employment Security Department has long been involved in the process of measuring the number of dislocated workers across the state. Generally speaking, the term refers to that portion of the unemployed labor force that is likely to have the most difficulty returning to their previous profession at comparable wages. For service delivery and policy planning purposes, dislocated workers are officially defined by RCW 50.04.075. However, a more inclusive definition was applied to the analysis in this report in an effort to examine the difficult problem of estimating dislocated workers.

## Dislocated Workers

For this model, unemployed people are considered to be dislocated if they had to change industry to become re-employed and if they experienced a 30 percent or greater reduction in their earnings. Dislocated workers were identified for the program year, July 1999 to June 2000, and from July 2000 to June of 2001. Determining characteristics of dislocated workers, such as geography, the industry from which the person comes, and occupation, were then identified. In general dislocated workers are more likely to be more highly paid workers from the Puget Sound region. They are also more likely to have a sustained work history with their previous employer of at least two quarters and to be older and female. Hispanic workers are less likely to be identified as dislocated.

Several caveats come from the definition of dislocated workers used here. First, very low wage workers are unlikely to be able to experience a 30 percent decline in wages because of the minimum wage. Since jobs for these workers often require a less defined skill set, they have more flexibility in the job market. Another caution is that many agricultural workers in Eastern Washington are Hispanic. They often have very few other choices beyond agriculture for work and, thus, rarely change industry. Still, this definition is a useful starting point in identifying those workers likely to experience difficulty in becoming re-employed.

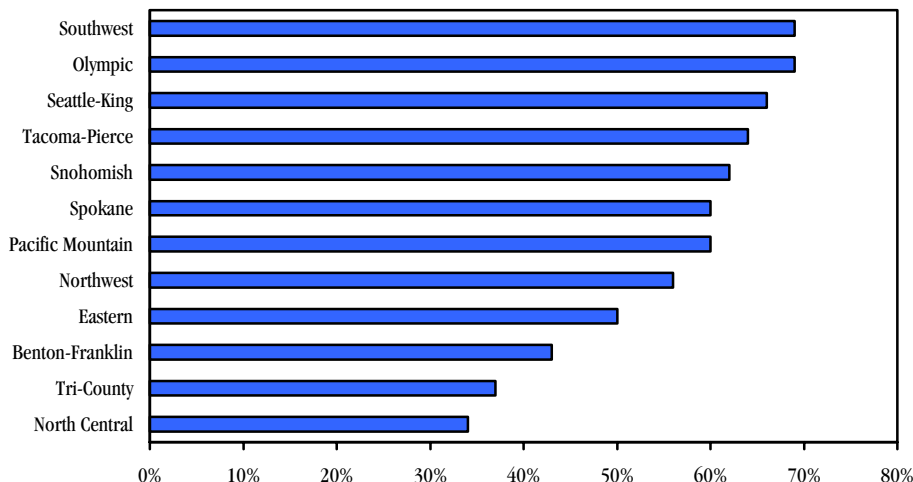
In general, dislocated workers are more likely to be better educated and more highly paid workers from the Puget Sound region.

**Figure 30**  
 Dislocated Workers and Dislocation Rate  
 Washington, 1999-2002 (Program Years)  
 Source: Employment Security Department

<b>Program Year</b>	<b>Dislocated Workers</b>	<b>Dislocation Rate</b>
1999 (Actual)	54,423	42%
2000 (Actual)	76,061	44%
2001 (Estimate)	123,625	60%
2002 (Forecast)	136,871	62%

Once the model had been developed, dislocated workers were estimated for the July 2001 to June 2002 program year and were forecast for the July 2002 to June 2003 program year. The dislocation rate was calculated as the percent of dislocated workers out of the number of individuals who filed an initial claim during that period. The striking feature of these findings is the dramatic increase in the rate of dislocation starting in the July 2001 to June 2002 program year. The percent increase in the number of dislocated workers from the 2000 program year to the 2001 program year was over 60 percent, while the percent increase in claimants over the same period was just under 20 percent. These estimates suggest that not only has the number of claimants increased over the recession, but also that the proportion of individuals in need of more intensive re-employment services has risen as well.

**Figure 31**  
 Worker Dislocation Rate by Workforce Development Area  
 Washington, 1999-2002 (Program Years)  
 Source: Employment Security Department





## Occupations in the Recession

What happened to the work force in occupational terms during the recession?

Each time someone files an unemployment insurance claim in Washington his or her occupation is noted. Using that information we are able to learn how rising levels of unemployment uniquely impacted certain occupations during the economic downturn. Using a three point time frame, we looked at continued unemployment insurance claims for April 2000, 2001, and 2002. About 500 occupations were represented in claims filed during those months.

Overall, almost every occupation was worse off in April 2002 compared to April 2000. But of the handful of jobs that actually saw decreasing jobless claims, loan interview clerks and loan officers topped the list. Health care occupations, especially health care aids, and some educational jobs also saw unemployment claims decline over the two-year period.

Unemployment claims tend to be proportionally highest for production, construction, agricultural, and material moving occupations. While this held true during the recession, exceptional relative increases in unemployment claims occurred in professional and management/financial job classes between April 2000 and April 2002. Professional occupations saw a 145 percent increase in claims and management/financial claims were up 122 percent, while total claims across all occupations grew by 71 percent.

Within the professional and management/financial groups the occupation sub-groups with the highest relative increases in jobless claims during the recession included:

Occupation Sub-Group	Increase in Unemployment Claims April 2000-April 2002
Computer and Mathematical	389%
Arts, Design, Entertainment, Sports, and Media	163%
Architecture and Engineering	154%
Management	124%
Business and Financial Operations	113%

Much of these jobless increases were driven from within the Seattle metro region. For example, if we count claim increases for King, Snohomish, and Island counties separately from the rest of the state we see the following differentiation:

Occupation Sub-Group	April 2000-April 2002	
	Claims increase Seattle PMSA	Claims increase Balance of State
Computer and mathematical	485%	222%
Architecture and engineering	200%	104%
Arts, design, entertainment, sports, media	184%	126%
Management	172%	81%
Business and financial operations	155%	68%

From this evidence we can see that, in occupational terms, this downturn has been punctuated by high relative increases in unemployment in professional and management/finance groups—jobs classes that typically require higher levels of education and pay moderate to high wages, and were especially concentrated in the Seattle metro region. Intuitively we know that many jobs in these classes were tied to significant investment during the “information boom” of the 1990s. Indeed many new occupations were born of that era in fields like computer information, multimedia design, and business operations. And the lesson from economic theory is that with the introduction of new technology, initial investment will tend to be steep—often overstated, before some new equilibrium is established.

The geographic breakdown of dislocation shows the highest percentage being for the Southwest Workforce Development Area and for the Olympic Partnership, each at about 70 percent. The Puget Sound area of Seattle, Pierce, and Snohomish then appear followed closely by Spokane and the Pacific Mountain Workforce Development areas at 60 percent. Northwest and the eastern part of the state show relatively lower percentages of dislocation. The order of dislocation is somewhat different than that of claimants and emphasizes the characteristics of claimants coming from the different areas.

Although considerably more work remains to be done on dislocation, this study does suggest the increasing need to focus on dislocation during recessions. The geographic breakdown of dislocation identifies different areas than does a simple count of claimants. Also, the identification of dislocation also identifies a group that is not dislocated. Some of the low wage, low skill workers in that group may be in the most need of services.

## Exhaustion of Unemployment Insurance Benefits

Those individuals who exhaust their unemployment insurance benefits have drawn the greatest possible portion from the unemployment insurance trust fund. These individuals may also experience the greatest hardship at the end of their claim. Exhaustions are defined here as those individuals on regular unemployment insurance who have used the maximum payable amount of their claim. The exhaustion rate is calculated as the number who exhaust out of the number of new initial claims. Exhaustion rates have been calculated through the fourth quarter of 2001 following each individual who filed a new claim in 2001 through the benefit year ending the last quarter of 2002.

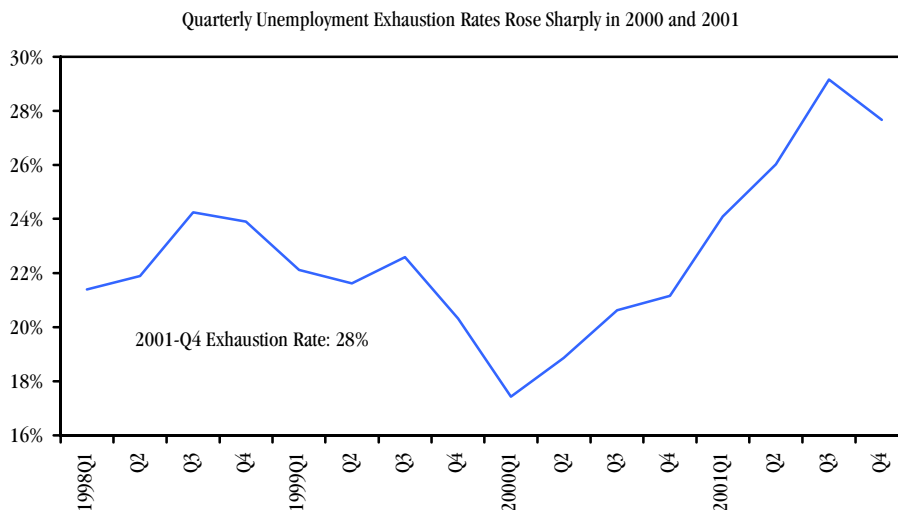
**Exhaustions** are defined as those individuals on regular unemployment insurance who have used the maximum payable amount of their claim.

**Figure 32**

Quarterly Unemployment Insurance Exhaustion Rates

Washington, 1998-2001 (Quarterly)

Source: *Employment Security Department*



The rate of exhaustion of unemployment insurance claims declined in 1999 reaching a low of 17 percent in the first quarter of 2000. The rate then climbed steadily reaching its peak of over 29 percent in the third quarter of 2001. The average exhaustion rate for this period is just under 23 percent.

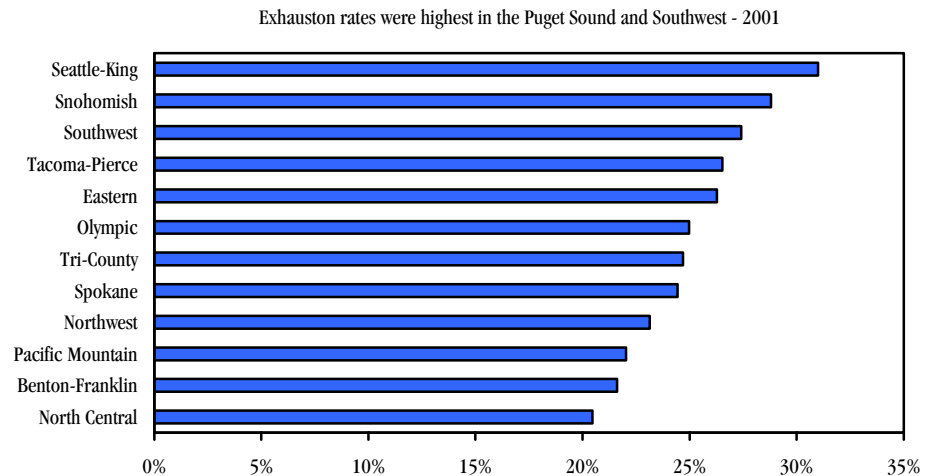
Exhaustion rates are spread fairly evenly throughout the state's Workforce Development Areas. The Puget Sound and Southwest have the highest rates of

exhaustion while Olympia, the Northwest and the eastern part of the state have lower rates. The highest exhaustion rates in the Puget Sound area are also associated with the highest number of claims filed. High unemployment rates are not associated with more exhaustions except in the Snohomish and the Southwest Workforce Development Areas.

The occupations with the highest exhaustion rates are more technical and include computer and mathematical science occupations (39 percent), followed by

**Figure 33**  
Unemployment Insurance Exhaustion Rates by Workforce Development Area  
Washington, 2001

Source: Employment Security Department



The **Standard Industrial Classification (SIC)** has been used for decades to organize industry sectors into a hierarchical taxonomy. But with passage of NAFTA, the North American Free Trade Agreement and recognition of changes in economic activities, a new classification system was developed collaboratively between Mexico, Canada, and the U.S. The **North American Industrial Classification System (NAICS)** was developed so that firms that use similar production processes are grouped together and so that industrial statistics across the continent may be analyzed comparatively. Administrative data used by the Employment Security Department are currently being coded for NAICS with full conversion to the new coding system planned to be phased in over the coming years.

**Figure 34**  
Unemployment Insurance Exhaustion Rates by Industry (NAICS)  
Washington, 2001

Source: Employment Security Department

North American Industry Classification System (NAICS)	Exhaustion Rates
Information	38%
Professional, Scientific, & Technical Services	36%
Management of companies & enterprises	33%
Utilities	32%
Administrative & Support & Waste Management & Remediation Services	31%
Finance & Insurance	30%
Public Administration	30%
Real Estate & Rental & Leasing	29%
Wholesale Trade	29%
Other services, Except Public Administration	29%
Manufacturing	28%
Arts, Entertainment & Recreation	24%
Retail Trade	24%
Construction	24%
Educational Services	23%
Transportation & Warehousing	22%
Agriculture, Forestry, Fishing & Hunting	22%
Health Care & Social Assistance	22%
Mining	20%
Accommodation & Food Services	19%

communications (36 percent), engineering (35 percent), and business (34 percent). Those occupations having the lowest exhaustion rates include high demand occupations such as health care practitioners (19 percent), healthcare support (22 percent), and education (21 percent). They also include occupations with high turnover such as food preparation (20 percent) and those seasonal or contract-driven occupations having recurrent layoffs and hiring such as transportation (21 percent) and construction (23 percent).

Exhaustion rates by industry groups were examined using the new North American Industry Classification System (NAICS) coding. Information is the industry with the highest exhaustion rate for 2001. This industry includes most of the high-tech companies, including both computer software and communications. Utilities and public administration also have high exhaustion rates, as do other professional and management sectors. Those industries having low exhaustion rates are those growing relatively well through the recession such as health care and educational services, plus industries that employ seasonal workers such as construction, transportation, and agriculture. Finally, accommodation and food services, an industry employing low wage workers with typically high turnover, has the lowest exhaustion rate of 19 percent.

### Figure 35

Unemployment Insurance Exhaustion Rates by Race and Ethnicity  
Washington, 2001

Source: Employment Security Department

<b>Race/Ethnicity</b>	<b>Exhaustion Rate 2001</b>	<b>Percent of Claims in 2001</b>
Black	34%	4%
Asian/Pacific Islander	30%	5%
American Indian/Alaskan Native	28%	2%
White	27%	74%
Other	26%	4%
Hispanic	24%	10%

Exhaustion rates by ethnicity and race indicate that blacks have the highest rates of exhaustion while they only account for 4 percent of unemployment insurance claims. Similarly, Asians and Pacific Islanders and American Indians and Alaskan Natives account for a small percent of total claims, but have high exhaustion rates. Whites account for almost three quarters of the claims and have relatively low exhaustion rates. Hispanics have the lowest exhaustion rate. This is consistent with the relatively high concentration of people of Hispanic ethnicity in seasonal jobs in the agricultural sector. In these jobs workers are often recalled to work before they reach exhaustion.

In 2001 those with higher education levels had higher exhaustion rates (*see Figure 36*). This was also true in 1998, but the dispersion of exhaustion rates was not as high. Those with more education often possess highly specialized skill sets. It, thus, often takes them longer to find the few jobs that require their advanced skills.

The older a claimant is the more likely he or she is to exhaust (*see Figure 37*). It is interesting that this relationship holds true for every age class for both 2001 and 1998. The largest jump is for those claimants over the age of 65 who have above a 40 percent chance of exhausting.

Exhaustions, thus, provide several pieces of information about the experience of the unemployed. First is that geography appears to be an important factor in the probability of exhaustion. Second, those from highly skilled, high paying jobs are on average more likely to exhaust. Finally, certain segments of the labor force, including minorities and older workers, are more likely to exhaust for as yet unknown reasons. Women and men are about equally likely to exhaust.

