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# Wisconsin Projections 2004 - 2014

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## Employment in Industries and Occupations

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December 2006



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## Projections Panel Participants

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Special thanks to the following people who served on the Projections Panel. This panel of economists and analysts from government, business, and academia used their expertise to provide a projection of employment in 50 key industries. These projections are pooled and used as a basis for Wisconsin's industrial employment projections.

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## Wisconsin Projections 2004 - 2014 Executive Summary

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### Wisconsin Will Create 348,000 New Jobs

Wisconsin is expected to create 348,000 jobs between 2004 and 2014. With growth of 12%, employment is projected to increase from 3.03 to 3.38 million jobs. In addition to newly created jobs, another 719,000 positions will be open due to replacement needs. These nearly 1.07 million total job openings will be found among 800 occupations and will need people with a variety of skills, interests, and educational backgrounds.

It is important to note the projections are only for one point in time, in this case 2014. Employment overall, and employment in any particular industry or occupation, may have many ups and downs during the ten year period. However, the projections only indicate where employment is expected to be in 2014 relative to 2004.

### Industry Employment

Among the industry super-sectors, education and health services will lead the way with an anticipated 133,000 new jobs (see figure ES-1). Professional and business services is second with 57,000 additional jobs. Manufacturing, and natural resources and mining, are the two sectors projected to lose jobs. Manufacturing employment is expected to decrease by nearly 7,000 jobs. Natural resources and mining is expected to lose about 200 positions.

More than any other sector, manufacturing is facing a paradox of declining employment overall yet simultaneously needing large numbers of skilled people to replace retirees and to incorporate new technologies. This situation is due to the emphasis on limiting costs and improving efficiency. New innovations and automation are decreasing the need for some positions yet increasing the need for people with cutting-edge technological skills. Furthermore manufacturers are relying on contractors and temporary workers to perform functions that are not part of their core operations. Consequently several jobs, such as those in office support and unskilled production, have moved from manufacturing to business services. In 2004, at least 21,000 jobs were contracted out to professional and business services. In 2014, the estimate is that there will be at least 30,000.

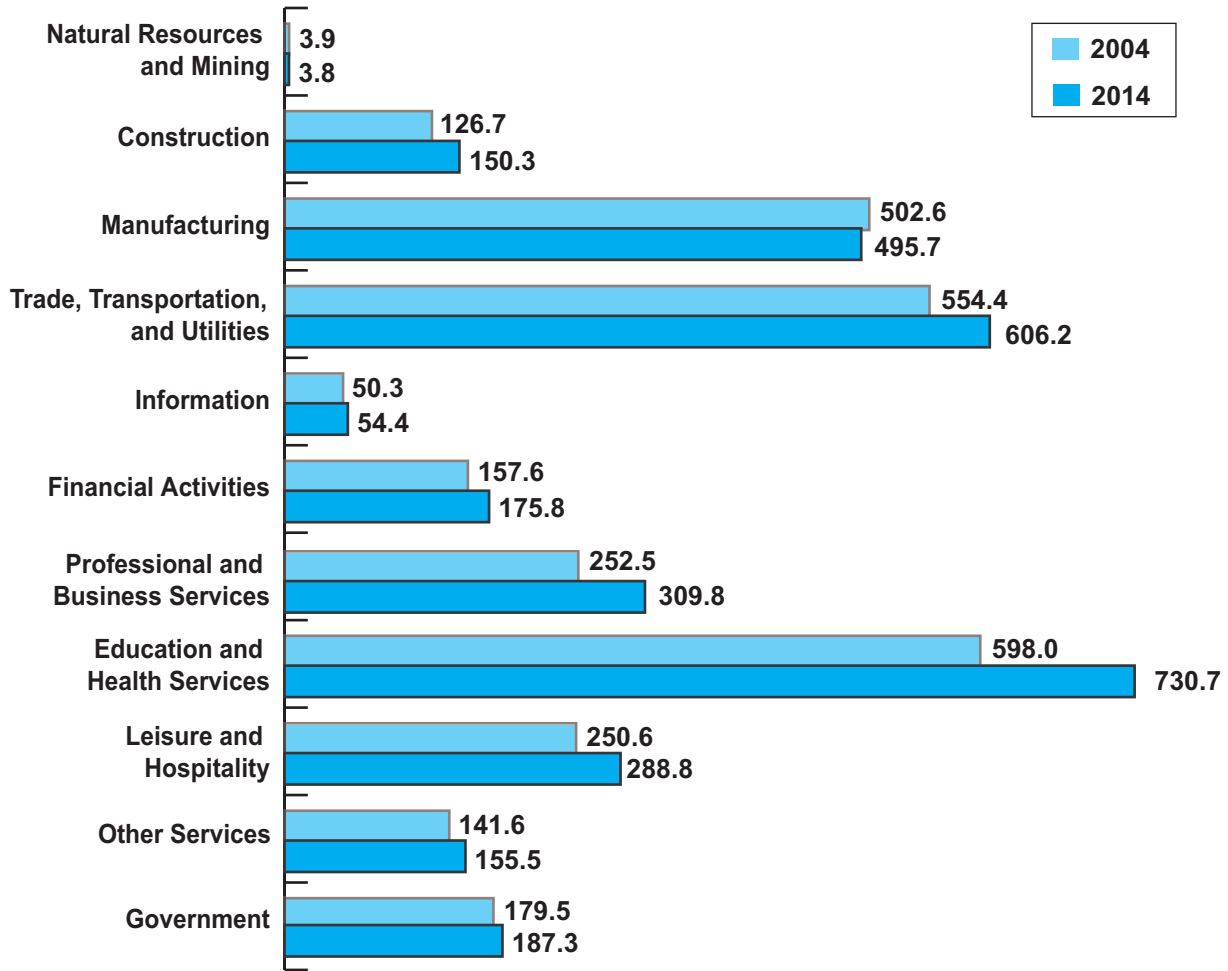
It is also important to recognize while manufacturing jobs as a whole are declining, some sub-sectors within manufacturing are growing. The growing sectors include transportation equipment (projected to add 2,600 jobs); plastics and rubber products (adding 2,400); wood products (adding 1,800); food products (adding 1,700); and fabricated metal products (adding 1,400).

The ten Wisconsin industries projected to add the most new jobs are illustrated in figure ES-2. These industries will account for nearly 70% of the state's job growth during 2004 to 2014. The top three industries -- educational services, ambulatory health care services, and administrative and support services -- are expected to create 30% of the sector's new jobs.

Educational services is expected to add 37,000 jobs. This industry includes all public and private elementary, secondary, and post-secondary schools as well as support services. The occupations with the most growth will be elementary teachers, teacher assistants, and secondary teachers.

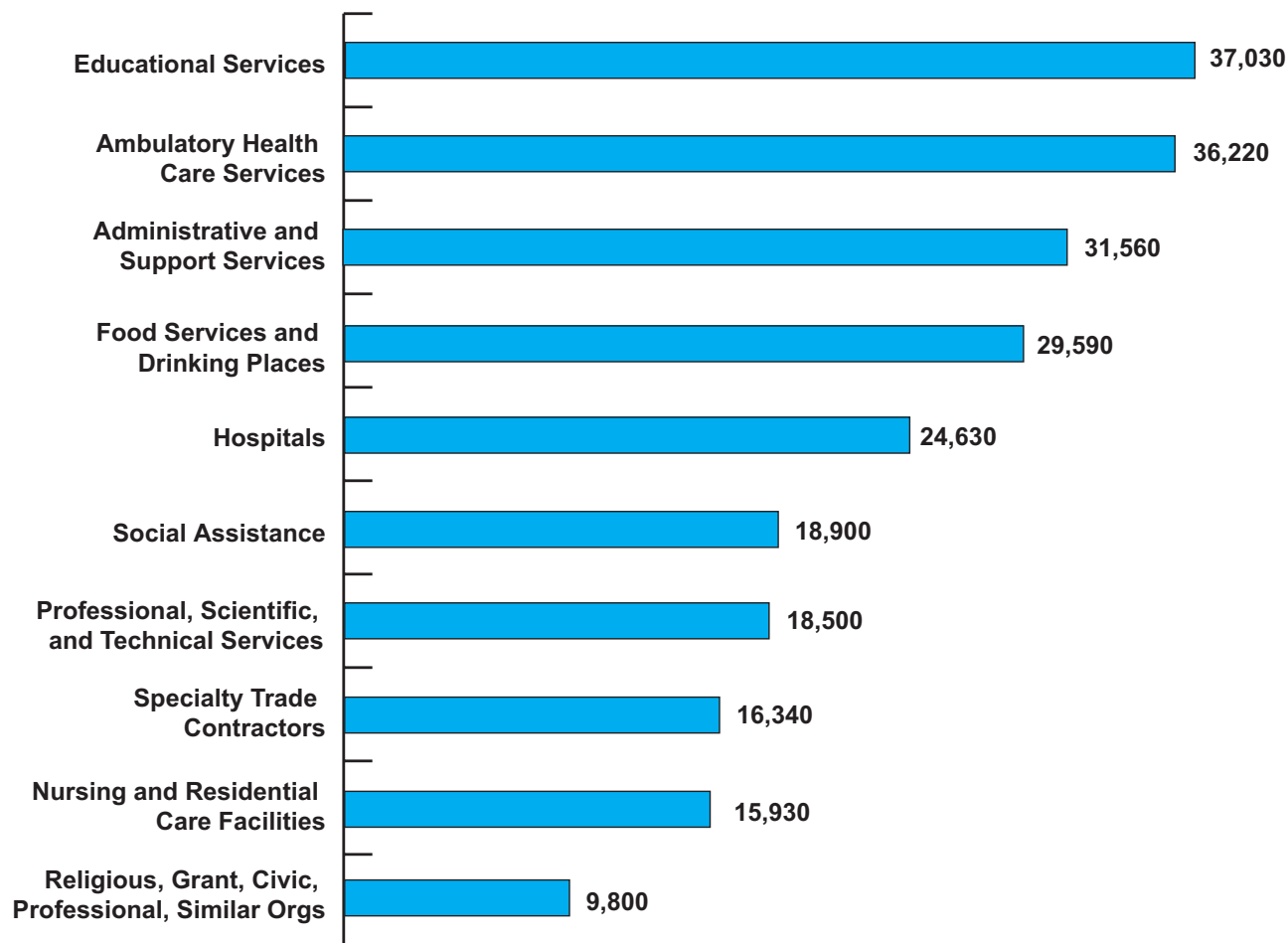
Ambulatory health care services is composed of offices of doctors, dentists, and other health care practitioners, as well as home health care services. This industry is projected to create 36,000 new jobs. Registered nurses, medical assistants, and dental assistants will be the occupations adding the most jobs within this industry.

**Figure ES-1: Employment by Super-Sector, 2004 and 2014  
(in thousands)**



Source: Office of Economic Advisors analysis of 2004 CES (3/05 Benchmark), 2004 QCEW, and 2004-2014 Wisconsin Projections data. Wisconsin Department of Workforce Development.

Figure ES-2: Industries with the Most New Jobs, 2004 to 2014



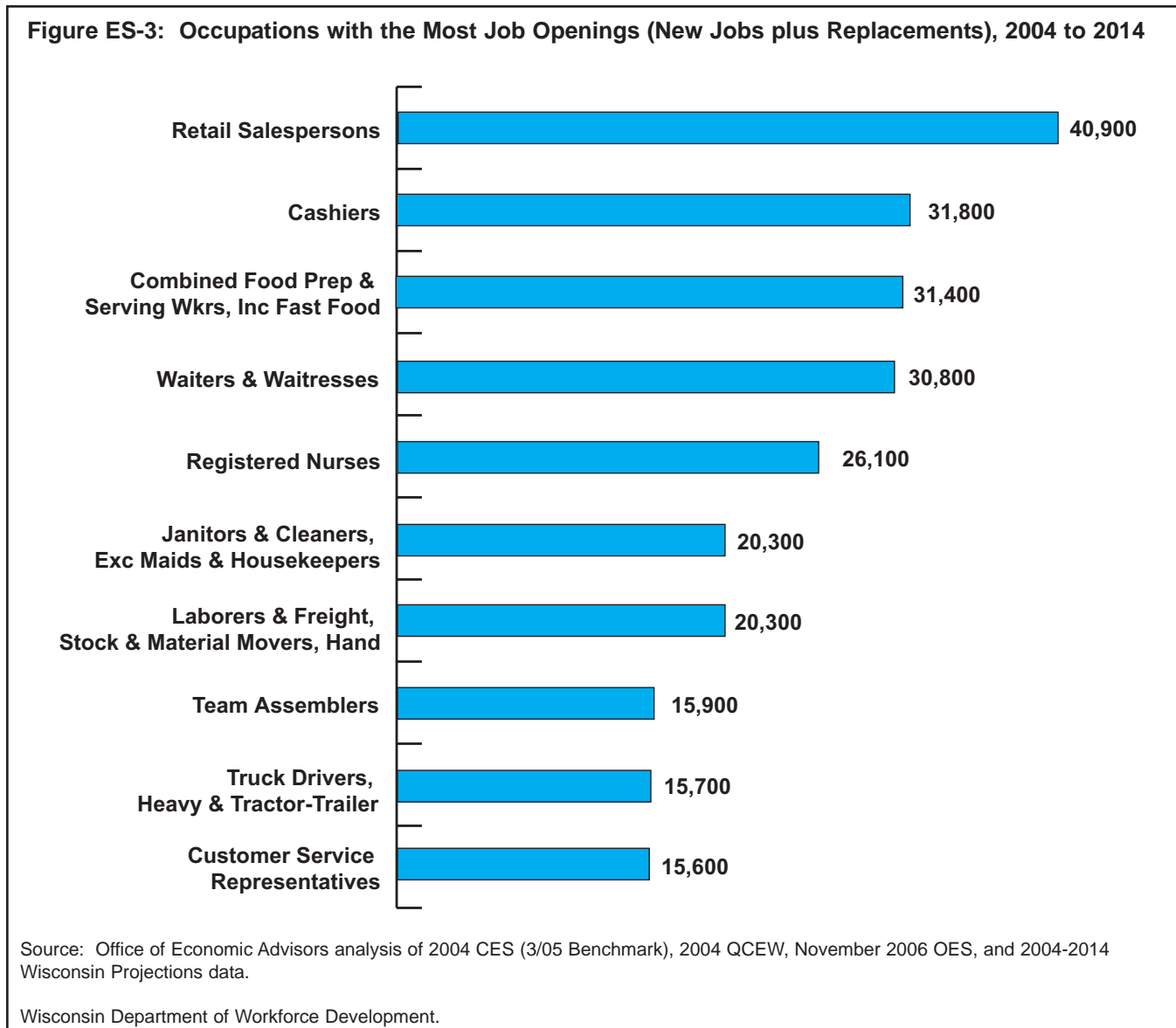
Source: Office of Economic Advisors analysis of 2004 CES (3/05 Benchmark), 2004 QCEW, and 2004-2014 Wisconsin Projections data. Wisconsin Department of Workforce Development

Administrative and support services is expected to add the third largest number of new jobs with nearly 32,000. This group of businesses performs functions that support the day-to-day operations of other organizations. Some examples of the services offered are travel arrangements, temporary employment, security, and cleaning. The occupations anticipated to have the most growth are janitors and cleaners (except maids and housekeeping cleaners); inspectors, testers, sorters, samplers, and weighers; and landscaping and groundskeeping workers.