**Figure 36**

Unemployment Insurance Exhaustion Rates by Education Level  
Washington, 1998 and 2001

*Source: Employment Security Department*

<b>Educational Level</b>	<b>2001</b>	<b>1998</b>
Advanced Degree	33%	24%
B.S. or A.S.	32%	23%
Some College	30%	23%
High School or GED	24%	22%
Less than High School	24%	24%

**Figure 37**

Unemployment Insurance Exhaustion Rates by Age Group  
Washington, 1998 and 2001

*Source: Employment Security Department*

<b>Age Class</b>	<b>2001</b>	<b>1998</b>
Under 24	17%	15%
25-34	25%	21%
35-44	28%	24%
45-54	32%	26%
55-64	34%	30%
Over 65	41%	43%

---

# Seasonal, Cyclical, and Structural Employment

---

In addition to understanding employment issues like discouraged workers and geographic disparities, the nature of a given industry has a strong impact on the level of unemployment. For example, the level of agricultural work varies greatly throughout the year and hence the annual unemployment rates for many agricultural industries tend to be much higher than average. Those industries that exhibit wide unemployment patterns throughout the year are designated as *seasonal*. The Employment Security Department identifies *structurally mature* industries as those that have suffered long-run declines due to changes in the structure of the economy. And industries that are particularly susceptible to the ups and downs of the business cycle are identified as *cyclical*. These types of industries have historically played a large role here in Washington due to our reliance upon natural resource-based and goods-producing industries and therefore the identification of them is helpful to understanding local employment issues.

When trying to identify an industry as seasonal, we want to target industries that exhibit large variations in economic activity over the course of the calendar year—particularly as they relate to employment patterns. In addition to agriculture, industries related to construction, tourism, and forestry, among others, can be expected to be seasonal. What these businesses have in common is specific seasons with starting and closing periods, resulting in wide fluctuations in demand based on the time of year.

Generally speaking, employment ebbs and flows with the health of the economy as a whole. However, there are industries that are especially responsive to these changes in the business cycle. These are labeled as cyclical industries. During an economic downturn, there will be a decrease in demand from businesses and consumers, but these declines cannot be expected to impact all industries equally. When budgets are tight, we begin to selectively cut back. For example, services are disproportionately affected since they are among the first things we cut when times are hard.

Structural employment refers to employment that has changed as a result of wider, fundamental changes within the economy. Changes in technology and demand are the most common source of structural change. For example, many manufacturing industries have seen employment decline as technology has progressively replaced labor in the production process and foreign labor costs have fallen relative to domestic costs. As consumer preferences, technology, and production processes change, many industries (or industry segments) become outmoded.

**Seasonal Employment:** Wide month-to-month employment variations due to seasonal or calendar year changes.

**Cyclical Employment:** Employment fluctuations attributable to the business cycle. For the purposes of this analysis, this includes industries that experience employment growth in response to the down period of the cycle, as well as the more common experience of employment declines during downturns.

**Structural Employment:** Employment changes due to economic restructuring.



---

## How Seasonal, Cyclical, and Structural Industries are Identified

Since 1986, the Employment Security Department, acting on a request from the State Legislature, has been screening statewide industries to determine if they are considered as seasonal, cyclical, or structural (it should be noted that a given industry can fall into more than one category or none at all).

The criteria decided upon have then been applied at the three-digit level of the Standard Industrial Classification (SIC) to private covered employment data. Covered means covered by the Unemployment Insurance (UI) program. Though not all-inclusive, anywhere from 85 to 90 percent of all employment in Washington was covered in 2001.

This year a number of methodological changes were incorporated in deciding what industries should be considered seasonal, cyclical, and structural. Generally the reason for the changes was the belief that the past methodology too heavily influenced individual outliers. For example, imagine a given industry suffered a strike one month, causing a large but temporary drop in employment. Based on the old method, it is likely that event would be enough for the industry to be delineated as seasonal. In fact, if the strike occurred in the most recent time period, it is likely the industry would also be considered structural. The following paragraphs will explain changes in how we determine the typology of industries.

Under the new methodology for identifying seasonal industries, a trend line was fitted to the data for each year between 1991-2000 and then all variations from the trend were measured. We then took the average variation of all months concerned. If the variation averaged 7.5 percent or more, then the industry was considered seasonal. The advantage of this approach is that it considers the average of all variations.

Cyclicity was in the past determined by measuring how much employment varied during a given business cycle. Two degrees of thresholds have been used in recent years, 24.0 percent variation and 37.8 percent variation. The reason for the two-tiered threshold system was to capture the aircraft and parts sector which had seen its' variation change from 37.8 to 24 percent when the observation period switched.

The new method for cyclical identification is to compare the employment changes in a given time period (again, 1991-2000) to that of the business cycle and measure how closely the two data sets correspond to one another. The Conference Board Composite Index of 10 Leading Indicators was used as a proxy for the business cycle. The relationship between these national indicators and employment in various industries was measured. If the strength of the relationship was 0.9 or more (where 1.0 indicates a 100 percent relationship), then the industry was identified as cyclical.

In the case of previous structural determinations, a cycle was identified by a trough (start of a new cycle) and a peak (end of a cycle). Employment at the bottom of the cycle was compared to employment at the peak and if declines of less than 10 percent were observed, it was labeled as a Type 1 structural industry. If the drop in jobs was 10 percent or more then the industry was considered Type 2 structural.

In the new approach, the percentage of an industry's employment compared to all employment was measured and a line was fitted for the observation period. The advantage of this approach is that it considers all relevant data periods. The decision was also made to use one threshold—declines of 10 percent or more and label those as structurally declining. The percentage of all employment instead of actual employment was used because, while an industry might experience incremental nominal growth, it can at the same time be declining in importance.



---

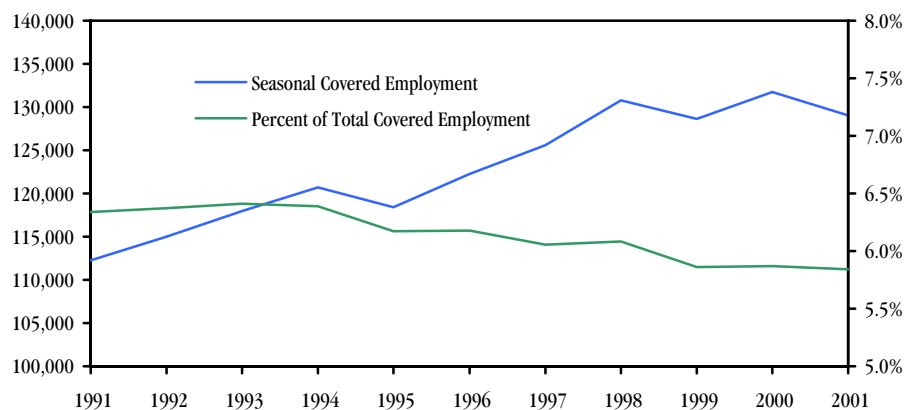
## Seasonal Industries

Eighty-eight detailed industries were identified as seasonal. *Figure 38* depicts how the share of seasonal employment as well as the absolute number of seasonally employed workers has changed from 1991 to 2001. As shown, the number of workers in the 88 seasonally designated sectors has grown by 15 percent, from 112,266 in 1991 to 129,033 in 2001. While absolute numbers have increased, the share of seasonal workers from the total work force has fallen by a small margin (from 6.3 to 5.8 percent).

**Figure 38**

Seasonal Private Covered Employment  
Washington, 1991-2001

Source: Employment Security Department, LMEA



This rising employment among seasonal industries has not been steady during the past decade. In 1991, 1995, and 2001 job losses were experienced, whereas all other years had growth. This reflects the impact that agricultural industries have on seasonal data, as 1995 and 2001 were the worst years for agricultural employment since 1993. Seasonal industries in Washington appear to be going through a gradual reduction in share of total employment, while growing slowly overall. Given that many seasonal industries are resource-based, and that resource-based industries appear to be suffering long-run declines, it would not be surprising to see this trend continue.

By a good margin, the largest seasonal industry in Washington was fruits and tree nuts (32,684), the majority of which came from the state's signature apple crop (see *Figure 39*). Preserved fruits and vegetables (13,036) and landscape and horticultural services (10,863) were the second and third largest employers among seasonally influenced industries. When it comes to sectors that exhibited the most seasonal variation, vegetables and melons topped the list, with farm labor and management services and fruits and tree nuts behind it.

**Figure 39**  
 Largest Seasonal Industries  
 Washington, 2001  
 Source: Employment Security Department

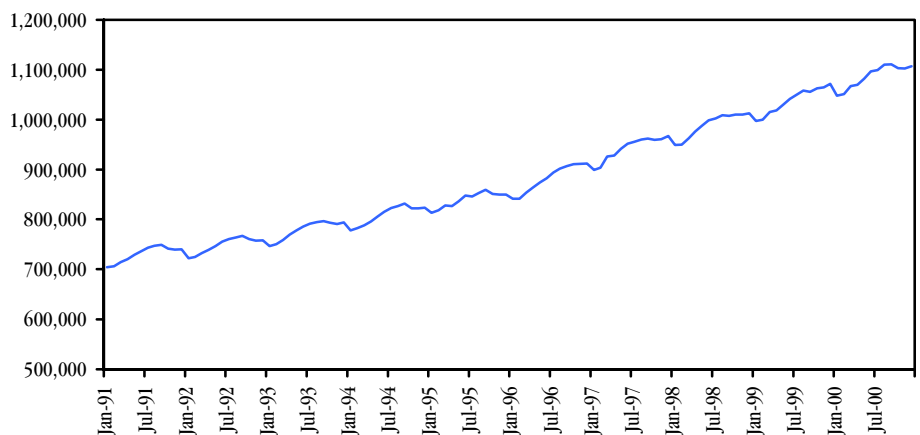
Industry	Employment
Fruits and Tree Nuts	32,684
Preserved Fruits and Vegetables	13,036
Landscape and Horticultural Services	10,863
Crop Services	9,027
Painting and Paper Hanging	6,672
Elementary and Secondary Education	6,045
Highway and Street Construction	5,714
Field Crops, Except Cash Grains	5,247
Horticultural Specialties	5,230
Miscellaneous Personal Services	4,000
Vegetables and Melons	3,144

The inclusion of agriculture production and processing and landscaping in the list of seasonal sectors, is of course due to crop cycles and weather patterns. The method used also categorizes elementary school education, highway construction, forest products, and miscellaneous personal services employment, among others, as prone to strong variations during the year. Elementary education employment varies with the school year, whereas forest products and highway construction work tends to be dependent upon good weather. Miscellaneous personal services includes businesses such as costume and tuxedo rental, tanning salons, tattoo parlors, and wedding chapels, most of which have discernable seasonal patterns (e.g. Halloween, proms, summer weddings, and winter tanning).

## Cyclical Industries

In 2001, 105 industries were identified as cyclical with 1,279,472 employees working in them. While the number of industries declined with the new methodology, the number of cyclical workers in the state rose substantially. The period used to determine eligibility in the category was 1991-2000, and during this period cyclical industries increased their share of total employment from 49.7 to 57.9 percent. Obviously these industries have been growing both in absolute (45 percent since 1991) and relative terms (*see Figure 40*).

**Figure 40**  
 Number of Workers in Cyclical Industries  
 Washington, 1991-2000 (Monthly)  
 Source: Employment Security Department



It is important to remember that these data are derived from the most recent business cycle (1991-2000), which might skew the results one way or another. For example, computer data processing services experienced very strong growth throughout much of the 1990s and was hard-hit by the recent economic downturn. This matches what we considered to be cyclical but it is possible that it is a one-time phenomenon and the industry may not in fact be particularly susceptible to the business cycle.

Computer data processing services was the second largest employer among those considered cyclical (*see Figure 41*). The 67,842 employees in this sector were surpassed by only the 177,056 employees that worked in eating and drinking establishments. Grocery store, hospital, and personal supply service employees had the third, fourth, and fifth most cyclical employees in Washington in 2001. This last category includes temporary help services, which are very responsive to changing demand.

#### Figure 41

##### Largest Cyclical Industries

Washington, 2001

Source: Employment Security Department

Industry	Employment
Eating & Drinking Places	177,056
Computer & Data Processing Services	67,842
Grocery Stores	61,280
Hospitals	60,726
Personnel Supply Services	44,841
Offices & Clinics of Medical Doctors	44,692
Private Households	40,636
Misc. Amusement, Recreation Services	28,410
Telephone Communication	28,057
Miscellaneous Business Services	26,380
Engineering & Architectural Services	26,060
Miscellaneous Shopping Goods Stores	25,982
Air Transportation, Scheduled	23,570
New & Used Car Dealers	22,081
Commercial Banks	20,498
Offices & Clinics of Dentists	20,433
Professional & Commercial Equipment	19,318
Residential Building Construction	18,878
Legal Services	18,422
Electrical Work	18,283

Sectors that showed the strongest relationship to the Conference Board Index were residential care, professional and commercial equipment, credit unions, offices and clinics of dentists and local and suburban transportation. The residential care industry includes rehabilitation centers, foster homes, halfway houses, homes for the handicapped and aged, as well as juvenile correction homes. Workers engaged in the production of computers, software, office and medical equipment are in the professional and commercial equipment industry.

It is interesting to note that aircraft and parts was not determined to be a cyclical industry—especially in light of the fact that it has traditionally been perceived as such. However, another way to interpret this is not that aircraft and parts is not cyclical in nature, but that it has its own cycle independent of the national business cycle. This highlights the importance of not inferring too much from these data.

In addition to the previously mentioned sectors considered to be cyclical, there were quite a few construction-related, banking and finance, goods manufacturing, automotive dealers and repair, doctors, dentists, and amusement-related industries. As with many other sectors discussed, these are typically very sensitive to changes in demand. In the case of banking and finance, automotive dealers, and to some degree equipment production, there is a strong association with interest rate movements.

## Structural Industries

Traditionally, structurally designated sectors were implied to be suffering long-run declines. However, structural change need not necessarily only include those suffering from structural changes, but also those that have benefited from restructuring. Most of the discussion in this section will focus on sectors that have seen employment declines due to restructuring, and they will be referred to as structurally mature industries.

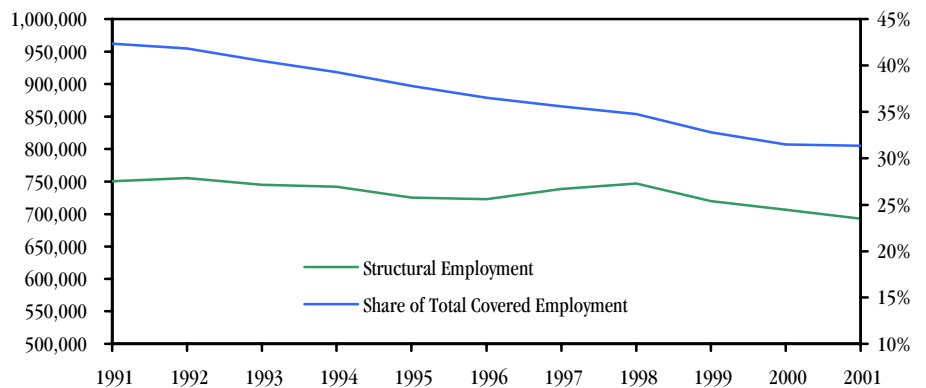
Last year there were 124 three digit SIC coded industries, employing 309,993 workers in structurally mature industries. This year the number of industries classified as such rose to 142, while the number of workers also increased to 692,858. This does not mean that structurally mature employment has been rising, but instead is due to the change in the triggering process.

In fact, as *Figure 42* illustrates, employment in these industries has been falling in both absolute and relative terms. The amount of workers (using the new methodology) declined from 750,259 to 692,858, a drop of about 8 percent. Meanwhile, general employment was rising and therefore their share fell from 42 to 31 percent of all employment.

**Figure 42**

Private Covered Employment in Structurally Mature Industries  
Washington, 1991-2001

Source: Employment Security Department, LMEA



It will probably come as no surprise that aircraft and parts was the largest state-wide employer considered to be structurally mature. The sector employed 86,694 persons in 2001. Grocery stores, nursing and personal care facilities, fruits and tree nuts, and trucking & courier services, round out the top five employers among structurally mature industries. While aircraft and parts and fruits and tree nuts have experienced obvious and absolute declines in employment, other industries such as grocery stores and nursing care and personal care facilities have seen fairly static employment or job losses due to productivity gains. In either case it is primarily a loss of relative employment share.

Generally speaking the list of structurally mature industries has included a lot of agriculture, forestry, manufacturing of all kinds, wholesale trade, as well as certain retail trade industries.

**Figure 43**

Largest Structural Industries

Washington, 2001

Source: Employment Security Department, LMEA

<b>Industry</b>	<b>2001</b>
Aircraft & Parts	86,694
Grocery Stores	61,280
Nursing & Personal Care Facilities	33,197
Fruits & Tree Nuts	32,684
Trucking & Courier Services, Ex. Air	27,845
Hotels & Motels	26,821
Groceries & Related Products	25,368
Commercial Banks	20,498
Legal Services	18,422
Research & Testing Services	17,986
Insurance Agents, Brokers, & Service	14,026
Preserved Fruits & Vegetables	13,036
Fire, Marine, & Casualty Insurance	12,056
Heavy Construction, Except Highway	11,900
Sawmills & Planing Mills	11,855
Drug Stores & Proprietary Stores	11,199
Furniture & Home furnishings Stores	11,092
Gasoline Service Stations	10,394
Misc. Food & Kindred Products	10,201
Beauty Shops	9,524

Computer and data processing tops the list (in terms of employment) of industries that saw their fortunes improve as a result of restructuring. Fairly close behind (40,636 compared to 67,842) is private households, which includes any workers who are employed on private premises. Non-store retailers, such as mail-order businesses and sanitary services (sewage, dumps, waste removal, and irrigation systems) were the second and third largest employers among structurally improving industries.

The reader may have noticed for example that grocery store employment fell into both the cyclical and structural categories. This is rather common as traditionally there has been significant overlap between the two.

**Regional Patterns**

All Washington counties exhibit some degree of seasonal, cyclical, and or structural employment. The degree of course varies from county to county but some general trends do exist. Typically non-urban regions with less diversification and more reliance on resource-based employment have higher concentrations of these types of industries—particularly in the cases of seasonal and structurally mature. Overall, 5.8 percent of Washington industries qualified as seasonal in nature in 2001.

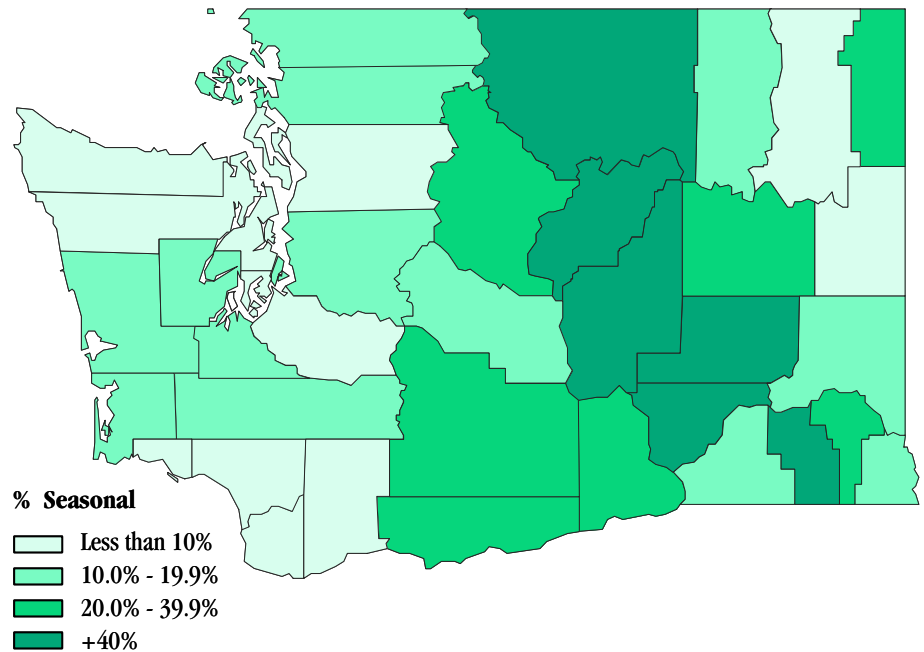
For example, all counties with 20 percent or more employment in seasonal work are located in rural eastern Washington (see Figure 44). Pacific and Skagit counties were the only western counties with more than 10 percent of employment listed as seasonal. Pacific County has some agriculture, forestry, and marine harvesting, while Skagit is one of the few heavily agricultural counties in the western part of the state.

Fifty-eight percent of statewide industries fell within the thresholds to be considered as cyclical. This means that a majority of workers are strongly impacted by national economic performance. This percentage is much higher than either of the other two categories.

**Figure 44**

Seasonal Jobs as a Share of Total Private Covered Employment  
Washington, 2001

Source: Employment Security Department, LMEA



The concentration of cyclical industries is somewhat reversed from seasonal concentrations as shown in *Figure 45*. For example, there was only one agricultural county, Chelan, that had more than 45 percent of its industries classified as cyclical. This reflects the fact that demand for agricultural products remains somewhat consistent regardless of the ups and downs in the economy. Clark, Island, Jefferson, King, Kitsap, Pend Oreille, Pierce, San Juan, Spokane and Thurston were counties with 60 percent or more of their industries listed as cyclical. Most of the “wheat” counties of south-eastern Washington and the remaining urban counties had between 45 and 60 percent of their jobs cyclically impacted. Adams County, at 21.4 percent had the lowest concentration of cyclical employment. More than a third (67.8 percent) of Kitsap County workers were cyclically employed, the highest of any county. This is because the county’s top industries, eating and drinking and grocery stores are both cyclical.

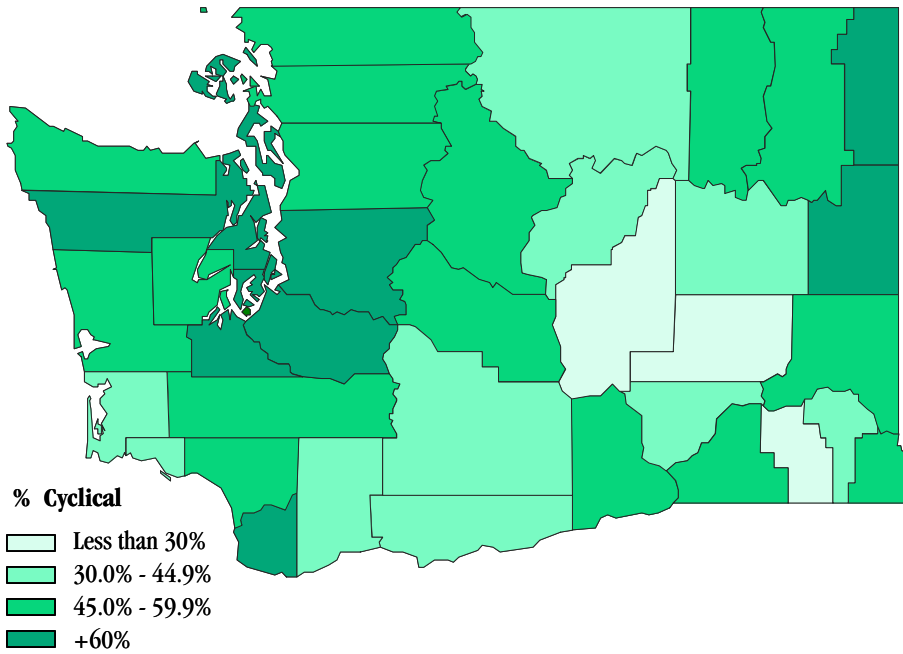
At 31.4 percent, under one-third of Washington workers were engaged in structurally mature industries in 2001. This rate is lower than cyclical, but higher than seasonal. Regional patterns for structurally mature industries more closely resemble that of seasonal, rather than cyclical. Rural Eastern Washington counties generally suffer more from these restructuring issues than western and urban counties.

Columbia had the highest concentration of maturity, at 70 percent of all industries. The only other counties with a concentration over 60 percent were Skamania and Wahkiakum. These counties have high levels of manufacturing—food processing in the case of Columbia, and timber in the case of Skamania and Wahkiakum. At the other end of the scale Asotin, Clark, Island, King, Kitsap, Pierce, Spokane, and Thurston counties had concentrations of 30 percent or below. With the exception of Asotin, these counties are urban.

**Figure 45**

Cyclical Jobs as a Share of Total Private Covered Employment  
Washington, 2001

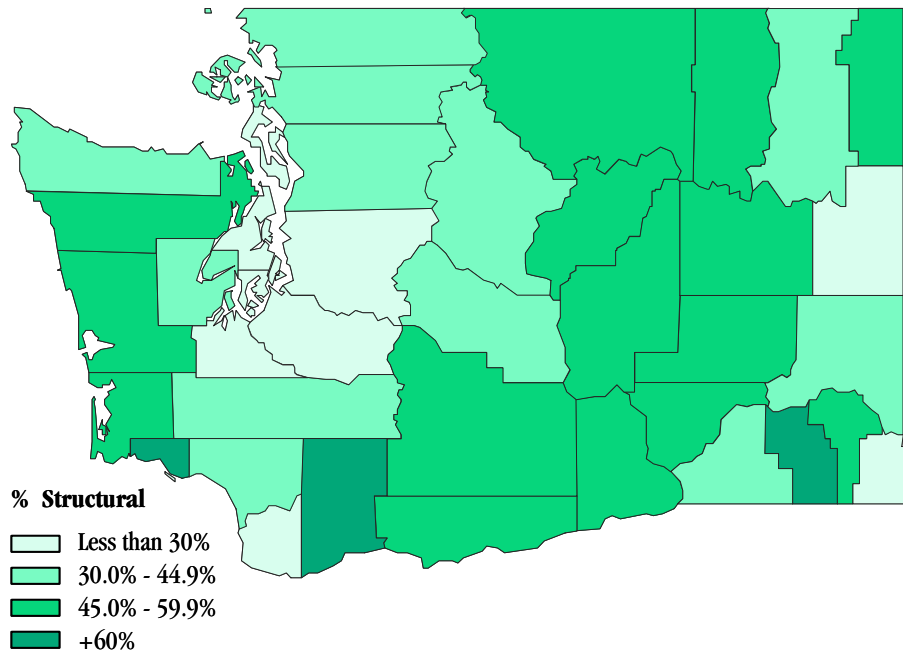
Source: Employment Security Department, LMEA



**Figure 46**

Structural Jobs as a Share of Total Private Covered Employment  
Washington, 2001

Source: Employment Security Department, LMEA





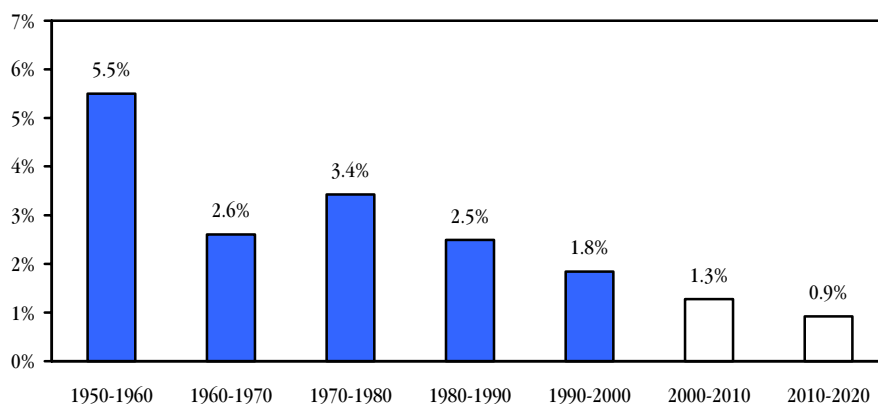
# Labor Force and Employment Forecast

## Labor Force Forecast

The long-term forecast for Washington's labor force (those 16 years of age and older who are either working for pay or actively looking for work) is characterized by progressively lower annual rates of growth (see *Figure 33*). For example, growth is projected at an annual average rate of 1.3 percent for the current decade (2000-10), which is marginally lower than the 1.8 percent annual rate recorded for 1990-2000. The state's labor force growth rate for 2010-20 is expected to be lower than in either of the two decades preceding it at 0.9 percent annually. These are some of the lowest growth rates in Washington in the modern era, though still about on par with national growth rates (1.1 percent from 1990-2000 and projected 1.1 percent for 2000-2010). Broader demographic shifts are the cause of slower overall state and national labor force growth rates as the baby boom generation hits the traditional retirement age of 65 en masse around 2010. Continued in-migration from other states and nations and natural population increases will supply prospective new workers. By 2026 Washington's work force will amount to about 4 million people, starting from a base of about 3 million in 2000.

**The Office of Financial Management's Forecasting Division makes long-term forecasts of Washington's labor force.** The term "labor force" refers to the civilian non-institutional labor force, which is composed of individuals age 16 or over who are currently employed (either part time or full time) or who are actively seeking employment. Individuals who are in nursing homes, prison, or the military are not considered to be either in the civilian labor force or part of the base population from which the labor force is drawn. Other reasons for not being in the labor force include retirement, ill health or injury, attending school, or doing housework at home. The size and composition of Washington's labor force is determined by three major factors: natural population changes; net-migration; and labor force participation rates.

**Figure 47**  
Labor Force Growth Rates, Actual and Projected  
Washington, 1950-2020  
Source: *Employment Security Department*  
and *Office of Financial Management, Forecasting Division*

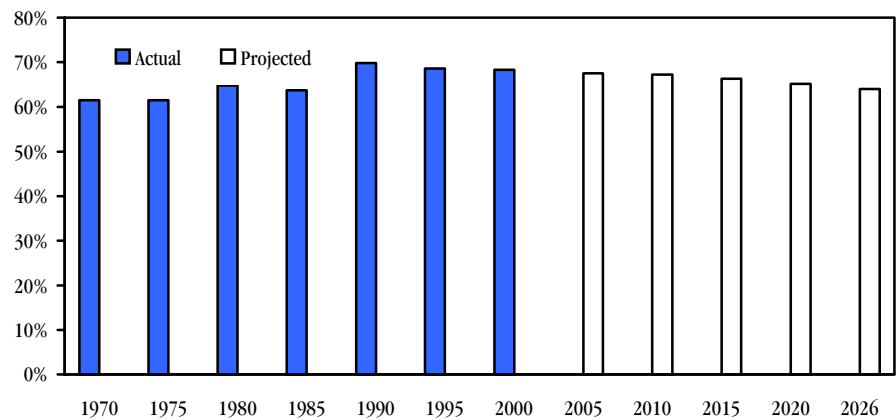


Labor force participation rates in Washington have historically been higher than the national average due largely to a higher concentration of young people in the labor force. From 1970-95, the state's labor force participation rate increased from 61.5 percent to 68.6 percent as declining male labor force participation rates were more than offset by increasing female labor force participation rates. Participation rates in Washington appear to have peaked in 1997 or 1998 at a high of about 70.5 percent in total, a combination of 78.1 percent male and 63.2 percent female participation. It is projected to progressively slip in the coming decades from 68.3 percent in 2000 to 64 percent by 2026 (see *Figure 48*).

**Figure 48**

Labor Force Participation Rates, Actual and Projected  
Washington, 1970-2026

Source: *Employment Security Department  
and Office of Financial Management, Forecasting Division*



The projected decline in labor force participation from 2005-2026 is based on anticipated changes in age structure of the state population. Basically, labor force participation is highest between 20-54, it is somewhat lower for 16-19 and 55-64, and it is very low for persons 65 and older. Against this backdrop, those 65 and older will see their share of Washington's population increase substantially from 2010 to 2026, dampening labor force growth.

Washington's labor force is expected to become more racially diverse over the long-term forecast period (*see Figure 49*). Non-whites are projected to increase their share of the state's labor force from 8.5 percent in 1990 to 12.2 percent in 2000 to 15.3 percent by 2020. These gains in labor force share will be evident among all non-white groups in Washington from 2000-2020 as their combined labor force grows at an annual rate of 4.6 percent, compared to the 0.9 percent and 1.1 percent annual rates for the white and the total labor force, respectively. Primary reasons for the increased share of non-whites in the labor force include higher population growth rates, younger age composition, and increasing labor force participation rates in the non-white population.

Another important state and national labor force trend is ethnic diversification, namely with respect to Hispanics. From 1990-2020, the state's Hispanic labor force is projected to rise in labor force share from 3.8 percent in 1990 to 18.4 percent by 2020, amounting to about 697,000 workers in 2020.

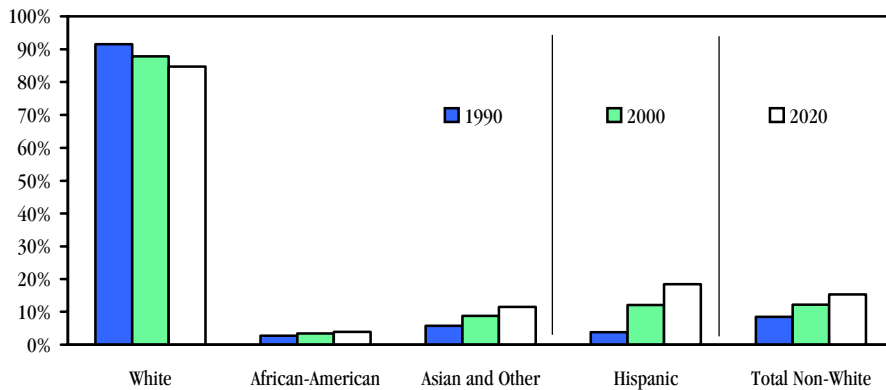
While increasingly diverse, Washington's work force is somewhat less racially and ethnically varied than the nation as a whole. In 2000 the state's labor force included 12.2 percent non-white workers while the nation had 16.8 percent. Regional distinctions in demographics translate to a much higher proportion of Asian and Pacific Islanders and American Indians and Alaska Natives represented in Washington's work force (8.8 percent in 2000) compared to the nation (4.8 percent).