### Occupational Employment

Wisconsin is expected to have 1.07 million total job openings during the 2004 to 2014 period. In the projections data, total job openings give an indication of how many new people are needed to enter a given occupation. About 348,000 of these openings will be newly created jobs, while the remaining 719,000 will occur due to deaths, retirements, or other permanent exits from occupations. Openings resulting from people changing employers, but staying in the same occupation, are not included.

Overall 455 out of the state's 793 occupations will each have at least 300 job openings during the decade. The ten occupations projected to have the most openings are outlined in figure ES-3. These ten occupations will account for 23% of Wisconsin's job openings.

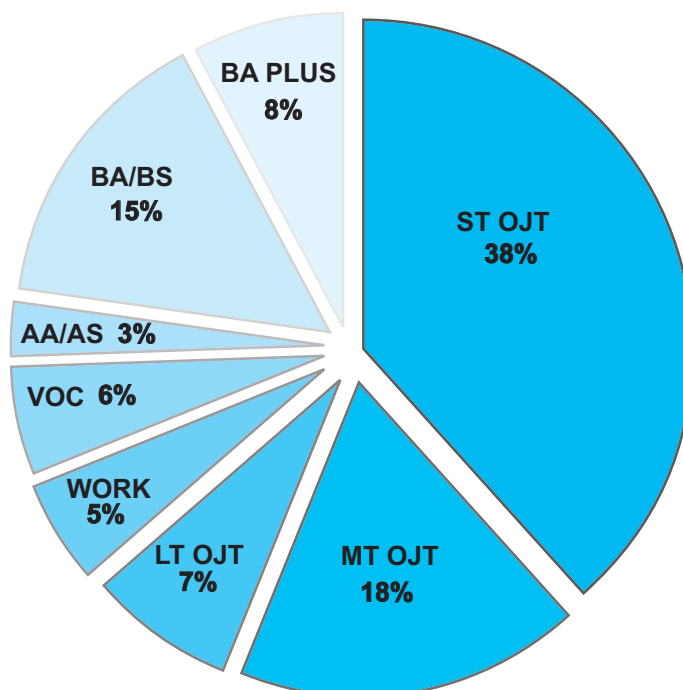


The five occupations expected to have the most jobs openings are retail salespersons, cashiers, combined food preparation and serving workers, waiters/waitresses, and registered nurses. The job openings for registered nurses are linked to growth in Wisconsin's population over age 45 and that group's increasing demand for health care services. Also, a large number of people are expected to leave the occupation either to retire or move on to other careers. The number of openings in the four remaining occupations are connected to growth in the retail trade and leisure/hospitality industries, as well as the tendency for most people to hold these jobs for relatively short periods of time.

## Education and Training

Each occupation is assigned to one of eleven education and training paths. The assignment only gives a general indication of the education or training typically needed in the occupation. There may be other pathways into the occupation, as well as additional educational, training, or licensing requirements. Figure ES-4 illustrates the percentage of job openings anticipated in each education and training group.

**Figure ES-4: Percentage of Job Openings by Education and Training Path, 2004 to 2014**



Source: Office of Economic Advisors analysis of November 2004 OES and 2004-2014 Wisconsin Projections Data. Wisconsin Department of Workforce Development

Among the job openings anticipated between 2004-2014, 56% fall into either the short- or moderate-term on-the-job training categories. Short-term on-the-job training (ST OJT) means the duties of the job can be learned at the workplace in one month or less. Moderate-term on-the-job training (MT OJT) lasts one to twelve months and may involve a combination of on-the-job experience and informal training. Some examples of occupations in these training categories are cashiers, home health aides, waiters/waitresses, medical assistants, and insurance claims and policy processing clerks.

About 7% of openings will typically require long-term on-the-job training (LT OJT). Long-term training takes more than a year and usually involves a combination of learning on the job site and formal classroom instruction. The training is often in the form of an adult apprenticeship. Occupations in this group include carpenters, electricians, plumbers, machinists, and dental laboratory technicians.

Another 6% of openings will generally require postsecondary vocational training (VOC). These are formal training programs that last from a few weeks to more than a year. Included in this category are cosmetologists, mechanical drafters, automotive service technicians, surgical technologists, and massage therapists.

## Executive Summary

Work experience in a related occupation (WORK) will be the general requirement in 5% of the job openings. These jobs require skills and experience gained in related positions. Many of these jobs are first-line supervisory positions.

An associate degree (AA/AS) will be the typical requirement in 3% of openings. This degree requires two years of full-time academic work beyond high school. Examples of occupations assigned to this category are computer support specialists, paralegals, respiratory therapists, dental hygienists, and industrial engineering technicians.

The remaining 22% of the job openings will generally require four or more years of college, or a bachelor's or higher degree in combination with work experience (Bachelor's degree: BA/BS; Bachelor's or higher degree plus work experience: BA PLUS). Database administrators, physicians, occupational therapists, lawyers, and human resources managers all fall into this group.

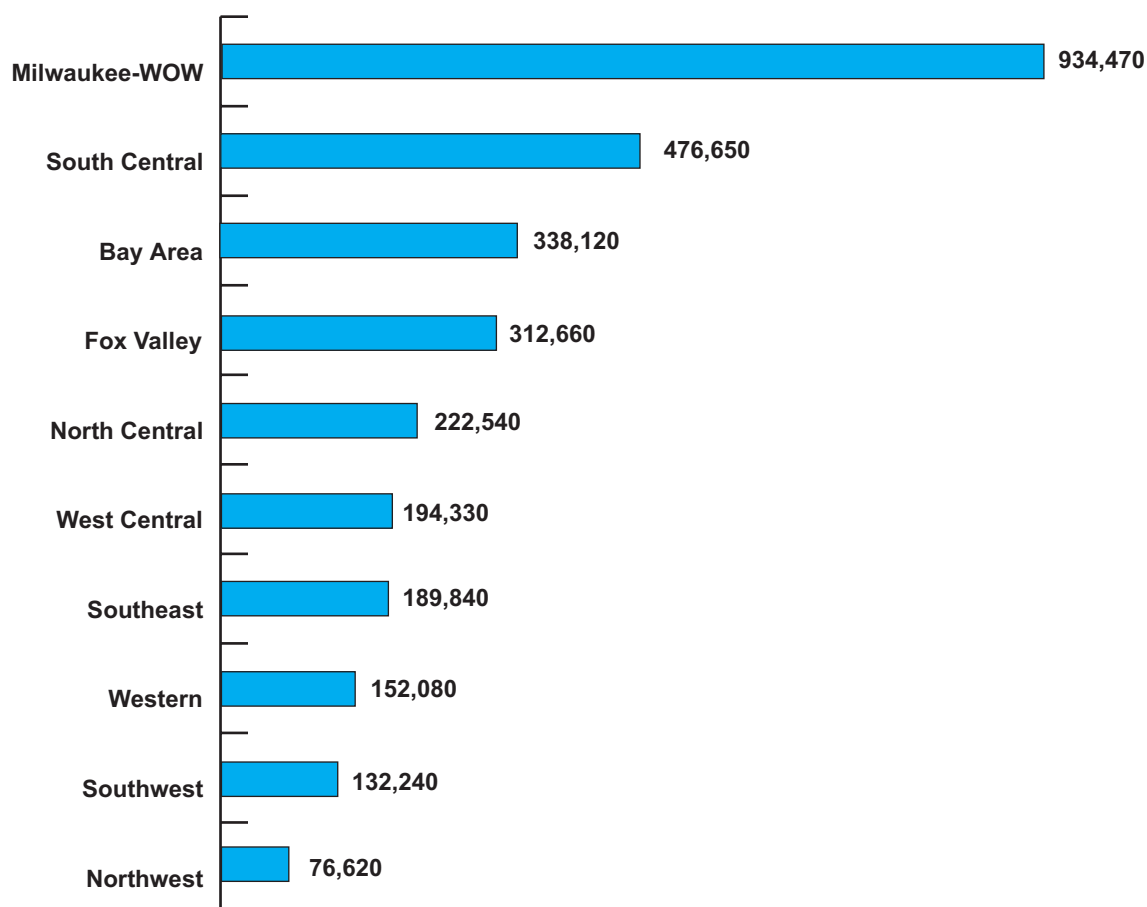
## Distribution of Job Openings by Workforce Development Areas

Wisconsin is divided into eleven Workforce Development Areas (WDAs) as outlined in figure ES-5. Projections data are available for each area, with the Milwaukee and Waukesha-Ozaukee-Washington (WOW) regions combined. These two regions are combined because they function as one labor market.

Figure ES-5: Wisconsin Workforce Development Areas	
Area Name	Counties
WDA 1 Southeast	Kenosha, Racine, Walworth
WDA 2 Milwaukee	Milwaukee
WDA 3 WOW	Ozaukee, Washington, Waukesha
WDA 4 Fox Valley	Calumet, Fond du Lac, Green Lake, Outagamie, Waupaca, Waushara, Winnebago
WDA 5 Bay Area	Brown, Door, Florence, Kewaunee, Manitowoc, Marinette, Menominee, Oconto, Shawano, Sheboygan
WDA 6 North Central	Adams, Forest, Langlade, Lincoln, Marathon, Oneida, Portage, Vilas, Wood
WDA 7 Northwest	Ashland, Bayfield, Burnett, Douglas, Iron, Price, Rusk, Sawyer, Taylor, Washburn
WDA 8 West Central	Barron, Chippewa, Clark, Dunn, Eau Claire, Pepin, Pierce, Polk, St. Croix
WDA 9 Western	Buffalo, Crawford, Jackson, Juneau, La Crosse, Monroe, Trempealeau, Vernon
WDA 10 South Central	Columbia, Dane, Dodge, Jefferson, Marquette, Sauk
WDA 11 Southwest	Grant, Green, Iowa, Lafayette, Richland, Rock

The dominate labor market in Wisconsin is the Milwaukee-WOW area (see figure ES-6). This area is expected to have 34% of the state's new jobs and 31% of its total job openings during the next ten years. Overall, this area is projected to have 934,500 jobs in 2014. Despite the area's reputation for being a manufacturing center, manufacturing only accounts for 14% of the region's jobs, compared to a statewide average of 16%. The largest industry sector is education and health services with 22% of the area's jobs. Combined, the information, professional and business services, and other services sectors account for another 22% of the region's positions. This is the largest proportion among the WDAs.

**Figure ES-6: Number of Jobs by Workforce Development Area, 2014 Projection**



Source: Office of Economic Advisors analysis of 2004 CES (3/05 Benchmark), 2004 QCEW, November 2004 OES and 2004-2014 Wisconsin Projections data. Wisconsin Department of Workforce Development.

### Overview of this Edition

This edition of *Wisconsin Projections* is divided into three chapters. Chapter 1 focuses on employment in 90 Wisconsin industries. The chapter provides information on which industries will have the largest employment in 2014, and which industries will add the most new jobs, lose the most jobs, and grow the fastest.

Chapter 2 examines employment in 793 occupations. In addition to providing the projections for all of these occupations, this chapter identifies the occupations which will have the largest employment in 2014, and which occupations will add the most new jobs, have the most total job openings, lose the most jobs, and grow the fastest. Chapter 2 also assigns an education or training path to each occupation. Wage information is included as well.

New in this edition, is the third chapter which outlines industrial and occupational projections for Wisconsin's Workforce Development Areas (WDAs). In this chapter the relative size of major industry and occupational groups (such as the manufacturing super-sector and the professional occupations) in each WDA are compared to the other WDAs and the WDA average.

## Executive Summary

Appendix 1 is an alphabetical list of each occupation's complete title. This appendix also includes the page number of each occupation's detailed projection. Appendix 2 describes additional resources available for job seekers, counselors, and employers. Appendix 3 is a brief explanation of the methodology used to develop the industrial and occupational employment projections.

## Additional Projections Information

Projections data for 2004-2014, and other related information, is available on the Office of Economic Advisors website, [http://dwd.wisconsin.gov/oea/employment\\_projections.htm](http://dwd.wisconsin.gov/oea/employment_projections.htm). The information includes outlooks for Wisconsin as a whole and for each Workforce Development Area.

Short-term projections for 2005-2007 are also available on the website listed above.

Interactive queries of the 2004-2014 and 2005-2007 projections data, and links of the projections data to other types of information, are available on WORKnet, at <http://worknet.wisconsin.gov>.

# Wisconsin Projections 2004 - 2014

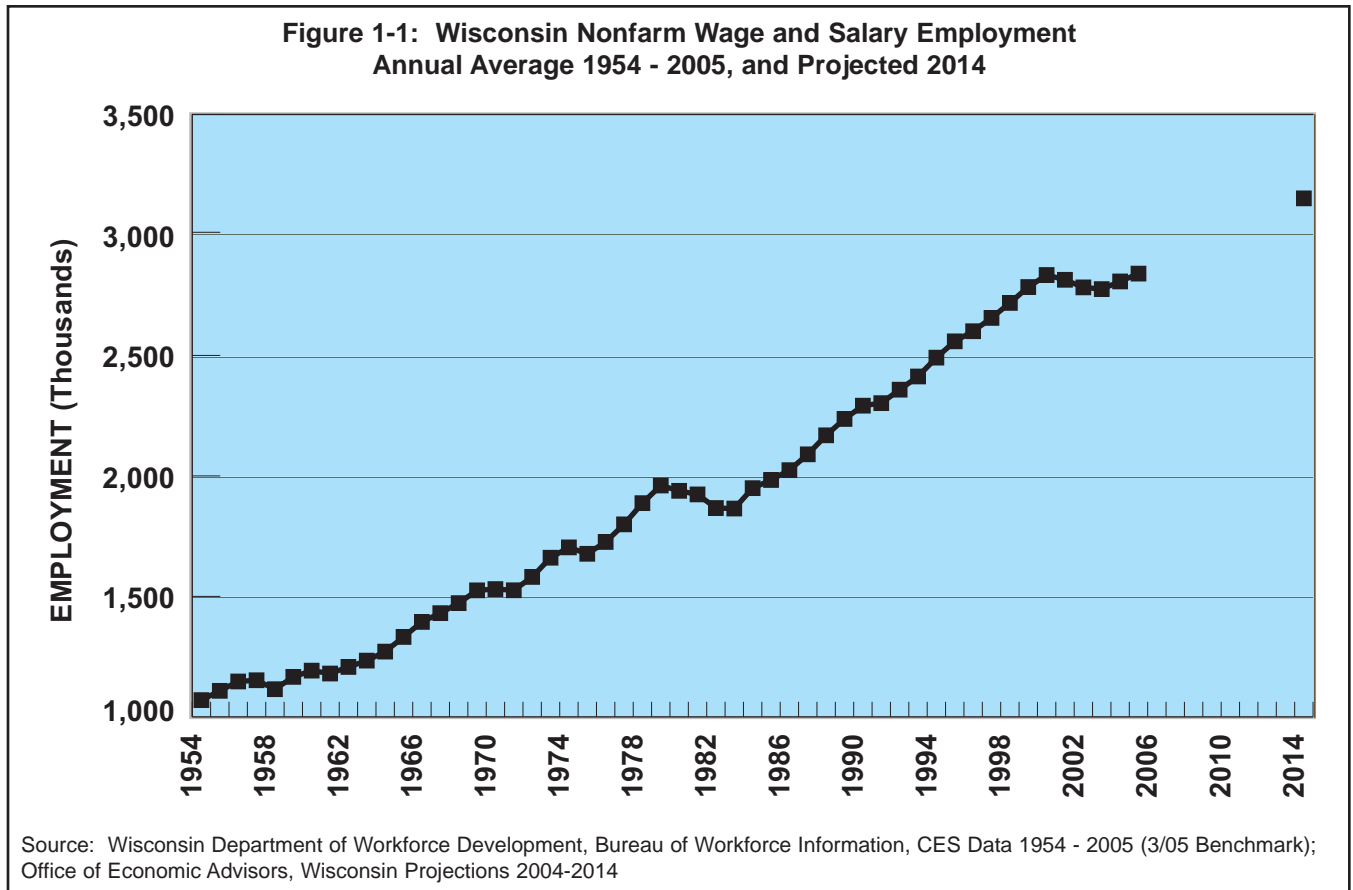
## Chapter 1: Employment in Industries

### OVERVIEW

#### What is the Employment Outlook for Wisconsin?

Wisconsin is expected to create 348,000 nonfarm jobs between 2004 and 2014. With growth of nearly 12%, employment is projected to increase from 3.03 to 3.38 million jobs. In addition to newly created jobs, another 719,000 positions will be open due to retirements and other replacement needs. Overall there will be nearly 1.07 million job openings for new people. These jobs will be found among 1,000 industries and 800 occupations.