**Figure 49**

Labor Force Composition by Race

Washington, 1990-2020

Source: Employment Security Department  
and Office of Financial Management, Forecasting Division



## Industry Employment Projections

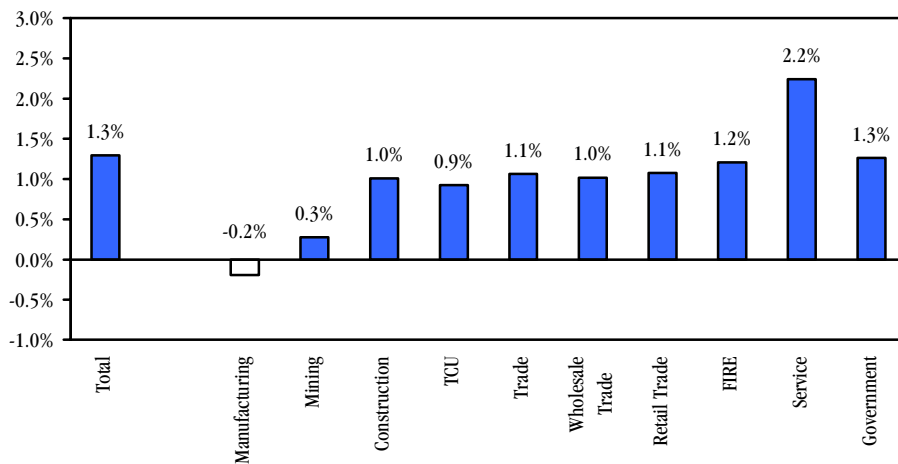
Washington's nonagricultural employment base is expected to grow at an annual rate of 1.3 percent between 2000 and 2010. Pulling out from recession, employment growth in Washington is anticipated to make a full recovery by 2005 with growth rates around 1.6 percent annually between 2005 and 2010. However, due to significant employment declines in the near term, average annual growth for 2000-2005 is projected to be significantly slower (1 percent) than what's expected later in the decade. *Figure 50* displays employment growth rates by major industry for 2000-2010.

**Figure 50**

Nonagricultural Employment Growth Rates by Major Industry

Washington, 2000-2010

Source: Employment Security Department  
and Office of Financial Management, Forecasting Division



**Employment projections by industry sector** are produced annually for 5-year, and 10-year outlooks. The methodology used follows nationally accepted standards established by America's Labor Market Information System (ALMIS). The process of making projections begins with the construction of an industry employment time series spanning 20 years. A variety of statistical models are tested on each industry to determine the best possible fit of an industry's historical employment patterns.

---

## Industry Projection Highlights

### *Manufacturing*

Manufacturing employment is projected to see an upswing in the second half of the decade, a rebound amounting to annual growth around 1 percent from 2005 to 2010. But despite this upswing, total manufacturing employment in 2010 is still expected to be less than it was in the year 2000, a contraction of about 6,700 jobs over the decade. This sector represented 13 percent of statewide nonagricultural employment in 2000 and is projected to have an 11 percent share by 2010.

In absolute terms, the projected decline in manufacturing for 2000-2005 is mainly due to aircrafts and parts, down 17,300 jobs over the five-year period. While industry projections are largely based on historical trends, current events will affect the outlook, as we've seen with aerospace layoffs over the past year. Washington's largest manufacturing sector, aircraft and parts has been impacted by three highly publicized forces: the downturn of the business cycle, increased global competition, and declining demand due mainly to impacts of the 2001 terrorist attacks. In relative terms the largest manufacturing decline in 2000-2005 is expected to be in primary metals (-4.6 percent annual rate). Much of the decline in primary metals can be attributed to residual effects of last year's energy price increases and fierce foreign competition bearing down on the aluminum sector. One bright light in manufacturing appears to be the instruments and related equipment industry. With an employment base of 14,700 in 2000, this sector is projected to grow at an annual rate of 1.6 percent over the decade. Instruments and related includes manufacture of measuring and analyzing devices; surveying and drafting devices; medical and surgical equipment; and photographic equipment, to name a few.

### *Construction*

The thrust of employment growth in construction for 2000-2005 will be driven by heavy construction, especially in activities related to the chemical and radioactive waste vitrification project near Tri-Cities at the Hanford site, which officially began in August 2002. Growth in general and special trade contracting is expected to be sluggish in the short-run, but should make a strong rebound in the second half of the decade with annual growth rates of 1.4 percent and 1.9 percent, respectively. In terms of its structural contributions to the statewide economy, construction will continue to represent about 6 percent of total statewide employment over the decade.

### *Transportation, Communications, and Utilities (TCU)*

Taken as a whole, TCU comprised about 146,400 workers in 2000 and is expected to grow at an annual pace of just under 1 percent between 2000 and 2010. The sector is expected to comprise about 5 percent of total statewide employment throughout the decade. Taken in constituent pieces, the sector shows some major distinctions over the forecast period. Within transportation, trucking and warehousing is expected to maintain a healthy clip of growth at about 1.5 percent over the decade. On the contrary, declines in air transportation are expected in the first half of the decade due to the tenuous financial situations of passenger

---

airlines. Over the decade air transportation is projected to be, essentially, a zero growth sector, netting only about 100 new jobs across the state by 2010. Water transportation is expected to be somewhere in-between, with growth around 0.7 percent annually.

Communications is a sector that has seen rapid technological, regulatory, and investment changes in recent years. With an estimated employment base of about 36,000 in 2000, expectations are for stable annual growth of around 1.3 percent over the decade.

### *Wholesale Trade*

While employment in wholesale trade grew slowly over the last three decades due primarily to technological progress and improved business practices, the primary reasons for apparent slow growth between 2000 and 2005 are changes to how some firms are classified and tracked in administrative records. These changes happened primarily in 2001 and reduced wholesale trade employment by 11,700, as companies were reclassified from wholesale to other industries or ownership.

With that said, employment in the wholesale trade of both durable and nondurable goods is expected to comprise a constant share of 6 percent of statewide total employment over the decade. With an employment base of 155,200 in 2000, the sector is projected to grow at a rate of 1 percent annually through 2010.

### *Retail Trade*

Retail trade employed an estimated 494,200 Washington workers in 2000, about 18 percent of total nonagricultural employment. Growth in this sector is expected to be stable but much slower than historical observations, at about 1.1 percent annually through 2010. Retail trade has increased its share of statewide employment over the past 30 years due to increases in income and spending power, particularly as women entered the work force and the two-income household became common. However, future wage and personal income increases are expected to be slower in the coming decades, thus having an effect on the speed of growth we might observe in retail trade in coming decades.

Numbers-wise, the 500-pound gorilla of retail trade is eating and drinking establishments, employing 181,500 in 2000 and projected to add 28,100 new jobs by 2010 growing at a pace of about 1.2 percent a year (on par with overall rates). This segment alone employs 7.0 percent of the state's nonagricultural work force.

### *Finance, Insurance, and Real Estate (FIRE)*

Growth in finance, insurance, and real estate is expected to be on par with economy-wide growth rates, about 1.2 percent annually between 2000 and 2010. In the industry's favor is an aging population demanding professional assistance in maintaining hard-earned financial and real assets. On the flip side, a more computer savvy population and popularized use of the Internet could offset employment growth to some extent. The industry's three segments collectively employ about 5 percent of the state's nonagricultural work force. Employment estimates for FIRE may be somewhat underrepresented because self-employed workers, represented in this industry by real estate, insurance brokers and such, can elect not to be covered and therefore not counted in employment estimates.

---

## *Services*

Services have been Washington's fastest growing sector in recent years and this is expected to continue during the forecast period as well. In fact, it is the only major sector expected to increase its share of total nonagricultural employment over the decade, from 29 percent in 2000 to 32 percent by 2010. Relatively speaking, employment growth in this diverse sector is expected to be led by business services, largely due to some 30,600 jobs created in computer and data processing, thanks in part to continued specialization in prepackaged software in the Puget Sound. Health services will potentially see an increase of 46,700 jobs over the decade, fuel, by an aging population's demands for services and an increasingly specialized and complex system of service delivery. Of all segments in the services industry, only hotels and personal services are expected to see annual growth rates under 2 percent (closer to the overall norm of around 1 percent) between 2000 and 2010.

## *Government*

The main drivers of employment growth in government are education and health. Employment growth in public administration as a whole is expected to be almost flat in 2000-2005 with slight increases in 2005-2010. Like wholesale trade, government is a sector whose employment estimates have been impacted by changes in administrative accounting. Specifically, an appearance of growth was caused by the reclassification of employees of Indian Tribes, specifically at casinos, from private ownership to local government. This code change produced an artificial increase in local government employment by 12,300 in 2001, representing, among other things, tribal gaming establishments and a major membership organization.

## Regional Industry Outlook

The nonfarm industry employment projections by workforce development area (WDA) show two stories of employment growth for the decade. In most WDAs, the first half of the decade is a story of slow, almost stunted growth. Employment growth across all but two areas is expected to hover at about 1 percent annually from 2000-2005, reflecting the recession and slow recovery. Employment in Snohomish County is only expected to increase at about 0.4 percent each year between 2000-2005 due in large part to declines in aircraft and parts. On the flip side, the Benton-Franklin WDA will experience the highest annual growth rate for the first half of the decade, about 1.8 percent, thanks in most part to hiring at the Hanford vitrification plant.

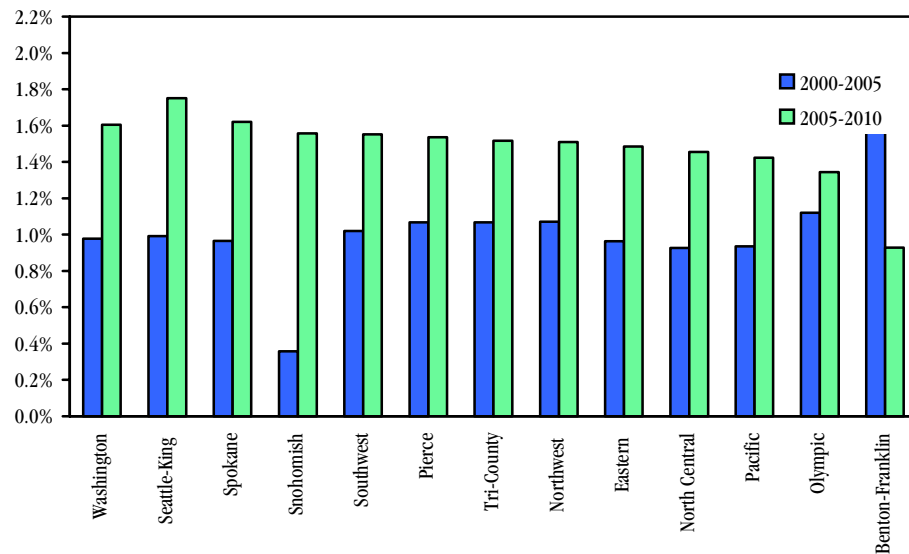
The second half of the decade picks up in all WDAs except Benton-Franklin, where job growth is projected to level off significantly. By then the Seattle-King WDA is expected to pull ahead with the highest annual growth rate, about 1.8 percent each year between 2005 and 2010. *Figure 51* displays annual employment growth rates for the state and workforce development areas.



**Figure 51**

Nonfarm Annual Employment Growth Rates  
Washington and Workforce Development Areas, 2000-2010

Source: Employment Security Department



**Workforce development areas (WDA)** were established under the Workforce Investment Act to provide workforce development services across the state's diverse regions. There are 12 WDAs in Washington, collectively representing all of the state's 39 counties:

Northwest: Island, Skagit, San Juan, Whatcom

Snohomish County

Seattle-King County

Tacoma-Pierce County

Olympic: Clallam, Jefferson, Kitsap

Pacific Mountain: Grays Harbor, Lewis, Mason, Pacific, Thurston

North Central: Adams, Chelan, Douglas, Grant, Okanogan

Tri-County: Kittitas, Klickitat, Yakima

Benton and Franklin Counties

Spokane County

Eastern: Asotin, Columbia, Ferry, Garfield, Lincoln, Pend Oreille, Stevens, Walla Walla, Whitman

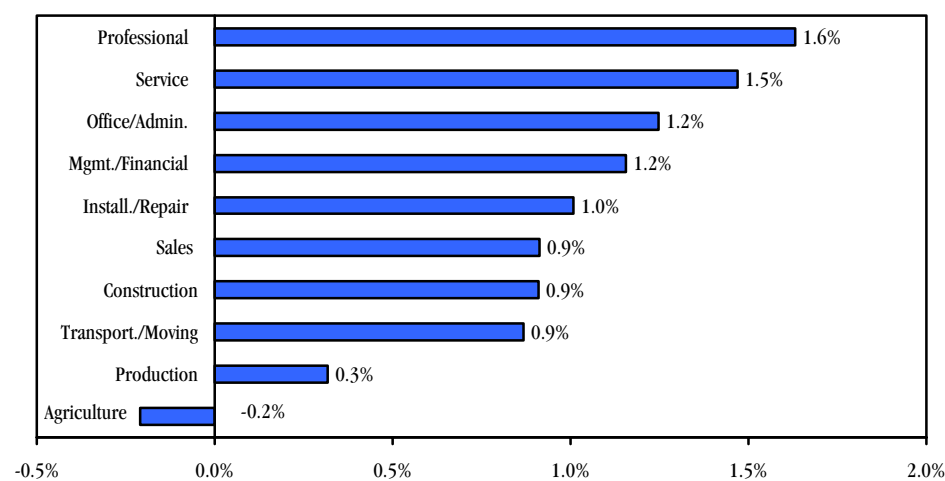
## Occupational Employment Forecast

Reflecting overall labor market conditions, slower growth is expected across-the-board between 2000 and 2005, with the pace expected to pick up across all occupation groups between 2005 and 2010. *Figure 52* displays growth rates for major occupation groups for 2000-2010. *Figure 53* shows the distribution of jobs across the various occupation groups in 2000.

**Figure 52**

Occupational Employment Projections  
Annual Growth Rates, Washington, 2000-2010

Source: Employment Security Department



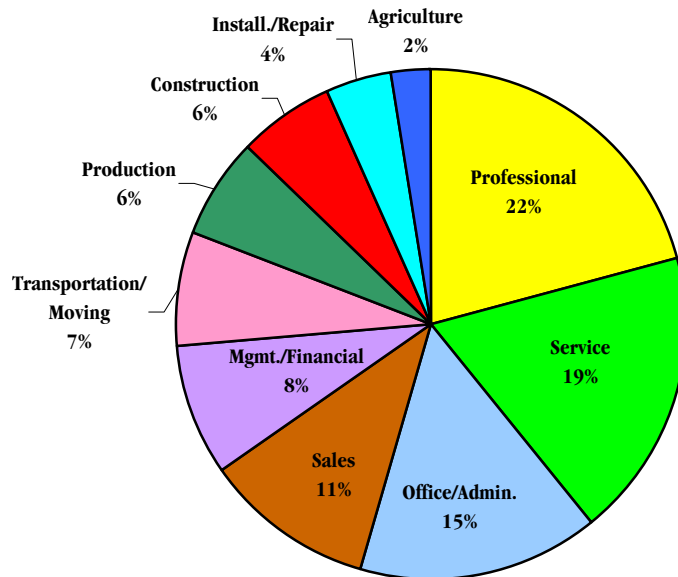
Like industry projections, Washington's **occupational employment projections** are prepared for both the mid-term, 2000-2005, and the long-term, 2005-2010. Unlike industry projections, these attempt to estimate a full-employment picture of the economy, and therefore include estimates of the self-employed, agricultural workers, and unpaid family members. The most significant change in the development of occupational projections in 2002 is a coding system change, to the Standard Occupational Classification (SOC). The SOC is a federally mandated classification system and is also used to track wages in the Occupational Employment Statistics (OES) survey and unemployment insurance claims.



**Figure 53**

Employment Distribution by Major Occupation Group  
Percent of Total Employment, Washington State, 2000

Source: Employment Security Department



## Major Occupational Groups - Highlights

### *Professional*

Professional occupations comprised approximately 21 percent of Washington's employment base in 2000. This group includes computer and mathematical, architecture and engineering, scientific, social service, legal, and education occupations. Job growth in professional occupations will outpace other major groups in both halves of the decade, with an annual average growth rate of 1.4 percent between 2000 and 2005 and 1.9 percent between 2005 and 2010.

### *Service*

Relatively vibrant growth is also expected in service occupations, growing at an annual rate of 1.3 percent in the first half of the decade and 1.6 percent in the second half. Growth in this occupation group will be driven by increases in demand for health care support occupations as the older population grows, as well as increased needs for social, protective, and personal services. Service occupations include health care support, protective service, food preparation, maintenance, and personal care occupations and comprise the second largest share of statewide employment at 18 percent.

### *Agriculture*

Negative job growth is expected for farming, fishing, and forestry occupations, which comprise a 2 percent share of occupational employment. This loss is consistent with those seen on the industry employment side, namely that the state's economy is continuing to shift toward services-producing activities and away from natural resource-based factors of production. Technological advances are also likely of driving some agricultural job losses.

## Detailed Occupations

### Growth Rates

By way of annual growth rates, computer-related occupations are clustered among the fastest growing occupations in both 2000-2005 and 2005-2010, with growth rates hastening in the later half of the decade. Health care occupations are the most visibly represented among fast growth occupations, representing 11 of the 20 hot jobs in 2000-2005. Curiously, health care occupations lose prominence on the list of top 20 jobs of the second half of the decade, making way for a greater diversity of jobs, including security guards and product demonstrators. This is not to say that health care occupations will be in less demand in the second half of the decade; rather, that health care has not been affected by the cyclical downturn and is unlikely to be helped by the predicted cyclical upturn. *Figures 54 and 55* present the fastest growing occupations for 2000-2005 and 2005-2010.

**Occupational demand** can be viewed in terms of annual growth rates and in terms of total annual job openings (due to growth and replacement needs). There are some 700 detailed occupations for which employment is estimated in Washington.

#### Figure 54

Fastest Growing Occupations in Washington, Annual Average Growth Rate, 2000-2005 (2000 Estimated Employment of 2,000 or more)

Source: *Employment Security Department, LMEA*

Explanation: Annual openings are due to both growth and replacement needs.

Occupational Title	Estimated Employment 2000	Estimated Employment 2005	Avg. Annual Growth Rate 2000-2005	Avg. Annual Openings 2000-2005
Computer software engineers, applications	15,707	18,156	2.9%	570
First-line supervisors/managers of landscaping, lawn service, and groundskeeping wrkrs	3,105	3,569	2.8%	108
Computer software engineers, systems software	13,670	15,536	2.6%	442
Computer programmers	12,474	14,083	2.5%	571
Market research analysts	4,294	4,837	2.4%	205
Personal and home care aides	7,548	8,489	2.4%	299
Dental hygienists	6,000	6,725	2.3%	231
Dental assistants	8,837	9,892	2.3%	358
Medical transcriptionists	2,393	2,679	2.3%	122
Gaming dealers	3,922	4,385	2.3%	276
Architectural and civil drafters	2,517	2,812	2.2%	138
Home health aides	11,934	13,331	2.2%	423
Medical secretaries	10,555	11,783	2.2%	412
Preschool teachers, except special education	8,244	9,195	2.2%	283
Architects, except landscape and naval	3,564	3,975	2.2%	101
Emergency medical technicians and paramedics	2,321	2,585	2.2%	112
Medical equipment preparers	2,009	2,235	2.2%	100
Radiologic technologists and technicians	2,630	2,925	2.1%	115
Medical assistants	10,066	11,185	2.1%	497
Medical and clinical laboratory technicians	2,770	3,073	2.1%	124

**Figure 55**

Fastest Growing Occupations in Washington, Annual Average Growth Rate, 2005-2010 (2005 Estimated Employment of 2,000 or more)

Source: Employment Security Department, LMEA

Explanation: Annual openings are due to both growth and replacement needs.

<b>Occupational Title</b>	<b>Estimated Employment 2005</b>	<b>Estimated Employment 2010</b>	<b>Avg. Annual Growth Rate 2005-2010</b>	<b>Avg. Annual Openings 2005-2010</b>
Computer software engineers, applications	18,156	21,359	3.3%	807
Computer software engineers, systems software	15,536	18,082	3.1%	651
Supervisors/managers of landscaping, lawn service, groundskeeping	3,569	4,153	3.1%	140
Computer programmers	14,083	16,228	2.9%	772
Technical writers	3,819	4,400	2.9%	246
Security guards	19,318	22,150	2.8%	1,084
Crossing guards	3,864	4,430	2.8%	220
Computer specialists, all other	8,160	9,356	2.8%	338
Market research analysts	4,837	5,542	2.8%	258
Demonstrators and product promoters	2,839	3,222	2.6%	176
Network systems/ data communications analysts	4,340	4,909	2.5%	140
Database administrators	3,042	3,429	2.4%	96
Computer support specialists	15,419	17,377	2.4%	485
specialists	4,327	4,872	2.4%	206
Personal and home care aides	8,489	9,557	2.4%	360
Data entry keyers	7,903	8,878	2.4%	331
Medical transcriptionists	2,679	3,001	2.3%	140
Preschool teachers, except special education	9,195	10,296	2.3%	356
Dental hygienists	6,725	7,529	2.3%	268
Dental assistants	9,892	11,071	2.3%	442

## *Job Openings*

Lists of the top 20 occupations with the most job openings over the decade bring us to some of the largest occupational categories in the state. *Figures 56 and 57* present occupations with the most job openings due to growth and replacement needs for 2000-2005 and 2005-2010. Jobs having high levels of openings are typically dominated by lower skilled, high turnover jobs like many of those we see in *Figures 56 and 57*—cashiers, food preparation, retail sales, waiters, farm workers, office clerks, and so-forth. For most workers such occupations serve as entry points into the labor market. As skills and training accumulate, workers progress into other jobs and careers. That is why we see occupations with slower, or even declining growth rates that still generate many, many job openings over the course of each year.

But the lists don't end with low skill, high turnover jobs. Also on these lists are several high skill occupations that typically offer longer-term professional stability. Those occupations in most demand include registered nurses, postsecondary and elementary school teachers, receptionists and secretaries, and general operations managers.

**Figure 56**

## Occupations with Most Job Openings in Washington

Average Annual Openings, 2000-2005

*Source: Employment Security Department*

Explanation: Annual openings are due to both growth and replacement needs.

<b>Occupational Title</b>	<b>Estimated Emp. 2000</b>	<b>Estimated Emp. 2005</b>	<b>Avg. Annual Growth Rate 2000-2005</b>	<b>Avg. Annual Openings 2000-2005</b>
Cashiers	74,067	76,839	0.7%	5,118
Combined food prep./ serving workers, including fast	55,076	58,318	1.2%	5,006
Retail salespersons	79,155	81,841	0.7%	4,144
Waiters and waitresses	42,906	45,290	1.1%	3,154
Office clerks, general	59,070	62,793	1.2%	1,925
Counter attendants, cafeteria, food concession, & coffee	12,959	13,652	1.0%	1,831
Child care workers	34,893	36,809	1.1%	1,798
Laborers and freight, stock, and material movers, hand	37,812	38,972	0.6%	1,773
Registered nurses	41,912	46,352	2.0%	1,657
Stock clerks and order fillers	26,412	27,238	0.6%	1,512
Farmworkers	48,648	47,784	-0.4%	1,497
Maids and housekeeping cleaners	39,838	42,453	1.3%	1,401
Sales representatives, wholesale and manufacturing, except technical and scientific products	37,495	38,372	0.5%	1,386
Postsecondary teachers	28,995	31,322	1.6%	1,254
Janitors and cleaners, except maids and housekeeping cleaners	39,723	42,151	1.2%	1,216
Teacher assistants	32,493	35,263	1.7%	1,175
Bookkeeping, accounting, and auditing clerks	46,410	47,901	0.6%	1,145
Counter and rental clerks	15,088	16,118	1.3%	1,071
Receptionists and information clerks	25,105	27,232	1.6%	1,024
Elementary school teachers, except special education	26,347	28,519	1.6%	976

**Figure 57**

## Occupations with Most Job Openings in Washington

Average Annual Openings, 2005-2010

*Source: Employment Security Department*

Explanation: Annual openings are due to both growth and replacement needs.

<b>Occupational Title</b>	<b>Estimated Employment 2005</b>	<b>Estimated Employment 2010</b>	<b>Avg. Annual Growth Rate 2005-2010</b>	<b>Avg. Annual Openings 2005-2010</b>
Combined food preparation and serving workers, including fast food	58,318	63,285	1.6%	3,714
Retail salespersons	81,841	85,441	0.9%	3,310
Waiters and waitresses	45,290	48,990	1.6%	3,146
Cashiers	76,839	80,532	0.9%	3,090
Office clerks, general	62,793	68,473	1.7%	2,367
Registered nurses	46,352	51,435	2.1%	2,116
Sales representatives, wholesale, manufacturing, excluding tech./scientific products	38,372	41,460	1.6%	1,933
Laborers and freight, stock, and material movers, hand	38,972	41,549	1.3%	1,576
Teacher assistants	35,263	38,851	2.0%	1,573
Maids and housekeeping cleaners	42,453	45,431	1.4%	1,552
Bookkeeping, accounting, and auditing clerks	47,901	50,681	1.1%	1,533
Postsecondary teachers	31,322	34,377	1.9%	1,530
Child care workers	36,809	38,981	1.2%	1,495
Janitors and cleaners, except maids and housekeeping cleaners	42,151	45,527	1.6%	1,465
Elementary school teachers, except special education	28,519	31,365	1.9%	1,327
Business operations specialists, all other	29,426	31,772	1.5%	1,301
Secretaries, except legal, medical, and executive	31,774	34,748	1.8%	1,219
Receptionists and information clerks	27,232	30,062	2.0%	1,162
General and operations managers	32,298	34,637	1.4%	1,106
Supervisors/managers of office and administrative support workers	28,710	30,940	1.5%	1,099

An assessment of declining occupations in Washington over the 2000-2010 period reveals few surprises (*see Figure 58* for a list). There are several occupations with negative growth that clearly service the aircraft and parts and air transportation industries, reflecting the downturns already examined in the industry side of the labor force equation. An assortment of machine operating occupations also made the list as technological changes heighten productivity and lessen the demand for labor on the factory floor as well. Natural resource related occupations, particularly in forest products, are projected to contract because of technological changes, market shifts, and changing business practices. With this said, many occupations that see declines in the first half of the decade are projected to see some employment rebounds, if very slight, in the latter part of the decade.

### Figure 58

Declining Occupations in Washington, Annual Average  
Growth Rate, 2000-2010 (Based on 2000 Employment of 500 or more)

Source: Employment Security Department

Occupational Title	Estimated Employment 2000	Estimated Employment 2010	Avg. Annual Growth 2000-2010
Forging machine setters, operators, & tenders, metal & plastic	796	646	-2.1%
Railroad conductors and yardmasters	876	718	-2.0%
Door-to-door sales workers, news & street vendors, related workers	3,430	2,885	-1.7%
Aircraft structure, surfaces, rigging, and systems assemblers	4,580	3,907	-1.6%
Aerospace engineering and operations technicians	1,895	1,636	-1.5%
Foundry mold and coremakers	870	752	-1.5%
Avionics technicians	1,881	1,652	-1.3%
Transportation inspectors	3,885	3,425	-1.3%
Aerospace engineers	9,185	8,277	-1.0%
Rolling machine setters, operators, & tenders, metal & plastic	1,315	1,189	-1.0%
Grinding, polishing, buffing machine tool setters, operators, tenders (metal/plastic)	3,579	3,242	-1.0%
Misc. vehicle/mobile equipment mechanics, installers, and repairers	1,037	948	-0.9%
Tool and die makers	1,419	1,298	-0.9%
Molding, coremaking, casting machine setters, operators, tenders (metal/plastic)	2,680	2,459	-0.9%
Insurance claims and policy processing clerks	5,486	5,064	-0.8%
Sewing machine operators	3,561	3,321	-0.7%
Paper goods machine setters, operators, and tenders	2,308	2,157	-0.7%
Industrial engineering technicians	2,005	1,878	-0.7%
Milling/planing machine setters, operators, tenders (metal/plastic)	787	738	-0.6%
Operations research analysts	3,450	3,247	-0.6%

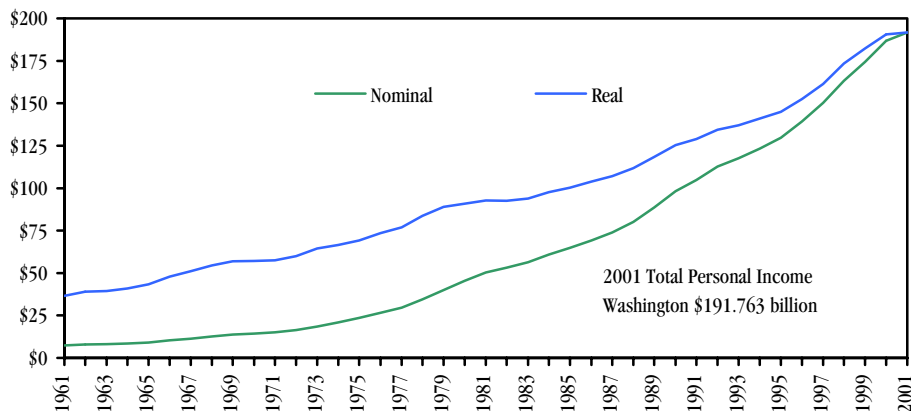
# Income, Earnings, and Wages

## Personal Income

### State

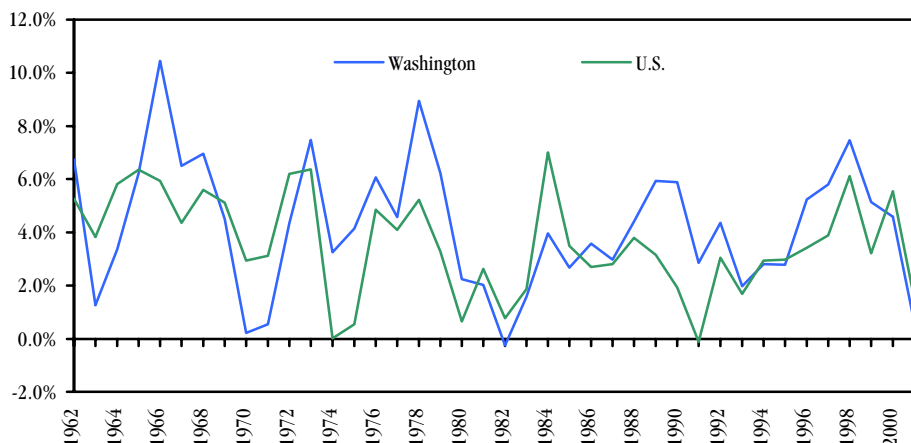
Washington's total personal income was more than \$191 billion in 2001, which translated into 0.6 percent real growth over the year. This marked the first year of nearly flat real income growth after a string of moderate-to-exceptional growth years that began in 1996. In fact, real income growth between 2000 and 2001 at 0.6 percent was the lowest it's been in Washington since 1982, a year that saw declining real total income. *Figure 59* displays the escalation of nominal and real total personal income for the state from 1961 to 2001. *Figure 60* shows that although real personal income has grown at an average annual rate of 4.1 percent since 1961, it is a measure that reflects the ups and downs of the business cycle over time.

**Figure 59**  
Total Personal Income (billions of dollars)  
Washington, 1961-2001  
Source: U.S. Bureau of Economic Analysis



**Personal income** data are compiled by the Bureau of Economic Analysis within the U.S. Department of Commerce. It reflects the total pre-tax income received by or on behalf of individuals from all sources: (1) wages and salaries, (2) proprietors' income, (3) dividends, interest, and rent, (4) government transfer payments and (5) other labor income. Adjustments are made for contributions to social insurance and for differences between place of work and residence (the latter largely reflecting cross-border commuters between, for example, Washington and Oregon). Because of its broad nature, it is one measure used to assess economic stability and change in an area and to compare areas against one another. It was adjusted for inflation using the Implicit Price Deflator for Personal Consumption Expenditures (or PCE Deflator).

**Figure 60**  
Annual Percent Change in Real Total Personal Income  
Washington, 1962-2001  
Source: U.S. Bureau of Economic Analysis



**Real income** has been adjusted for inflation. In other words, it shows historical values in terms of the real value of dollars today. When comparing monetary values over time it is best to use real values so all observations are in comparable units.

**Nominal income** has not been adjusted for inflation.

**Personal income** is derived from a combination of earnings; dividends, interest, and rents; and transfer payments (see Figure 61). **Transfer payments** include government payments to individuals, government payments to nonprofit institutions serving individuals, and business payments to individuals and to nonprofit organizations serving individuals.

Real personal income growth was down across the nation over the last year: Between 1999 and 2000 overall growth was at 4.5 percent, with Massachusetts, Colorado, and California enjoying robust real income growth over 7 percent. But between 2000 and 2001 the national norm was a modest 1.5 percent in real terms, with New Mexico and Wyoming leading the pack with real personal income growth over 4 percent. Meanwhile, Washington slipped beyond its 2000 ranking of 35th to 46th in terms of real income growth in 2001.