Figure 1-1 illustrates the history of nonfarm wage and salary jobs in Wisconsin since 1954. In this graph, the job counts do not include self-employed, unpaid family, or private household workers, since complete historical data is not available for these jobs (except as noted, all of the other projections data do include these workers). In 2005 Wisconsin nonfarm wage and salary employment reached a new historic high of 2.84 million jobs. By 2014, Wisconsin is expected to have 3.15 million jobs.



## OVERVIEW (Continued)

### How is Employment Defined?

In the projections, employment refers to the number of jobs in an industry or an occupation. These jobs may be part- or full-time. Only jobs in nonfarm establishments are considered. In addition, employment includes jobs regardless of whether they are covered by Wisconsin's unemployment insurance laws. Also, if a person holds multiple jobs, all of these jobs are counted. Furthermore, self-employed, unpaid family, and private household jobs are included in order to get a more complete picture of total employment in Wisconsin.

Starting with the 2004-2014 projections, the job counts include estimates of *all* self-employed and unpaid family worker jobs. Self-employed people are defined as owners of *nonfarm, unincorporated*, businesses who rely on their firms' profits for their main source of income and/or for supplemental income. Previously only self-employed jobs that served as a person's primary source of income were included.

Unpaid family workers are people who work unpaid for at least fifteen hours a week in family owned, nonfarm, businesses. Private household workers are employed in private homes and perform jobs such as nanny, maid, and gardener.

Self-employed and unpaid family workers may work in any industry. However, the data used for these workers are collected on an occupational, rather than industry basis, so an industry breakdown is not available.

### What is the Difference between an Industry and an Occupation?

An industry is a distinct group of businesses. Some examples of industries are furniture stores, paper mills, and electrical contractors.

An occupation describes the type of work a person does. Some examples of occupations are carpenters, truck drivers, and retail salespeople.

Some industries, such as hospitals and local government, employ people in a wide variety of occupations. Other industries, such as non-metallic mineral mining and restaurants, employ people in relatively few occupations.

Likewise, some occupations, such as secretaries and general office clerks, are found in almost every industry. Other occupations, such as roofers and bookbinders, are found in only a few industries.

### How are Industries Defined and Classified?

Businesses are defined and organized by North American Industry Classification System (NAICS) codes.<sup>(1)</sup> NAICS combines firms with similar production processes.

NAICS codes are six-digit numbers. At the six-digit level there are 1,179 industries. These industries are then grouped into 725 NAICS industries (at the five-digit level), 317 industry groups (four-digit), 100 sub-sectors (three-digit) and 20 sectors (two-digit). The 20 sectors are further combined to form eleven super-sectors. In this book, industry employment data are presented for the eleven super-sectors and 86 sub-sectors.

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<sup>(1)</sup>For more information on NAICS and for industry descriptions refer to Executive Office of the President, Office of Management and Budget, North American Industry Classification System: United States, 2002 (Lanham, MD: BERNAN, 2002). Information is also available on-line at <http://stats.bls.gov/bls/naics.htm> and <http://www.census.gov/epcd/www/naics.html>.

## OVERVIEW (Continued)

### What Factors Affect Industry Employment?

In general, industry employment is influenced by the interaction of these factors:

- Domestic and global supply of, and demand for, products and services.
- Cost and availability of labor.
- Cost and ease of substituting capital for labor.
- Technological change.
- Other factors such as demographics, government subsidies, regulations, public acceptance, and taxes.

The factors that will have the greatest impact on Wisconsin's industry employment during the projection period are the aging of the state's population, technological change, and globalization.

### What Information is Available about Industry Employment in this Book?

The relative importance of employment in Wisconsin's industries is examined using four criteria. These criteria are:

- 2004 Employment: The estimated number of jobs in the industry in 2004.
- 2014 Employment: The projected number of jobs in the industry in 2014.
- Employment Change: The difference in the number of jobs between 2004 and 2014. A positive number means employment is growing due to the creation of new jobs. A negative number indicates employment is declining in the industry.
- Percent Change: An indication of how fast employment is expected to increase or decrease from 2004 to 2014. The larger the positive percent change, the faster employment is growing. Likewise, the larger the negative percent change, the faster employment is declining.

It is important to note the projections are only for one point in time, in this case 2014. In order to gauge which industries are expected to have net increases or decreases in jobs over time, the employment anticipated in 2014 is compared to employment in 2004. Employment in any particular industry may have many ups and downs during the ten year period, but the projections do not provide information about these dynamics.

The projections indicate the number of jobs that will actually be filled in 2014. The projections do not estimate the demand or supply of workers in the strict economic sense of these words. For any given wage, it is not known how many jobs employers would really want to provide. Likewise, for any given wage, it is not known how many people would want to work for that wage.

This chapter first examines employment in super-sectors and then in sub-sectors. Among the 86 sub-sectors, the ones with the largest employment in 2014, adding the most jobs, growing the fastest, and experiencing the greatest employment declines are highlighted. This chapter then examines historical employment and anticipated trends for a group of selected sub-sectors.

## EMPLOYMENT BY SUPER-SECTOR

Wisconsin industries are grouped together into eleven super-sectors. These super-sectors are

- Natural Resources and Mining
- Construction
- Manufacturing
- Trade, Transportation, and Utilities
- Information
- Financial Activities
- Professional and Business Services
- Education and Health Services
- Leisure and Hospitality
- Other Services
- Government

### Education and Health Services Dominate

Wisconsin's largest super-sector is education and health services (see figure 1-2). This super-sector includes state and local government employment in education and hospitals.

With almost 598,000 jobs, this group had the most jobs in 2004. This super-sector will continue to be an employment leader in 2014, when it is expected to have nearly 731,000 jobs. In addition, this sector will lead Wisconsin in new job creation, with almost 133,000 additional jobs. These new jobs will account for 38% of Wisconsin's total new jobs.

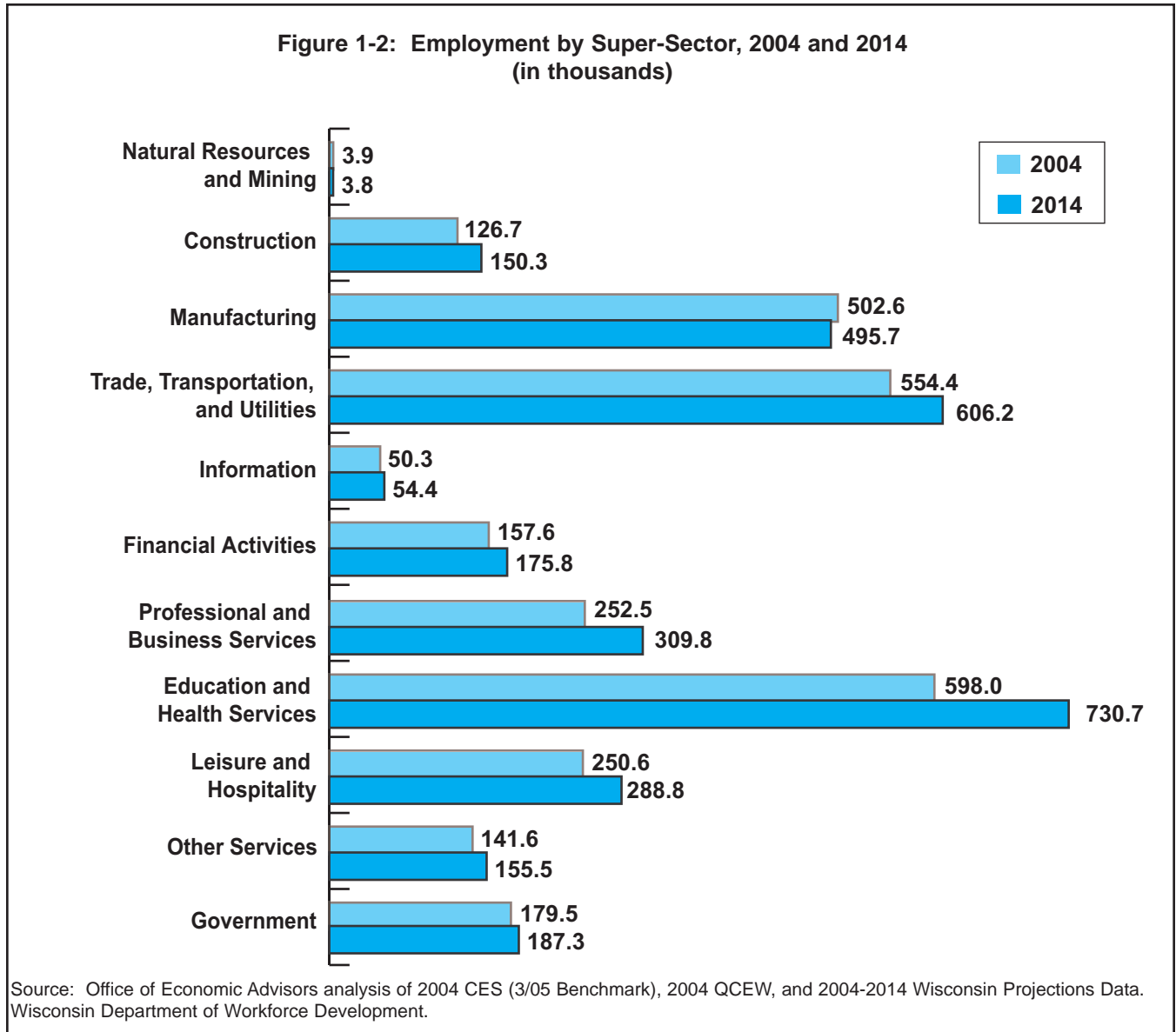
Health care (ambulatory health care services, hospitals, and nursing and residential care facilities) will account for 48% of the super-sector's total jobs. Health care employment continues to be driven by the aging of Wisconsin's population, new medical treatments, and other technological innovations. Educational services will make up another 41% of this sector's employment, and social assistance will account for the remaining 11%.

### Trade, Transportation, and Utilities is Second

Trade, transportation, and utilities, which includes jobs in the U.S. Postal Service, had just over 554,000 jobs in 2004. By 2014 this super-sector is expected to grow to over 606,000 jobs. Also, this super-sector is projected to add the third largest number of new jobs with about 52,000.

The bulk of employment is found in retail trade, which accounts for nearly six out of every ten jobs and over half of the new job creation in this super-sector. Population growth and consumer demand for a variety of products will keep employment growing. Also, increasing customer desire for more convenient shopping venues will contribute to the growth of nonstore retailers (electronic shopping and mail-order) and general merchandise stores.

## EMPLOYMENT BY SUPER-SECTOR (continued)



## EMPLOYMENT BY SUPER-SECTOR (continued)

### Manufacturing Ranks Third and Focuses on Its Core

With almost 503,000 jobs in 2004, or 17% of the state's jobs, manufacturing was the third largest super-sector in 2004. Manufacturing will remain third in 2014 with 496,000 jobs, but its share of total employment will fall to about 15%. More than any other sector, manufacturing is facing the paradox of declining employment overall but still needing large numbers of skilled people to replace retirees and implement new technologies.

This paradox is due to the focus on improving efficiency. Consequently, new technology and automation are decreasing the need for some positions, but increasing the need for people with the latest technological skills. In addition, in order to decrease costs, manufacturers are relying on contractors and temporary workers to perform functions that are not part of their core operations. As a result several jobs, such as those in office support and unskilled production, have shifted from manufacturing to professional and business services. In 2004, at least 21,000 jobs were contracted out to professional and business services. In 2014, the estimate is that there will be at least 30,000.

It is also important to note that although manufacturing jobs as a whole are expected to decline, there are sub-sectors within manufacturing that will be creating new jobs. Some of these sub-sectors are transportation equipment (adding 2,600 jobs); plastics and rubber products (adding 2,400); wood products (adding 1,800); food products (adding 1,700); and fabricated metal products (adding 1,400).

Forty percent of Wisconsin's manufacturing employment is found in its three largest sub-sectors - machinery manufacturing, fabricated metal product manufacturing, and food manufacturing. Machinery employment is expected to contract by about 5,200 jobs. However, as noted above food manufacturing and fabricated metal products together are projected to add 3,100 positions.

## LARGEST INDUSTRIES

In the following sections the focus is on the sub-sectors (3-digit NAICS) with the largest employment, adding the most new jobs, growing the fastest, and losing the most jobs.

Figure 1-3 lists the thirty Wisconsin industries expected to have the most jobs in 2014. These industries are projected to have 2.5 million jobs or 74% of the total jobs in Wisconsin's economy.

The top three industries -- educational services (including state and local government employment); food services and drinking places; and administrative and support services -- are expected to account for 20% of total jobs in 2014. Moreover, these industries are expected to contribute 28% of the new jobs during the decade.

Educational services is Wisconsin's dominant industry in terms of employment. The industry includes elementary and secondary schools, technical schools, colleges and universities, and educational support services (such as consultants, guidance counseling, testing, and student exchange programs) This industry is projected to add over 37,000 jobs and grow to a level of nearly 298,000 jobs in 2014. Within educational services, the occupations expected to have the most job openings are elementary school teachers, secondary school teachers, and teacher assistants.