With earnings by place of work contributing a 72 percent share of total personal income for our state in 2001, the fact that it posted negative growth over the year almost single-handedly brought real total personal income to its knees in growth terms. Moreover, real growth in dividends, interest, and rents (a 19 percent share of total income) was almost flat at 1.1 percent over the year. Only transfer payments, the smallest component of total personal income (a 13 percent share), posted outstanding real growth over the year at 9.8 percent. This significant growth was due to increasing draws on the social service system as the economy turned downward and more people found their earned income dwindling, or worse, lost.

### Figure 61

Derivation of Personal Income (billions of dollars)  
Washington, 2000 and 2001

Source: U.S. Bureau of Economic Analysis

	2000 Current \$	2000 Constant 2001 \$	2001 Constant 2001 \$	Nominal Change	Real Change
<b>Earnings by Place of Work</b>	\$135.895	\$138.613	\$137.296	1.0%	-1.0%
(-) Personal Contribution for Social Insurance	\$8.245	\$8.410	\$8.446	2.4%	0.4%
(+) Adjustment for Residence	\$2.383	\$2.430	\$2.394	0.5%	-1.5%
(=) Net Earnings by Place of Residence	\$130.033	\$132.633	\$131.244	0.9%	-1.0%
(+) Dividends, Interest, and Rent	\$35.180	\$35.884	\$36.279	3.1%	1.1%
(+) Transfer Payments	\$21.650	\$22.083	\$24.240	12.0%	9.8%
<b>(=) Total Personal Income</b>	<b>\$186.863</b>	<b>\$190.601</b>	<b>\$191.763</b>	<b>2.6%</b>	<b>0.6%</b>
<b>Earnings By Place of Work</b>	<b>\$135.895</b>	<b>\$138.613</b>	<b>\$137.296</b>	<b>1.0%</b>	<b>-1.0%</b>
Wages and Salaries	\$110.045	\$112.246	\$110.856	0.7%	-1.2%
Other Labor Income	\$11.642	\$11.875	\$12.167	4.5%	2.5%
Proprietors' Income	\$14.207	\$14.492	\$14.273	0.5%	-1.5%

Note significant declines in real change over the year as compared to 1999-2000 in last year's report. Numbers have been double-checked against BEA. Inflation factor obtained from IPD.

As noted, growth (or the relative lack thereof) in earnings by place of work sets the pace for growth in total personal income. Earnings by place of work is made of three components: wages and salaries; other labor income; and proprietors' income. The year 2001 was a bad year for both wage and salary workers and proprietors. Each saw declines in real earnings of over 1 percent from 2000 levels. Meanwhile, other labor income rose at a modest rate of 2.5 percent after adjustment for inflation. Other labor income consists of the contributions by employers to privately administered pension and welfare funds for their employees, the fees paid to corporate directors, and miscellaneous fees.



## Counties

An analysis of total personal income in 2000 (there is a one-year lag between state and sub-state data) for Washington's counties revealed few surprises (*see Figure 62*). As expected, the state's larger, metropolitan counties topped the list in terms of absolute dollars while its smaller, nonmetropolitan, and non-Puget Sound counties were concentrated at the bottom. This is illustrative of the intractable relationship between population and employment, on one hand, and personal income, on the other.

**Figure 62**

Total Personal Income, Selected Counties (millions of dollars)

Washington, 1999 and 2000

Source: U.S. Bureau of Economic Analysis

	1999 Current \$	1999 Constant 2000 \$	2000 Constant 2000 \$	Nominal Change	Real Change
King	\$74,698	\$76,565	\$79,109	5.9%	3.3%
Pierce	\$17,219	\$17,649	\$18,004	4.6%	2.0%
Snohomish	\$16,631	\$17,047	\$17,292	4.0%	1.4%
Spokane	\$9,977	\$10,226	\$10,692	7.2%	4.6%
Clark	\$9,222	\$9,452	\$10,101	9.5%	6.9%
Kitsap	\$5,636	\$5,777	\$5,916	5.0%	2.4%
Thurston	\$5,267	\$5,399	\$5,513	4.7%	2.1%
Yakima	\$4,593	\$4,708	\$4,906	6.8%	4.2%
Whatcom	\$3,707	\$3,799	\$3,876	4.6%	2.0%
Benton	\$3,407	\$3,492	\$3,666	7.6%	5.0%
Pacific	\$417	\$427	\$440	5.6%	3.0%
Klickitat	\$384	\$393	\$411	7.1%	4.5%
Adams	\$315	\$323	\$334	6.0%	3.4%
Skamania	\$207	\$213	\$226	9.0%	6.3%
Lincoln	\$200	\$205	\$224	12.0%	9.3%
Pend Oreille	\$213	\$219	\$223	4.6%	2.1%
Ferry	\$116	\$119	\$121	3.9%	1.4%
Columbia	\$85	\$87	\$99	16.5%	13.7%
Wahkiakum	\$80	\$82	\$84	4.7%	2.2%
Garfield	\$44	\$45	\$52	19.9%	16.9%
Nonmetropolitan Washington	\$21,173	\$21,702	\$22,527	6.4%	3.8%
Metropolitan Washington	\$153,048	\$156,874	\$161,990	5.8%	3.3%
Eastern Washington	\$28,196	\$28,901	\$30,287	7.4%	4.8%
Western Washington	\$146,025	\$149,676	\$154,231	5.6%	3.0%
Non-Puget Sound	\$52,940	\$54,263	\$56,700	7.1%	4.5%
Puget Sound	\$121,281	\$124,313	\$127,818	5.4%	2.8%

It has also become increasingly clear that the total personal income gap between metropolitan counties and non-metropolitan counties is widening. In 2000, for example, the state's metropolitan counties represented 88 percent of the state's total personal income compared to 12 percent in non-metropolitan counties. In light of the 82 percent share posted in the 1970s, metropolitan counties not only hold a dominant share, but a growing one as well. The same can be said in the context of east vs. west and Puget Sound vs. non-Puget Sound. Western counties, for example, represented 84 percent of the state's total personal income in 2000, up from the shares held thirty years ago. Likewise for Puget Sound counties, which garnered a 69 percent share of the state's total personal income in 2000.

Puget Sound counties alone represent a 69 percent share of the state's total personal income. That region includes: Island, King, Kitsap, Pierce, Snohomish, and Thurston counties. Together, they represent 60 percent of the state's total population.

To underscore the tremendous extremes in total personal income among Washington counties, there is the oft-cited example of King County with total personal income of over \$79.1 billion (highest) versus Garfield County with total personal income of \$52 million (lowest). King County alone accounted for over 43 percent of the state's total personal income in 2000 and Garfield County's total personal income measured a mere three-hundredths of one percent (0.03 percent) of the state total.

While the absolute levels of total personal income are striking, it is the rate of total personal income change that can be more telling. As small as Garfield County's total personal income appears, and in fact because it is small and therefore sensitive to even the most subtle changes, it saw colossal real gains over the year—16.9 percent, compared to a paltry 3.3 percent increase for King County. The county-by-county data show a reversal in what was observed a year ago: western Washington counties post higher year-over-year personal income growth rates than their eastern Washington counterparts in 1999. In fact, of the twelve counties that posted real total personal income increases greater than 5 percent in 2000, only three were in western Washington. In addition to Garfield, Columbia (+13.7 percent), Whitman (+11.3 percent), Lincoln (+9.4 percent), and Grant (+7.8 percent) topped the total personal income growth list for 2000. With this evidence, it was a banner year in much of eastern Washington, at least in terms of real growth of total personal income.

### *Northwest*

Among the northwest states, Washington had far and away the highest total personal income at more than \$191 billion in 2001 (see Figure 63). Oregon's personal income, though the second highest in the region at nearly \$98 billion, was but a little more than half of Washington's. Idaho, Montana, and Alaska generated personal income totals that were from one-tenth to one-sixth of Washington's. Nevertheless, Washington's and Oregon's size did not do anything to lead the region in personal income growth over the year as their respective 0.6 and 0.5 percent real increases were easily outpaced by Alaska, Idaho, and Montana, which, in turn, outpaced real national growth in total personal income.

**Figure 63**

Total Personal Income (billions of dollars)  
Northwest States and United States, 2000 and 2001  
*Source: U.S. Bureau of Economic Analysis*

Area	2000	2000	2001	Nominal	Real
	Current \$	Constant 2001 \$	Constant 2001 \$	Change	Change
Washington	\$186.863	\$190.601	\$191.763	2.6%	0.6%
Oregon	\$95.406	\$97.314	\$97.814	2.5%	0.5%
Idaho	\$31.314	\$31.940	\$32.525	3.9%	1.8%
Montana	\$20.678	\$21.091	\$21.673	4.8%	2.8%
Alaska	\$18.773	\$19.149	\$19.641	4.6%	2.6%
United States	\$8,398.796	\$8,566.772	\$8,678.255	3.3%	1.3%

## Per Capita Income

### State

Washington's per capita income was \$32,025 in 2001, which translated into over-the-year real loss of 0.5 percent (-\$235), the first negative over-the-year hit since 1993. This decline went hand in hand with the economic downturn after a few years of robust growth concentrated in the second half of the 1990s. Despite slipping in real value over the year, Washington's per capita income maintained its advantage over the nation's per capita income at 105 percent. At this level, Washington enjoys the same per capita income relationship vis-à-vis the U.S. that it commanded when the state's economy was buoyed by defense-related projects in the 1960s and by the Washington Public Power Supply System project during the late 1970s. Only in the new millennium, the catalyst appears to be high tech, particularly software.

The decline of per capita income displayed over the last year in Washington is not historically unfounded. In a trend that generally follows the business cycle, Washington's per capita income declined in 1970 and 1971, 1980 and 1982, and most recently in 1993. Over the 1961-2001 observation period, Washington's per capita income progressed in cyclical fashion at a real average annual rate of 2.3 percent (*see Figure 64*). U.S. per capita income, by comparison, essentially matched Washington's overall performance with 2.4 percent average annual real growth.

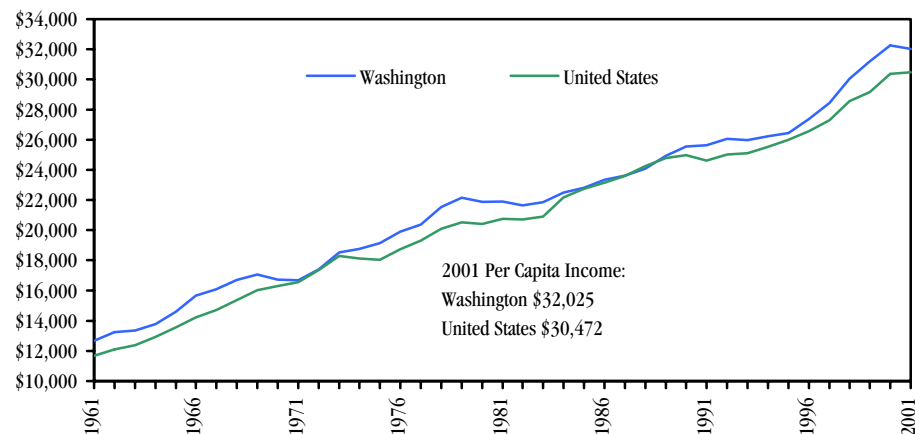
**Per capita personal income** is another measure of economic performance and change. By dividing total personal income into total population it provides a basis for comparing otherwise disparate areas.

**Figure 64**

Real Per Capita Personal Income

Washington and United States, 1961-2001

Source: U.S. Bureau of Economic Analysis



### Regions

A regional view of Washington in terms of per capita income reveals rather distinctly the disparity that has come to be termed, the Two Washingtons. In absolute terms, the state's western, urban, metropolitan, and Puget Sound regions maintain a distinct advantage with regard to per capita income (*see Figure 65*). For example, an averaging of the per capita incomes for the state's western, urban, metropolitan, and Puget Sound regions reveals a per capita income of \$34,200 compared to \$23,200 average for the state's eastern, rural, non-metropolitan, and non-Puget Sound regions in 2000. That represents an \$11,000 gap. However, at least during the current downturn, the gap may not be aggressively widening. In previous years,

western, urban, metro, and Puget Sound regions were growing at higher rates than their eastern, rural, non-metro, and non-Puget Sound counterparts. That trend reversed over the 1999-2000 period, to where per capita income growth in eastern, rural, non-metro, and non-Puget Sound regions outpaced their counterpart regions, 3.3 percent to 2.1 percent, respectively.

**Figure 65**

Regional Per Capita Income (Averages of County Per Capita Income)

Washington, 1999 and 2000

Source: Bureau of Economic Analysis

	1999 Current \$	1999 Constant 2000 \$	2000 Constant 2000 \$	1999-2000	
				Nominal Change	Real Change
Washington	\$29,819	\$30,564	\$31,230	4.7%	2.2%
Eastern WA	\$21,740	\$22,252	\$23,129	6.4%	3.9%
Western WA	\$32,124	\$32,881	\$33,537	4.4%	2.0%
Non-Puget Sound	\$22,837	\$23,374	\$24,172	5.8%	3.4%
Puget Sound	\$34,412	\$35,222	\$35,877	4.3%	1.9%
Rural WA	\$21,584	\$22,093	\$22,727	5.3%	2.9%
Urban WA	\$32,827	\$33,600	\$34,334	4.6%	2.2%
Non-Metropolitan	\$21,428	\$21,933	\$22,594	5.4%	3.0%
Metropolitan	\$31,527	\$32,269	\$32,983	4.6%	2.2%

## Counties

Unlike total personal income, which when rank-ordered generally distinguishes counties based on size of population and employment base, per capita income tends to reveal distinctions tied to unique economic factors (*see Figures 66 and 67*). As expected, county per capita income data for 2000 (again, there is a one-year lag in the generation of sub-state data) reveal four counties that routinely occupy the top five listing—King, Snohomish, San Juan, and Island. King and

**Figure 66**

Per Capita Personal Income, Selected Counties

Washington, 1999 and 2000

Source: U.S. Bureau of Economic Analysis

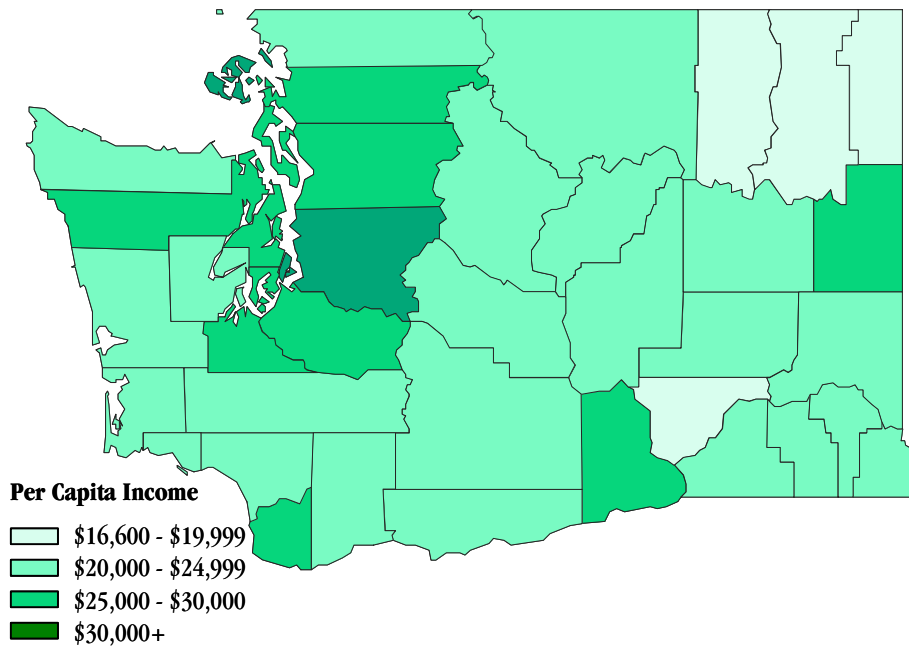
		1999 Current \$	1999 Constant 2000 \$	2000 Constant 2000 \$	1999-2000	
					Nominal Change	Real Change
	Washington	\$29,819	\$30,564	\$31,230	2.8%	0.4%
Highest:	King	\$43,201	\$44,281	\$45,536	5.4%	2.8%
	San Juan	\$35,400	\$36,285	\$35,773	1.1%	-1.4%
	Clark	\$27,159	\$27,838	\$29,085	7.1%	4.5%
	Snohomish	\$27,815	\$28,510	\$28,394	2.1%	-0.4%
	Island	\$25,976	\$26,625	\$27,609	6.3%	3.7%
Lowest:	Grant	\$18,479	\$18,941	\$20,111	8.8%	6.2%
	Pend Oreille	\$18,310	\$18,768	\$19,006	3.8%	1.3%
	Franklin	\$17,807	\$18,252	\$18,813	5.6%	3.1%
	Stevens	\$17,562	\$18,001	\$18,281	4.1%	1.6%
	Ferry	\$16,268	\$16,675	\$16,597	2.0%	-0.5%
Other Metros:	Benton	\$24,225	\$24,831	\$25,624	5.8%	3.2%
	Kitsap	\$24,568	\$25,182	\$25,443	3.6%	1.0%
	Spokane	\$24,015	\$24,615	\$25,550	6.4%	3.8%
	Thurston	\$25,711	\$26,354	\$26,460	2.9%	0.4%
	Whatcom	\$22,525	\$23,088	\$23,133	2.7%	0.2%
	Yakima	\$20,730	\$21,248	\$22,022	6.2%	3.6%

Snohomish, of course, by sheer scale and diversity effectively partner up to fuel the state's economic engine. San Juan and, to some extent, Island are home to expensive residential enclaves for upper-income professionals and retirees. Clark County is also in the ranks of the five counties with the highest per capita income, the only county outside of the central and northern Sound region of the group.