Educational services continues to face conflicting demands to provide more services and yet to restrain employment growth and budgets. Elementary, middle, and secondary schools face pressure to decrease class sizes, offer more services to students with special needs, and educate an increasingly diverse student population. Technical schools, colleges, and universities have increased demand for classes from both

**Figure 1-3: Thirty Largest Industries, Ranked by 2014 Projected Employment**

Industry Title	2004 Estimated Employment <sup>(1)</sup>	2014 Projected Employment <sup>(1)</sup>	2004-2014 Employment Change	2004-2014 Percent Change
Educational Services, Including State/Local Gov <sup>(2)</sup>	260,670	297,700	37,030	14.2%
Food Services and Drinking Places	185,410	215,000	29,590	16.0%
Administrative and Support Services	118,130	149,690	31,560	26.7%
Local Government, Excluding Education/Hospitals <sup>(2)</sup>	129,720	136,000	6,280	4.8%
Ambulatory Health Care Services	99,480	135,700	36,220	36.4%
Hospitals, Including State/Local Government <sup>(2)</sup>	108,570	133,200	24,630	22.7%
Professional, Scientific, and Technical Services	89,500	108,000	18,500	20.7%
Specialty Trade Contractors	81,660	98,000	16,340	20.0%
Religious/Grant/Civic/Professional/Similar Orgs	87,800	97,600	9,800	11.2%
Nursing and Residential Care Facilities	68,870	84,800	15,930	23.1%
Social Assistance	60,400	79,300	18,900	31.3%
Insurance Carriers and Related Activities	65,400	73,480	8,080	12.4%
Merchant Wholesalers, Durable Goods	64,210	72,490	8,280	12.9%
Fabricated Metal Product Manufacturing	69,460	70,900	1,440	2.1%
General Merchandise Stores	62,020	65,600	3,580	5.8%
Food Manufacturing	61,390	63,100	1,710	2.8%
Machinery Manufacturing	68,310	63,100	(5,210)	-7.6%
Food and Beverage Stores	58,150	60,600	2,450	4.2%
Credit Intermediation and Related Activities	54,060	57,930	3,870	7.2%
Truck Transportation	46,390	51,910	5,520	11.9%
Merchant Wholesalers, Nondurable Goods	44,820	47,770	2,950	6.6%
Management of Companies and Enterprises	39,830	45,800	5,970	15.0%
Motor Vehicle and Parts Dealers	39,020	42,600	3,580	9.2%
Transportation Equipment Manufacturing	36,580	39,200	2,620	7.2%
Construction of Buildings	31,520	36,700	5,180	16.4%
State Government, Including Education/Hospitals	34,760	36,300	1,540	4.4%
Accommodation	30,720	35,800	5,080	16.5%
Plastics and Rubber Products Manufacturing	33,080	35,500	2,420	7.3%
Paper Manufacturing	38,500	35,100	(3,400)	-8.8%
Printing and Related Support Activities	33,210	33,100	(110)	-0.3%

**Notes:**

- (1) Employment is rounded to the nearest ten. Numbers may not add due to rounding.  
(2) Local government employment includes tribal owned operations.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data.  
Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

## **LARGEST INDUSTRIES (continued)**

traditional students and older adults seeking to upgrade their skills. At the same time, schools at all levels are facing financial constraints which are forcing them to decide which services and classes to provide and which to eliminate.

Food services and drinking places is expected to have 215,000 jobs in 2014. Expansion in this industry continues to be driven by population and tourism growth, and people preparing fewer meals at home. The occupations projected to have the most openings are combined food preparation and serving workers, waiters/waitresses, and bartenders.

Businesses in administrative and support services assist other organizations with their day-to-day operations or by providing functions such as billing, temporary workers, janitorial services, security services, and telemarketing. This industry is projected to have almost 150,000 positions in 2014.

Most of this industry's growth is anticipated in temporary help services as businesses seek to keep their core workforces as lean as possible. Temporary workers are used to supplement a firm's staff when there is a short-term need for more workers. Demand for other services will remain strong as well, as organizations continue to re-define or limit their primary operations and outsource other functions. The occupations expected to add the most new jobs are janitors and cleaners; inspectors, testers, sorters, samplers, and weighers; and landscaping and groundskeeping workers.

## **INDUSTRIES ADDING THE MOST NEW JOBS**

The thirty industries creating the most new jobs are illustrated in figure 1-4. Almost all (93%) of Wisconsin's new job creation will occur among these industries. The top ten industries alone are expected to generate almost seven out of every ten of the state's new jobs.

Educational services, ambulatory health care services, and administrative and support services will lead the way. These three industries are projected to add nearly 105,000 positions.

Educational services and administrative and support services are also Wisconsin's largest and third largest employers overall. Refer to the previous section on largest industries for more information about these two sub-sectors.

Ambulatory health care services includes doctors' and dentists' offices, outpatient surgical centers and clinics, medical laboratories, home health care services, ambulance services, and blood banks. This industry is expected to add nearly 37,000 jobs between 2004 and 2014. This sub-sector is also Wisconsin's fifth largest employer overall and its second fastest growing industry. The occupations with the most new jobs will be registered nurses, medical assistants, and dental assistants.

Employment in ambulatory health care services is growing due to the health care needs of Wisconsin's aging population and the shift from performing surgeries and other procedures at hospitals to outpatient centers. In addition, both shortened hospital stays and outpatient surgeries are increasing the need for home health services as people continue to recover from illness or surgery at home.

**Figure 1-4: Thirty Industries Adding the Most New Jobs, 2004 to 2014**

Industry Title	2004 Estimated Employment <sup>(1)</sup>	2014 Projected Employment <sup>(1)</sup>	2004-2014 Employment Change	2004-2014 Percent Change
Educational Services, Including State/Local Gov <sup>(2)</sup>	260,670	297,700	37,030	14.2%
Ambulatory Health Care Services	99,480	135,700	36,220	36.4%
Administrative and Support Services	118,130	149,690	31,560	26.7%
Food Services and Drinking Places	185,410	215,000	29,590	16.0%
Hospitals, Including State/Local Government <sup>(2)</sup>	108,570	133,200	24,630	22.7%
Social Assistance	60,400	79,300	18,900	31.3%
Professional, Scientific, and Technical Services	89,500	108,000	18,500	20.7%
Specialty Trade Contractors	81,660	98,000	16,340	20.0%
Nursing and Residential Care Facilities	68,870	84,800	15,930	23.1%
Religious/Grant/Civic/Professional/Similar Orgs	87,800	97,600	9,800	11.2%
Merchant Wholesalers, Durable Goods	64,210	72,490	8,280	12.9%
Insurance Carriers and Related Activities	65,400	73,480	8,080	12.4%
Local Government, Excluding Education/Hospitals <sup>(2)</sup>	129,720	136,000	6,280	4.8%
Management of Companies and Enterprises	39,830	45,800	5,970	15.0%
Truck Transportation	46,390	51,910	5,520	11.9%
Construction of Buildings	31,520	36,700	5,180	16.4%
Accommodation	30,720	35,800	5,080	16.5%
Nonstore Retailers	22,950	27,630	4,680	20.4%
Credit Intermediation and Related Activities	54,060	57,930	3,870	7.2%
General Merchandise Stores	62,020	65,600	3,580	5.8%
Motor Vehicle and Parts Dealers	39,020	42,600	3,580	9.2%
Building Material/Garden Equipment/Supplies	28,220	31,500	3,280	11.6%
Transit and Ground Passenger Transport	13,740	16,960	3,220	23.4%
Real Estate	18,360	21,420	3,060	16.7%
Warehousing and Storage	11,060	14,030	2,970	26.9%
Merchant Wholesalers, Nondurable Goods	44,820	47,770	2,950	6.6%
Publishing Industries	19,120	22,020	2,900	15.2%
Amusement, Gambling, and Recreation Industries	26,010	28,800	2,790	10.7%
Transportation Equipment Manufacturing	36,580	39,200	2,620	7.2%
Personal and Laundry Services	26,070	28,640	2,570	9.9%

**Notes:**

- (1) Employment is rounded to the nearest ten. Numbers may not add due to rounding.  
(2) Local government employment includes tribal owned operations.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data.  
Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

## FASTEST GROWING INDUSTRIES

Wisconsin's fastest growing industries are listed in figure 1-5. The rank of each industry is based on the percentage increase in employment between 2004 and 2014. The larger the percentage increase, the faster the industry is growing. To avoid highlighting industries with large percentage increases in employment yet few actual job opportunities, only industries with at least 500 total jobs in 2014 are included in the list.

As a whole, the thirty fastest growing industries are projected to create 83%, or almost 287,000, of the state's new jobs. Also, by 2014 jobs in these industries will comprise 51% of Wisconsin's total employment. The three fastest growing industries are scenic and sightseeing transportation; ambulatory health care services; and social assistance. (Ambulatory health care services employment is reviewed in the section on industries adding the most new jobs.)

Scenic and sightseeing transportation businesses provide activities such as hot air balloon, helicopter, trolley, or excursion boat rides. Most of the employment in Wisconsin is in water transportation. Although this industry has a growth rate of nearly 38%, it is very small. The total number of jobs is projected to increase from 370 to 510. The occupations expected to have the most new jobs are tour guides and escorts; waiters and waitresses; and sailors and marine oilers. This industry is expanding due to increasing tourism in the state.

Social assistance is the Wisconsin's third fastest growing industry. Organizations within this sub-sector provide a wide array of counseling and other social services for children and adults. These services include community meal programs, temporary shelter, disaster relief, vocational rehabilitation, and child care. This sub-sector is expected to add almost 19,000 jobs for a growth rate of nearly 31%. Personal and home care aides; child care workers; and preschool teachers are the occupations projected to have the most new jobs.

Employment in social assistance is expanding particularly in the areas of elderly services, child care, and vocational rehabilitation. Elderly services are expanding due to increases in this population, the efforts being made to help people remain in their own homes, and the reduced hospital time people are given to recover from illness or surgery. Child care needs are growing due to more women, who have infants and young children, working outside of the home. Employment is rising in vocational rehabilitation services because state and local governments, in an effort to decrease their own payrolls and costs, are contracting with the private sector to provide job counseling and training to the unemployed and underemployed.

## DECLINING INDUSTRIES

Wisconsin has twenty-five sub-sectors with declining employment between 2004 and 2014 (refer to figure 1-6). Overall these industries are projected to drop about 22,000 jobs. Fourteen of the industries are in manufacturing, while the other industries are scattered among several different super-sectors. As noted earlier, manufacturing is streamlining its operations and incorporating labor-saving technology. This is also true for almost all of the industries on the list.

Figure 1-5: Thirty Fastest Growing Industries<sup>(1)</sup>, 2004 to 2014

Industry Title	2004 Estimated Employment <sup>(2)</sup>	2014 Projected Employment <sup>(2)</sup>	2004-2014 Employment Change	2004-2014 Percent Change
Scenic and Sightseeing Transportation	370	510	140	37.8%
Ambulatory Health Care Services	99,480	135,700	36,220	36.4%
Social Assistance	60,400	79,300	18,900	31.3%
Internet/Web Search/Data Processing Services	8,480	10,760	2,280	26.9%
Warehousing and Storage	11,060	14,030	2,970	26.9%
Administrative and Support Services	118,130	149,690	31,560	26.7%
Waste Management and Remediation Service	5,070	6,310	1,240	24.5%
Transit and Ground Passenger Transport	13,740	16,960	3,220	23.4%
Nursing and Residential Care Facilities	68,870	84,800	15,930	23.1%
Hospitals, Including State and Local Government <sup>(3)</sup>	108,570	133,200	24,630	22.7%
Securities/Commodity/Financial Investments	9,210	11,210	2,000	21.7%
Professional, Scientific, and Technical Services	89,500	108,000	18,500	20.7%
Nonstore Retailers	22,950	27,630	4,680	20.4%
Specialty Trade Contractors	81,660	98,000	16,340	20.0%
Real Estate	18,360	21,420	3,060	16.7%
Accommodation	30,720	35,800	5,080	16.5%
Construction of Buildings	31,520	36,700	5,180	16.4%
Food Services and Drinking Places	185,410	215,000	29,590	16.0%
Electronics and Appliance Stores	8,580	9,890	1,310	15.3%
Publishing Industries	19,120	22,020	2,900	15.2%
Heavy and Civil Engineering Construction	13,560	15,600	2,040	15.0%
Wholesale Electronic Markets/Agents/Brokers	5,520	6,350	830	15.0%
Management of Companies and Enterprises	39,830	45,800	5,970	15.0%
Funds, Trusts, and Other Financial Vehicles	1,170	1,340	170	14.5%
Educational Services, Inc State and Local Gov <sup>(3)</sup>	260,670	297,700	37,030	14.2%
Miscellaneous Store Retailers	17,330	19,790	2,460	14.2%
Support Activities for Transportation	4,540	5,170	630	13.9%
Health and Personal Care Stores	16,430	18,620	2,190	13.3%
Merchant Wholesalers, Durable Goods	64,210	72,490	8,280	12.9%
Sporting Goods, Hobby, Book, and Music Stores	12,960	14,610	1,650	12.7%

**Notes:**

- (1) Only industries with projected 2014 employment of 500 or more are included.
- (2) Employment is rounded to the nearest ten. Numbers may not add due to rounding.
- (3) Local government employment includes tribal owned operations.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

Figure 1-6: Industries with Declining Employment, 2004 to 2014

Industry Title	2004 Estimated Employment <sup>(1)</sup>	2014 Projected Employment <sup>(1)</sup>	2004-2014 Employment Change	2004-2014 Percent Change
Machinery Manufacturing	68,310	63,100	(5,210)	-7.6%
Paper Manufacturing	38,500	35,100	(3,400)	-8.8%
Electrical Equip/Appliance/Component Manufacturing	24,570	21,800	(2,770)	-11.3%
Telecommunications	13,630	12,230	(1,400)	-10.3%
Miscellaneous Manufacturing	16,120	14,760	(1,360)	-8.4%
Gasoline Stations	23,290	22,130	(1,160)	-5.0%
Primary Metal Manufacturing	20,280	19,200	(1,080)	-5.3%
Furniture and Related Product Manufacturing	16,870	15,800	(1,070)	-6.3%
Apparel Manufacturing	1,590	750	(840)	-52.8%
Textile Mills	1,760	970	(790)	-44.9%
Private Households	6,270	5,710	(560)	-8.9%
Utilities	11,570	11,100	(470)	-4.1%
Nonmetallic Mineral Product Manufacturing	11,040	10,640	(400)	-3.6%
Textile Product Mills	2,130	1,740	(390)	-18.3%
Leather and Allied Product Manufacturing	1,400	1,120	(280)	-20.0%
Computer and Electronic Product Manufacturing	22,550	22,300	(250)	-1.1%
Broadcasting (except Internet)	4,910	4,760	(150)	-3.1%
Printing and Related Support Activities	33,210	33,100	(110)	-0.3%
Postal Service	14,580	14,470	(110)	-0.8%
Rail Transportation	3,190	3,120	(70)	-2.2%
Petroleum and Coal Products Manufacturing	370	340	(30)	-8.1%
Pipeline Transportation	210	200	(10)	-4.8%
Also declining, but data not shown in order to protect employer confidentiality				
Forestry and Logging	*	*	*	*
Mining (except Oil and Gas)	*	*	*	*
Monetary Authorities - Central Bank	*	*	*	*

**Notes:**

(1) Employment is rounded to the nearest ten. Numbers may not add due to rounding.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

## DETAILED INDUSTRY PROJECTIONS

In figure 1-7 below, Wisconsin's employment is broken down among the state's eleven super-sectors and 86 sub-sectors. This table is available in Excel format on the Office of Economic Advisors website at [http://dwd.wisconsin.gov/oea/longterm\\_projections.htm](http://dwd.wisconsin.gov/oea/longterm_projections.htm).