**Figure 67**

Per Capita Personal Income by County  
Washington, 2000

Source: U.S. Bureau of Economic Analysis



The counties in the state's lowest per capita income tier have also changed little over time. They include three resource-dependent counties in the northeastern corner of Washington—Ferry, Stevens, and Pend Oreille, plus more agriculturally intensive Franklin and Grant counties. To illustrate the gap between the lowest and highest per capita incomes in Washington, Ferry County's per capita income of \$16,597 (the lowest) was roughly a third of King County's \$45,536 (the highest) in 2000, worth an income difference of a whopping \$28,900 per person.

Perhaps more important than absolute levels are the year-over-year percent changes in per capita income among Washington counties. In this regard, a handful of eastern and rural counties staged a coup in 2000. In recent years King County topped the list with the highest real annual growth and was joined largely by other western counties while eastern counties saw tepid growth in per capita income at best. In 2000 the seven counties that had real per capita income increases over 5 percent were Garfield, Columbia, Whitman, Lincoln, Grant, Douglas, and Skamania. Garfield County posted an astounding 18 percent real increase over the year in per capita income, with Columbia and Whitman also above 10 percent. King County was ranked 17th in terms of real over-the-year growth at a respectable 3 percent compared to a statewide change of 2.3 percent. Snohomish, Ferry, and San Juan counties saw per capita income decline in 2000.

## Northwest

Washington continued to generate the highest per capita income in the northwestern United States with \$32,025 in 2001 (*see Figure 68*). Alaska had the second highest per capita income in the region at \$30,936, including transfer payments to residents from the Alaska Permanent Fund (\$1,850 in 2001). Washingtonians enjoyed incomes over \$8,000 higher per capita than Montana, which had the lowest income in the northwest at \$23,963 (but the highest real growth for the year). Still, Washington lost some ground to its northwest neighbors in 2001. Washington's inflation-adjusted per capita income decline of 0.7 percent had a lot to do with it. That decline was representative of the recession's impacts on income over the year. Oregon suffered the same drop and overall growth really flattened out across the Northwest and Nation.

**Figure 68**

Per Capital Personal Income

Northwest States and United States, 2000 and 2001

Source: U.S. Bureau of Economic Analysis

	2000	2000	2001	2000-2001		2001
	Current \$	Constant 2001 \$	Constant 2001 \$	Nominal Change	Real Change	Share of U.S.
Washington	\$31,627	\$32,260	\$32,025	1.3%	-0.7%	105.1%
Alaska	\$29,913	\$30,511	\$30,936	3.4%	1.4%	101.5%
Oregon	\$27,821	\$28,377	\$28,165	1.2%	-0.7%	92.4%
Idaho	\$24,101	\$24,583	\$24,621	2.2%	0.2%	80.8%
Montana	\$22,895	\$23,353	\$23,963	4.7%	2.6%	78.6%
U.S.	\$29,770	\$30,365	\$30,472	2.4%	0.4%	100.0%

## Average Covered Wages

### State

Washington's average covered wage was \$37,478 in 2001, reflecting a real year-over-year loss of 0.9 percent. The year 2000 gave us some foreshadowing of this when real wages bumped up only 1.2 percent after a string of banner years between 1996 and 1999. Washington's run of healthy real average covered wage gains throughout the late 1990s enabled it to not only close the negative average covered wage gap that opened up during the latter half of the 1980s, but to surpass the U.S. average as well (*see Figure 69*). In the process, Washington's average covered wage went from 98 percent to 107 percent of the U.S. average. Washington's rather real wage loss in 2001 caused its average covered wage to erode to 100 percent of the U.S. average, down from 105 percent just a year ago.

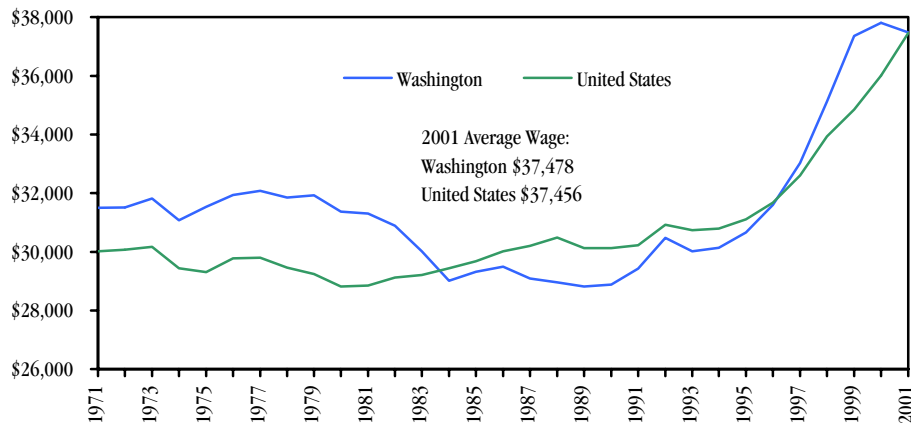
**Average covered wages** are simply a matter of taking total covered wages paid over the year and dividing by average monthly covered employment. Covered means covered by the Unemployment Insurance (UI) program. Though not all-inclusive—among others, many self-employed persons and corporate officers are not covered under the UI system—anywhere from 85 to 90 percent of all employment in Washington was covered in 2001. The data are derived from UI tax reports and published quarterly by the Employment Security Department.

**Figure 69**

Real Average Covered Wage

Washington and United States, 1971-2001

Source: Employment Security Department



Despite immediate downturns associated with the recession, the recent run of strong covered wage gains could well be signaling a break between the state's mature economy and its emerging economy. Because of the state's historical dependence on resource-related industries (typically referred to as mature industries), its long-run average covered wage pattern reflected considerable volatility, particularly during turning points in the business cycle. As such, the state's long-term average covered wage trend has been less stellar. From 1977 (when average covered wages peaked during the mature economy) to 1989, real average covered wages in Washington declined at an annual rate of 0.9 percent. Since then, however, the state's average covered wages have been locked in a growth pattern as reflected in the trend from 1989-2001 when they climbed at an annual rate of 2.3 percent.

That said, a robust state economy and accompanying labor and skill shortage undoubtedly were factors in our transformation from economically mature to emerging, but software wages were the most prominent factor. Without software, for example, the state's real wage gain for 1999 would have come in at 3.0 percent rather than 6.3 percent. It is this phenomenon that may be signaling the shift from a mature economy to an emerging one—and with it a different trend in real average covered wages in Washington. But what a difference a couple of years can make. Between 1999 and 2001 there was a 17 percent decline in business services wages, largely influenced by declines software.

## Industries

Real average covered wages as reflected in Washington's industrial base, for the most part, slipped considerably in 2001 (see Figure 70). Services as a whole experienced a real average covered wage decline of 2.8 percent, actually an improvement over a drop of 3.8 percent a year earlier. That is quite an about-face from the impressive 14.2 percent real growth posted in 1999, which again illustrates the rapid pace at which the high wages, particularly from stock options, in the booming high-tech sector came and went. Other services-producing sectors, though, performed better, particularly finance, insurance, and real estate (FIRE). FIRE led all sectors with 3.7 percent real growth in 2001, boosting its average covered wages to \$46,737. However, manufacturing, transportation/communications/utilities, and even the diminutive mining sector maintained higher average wages than FIRE, despite all seeing real wage losses in 2001. Trade represented two sides of a coin in terms of real wage growth:



wholesale managed to net a 1.5 percent increase while retail wages dropped by the same percentage. Retail trade continued to offer the second lowest average covered wage in Washington, with agriculture/forestry/fishing bringing up the bottom. Construction's average covered wage was up 0.6 percent in real terms in 2001, which was also down from 1999 and 2000, as the pace of commercial and residential development in the central Puget Sound region continued to ease.

**Figure 70**

Average Covered Wages by Major Industry Division  
Washington, 2000 and 2001

Source: Employment Security Department

	2000 Current \$	2000 Constant 2001 \$	2001 Constant 2001 \$	Nominal Change	Real Change
State Average	\$37,063	\$37,804	\$37,478	1.1%	-0.9%
Manufacturing	\$47,273	\$48,218	\$48,000	1.5%	-0.5%
Transportation and Public Utilities	\$46,970	\$47,909	\$47,478	1.1%	-0.9%
Mining	\$46,730	\$47,664	\$47,138	0.9%	-1.1%
Finance, Insurance, and Real Estate	\$44,176	\$45,059	\$46,737	5.8%	3.7%
Wholesale Trade	\$43,602	\$44,474	\$45,146	3.5%	1.5%
Government	\$41,576	\$42,408	\$43,257	4.0%	2.0%
Construction	\$37,509	\$38,260	\$38,504	2.7%	0.6%
Services	\$38,589	\$39,361	\$38,243	-0.9%	-2.8%
Retail Trade	\$20,862	\$21,279	\$20,967	0.5%	-1.5%
Agriculture, Forestry, and Fishing	\$18,022	\$18,382	\$18,388	2.0%	0.0%

## Regions

A regional view of Washington in terms of average covered wages, like the earlier discussion around per capita income, also distinctly illustrates regional wage disparities and reinforces the Two Washingtons conundrum. When average earnings are viewed in absolute terms, the state's western, urban, metropolitan, and Puget Sound regions maintain a distinct advantage (*see Figure 71*). For example, an averaging of covered wages for the state's western, urban, metropolitan, and Puget Sound regions reveals \$40,946 compared to \$27,103 for the state's eastern, rural, non-metropolitan, and non-Puget Sound regions in 2001. But in terms of real annual rates of change, eastern, rural, non-metro, and non-Puget Sound regions saw a reversal of fortune over the year, with modest yet positive returns compared to across-the-board wage declines in their wealthier counterpart regions. While these changes did not do much to close the gaps, at least the disparities did not worsen.

**Figure 71**

Regional Average Covered Wages  
Washington, 2000 and 2001

Source: Employment Security Department, LMEA

	2000 Current \$	2000 Constant 2001 \$	2001 Constant 2001 \$	Nominal Change	Real Change
Washington	\$37,063	\$37,804	\$37,478	3.7%	-0.9%
Eastern WA	\$26,874	\$27,411	\$27,475	5.4%	0.2%
Western WA	\$39,653	\$40,446	\$39,980	3.5%	-1.2%
Non-Puget Sound	\$27,437	\$27,986	\$28,165	4.9%	0.6%
Puget Sound	\$41,995	\$42,835	\$42,228	3.4%	-1.4%
Rural WA	\$25,848	\$26,365	\$26,889	3.7%	2.0%
Urban WA	\$40,348	\$41,155	\$40,535	3.8%	-1.5%
Non-Metropolitan	\$25,150	\$25,653	\$25,883	3.6%	0.9%
Metropolitan	\$38,928	\$39,706	\$39,239	3.8%	-1.2%

## Counties

The sub-state ranking of average covered wages in 2001 was little changed from that of the previous years (*see Figures 72 and 73*). Metropolitan counties again dominated the upper echelons. King County occupied the top spot with an average covered wage of \$47,187—a figure that surpassed the state average by nearly \$10,000. In fact, the second highest average covered wage was Snohomish County's \$36,390, which was more than \$10,000 below that in King County. Though software and aircraft come to mind, King County has a diverse range of industries that contribute to its status as the principal economic driver in Washington. Following Snohomish County was Benton County with the Hanford nuclear waste cleanup driving its covered wage to \$36,363. Southwest Washington's Clark County with its Portland connection was up there as well at \$33,124. Thurston County with its stable state government wage base was at \$32,771.

**Figure 72**

Average Covered Wage, Selected Counties  
Washington, 2000 and 2001

Source: Employment Security Department

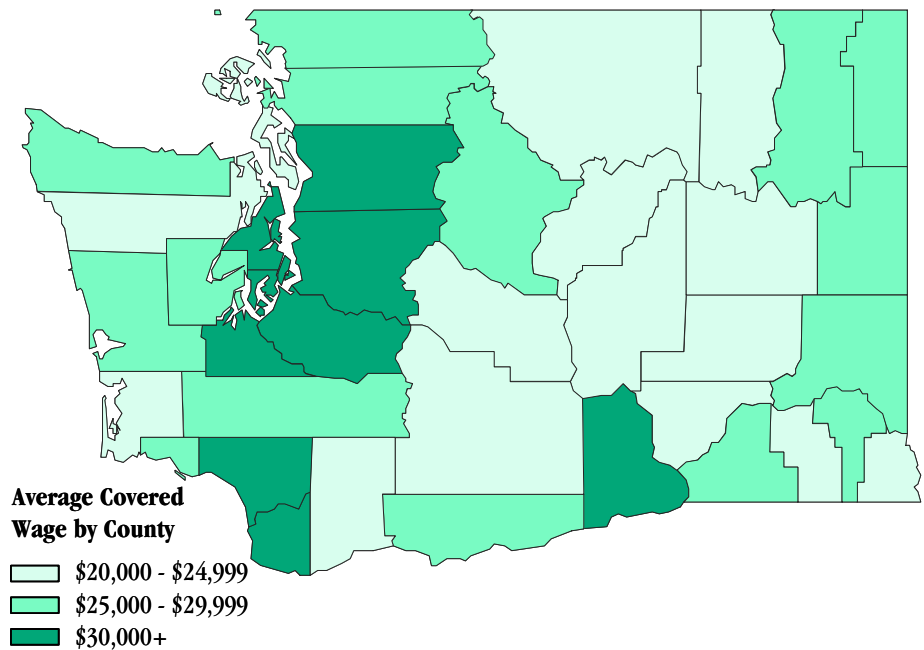
		2000 Current \$	2000 Constant 2001 \$	2001 Constant 2001 \$	Nominal Change	Real Change
	Washington	\$37,063	\$37,804	\$37,478	1.1%	-0.9%
Highest:	King	\$47,444	\$48,393	\$47,187	-0.5%	-2.5%
	Snohomish	\$35,088	\$35,789	\$36,390	3.7%	1.7%
	Benton	\$34,216	\$34,900	\$36,363	6.3%	4.2%
	Clark	\$32,153	\$32,796	\$33,124	3.0%	1.0%
	Thurston	\$31,740	\$32,374	\$32,771	3.2%	1.2%
Lowest:	Lincoln	\$22,316	\$22,762	\$22,854	2.4%	0.4%
	Pacific	\$21,719	\$22,154	\$21,979	1.2%	-0.8%
	Adams	\$21,576	\$22,008	\$21,978	1.9%	-0.1%
	Douglas	\$20,982	\$21,402	\$21,694	3.4%	1.4%
	Okanogan	\$19,702	\$20,096	\$20,007	1.6%	-0.4%
Other Metros:	Kitsap	\$30,530	\$31,140	\$31,523	3.3%	1.2%
	Pierce	\$29,857	\$30,454	\$31,263	4.7%	2.7%
	Spokane	\$29,749	\$30,344	\$29,287	-1.6%	-3.5%
	Whatcom	\$26,270	\$26,795	\$27,724	5.5%	3.5%
	Yakima	\$23,227	\$23,692	\$24,203	4.2%	2.2%

**Figure 73**

Average Covered Wage by County

Washington, 2001

Source: Employment Security Department



At the lower end, the same counties tend to appear as well. The lowest average covered wage belonged to Okanogan County at \$20,007—more than \$17,000 below the state average and nearly \$27,000 below King County. Okanogan County is an example of a resource dependent area that has experienced numerous relative setbacks in its wage base due to its ties to maturing forest products and agricultural industries. For the most part, the common denominators with respect to the lowest wage counties were that they were rural, sparsely populated, and agriculturally dominated. Pacific County, a western Washington entry, is also rural, thinly populated, and dependent on a natural resource-based economy. Its average covered wage was \$21,979 in 2001.

In terms of over-the-year changes in county average covered wages from 2000 to 2001, the effect of the recession was clear: eleven counties saw average wages decline. The greatest relative hits were felt in neighboring Klickitat and Skamania counties where wages dropped 5.7 and 4.7 percent respectively, after adjusting for inflation. While declining wages were seen primarily in rural counties, the state's two urban powerhouses, King and Spokane, were not spared losses, slipping 2.5 and 3.5 percent respectively. On the other hand several counties bolstered against wage effects of the recession, making real gains in terms of average covered wages. Among the most significant gains made were Columbia, Benton, Chelan, and Whatcom posting gains from 3.5 percent (Whatcom County) to 5.5 percent (Columbia County).

## Wage Distribution and Inequality in Washington State

Has wage distribution become more or less even over time?

The Gini Coefficient is a commonly used measure of inequality in income distribution. A Gini Coefficient of zero (0) indicates perfect income equality, where everyone is paid the same, while a coefficient of one (1) would signify that all income is concentrated in a single person. Everything in between 0 and 1 represents some gradation of income distribution. The lower the score, the more equally income is distributed across a given population.

Based on covered employment and wage data for Washington (representing about 90 percent of total employment) we examined wage distribution for the period 1981-2001. The observations showed that inequality in wages increased significantly between 1981 (0.24) and 1999 (0.34), but then started to decrease in 2000 and 2001 (0.31). The most rapid growth of inequality happened between 1994 through 1999, stemming largely from soaring employment and wage growth in computer services (Standard Industrial Class 737). The annual growth rate of the Gini Coefficient during that time was 4.7 percent, compared to an annual employment increase of 2.8 percent.

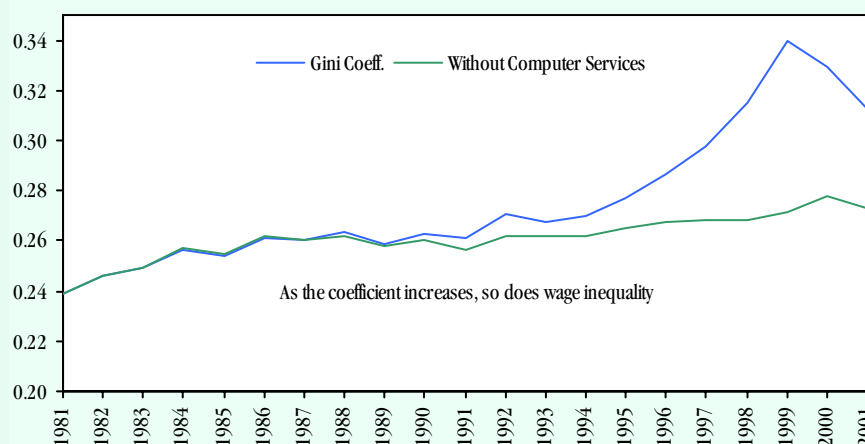
Wages constitute a significant share (81 percent) of personal income and therefore can provide important insights to income distribution among workers and income inequality. The data used in this analysis include regular wages plus cashed stock options. Including stocks in wages makes them even closer to total personal income and enables the analysis to yield a better approximation of inequality in terms of total income distribution.

Worth noting, income is but one component of wealth, which includes real property, dividends, and other fixed and liquid assets. Wealth is usually much less equally distributed across the population. Also worth mention is the fact that the Gini Coefficient cannot be used to measure absolute welfare of the lower segment of the population. In other words, even as the Gini Coefficient increases, wages (or income) for the lower segments of the population could also be rising.

**Figure 74**

Wage Inequality in Washington, 2001

Source: *Employment Security Department*



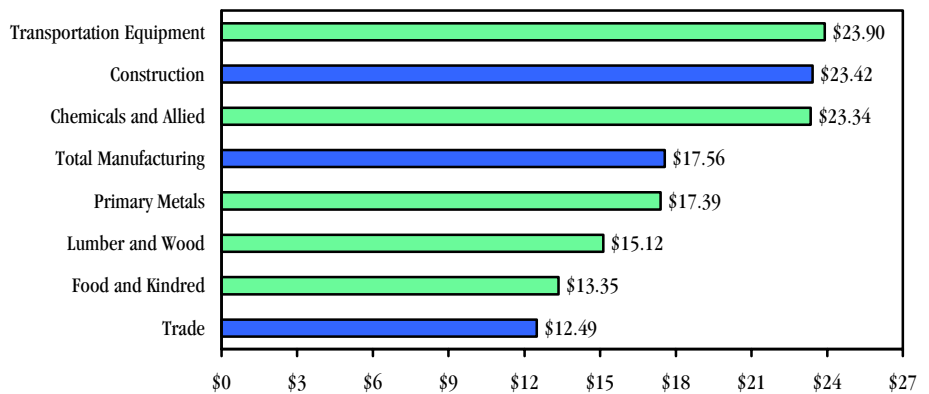
## Average Hours and Earnings

### Average Hourly Earnings

The state Employment Security Department's Current Employment Statistics (CES) program estimates hours and earnings for selected industries. The major industry divisions surveyed are construction, trade, manufacturing and, within manufacturing, five activities.

As has historically been the case, construction (\$23.43), total manufacturing (\$17.56), and trade (\$12.49) held their positions relative to one another with respect to average hourly earnings in Washington in 2001 (see Figure 75). The same relationships held constant among the state's manufacturing sectors, too, as high-skill, value-added sectors like transportation equipment (\$23.90) and chemicals (\$23.34) had much higher average hourly earnings than more resource-dependent, labor-intensive sectors like primary metals (\$17.39), lumber and wood products (\$15.12), and food and kindred products (\$13.35).

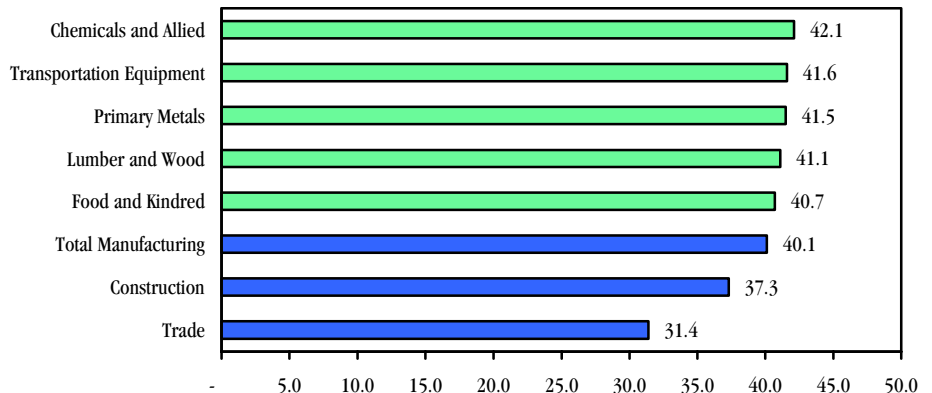
**Figure 75**  
Average Hourly Earnings, Selected Industries  
Washington, 2001  
Source: Employment Security Department



### Hours Worked Per Week

Of the industries surveyed, average weekly hours worked declined in 2001 in all but transportation equipment, up by about a half hour, and food and kindred, up almost 45 minutes (see Figure 76). The average work week in trade and construction continued to be under the traditional 40 hours at 31.4 and 37.3 hours respectively. The chemicals sector continued to carry the longest average work week at 42.1 hours.

**Figure 76**  
Average Hours Worked Per Week, Selected Industries  
Washington, 2001  
Source: Employment Security Department



## Occupational Wages

For the 23 major occupations groups median hourly wages in 2001 ranged from \$8.07 in the food preparation and serving group to \$37.30 in management occupations (see Figure 77). The median hourly wage across all occupations was \$15.19, not bad as it represented about two-and-a-quarter-times the state minimum wage of \$6.72 that year. Also included in the top bracket of occupation categories were computer and mathematical (\$30.11), architecture and engineering (\$28.75), business and financial (\$24.16), and healthcare practitioners and technicians (\$24.02). While services was the top employing industry for all but one of the upper echelon occupation groups, manufacturing was the sector that paid top dollar. The exceptions to this were computer and mathematical jobs, ruled by the business services segment of services, and architecture and engineering occupations, topped in both respects by the manufacturing industrial sector.

Similar to industries, occupations are defined and sorted into a hierarchical classification system, the Standard Occupational Classification, or SOC. In total, SOC defines about 700 occupations. Because it's a hierarchy, occupations can be lumped into related groups, of which there are 23.

**Figure 77**

Median Wage by Major Occupation Group  
Washington, 2001

Source: Washington Employment Security Department

Occupation Group	Median Wage		Top Paying Industry	Top Employing Industry
	2001			
Management	\$37.30		Manufacturing	Services
Computer and Mathematical	\$30.11		Services	Services
Architecture and Engineering	\$28.75		Manufacturing	Manufacturing
Business and Financial Operations	\$24.16		Manufacturing	Services
Healthcare Practitioners and Technical	\$24.02		Manufacturing	Services
Life, Physical, and Social Science	\$23.98		Construction	Services
Legal	\$23.87		Manufacturing	Services
Construction and Extraction	\$20.65	Agri., forestry, and fishing		Construction
Arts, Design, Entertainment, Sports, & Media	\$19.82	Manufacturing		Services
Installation, Maintenance, and Repair	\$18.19	Trans. and public utilities		Services
Protective Service	\$16.96	Public Administration		Public Administration
Education, Training, and Library	\$16.65	Wholesale Trade		Services
Community and Social Services	\$16.36	Public Administration		Services
Office and Administrative Support	\$13.30	Public Administration		Services
Production	\$13.23	Public Administration		Manufacturing
Transportation and Material Moving	\$12.85	Construction		Trans. and public utilities
Sales and Related	\$11.99	Mining		Retail Trade
Healthcare Support	\$11.08	Public Administration		Services
Building & Grounds Cleaning & Maintenance	\$10.11	Public Administration		Services
Personal Care and Service	\$9.31	Trans. and public utilities		Services
Farming, Fishing, and Forestry	\$9.17	Trans. and public utilities		Agri., forestry, and fishing
Food Preparation and Serving-Related	\$8.07	Public Administration		Retail Trade
All occupations	\$15.19			

Unlike industries, for which wages for all workers covered by unemployment insurance are reported directly to the Employment Security Department, wage information for occupations has to be collected by survey. The Occupational Employment Statistics (OES) unit collects data about employment and wages from a representative sample of wage and salary workers in nonfarm establishments. Survey results are also used to develop occupational employment projections (described in the previous chapter). However, employment estimates between the survey and projections differ because the latter adds in estimates of self-employed and unpaid family workers.

The top twenty highest paying jobs in Washington (using 2001 median hourly wages) reads like a who's who list of occupations: medical practitioners like dentists and internists, judges, a cadre of engineers, and a variety of managerial types. The top jobs paid from \$36.13 (financial managers) to \$69.14 (chief executives) in 2001, with the fashionable computer and information systems manager falling about halfway up the list at \$44.39. The largest of these occupations is the rather generic general and operation managers representing 22,020 jobs. This category includes store managers, park superintendents, district sales managers, and so-forth. *Figure 78* shows the twenty highest paying jobs.

### Figure 78

Twenty Highest Paying Occupations in 2001  
(Median wage, with employment of at least 500)  
Washington, 2001

Source: Washington Employment Security Department

Occupation Title	Median Wage 2001	2001 Estimated Employment
Chief Executives	69.14	3,230
Dentists	68.51	890
Family and General Practitioners	60.05	3,910
Internists, General	60.04	1,220
Psychiatrists	55.72	640
Judges, Magistrate Judges, and Magistrates	49.08	830
Air Traffic Controllers	45.89	560
Engineering Mgrs.	44.91	5,800
Optometrists	44.80	510
Computer and Information Systems Mgrs.	44.39	5,410
General and Operations Mgrs.	42.45	22,020
Marketing Mgrs.	40.33	2,420
Sales Mgrs.	38.82	4,110
Art Directors	38.76	550
Natural Sciences Mgrs.	37.43	1,160
Computer Software Engineers, Software	37.00	11,340
Aerospace Engineers	36.96	12,370
Market Research Analysts	36.85	4,520
Chemical Engineers	36.14	580
Financial Mgrs.	36.13	9,250

On the other side of the pay scale are Washington's twenty lowest paying jobs, ranging from a median hourly wage of \$6.53 for gaming dealers to \$8.15 paid to child care workers. The fact that two occupations' wages were actually below state minimum wage is most likely an artifact of how survey data were reported by employers. A review of the occupations on this list (*see Figure 79*) reveals several jobs that typically receive tips in addition to reported wages. For example, cash tips are usually paid to wait staff, bartenders, adult dancers, and bellhops. The largest occupations making low wages include combined food preparation workers (62,860 jobs), waiters and waitresses (37,490 jobs), and packers and packagers (22,910).

### Figure 79

Twenty Lowest Paying Occupations in 2001  
(Median wage, with employment of at least 500)  
Washington, 2001

Source: Washington Employment Security Department

Occupation Title	Median Wage 2001	2001 Est. Employment
Gaming Dealers	\$6.53	3,280
Dancers	\$6.70	530
Dining/Cafeteria Attendants/Bartender Helpers	\$7.21	8,450
Waiters and Waitresses	\$7.26	37,490
Gaming and Sports Book Writers/Runners	\$7.44	520
Ushers, Lobby Attendants, and Ticket Takers	\$7.52	2,620
Hosts and Hostesses, Restaurant, Lounge, Coffee Shop	\$7.58	5,660
Combined Food Prep./Serving Workers, Incl. Fast Food	\$7.67	62,860
Food Servers, Nonrestaurant	\$7.71	1,210
Dishwashers	\$7.74	10,720
Cooks, Fast Food	\$7.78	9,720
Graders and Sorters, Agricultural Products	\$7.79	4,240
Farmworkers and Laborers, Crop, Nursery, Greenhouse	\$7.89	4,320
Bartenders	\$7.92	9,910
Amusement and Recreation Attendants	\$7.92	4,040
Packers and Packagers, Hand	\$7.93	22,910
Gaming Workers, Misc.	\$7.99	520
Counter Attendants, Cafeteria, Food Concession, Coffee Shop	\$8.07	10,300
Baggage Porters and Bellhops	\$8.12	1,420
Child Care Workers	\$8.15	7,540



## Poverty

While poverty is an issue that impacts Washington's population beyond just its labor force, it is an important factor to consider in the context of this chapter. The 2000 Census offers insight into the scope of poverty in our state. According to U.S. Census Bureau, 10.6 percent of Washington's population was living in poverty in 1999, amounting to over 612,000 people, as compared to 12.4 percent nationally. That year 110,663 (7.3 percent) of Washington's families lived below the poverty level, including 52,290 families with a female householder (no adult male present). While its impacts reach every county, poverty is largely a rural phenomenon in Washington. This is probably due in some part to significantly lower wages paid in rural areas, as we observed earlier in this chapter (*see Figure 80*). The counties with the highest poverty rates in 1999 included Whitman and Okanogan counties, both with over 20 percent of their population in poverty. *Figure 80* shows poverty rates for select counties. Washington's poverty rate in 1989 was 10.9 percent.

The **poverty threshold** for a single individual was \$8,501 in 1999. A four person family with one parent or guardian and three children under the age of 18 was considered to be living in poverty if they made less than \$16,954.

**Figure 80**  
Poverty Rates for Select Counties  
Washington, 1999  
*Source: U.S. Census Bureau, Census 2000*

	1999		
	Total Population	Below poverty level	Percent below Poverty
<b>Highest Poverty Rates</b>			
Whitman	35,280	9,027	25.6%
Okanogan	38,943	8,311	21.3%
Yakima	218,966	43,070	19.7%
Kittitas	31,177	6,122	19.6%
Franklin	48,307	9,280	19.2%
<b>Lowest Poverty Rates</b>			
Snohomish	597,813	41,024	6.9%
Island	69,924	4,895	7.0%
Wahkiakum	3,735	301	8.1%
King	1,706,305	142,546	8.4%
Kitsap	224,006	19,601	8.8%
<b>Other Metro Areas</b>			
Spokane	404,764	49,859	12.3%
Pierce	680,056	71,316	10.5%
Clark	341,464	31,027	9.1%
Thurston	203,619	17,992	8.8%
Washington	5,765,201	612,370	10.6%

# About the Economic and Policy Analysis Unit

The Economic and Policy Analysis unit within the Labor Market and Economic Analysis (LMEA) Branch of the Employment Security Department has primary responsibility for providing analysis and commentary on Washington's current labor market situation. Toward that end, it is the chief voice for the department and principal point of contact with the public for statewide labor market information and analysis. In addition to the *Labor Market and Economic Report*, the unit's other notable publications include the *Commissioner's News Release*, *Washington Labor Market*, *County Profiles*, *Agricultural Workforce in Washington State*, and *Occupational Outlook Update 2002*. These publications are also available on the LMEA Internet homepage and the Workforce Explorer ([www.workforceexplorer.com](http://www.workforceexplorer.com)). The unit's work is also showcased at the annual *LMEA Economic Symposium*, presentations from which are available on the Workforce Explorer.