Figure 1-7: Detailed Industry Employment Projections					
NAICS	Industry Title	2004 Estimated Employment <sup>(1)</sup>	2014 Projected Employment <sup>(1)</sup>	2004-2014 Employment Change	2004-2014 Percent Change
	<b>Total, All Nonfarm Industries</b>	<b>3,032,810</b>	<b>3,380,410</b>	<b>347,600</b>	<b>11.5%</b>
	<b>Total, Without Self-Employed and Unpaid Family Workers</b>	<b>2,817,610</b>	<b>3,158,190</b>	<b>340,580</b>	<b>12.1%</b>
<b>21, 1133</b>	<b>Natural Resources and Mining</b>	<b>3,870</b>	<b>3,700</b>	<b>(170)</b>	<b>-4.4%</b>
<b>23</b>	<b>Construction</b>	<b>126,730</b>	<b>150,300</b>	<b>23,570</b>	<b>18.6%</b>
236	Construction of Buildings	31,520	36,700	5,180	16.4%
237	Heavy and Civil Engineering Construction	13,560	15,600	2,040	15.0%
238	Specialty Trade Contractors	81,660	98,000	16,340	20.0%
<b>31-33</b>	<b>Manufacturing</b>	<b>502,630</b>	<b>495,700</b>	<b>(6,930)</b>	<b>-1.4%</b>
	<b>Durable Goods</b>	<b>311,740</b>	<b>305,500</b>	<b>(6,240)</b>	<b>-2.0%</b>
321	Wood Product Manufacturing	25,960	27,800	1,840	7.1%
327	Nonmetallic Mineral Product Manufacturing	11,040	10,640	(400)	-3.6%
331	Primary Metal Manufacturing	20,280	19,200	(1,080)	-5.3%
332	Fabricated Metal Product Manufacturing	69,460	70,900	1,440	2.1%
333	Machinery Manufacturing	68,310	63,100	(5,210)	-7.6%
334	Computer and Electronic Product Manufacturing	22,550	22,300	(250)	-1.1%
335	Electrical Equipment, Appliance, and Component Mfg	24,570	21,800	(2,770)	-11.3%
336	Transportation Equipment Manufacturing	36,580	39,200	2,620	7.2%
337	Furniture and Related Product Manufacturing	16,870	15,800	(1,070)	-6.3%
339	Miscellaneous Manufacturing	16,120	14,760	(1,360)	-8.4%
	<b>Nondurable Goods</b>	<b>190,900</b>	<b>190,210</b>	<b>(690)</b>	<b>-0.4%</b>
311	Food Manufacturing	61,390	63,100	1,710	2.8%
312	Beverage and Tobacco Product Manufacturing	2,950	3,140	190	6.4%
313	Textile Mills	1,760	970	(790)	-44.9%
314	Textile Product Mills	2,130	1,740	(390)	-18.3%
315	Apparel Manufacturing	1,590	750	(840)	-52.8%
316	Leather and Allied Product Manufacturing	1,400	1,120	(280)	-20.0%
322	Paper Manufacturing	38,500	35,100	(3,400)	-8.8%
323	Printing and Related Support Activities	33,210	33,100	(110)	-0.3%
324	Petroleum and Coal Products Manufacturing	370	340	(30)	-8.1%
325	Chemical Manufacturing	14,520	15,350	830	5.7%
326	Plastics and Rubber Products Manufacturing	33,080	35,500	2,420	7.3%

(continued)

Figure 1-7: Detailed Industry Employment Projections (continued)

NAICS	Industry Title	2004 Estimated Employment <sup>(1)</sup>	2014 Projected Employment <sup>(1)</sup>	2004-2014 Employment Change	2004-2014 Percent Change
	<b>Trade, Transportation, and Utilities</b>	<b>554,430</b>	<b>606,200</b>	<b>51,770</b>	<b>9.3%</b>
<b>42</b>	<b>Wholesale Trade</b>	<b>114,550</b>	<b>126,600</b>	<b>12,050</b>	<b>10.5%</b>
423	Merchant Wholesalers, Durable Goods	64,210	72,490	8,280	12.9%
424	Merchant Wholesalers, Nondurable Goods	44,820	47,770	2,950	6.6%
425	Wholesale Electronic Markets and Agents and Brokers	5,520	6,350	830	15.0%
<b>44</b>	<b>Retail Trade</b>	<b>318,130</b>	<b>344,600</b>	<b>26,470</b>	<b>8.3%</b>
441	Motor Vehicle and Parts Dealers	39,020	42,600	3,580	9.2%
442	Furniture and Home Furnishings Stores	10,570	11,800	1,230	11.6%
443	Electronics and Appliance Stores	8,580	9,890	1,310	15.3%
444	Building Material and Garden Equipment and Supplies Dealers	28,220	31,500	3,280	11.6%
445	Food and Beverage Stores	58,150	60,600	2,450	4.2%
446	Health and Personal Care Stores	16,430	18,620	2,190	13.3%
447	Gasoline Stations	23,290	22,130	(1,160)	-5.0%
448	Clothing and Clothing Accessories Stores	18,610	19,830	1,220	6.6%
451	Sporting Goods, Hobby, Book, and Music Stores	12,960	14,610	1,650	12.7%
452	General Merchandise Stores	62,020	65,600	3,580	5.8%
453	Miscellaneous Store Retailers	17,330	19,790	2,460	14.2%
454	Nonstore Retailers	22,950	27,630	4,680	20.4%
<b>48</b>	<b>Transportation and Warehousing</b>	<b>110,180</b>	<b>123,900</b>	<b>13,720</b>	<b>12.5%</b>
481	Air Transportation	5,310	5,860	550	10.4%
482	Rail Transportation	3,190	3,120	(70)	-2.2%
483	Water Transportation	1,240	1,280	40	3.2%
484	Truck Transportation	46,390	51,910	5,520	11.9%
485	Transit and Ground Passenger Transport	13,740	16,960	3,220	23.4%
486	Pipeline Transportation	210	200	(10)	-4.8%
487	Scenic and Sightseeing Transportation	370	510	140	37.8%
488	Support Activities for Transportation	4,540	5,170	630	13.9%
491	Postal Service	14,580	14,470	(110)	-0.8%
492	Couriers and Messengers	9,560	10,410	850	8.9%
493	Warehousing and Storage	11,060	14,030	2,970	26.9%
<b>22</b>	<b>Utilities</b>	<b>11,570</b>	<b>11,100</b>	<b>(470)</b>	<b>-4.1%</b>

(continued)

Figure 1-7: Detailed Industry Employment Projections (continued)					
NAICS	Industry Title	2004 Estimated Employment <sup>(1)</sup>	2014 Projected Employment <sup>(1)</sup>	2004-2014 Employment Change	2004-2014 Percent Change
<b>51</b>	<b>Information</b>	<b>50,250</b>	<b>54,400</b>	<b>4,150</b>	<b>8.3%</b>
511	Publishing Industries	19,120	22,020	2,900	15.2%
512	Motion Picture and Sound Recording Industries	3,920	4,390	470	12.0%
515	Broadcasting (except Internet)	4,910	4,760	(150)	-3.1%
516	Internet Publishing and Broadcasting	120	160	40	33.3%
517	Telecommunications	13,630	12,230	(1,400)	-10.3%
518	Internet, Web Search Portals, and Data Processing Services	8,480	10,760	2,280	26.9%
519	Other Information Services	80	90	10	12.5%
	<b>Financial Activities</b>	<b>157,550</b>	<b>175,800</b>	<b>18,250</b>	<b>11.6%</b>
<b>52</b>	<b>Finance and Insurance</b>	<b>129,880</b>	<b>144,000</b>	<b>14,120</b>	<b>10.9%</b>
521	Monetary Authorities - Central Bank	*	*	*	*
522	Credit Intermediation and Related Activities	54,060	57,930	3,870	7.2%
523	Securities, Commodity Contracts, Other Financial Activities	9,210	11,210	2,000	21.7%
524	Insurance Carriers and Related Activities	65,400	73,480	8,080	12.4%
525	Funds, Trusts, and Other Financial Vehicles	*	*	*	*
<b>53</b>	<b>Real Estate and Rental and Leasing</b>	<b>27,670</b>	<b>31,800</b>	<b>4,130</b>	<b>14.9%</b>
531	Real Estate	18,360	21,420	3,060	16.7%
532	Rental and Leasing Services	8,870	9,920	1,050	11.8%
533	Lessors Nonfinancial Intangible Assets (ex Copyrighted Works)	430	470	40	9.3%
	<b>Professional and Business Services</b>	<b>252,530</b>	<b>309,800</b>	<b>57,270</b>	<b>22.7%</b>
<b>54</b>	<b>Professional, Scientific, and Technical Services</b>	<b>89,500</b>	<b>108,000</b>	<b>18,500</b>	<b>20.7%</b>
<b>55</b>	<b>Management of Companies and Enterprises</b>	<b>39,830</b>	<b>45,800</b>	<b>5,970</b>	<b>15.0%</b>
<b>56</b>	<b>Administrative/Support and Waste Mgmt/Remediation</b>	<b>123,200</b>	<b>156,000</b>	<b>32,800</b>	<b>26.6%</b>
561	Administrative and Support Services	118,130	149,690	31,560	26.7%
562	Waste Management and Remediation Service	5,070	6,310	1,240	24.5%
	<b>Education and Health Services</b>	<b>597,990</b>	<b>730,700</b>	<b>132,710</b>	<b>22.2%</b>
<b>61</b>	<b>Educational Services, Including State and Local Gov</b>	<b>260,670</b>	<b>297,700</b>	<b>37,030</b>	<b>14.2%</b>
<b>62</b>	<b>Health Care/Social Assistance, Inc State/Local Gov Hosp</b>	<b>337,320</b>	<b>433,000</b>	<b>95,680</b>	<b>28.4%</b>
621	Ambulatory Health Care Services	99,480	135,700	36,220	36.4%
622	Hospitals, Including State and Local Government	108,570	133,200	24,630	22.7%
623	Nursing and Residential Care Facilities	68,870	84,800	15,930	23.1%
624	Social Assistance	60,400	79,300	18,900	31.3%

(continued)

Figure 1-7: Detailed Industry Employment Projections (continued)

NAICS	Industry Title	2004 Estimated Employment <sup>(1)</sup>	2014 Projected Employment <sup>(1)</sup>	2004-2014 Employment Change	2004-2014 Percent Change
	<b>Leisure and Hospitality</b>	<b>250,590</b>	<b>288,800</b>	<b>38,210</b>	<b>15.2%</b>
<b>71</b>	<b>Arts, Entertainment, and Recreation</b>	<b>34,470</b>	<b>38,000</b>	<b>3,530</b>	<b>10.2%</b>
711	Performing Arts, Spectator Sports, and Related Industries	6,860	7,500	640	9.3%
712	Museums, Historical Sites, and Similar Institution	1,600	1,710	110	6.9%
713	Amusement, Gambling, and Recreation Industries	26,010	28,800	2,790	10.7%
<b>72</b>	<b>Accommodation and Food Services</b>	<b>216,120</b>	<b>250,800</b>	<b>34,680</b>	<b>16.0%</b>
721	Accommodation	30,720	35,800	5,080	16.5%
722	Food Services and Drinking Places	185,410	215,000	29,590	16.0%
<b>81</b>	<b>Other Services (Except Government)</b>	<b>141,600</b>	<b>155,500</b>	<b>13,900</b>	<b>9.8%</b>
811	Repair and Maintenance	21,460	23,560	2,100	9.8%
812	Personal and Laundry Services	26,070	28,640	2,570	9.9%
813	Religious/Grantmaking/Civic/Professional Organizations	87,800	97,600	9,800	11.2%
814	Private Households	6,270	5,710	(560)	-8.9%
	<b>Government</b>	<b>179,450</b>	<b>187,300</b>	<b>7,850</b>	<b>4.4%</b>
	Federal Government, Excluding Postal Service	14,980	15,000	20	0.1%
	State Government, Excluding Education and Hospitals	34,760	36,300	1,540	4.4%
	Local Government, Excluding Education and Hospitals <sup>(2)</sup>	129,720	136,000	6,280	4.8%
	<b>Self-Employed and Unpaid Family Workers, All Jobs</b>	<b>215,200</b>	<b>222,220</b>	<b>7,020</b>	<b>3.3%</b>
	Self-Employed Workers, All Jobs	212,910	220,390	7,480	3.5%
	Unpaid Family Workers, All Jobs	2,290	1,840	(450)	-19.7%

**Notes:**

(1) Employment is a count of jobs rather than people, and includes all part- and full-time nonfarm jobs. Employment is rounded to the nearest ten. Numbers may not add due to rounding.

(2) Local government employment includes tribal owned operations.

\* Data is not available.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data. Unpublished data from the US Bureau of Labor Statistics and US Census Bureau is also used.

To the extent possible the projections take into account anticipated changes in Wisconsin's economy between 2004 and 2014. It is important to note that unanticipated events may affect the accuracy of the projections.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

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## Wisconsin Projections 2004 - 2014

### Chapter 2: Employment in Occupations

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#### OVERVIEW

#### How Many Job Openings will there be in Wisconsin?

During the 2004 to 2014 time period Wisconsin is projected to have about 1.07 million job openings for people who are entering a given occupation for the first time. About 348,000 of these openings are expected to arise from newly created jobs. The remaining 719,000 openings will be the result of people permanently leaving their occupations due to retirement, death, career change, or some other reason. Overall, Wisconsin's employment is expected to grow from about 3.0 to 3.4 million jobs.

The projections do not capture job openings resulting from what is typically called turnover. Turnover occurs when people change employers but stay in the same occupation. For example, if a person who is a cashier leaves their job at ABC Foods and becomes a cashier at XYZ Mart, the opening at ABC Foods is not included in the projections. The projections only include openings that result from permanent exits from an occupation. So if a person who is a cashier at ABC Foods becomes a truck driver at ABC Foods or at another company, the cashier vacancy is included.

#### What is the Difference between an Occupation and an Industry?

This second chapter examines how jobs are distributed among the state's occupations. An occupation describes the type of work a person does. Some examples of common occupations are cashiers, electricians, secretaries, truck drivers, registered nurses, and elementary school teachers.

An industry is a distinct group of businesses and describes where a person works. Some examples of industries are building equipment contractors, paper mills, general freight trucking, hospitals, and department stores.

Some occupations, such as secretaries and general office clerks, are found in almost every industry. Other occupations, such as roofers and bookbinders, are found in only a few industries.

Likewise, some industries, such as hospitals and local government, employ people in a wide variety of occupations. Other industries, such as non-metallic mineral mining and restaurants, employ people in relatively few occupations.

#### How are Occupations Defined and Classified?

This publication defines and classifies occupations using the Standard Occupational Classification (SOC) system. The SOC system groups jobs into one of 821 detailed occupations. These occupations are then combined into 449 broad occupations, 96 minor groups, and 23 major groups. The U.S. Bureau of Labor Statistics has further combined the 23 major groups into 10 broad groups.

Although the SOC system identifies 821 detailed occupations only 793 of these occupations are present in Wisconsin's economy.

## What Factors Affect Employment in Occupations?

The need for a certain occupation and the type of work performed in that occupation are determined by several factors. These factors include the types of industries present in the economy, the competitiveness of the industries, technology, globalization, laws, business practices, social trends, and demographic trends. These factors all interact and may cause demand for a particular occupation to decrease in some industries and yet increase in others.

Between 2004 and 2014 employment in some industries and, as a result, in some occupations will decline. For example, the paper manufacturing industry is projected to lose 3,400 jobs and the apparel manufacturing industry is expected to lose 840 jobs. In terms of occupations, these declines in industry employment translate into an expected loss of 400 jobs for sewing machine operators; 360 for paper goods machine setters, operators, and tenders; and 150 for machine feeders and offbearers.

Other Wisconsin industries will grow during the next ten years. For example, the wood product manufacturing industry is expected to add 1,800 jobs. This industry growth means an additional 590 jobs for team assemblers; 260 for carpenters; and 90 for sales representatives.

On-going innovations in computer technology are still affecting employment in numerous occupations, contributing to a decline in some occupations and growth in others. For example, there is a projected decline of 830 positions for computer operators, but a projected increase of 1,890 jobs for network and computer systems administrators. A major factor in this employment shift is the on-going change from mainframe to networked desktop computers.

In addition, occupations are affected by changing business practices. One trend is the redistribution of responsibilities from one occupation to one or more other occupations. Word processors and typists are projected to lose 550 positions and secretaries, except legal, medical, and executive are expected to lose 2,110 jobs because most workers are now expected to produce their own documents and they have voice mail.

Social trends also influence occupations. The growth in pet ownership, in combination with owners' changing attitudes about pet health care, is increasing the need for veterinarians (expected to increase by 200), veterinary technologists and technicians (expected to increase by 370), and animal care workers (projected to increase by 600).

Furthermore, changing demographics affect occupational employment. The aging of Wisconsin's population, and the subsequent increase in demand for health care services, is contributing to the increase of registered nurses (expected to add 16,010 jobs); nursing aides, orderlies, and attendants (expected to add 6,690 jobs); and home health aides (expected to add 7,060 jobs).

## What Information is Available about Occupations in this Book?

The following information is available for all 793 occupations. This information is considered when assessing the relative importance of the 10 broad occupational groups and the detailed level occupations presented later.

- 2004 Employment: The estimated number of jobs (full- and part-time) in the occupation in 2004.
- 2014 Employment: The projected number of jobs (full- and part-time) in the occupation in 2014.
- Employment Change: The difference in the number of jobs between 2004 and 2014. A positive number means employment is growing due to the creation of new jobs. A negative number means employment is declining in the occupation.

**What Information is Available about Occupations in this Book? (continued)**

- **Percent Change:** An indication of how fast employment is expected to increase or decrease from 2004 to 2014. The larger the positive percent change, the faster the occupation is growing. Likewise, the larger the negative percent change, the faster the occupation is declining.
- **New Jobs:** An estimate of how many net new jobs will be created in an occupation. In most tables this is illustrated on an average annual basis. In other words, the total number of new jobs expected over the ten year period is divided by ten.
- **Replacements:** An estimate of how many net job openings there will be in each occupation due to people permanently leaving the occupation. In most tables replacement openings are shown on an average annual basis.

A permanent exit occurs when a person leaves the labor force due to death, retirement, or for some other reason. A permanent exit from an occupation also occurs when a person leaves a given occupation for a new occupation. For example, a person who is working as a cashier leaves that occupation and gets a job as a truck driver.

Replacements do not include openings that exist because people changed employers but remained in the same occupation. For example, if a person moves from being a cashier at ABC Novelties to being a cashier at XYZ Groceries, the vacancy created at ABC Novelties is not included as a replacement opening.

- **Total Openings:** An estimate of the total number of jobs that will be available for new entrants into the occupation. Total openings are the sum of new jobs and replacements. New entrants are people who are entering the occupation for the first time. In most tables this is illustrated on an average annual basis.
- **Typical Education and Training Path:** A generalization about the education and training usually needed to enter an occupation. This is the most common way people are expected to enter the occupation during 2004 to 2014, although there may be other education or training accepted by employers. Also, there may be additional educational, training, or licensing requirements.

The U.S. Bureau of Labor Statistics has identified eleven education and training categories. More information about the education and training categories is found in the next section.

- **Average Annual Salary:** An estimate of the average amount an occupation pays on a yearly basis.
- **Entry Level and Experienced Hourly Wages:** The entry level hourly wage is the average of the lower one-third of wages that are paid in a given occupation and indicates how much a person can expect to make when just starting out in the occupation. The experienced wage is the average of the upper two-thirds of wages that are paid in the specific occupation and suggests how much a person with more experience in an occupation can expect to earn.

Note the projections are only for one point in time, in this case 2014. The projections do not provide information about the dynamics of employment in the intervening years between 2004 and 2014. Employment in any particular occupation may have many ups and downs during the ten year period.

### **What are the Education and Training Categories?**

The U.S. Bureau of Labor Statistics (BLS) has identified eleven education and training categories. Each of Wisconsin's 793 occupations has been assigned to one of these categories according to these BLS guidelines:

1. An occupation is assigned to the category that best describes the education or training needed by most workers to become fully qualified.
2. Postsecondary education, if needed, takes priority over work-related training even though additional skills or experience may be needed for a worker to become fully qualified.
3. If postsecondary education is generally not required, the length of time an average worker needs to become fully qualified through a combination of on-the-job training and experience is used to categorize the occupation.

The education and training categories are described below. In addition, the number of occupations and anticipated job openings in each category are included with the description. This information is also depicted in figure 2-1.

#### ***Short-Term On-The-Job Training***

These occupations require no more than one month of on-the-job training and the training usually happens at the workplace.

Short-term training is common in 135 occupations. Included in this category are cashiers, home health aides, retail salespeople, and carpenters' helpers. These occupations will account for almost 412,000 job openings between 2004 and 2014.

#### ***Moderate-Term On-The-Job Training***

Training for these occupations usually occurs at the workplace and lasts from one to twelve months.

There are 180 occupations in this category and they will account for 189,000 job openings. Occupations included in this group are pharmacy technicians, insurance claims and policy processing clerks, roofers, and multiple machine tool operators.

#### ***Long-Term On-The-Job Training***

These occupations require more than one year of on-the-job training, or combined work experience and formal classroom instruction. This training is often in the form of an adult apprenticeship.

Long-term on-the-job training is common in 86 occupations. These occupations will account for nearly 80,000 job openings during the decade. Dispensing opticians, fire fighters, telecommunications line installers, and plumbers are examples of occupations in this category.

#### ***Work Experience in a Related Occupation***

Occupations in this category require skills and experience gained in related jobs. Entry into some of these occupations may result from promotion within a company. Many of these occupations are supervisory positions.

Work experience in a related occupation is usually required in 45 occupations. These occupations represent 57,000 job openings. Examples of occupations in this group are first-line supervisors of retail sales workers, fire inspectors, new accounts clerks, and construction and building inspectors.

**Figure 2-1: Education and Training Paths, by Number of Occupations, Employment, and Job Openings 2004 to 2014**

Education and Training Path <sup>(1)</sup>	Number of Occupations	2004 Estimated Employment <sup>(2)</sup>	2014 Projected Employment <sup>(2)</sup>	2004-2014 Employment Change <sup>(2)</sup>	2004-2014 Percent Change
Short-Term On-The-Job Training	135	1,025,120	1,124,890	99,770	9.7%
Moderate-Term On-The-Job Training	180	668,440	718,200	49,760	7.4%
Long-Term On-The-Job Training	86	237,570	265,320	27,750	11.7%
Work Experience in a Related Occupation	45	194,130	210,640	16,510	8.5%
Postsecondary Vocational Award	55	180,430	203,300	22,870	12.7%
Associate Degree	39	80,140	95,850	15,710	19.6%
Bachelor's Degree	112	415,580	493,390	77,810	18.7%
Master's Degree	43	65,840	77,800	11,960	18.2%
Doctoral Degree	44	27,650	34,470	6,820	24.7%
First Professional Degree	20	33,990	39,660	5,670	16.7%
Bachelor's or Higher Degree + Work Experience	34	103,930	116,900	12,970	12.5%
Total, All Occupations	793	3,032,820	3,380,420	347,600	11.5%

Education and Training Path <sup>(1)</sup>	Number of Occupations	Average Annual New Jobs <sup>(2)</sup>	Average Annual Replacements <sup>(2)</sup>	Average Annual Total Openings <sup>(2)</sup>	Percent of Openings
Short-Term On-The-Job Training	135	10,010	31,150	41,160	38.5%
Moderate-Term On-The-Job Training	180	4,980	13,930	18,910	17.7%
Long-Term On-The-Job Training	86	2,780	5,180	7,960	7.5%
Work Experience in a Related Occupation	45	1,650	4,030	5,680	5.3%
Postsecondary Vocational Award	55	2,290	3,690	5,980	5.6%
Associate Degree	39	1,570	1,440	3,010	2.8%
Bachelor's Degree	112	7,780	8,090	15,870	14.9%
Master's Degree	43	1,200	1,340	2,540	2.4%
Doctoral Degree	44	680	640	1,320	1.2%
First Professional Degree	20	570	540	1,110	1.0%
Bachelor's/Higher Degree + Work Experience	34	1,300	1,940	3,240	3.0%
Total, All Occupations	793	34,810	71,970	106,780	100.0%

**Notes:**

- (1) Education and training path gives a general indication of the education or training typically needed in the occupation. There may be other pathways into the occupation, as well as additional educational, training, or licensing requirements.
- (2) Employment is rounded to the nearest ten. Numbers may not add due to rounding.

For the purposes of this table, the data for registered nurses is included under bachelor's degree. Depending upon on the specific position and employer either an associate or bachelor's degree are most common.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

## What are the Education and Training Categories? (continued)

### ***Postsecondary Vocational Award***

These formal training programs last from a few weeks to more than a year, and are offered at vocational or technical schools. These programs lead to a certificate or another award, but not to a degree.

There are 55 occupations in this group. These occupations will have about 60,000 job openings. Included in this category are medical transcriptionists, chefs, cosmetologists, and automotive mechanics.

### ***Associate Degree***

This degree usually requires two years of full-time academic work beyond high school. Most associate degree programs are at technical or community colleges.

An associate degree is common in 39 occupations. These occupations will account for 30,000 job openings. These occupations include biological technicians, paralegals, electrical engineering technicians, and dental hygienists.

### ***Bachelor's Degree***

A bachelor's degree requires four or five years of full-time academic work at a college or university.

In Wisconsin, 112 occupations generally require a bachelor's degree. These occupations will account for nearly 159,000 job openings between 2004 and 2014. Examples of occupations requiring a bachelor's degree are computer systems analysts, elementary school teachers, probation officers, and accountants.

### ***Master's Degree***

A master's degree requires one to two years of full-time study beyond a bachelor's degree.

There are 43 occupations in this category. These occupations will account for 25,000 openings. A master's is needed to be a librarian, an occupational therapist, an epidemiologist, or a rehabilitation counselor.

### ***Doctoral Degree***

This degree usually requires at least three years of full-time study beyond a bachelor's degree. A doctoral degree is often needed to teach at the university level or to do advanced research in a business, government, or academic setting.

There are 44 occupations that typically require a doctoral degree. These occupations will account for just over 13,000 job openings. Some examples of occupations generally requiring a doctorate are microbiologists, university professors, clinical psychologists, and computer research scientists.

### ***First Professional Degree***

These degrees typically require at least three years of full-time study beyond a bachelor's degree. These degrees include law and medical school degrees.

In Wisconsin, 20 occupations usually require a first professional degree. These occupations will have 11,000 job openings. Occupations in this category include veterinarians, lawyers, physicians, and pharmacists.

## What Information is Available about Occupations in this Book? (continued)

### ***Bachelor's or Higher Degree, Plus Work Experience***

These occupations require a bachelor's or higher degree, in addition to work experience in a related non-managerial position. Most of these occupations are managerial or executive positions.

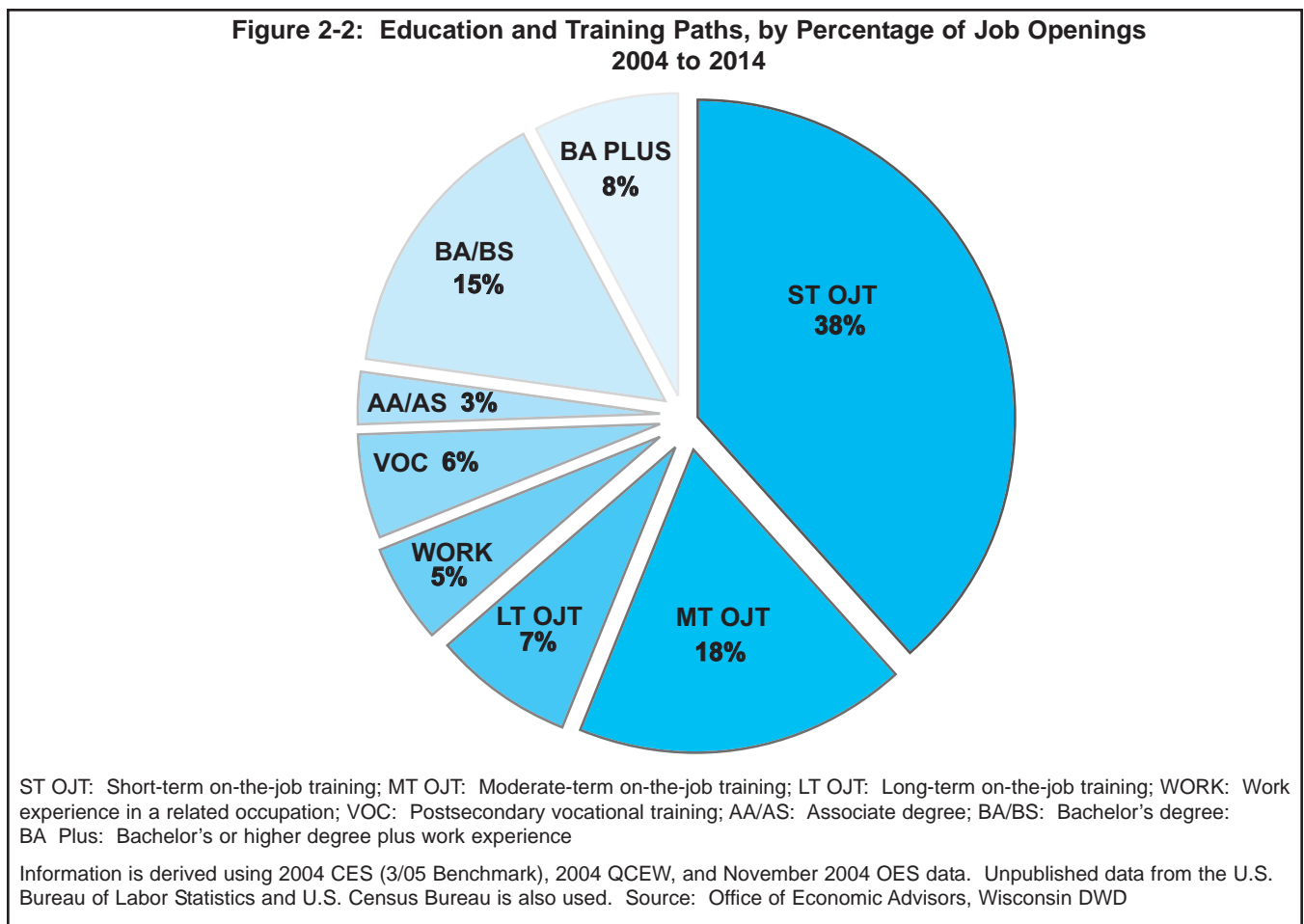
There are 34 occupations in this category. These occupations will account for 32,000 openings. Examples of occupations in this category are judges, financial managers, purchasing managers, and education administrators.

### **What Type of Education and Training will be Needed for Most Jobs?**

In order to fill the job openings that will exist during the next ten years, Wisconsin needs people with a wide variety of skills, interests, and educational/training backgrounds.

Just over 56% of the openings will typically require only short- or moderate-term on-the-job training (see figure 2-2). Twenty-one percent (21%) of positions will generally require post-secondary education or training but less than a bachelor's degree. Almost 23% of the openings will require at least a bachelor's degree.

Figure 2-9, which begins on page 34, lists the education and training path for each of Wisconsin's occupations.



## EMPLOYMENT BY BROAD OCCUPATIONAL GROUP

Occupations are grouped into ten broad categories depending upon the type of work performed. The groups are

- Management, business, and financial
- Professional and related
- Service
- Sales and related
- Office and administrative support
- Farming, fishing, and forestry
- Construction and extraction
- Installation, maintenance, and repair
- Production
- Transportation and material moving

### Professional Occupations Dominate 2014 Employment and New Job Creation

In terms of projected employment size and new job creation, the professional group is the leading occupational category. This group includes occupations such as database administrators, chemical engineers, psychologists, social workers, lawyers, teachers, musicians, physicians, and pharmacy technicians.

With 585,000 jobs, this group accounted for 19% of all jobs in 2004. In 2014, professional occupations are projected to have almost 694,000 jobs, or 21% of total jobs. In addition, with growth of 109,000 new jobs, this group will lead in job creation. Also, this category will have with the second highest level of total job openings with about 223,000.

Almost 55% of professional occupations are found in the education and health services super-sector. Three particular occupations -- registered nurses, elementary school teachers, and secondary school teachers -- make up 18% of all total professional employment. These three occupations are also projected to add 21% of the professional group's new jobs and have 21% of total job openings.

### Service Occupations Lead in Replacement Openings and Total Job Openings

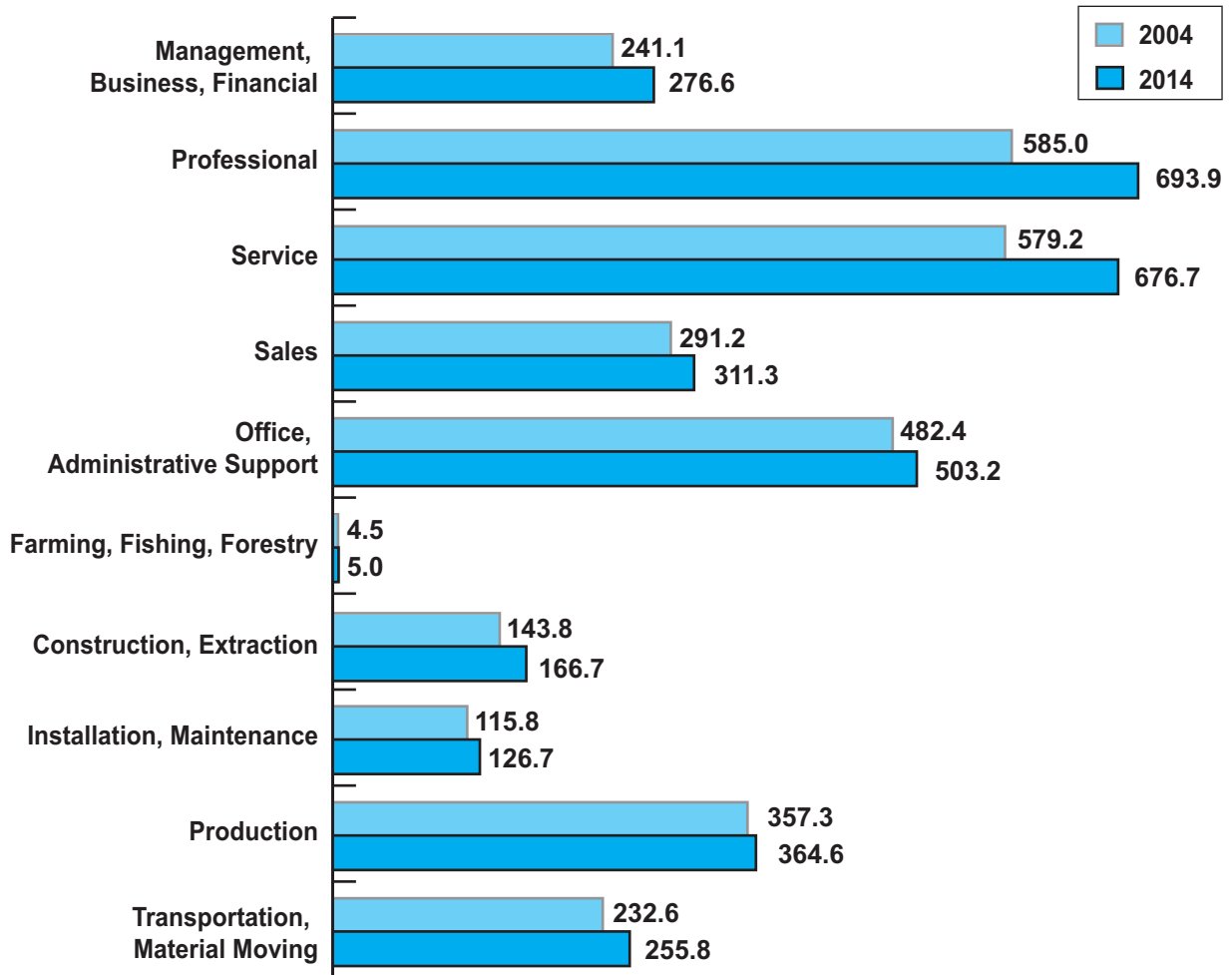
Service occupations are another large category, with the second largest number of jobs. This group is composed of occupations such as home health aides, police officers, chefs, janitors, cosmetologists, flight attendants, and child care workers.

In 2004 this group had approximately 579,000 jobs. Between 2004 and 2014, the group will add about 98,000 new jobs growing to a total of 677,000 jobs.

This category is expected to have about 166,000 jobs open due to replacements which is the largest number among the broad groups. As a result of this large number of replacement openings, in combination with a sizeable number of new jobs, service occupations will also have the greatest number of total job openings with 263,000.

Service occupations are concentrated in food services and drinking places; nursing and residential care facilities; and local government. The three largest occupations overall are janitors and cleaners; combined food preparation and serving workers; and waiters and waitresses. Within the services category, these three occupations are expected to account for 27% of total 2014 employment, 25% of new jobs, and 35% of replacement openings.

**Figure 2-3: Employment by Broad Occupational Group, 2004 and 2014  
(in thousands)**



Information derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau was also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

## Production Occupations Still Adding Jobs

Production occupations are concentrated in the manufacturing super-sector, and although total employment in manufacturing is expected to decline during the next ten years, production jobs overall are expected to grow. With an increase of about 7,300 jobs, employment in this group is expected to increase from about 357,000 to 365,000 jobs. In addition to new jobs, there will also be 86,000 openings due to replacement needs.

In 2014, the largest employers of production workers are expected to be fabricated metal products; food manufacturing; and machinery manufacturing. These three industries will employ 30% of production workers. The fourth largest employer of production workers is administrative and support services which includes temporary help agencies. Nine percent (9%) of all production jobs are expected to be in this industry in 2014.

The three largest production occupations are team assemblers; inspectors, testers, sorters, samplers, and weighers; and production workers' helpers. Within the production group, these occupations account for 25% of 2014 employment and 31% of total openings.

## EMPLOYMENT TRENDS IN SELECTED OCCUPATIONS

Employment in the ten broad occupational categories is further broken down among 793 occupations. The entire table of occupations is found at the end of this chapter in figure 2-9. The following sections concentrate on occupations with the largest employment in 2014, most new jobs, most total job openings, and fastest growth rates. Also, there is an examination of occupations expected to experience net job losses.

### Largest Occupations in 2014

Figure 2-4 lists the thirty occupations expected to have the greatest number of jobs in 2014. The largest occupation, retail salespersons, will account for about 93,000 jobs in 2014. The 30th largest occupation, accountants and auditors will have nearly 27,000 jobs. Overall, these thirty occupations are expected to account for 39% of total 2014 employment and 41% of job openings from 2004 to 2014.

These thirty occupations represent all of the broad occupational groups, except for farming, fishing, and forestry. Eight are in office and administrative support. Six are service occupations. Five are professional occupations. Four are in sales. Most of the jobs on the list can be learned through on-the-job training.

### Occupations Adding the Most New Jobs

Figure 2-5 shows the thirty occupations projected to add the most new jobs. The number of new jobs anticipated range from registered nurses, which are projected to add 16,000 jobs to medical assistants which are expected to add 2,800 positions.

Overall these thirty occupations are expected to add 164,000 new jobs to Wisconsin's labor market. These positions account for 47% of the total new jobs anticipated. Seven of the occupations require at least two-years of college, while twenty-one require short- or moderate-term on-the-job training.

### Occupations with the Most Job Openings

Figure 2-6 shows the thirty occupations projected to have the most job openings. Job openings consist of new jobs plus replacement openings.

Replacement openings exist because people have retired, died, or otherwise left the work force. Replacements also include openings arising from people who permanently change occupations. For example, a person who has a job as a nursing aide leaves that occupation and becomes a pharmacy technician.

Figure 2-4: Largest Occupations, Ranked by 2014 Projected Employment

Occupational Title	2014 Projected Employment <sup>(1)</sup>	2004-2014 Total Job Openings <sup>(1)</sup>	Education and Training Path <sup>(2)</sup>	Average Annual Salary
Retail Salespersons	93,140	40,930	Short-term OJT	\$23,330
Janitors/Cleaners, Ex Maids/Housekeeping Cleaners	66,250	20,280	Short-term OJT	21,871
Cashiers	64,810	31,840	Short-term OJT	16,638
Registered Nurses	64,420	26,140	Assoc or Bach <sup>(3)</sup>	55,060
Combined Food Prep/Serving Wkrs, Inc Fast Food	61,340	31,320	Short-term OJT	15,583
Truck Drivers, Heavy and Tractor-Trailer	60,470	15,720	Moderate-term OJT	36,797
Laborers/Freight, Stock, and Material Movers, Hand	56,330	20,310	Short-term OJT	23,693
Customer Service Representatives	54,790	15,620	Moderate-term OJT	30,262
Waiters and Waitresses	53,390	30,830	Short-term OJT	15,775
Office Clerks, General	51,250	13,750	Short-term OJT	23,663
Team Assemblers	50,430	15,920	Moderate-term OJT	26,555
Bookkeeping, Accounting, and Auditing Clerks	50,030	10,980	Moderate-term OJT	29,174
Nursing Aides, Orderlies, and Attendants	45,320	11,790	Ps vocational training	23,624
Secretaries, Except Legal, Medical, and Executive	42,510	8,600	Moderate-term OJT	27,426
Carpenters	39,620	11,510	Long-term OJT	38,602
Sales Reps, Wholesale/Mfg, Ex Tech/Scientific Prods	38,080	13,200	Moderate-term OJT	57,978
Elementary School Teachers, Ex Special Education	35,550	10,990	Bachelor's degree	45,031
Executive Secretaries and Administrative Assistants	35,500	9,760	Moderate-term OJT	34,427
General and Operations Managers	32,330	9,380	Degree & work exp	95,592
Teacher Assistants	30,980	9,380	Associate degree	23,638
Receptionists and Information Clerks	30,200	10,860	Short-term OJT	23,141
Maintenance and Repair Workers, General	29,960	8,260	Long-term OJT	34,576
First-Line Supervisors/Mgrs of Retail Sales Workers	29,650	5,520	Work experience	37,999
Stock Clerks and Order Fillers	29,600	12,000	Short-term OJT	21,386
Personal and Home Care Aides	29,460	11,610	Short-term OJT	19,200
Maids and Housekeeping Cleaners	29,220	8,970	Short-term OJT	17,781
Secondary School Teachers, Ex Special/Vocational Ed	29,190	10,130	Bachelor's degree	45,459
Truck Drivers, Light or Delivery Services	27,790	5,670	Short-term OJT	24,765
First-Line Sups/Mgrs Office/Admin Support Wkrs	27,110	6,970	Work experience	44,263
Accountants and Auditors	26,830	8,420	Bachelor's degree	57,547

**Notes:**

- (1) Employment is rounded to the nearest ten. Numbers may not add due to rounding.
- (2) Education and training path gives a general indication of the education or training typically needed in the occupation. There may be other pathways into the occupation, as well as additional educational, training, or licensing requirements.
- (3) Depending upon the specific position and employer either an associate or bachelor's degree are most common.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

**Figure 2-5: Occupations Adding the Most New Jobs, 2004 to 2014**

Occupation Title	2004-2014 New Jobs <sup>(1)</sup>	Education and Training Path <sup>(2)</sup>	Average Annual Salary
Registered Nurses	16,010	Assoc or Bach degree <sup>(3)</sup>	\$55,060
Retail Salespersons	11,110	Short-term OJT	23,330
Janitors/Cleaners, Ex Maids/Housekeeping Cleaners	9,510	Short-term OJT	21,871
Customer Service Representatives	8,780	Moderate-term OJT	30,262
Combined Food Prep/Serving Wkrs, Including Fast Food	8,360	Short-term OJT	15,583
Personal and Home Care Aides	8,200	Short-term OJT	19,200
Home Health Aides	7,060	Short-term OJT	20,162
Truck Drivers, Heavy and Tractor-Trailer	6,980	Moderate-term OJT	36,797
Waiters and Waitresses	6,920	Short-term OJT	15,775
Nursing Aides, Orderlies, and Attendants	6,690	Ps vocational training	23,624
Carpenters	6,040	Long-term OJT	38,602
Receptionists and Information Clerks	4,560	Short-term OJT	23,141
Sales Reps, Wholesale/Mfg, Ex Tech/Scientific Products	4,340	Moderate-term OJT	57,978
Teacher Assistants	4,210	Associate degree	23,638
Accountants and Auditors	4,140	Bachelor's degree	57,547
General and Operations Managers	4,050	Degree & work exp	95,592
Elementary School Teachers, Except Special Education	4,030	Bachelor's degree	45,031
Team Assemblers	3,890	Moderate-term OJT	26,555
Executive Secretaries and Administrative Assistants	3,660	Moderate-term OJT	34,427
Computer Software Engineers, Applications	3,650	Bachelor's degree	70,386
Maids and Housekeeping Cleaners	3,590	Short-term OJT	17,781
Child Care Workers	3,470	Short-term OJT	18,585
Truck Drivers, Light or Delivery Services	3,440	Short-term OJT	24,765
Landscaping and Groundskeeping Workers	3,300	Short-term OJT	22,931
Maintenance and Repair Workers, General	3,100	Long-term OJT	34,576
Office Clerks, General	3,080	Short-term OJT	23,663
Computer Systems Analysts	2,830	Bachelor's degree	62,910
Laborers and Freight, Stock, and Material Movers, Hand	2,820	Short-term OJT	23,693
Food Preparation Workers	2,780	Short-term OJT	18,058
Medical Assistants	2,750	Moderate-term OJT	27,441

**Notes:**

- (1) Employment is rounded to the nearest ten. Numbers may not add due to rounding.
- (2) Education and training path gives a general indication of the education or training typically needed in the occupation. There may be other pathways into the occupation, as well as additional educational, training, or licensing requirements.
- (3) Depending upon the specific position and employer either an associate or bachelor's degree are most common.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

Figure 2-6: Occupations with the Most Job Openings, 2004 to 2014

Occupation Title	2004-2014 Job Openings <sup>(1)</sup>	Education and Training Path <sup>(2)</sup>	Average Annual Salary
Retail Salespersons	40,930	Short-term OJT	\$23,330
Cashiers	31,840	Short-term OJT	16,638
Combined Food Prep/Serving Wkrs, Including Fast Food	31,320	Short-term OJT	15,583
Waiters and Waitresses	30,830	Short-term OJT	15,775
Registered Nurses	26,140	Assoc or Bach <sup>(3)</sup>	55,060
Janitors/Cleaners, Ex Maids/Housekeeping Cleaners	20,280	Short-term OJT	21,871
Laborers and Freight, Stock, and Material Movers, Hand	20,310	Short-term OJT	23,693
Team Assemblers	15,920	Moderate-term OJT	26,555
Truck Drivers, Heavy and Tractor-Trailer	15,720	Moderate-term OJT	36,797
Customer Service Representatives	15,620	Moderate-term OJT	30,262
Office Clerks, General	13,750	Short-term OJT	23,663
Sales Reps, Wholesale/Mfg, Ex Tech/Scientific Products	13,200	Moderate-term OJT	57,978
Stock Clerks and Order Fillers	12,000	Short-term OJT	21,386
Nursing Aides, Orderlies, and Attendants	11,790	Ps vocational training	23,624
Bartenders	11,780	Short-term OJT	17,552
Personal and Home Care Aides	11,610	Short-term OJT	19,200
Carpenters	11,510	Long-term OJT	38,602
Elementary School Teachers, Except Special Education	10,990	Bachelor's degree	45,031
Bookkeeping, Accounting, and Auditing Clerks	10,980	Moderate-term OJT	29,174
Receptionists and Information Clerks	10,860	Short-term OJT	23,141
Secondary School Teachers, Ex Special/Vocational Ed	10,130	Bachelor's degree	45,459
Executive Secretaries and Administrative Assistants	9,760	Moderate-term OJT	34,427
Child Care Workers	9,470	Short-term OJT	18,585
General and Operations Managers	9,380	Degree & work exp	95,592
Teacher Assistants	9,380	Associate degree	23,638
Maids and Housekeeping Cleaners	8,970	Short-term OJT	17,781
Home Health Aides	8,860	Short-term OJT	20,162
Secretaries, Except Legal, Medical, and Executive	8,600	Moderate-term OJT	27,426
Accountants and Auditors	8,420	Bachelor's degree	57,547
Food Preparation Workers	8,380	Short-term OJT	18,058

**Notes:**

- (1) Employment is rounded to the nearest ten. Numbers may not add due to rounding.
- (2) Education and training path gives a general indication of the education or training typically needed in the occupation. There may be other pathways into the occupation, as well as additional educational, training, or licensing requirements.
- (3) Depending upon the specific position and employer either an associate or bachelor's degree are most common.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

Replacements do not include openings that exist because people changed employers but remained in the same occupation. For example, if a person moves from being a waiter/waitress at Sue's Cafe to being a waiter/waitress at Joe's Pizza, the vacancy created at Sue's Cafe is not included as a replacement opening.

Overall these thirty occupations are expected to have over 453,000 openings. These positions represent 43% of Wisconsin's projected job openings. Retail salespersons top the list with almost 41,000 openings. Food preparation workers round out the list with 8,400 openings.

Several of the occupations on the list, such as cashiers, waiters/waitresses, and stock clerks, are lower paying jobs that are learned through on-the-job training. Many people who take these jobs later move on to a higher paying occupation that also offers more career opportunities. As a result, these occupations have a large number of job openings due to replacements.

Most of the occupations on the list have more openings from replacements than new jobs. The exceptions are registered nurses; home health aides; nursing aides, orderlies, and attendants; personal and home care aides; customer service representatives; and carpenters.

### **Fastest Growing Occupations with at Least 500 Jobs in 2014**

Figure 2-7 lists the thirty fastest growing occupations, based on percentage change in employment between 2004 and 2014. The larger the percentage change the faster the occupation is growing. To avoid listing occupations with a large percentage change but only a few new jobs, only occupations with at least 500 jobs in 2014 are included in the rankings.

Physician assistants is projected to grow the fastest. This occupation is expected to increase from 1,310 to 1,990 jobs for a change of 52 percent. The thirtieth occupation is veterinary technologists and technicians. This occupation is expected to grow from 1,280 to 1,650 jobs for a growth rate of 29 percent.

The list is dominated by occupations linked to health care and computers. Nineteen occupations are health care related. Five are computer related. In contrast to the lists of the occupations with the largest employment, most job openings, and most new jobs, most (twenty-four) of the fastest growing occupations require at least an associate degree and are relatively high paying.

Although the occupations in this list are growing at a fast rate, it should be noted these thirty occupations will represent only 7% of total employment in 2014, 17% of new jobs, and 8% of total job openings.

### **Occupations Losing the Most Jobs**

The thirty occupations expected to lose the most jobs between 2004 and 2014 are illustrated in figure 2-8. About 21,400 jobs will be lost in these thirty occupations. These occupations account for 79% of the 27,100 jobs expected to be lost in Wisconsin overall. Thirteen of the positions are office and administrative support occupations. Ten of the occupations are in production.

The occupation losing the most jobs is stock clerks and order fillers. This occupation is expected to lose 2,700 jobs. Thirtieth on the list is lathe and turning machine tool setters, operators, and tenders which is projected to lose 250 jobs.

Although total employment in these occupations will be decreasing, it is important to note an estimated 82,500 job openings will still exist in these 30 occupations. These openings will result from retirements and other permanent exits from the occupations.

Figure 2-7: Fastest Growing Occupations<sup>(1)</sup>, 2004 to 2014

Occupational Title	2004-2014 Percent Change <sup>(2)</sup>	2004-2014 New Jobs <sup>(2)</sup>	Education and Training Path <sup>(3)</sup>	Average Annual Salary
Physician Assistants	51.9%	680	Bachelor's degree	Not Available
Home Health Aides	51.4%	7,060	Short-term OJT	\$20,162
Network Systems and Data Communications Analysts	47.9%	2,020	Bachelor's degree	56,789
Medical Assistants	46.7%	2,750	Moderate-term OJT	27,441
Computer Software Engineers, Applications	45.9%	3,650	Bachelor's degree	70,386
Computer Software Engineers, Systems Software	42.0%	1,150	Bachelor's degree	76,324
Personal and Home Care Aides	38.6%	8,200	Short-term OJT	19,200
Dental Hygienists	37.8%	1,660	Associate degree	54,203
Dental Assistants	37.6%	1,900	Moderate-term OJT	28,602
Diagnostic Medical Sonographers	35.7%	300	Associate degree	66,410
Network and Computer Systems Administrators	35.7%	1,890	Bachelor's degree	56,246
Surgical Technologists	34.9%	740	Ps vocational training	40,055
Database Administrators	34.8%	540	Bachelor's degree	61,299
Medical Records and Health Information Technicians	34.7%	1,230	Associate degree	28,976
Respiratory Therapists	34.2%	500	Associate degree	47,309
Registered Nurses	33.1%	16,010	Assoc or Bach <sup>(4)</sup>	55,060
Physical Therapist Assistants	32.8%	400	Associate degree	38,342
Radiologic Technologists and Technicians	31.7%	1,310	Associate degree	46,916
Radiation Therapists	30.8%	120	Associate degree	65,931
Animal Breeders	30.6%	150	Associate degree	37,339
Athletic Trainers	30.4%	140	Bachelor's degree	40,162
Physical Therapist Aides	30.4%	210	Short-term OJT	23,632
Employment, Recruitment, and Placement Specialists	30.4%	1,070	Bachelor's degree	46,133
Cardiovascular Technologists and Technicians	30.3%	200	Associate degree	42,569
Medical Scientists, Except Epidemiologists	30.0%	510	Doctoral degree	51,920
Physical Therapists	29.9%	1,060	Master's degree	62,582
Occupational Therapists	29.6%	900	Master's degree	52,248
Personal Financial Advisors	29.6%	990	Bachelor's degree	77,792
Preschool Teachers, Except Special Education	29.5%	2,520	Bachelor's degree	24,027
Veterinary Technologists and Technicians	28.9%	370	Associate degree	27,233

**Notes:**

- (1) Only occupations with projected 2014 employment of 500 or more are included.
- (2) Employment is rounded to the nearest ten. Numbers may not add due to rounding.
- (3) Education and training path gives a general indication of the education or training typically needed in the occupation. There may be other pathways into the occupation, as well as additional educational, training, or licensing requirements.
- (4) Depending upon the specific position and employer either an associate or bachelor's degree are most common.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data.

Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

**Figure 2-8: Occupations Losing the Most Jobs, 2004 to 2014**

Occupational Title	Estimated Employment <sup>(1)</sup>		Net Job Loss	Education and Training Path <sup>(2)</sup>	Average Annual Salary
	2004	2014			
Stock Clerks and Order Fillers	32,300	29,600	(2,700)	Short-term OJT	\$21,386
Secretaries, Except Legal, Medical, and Executive	44,620	42,510	(2,110)	Moderate-term OJT	27,426
File Clerks	4,600	2,870	(1,730)	Short-term OJT	22,919
Cut/Punch/Press Machine Setters/Operators/Tenders	11,520	9,840	(1,680)	Moderate-term OJT	28,868
Mail Clerks/Mail Machine Operators, Except Postal Service	3,720	2,370	(1,350)	Short-term OJT	23,936
Door-To-Door Sales Wrks, News/Street Vendors/Related Wrks	8,480	7,170	(1,310)	Short-term OJT	17,954
Order Clerks	10,480	9,540	(940)	Short-term OJT	26,140
Telemarketers	6,850	6,020	(830)	Short-term OJT	22,551
Computer Operators	2,490	1,660	(830)	Moderate-term OJT	34,500
Cashiers	65,440	64,810	(630)	Short-term OJT	16,638
Machine Feeders and Offbearers	4,220	3,610	(610)	Short-term OJT	25,490
Word Processors and Typists	3,000	2,450	(550)	Moderate-term OJT	29,444
Electrical and Electronic Equipment Assemblers	6,180	5,750	(430)	Short-term OJT	28,858
Photographic Processing Machine Operators	1,270	840	(430)	Short-term OJT	20,042
Credit Authorizers, Checkers, and Clerks	1,000	590	(410)	Short-term OJT	29,972
Office Machine Operators, Except Computer	1,810	1,400	(410)	Short-term OJT	25,953
Meter Readers, Utilities	850	450	(400)	Short-term OJT	29,458
Woodworking Machine Setters/Operators/Tenders	3,820	3,420	(400)	Moderate-term OJT	26,906
Switchboard Operators, Including Answering Service	4,140	3,750	(390)	Short-term OJT	22,838
Parts Salespersons	4,420	4,060	(360)	Moderate-term OJT	29,310
Telecommunications Equipment Installers/Repairers	3,230	2,870	(360)	Postsec vocational	48,174
Legislators	5,300	4,980	(320)	Degree & work exp	20,133
Grind/Lap/Polish/Buff Machine Tool Setters/Tenders/Operators	5,690	5,370	(320)	Moderate-term OJT	31,653
Couriers and Messengers	3,200	2,890	(310)	Short-term OJT	22,887
Coil Winders, Tapers, and Finishers	1,170	870	(300)	Short-term OJT	24,461
Packaging and Filling Machine Operators and Tenders	15,910	15,630	(280)	Short-term OJT	26,037
Extrude/Draw Machine Setters/Operators/Tenders	2,460	2,190	(270)	Moderate-term OJT	29,125
Sawing Machine Setters, Operators, and Tenders, Wood	2,410	2,140	(270)	Moderate-term OJT	25,163
Weighers/Measurers/Checkers/Samplers, Recordkeeping	2,470	2,210	(260)	Short-term OJT	27,821
Lathe/Turning Machine Tool Setters/Operators/Tenders	3,090	2,840	(250)	Moderate-term OJT	32,667

**Notes:**

- (1) Employment is rounded to the nearest ten. Numbers may not add due to rounding.
- (2) Education and training path gives a general indication of the education or training typically needed in the occupation. There may be other pathways into the occupation, as well as additional educational, training, or licensing requirements.

Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, and November 2004 OES data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

## **DETAILED EMPLOYMENT TRENDS FOR ALL OCCUPATIONS**

Figure 2-9 provides a detailed listing of occupational trends for all 793 occupations. The table shows which one of the ten broad occupational groups a particular occupation falls under, gives the estimated employment change in each occupation between 2004 and 2014, and lists the projected number of average annual openings in each occupation. Also included for each occupation are the typical education and training path along with wage information.

If you would like an electronic version of this table, it is available at [http://dwd.wisconsin.gov/oea/longterm\\_projections.htm](http://dwd.wisconsin.gov/oea/longterm_projections.htm).

## **ADDITIONAL RESOURCES IN THE APPENDICES**

An alphabetical index of all 793 occupations is found in appendix 1. This appendix lists the page number of the detailed occupational trend for each occupation in figure 2-9. In addition, appendix 1 includes the complete occupational title for each occupation. Due to the length of many of the titles they are abbreviated in figures 2-1 through 2-9.

More information about Department of Workforce Development resources for job seekers, counselors, and employers is found in appendix 2.

Appendix 3 describes the methodology used to develop the projections.

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
<b>00-0000</b>	<b>Total, All Occupations</b>	<b>3,032,810</b>	<b>3,380,410</b>	<b>347,600</b>	<b>11.5%</b>	<b>34,760</b>	<b>71,930</b>	<b>106,690</b>
<b>11-0000</b>	<b>Management Occupations</b>	<b>123,280</b>	<b>138,590</b>	<b>15,310</b>	<b>12.4%</b>	<b>1,530</b>	<b>2,320</b>	<b>3,850</b>
11-1000	Top Executives	38,860	43,170	4,310	11.1%	430	700	1,130
11-1011	Chief Executives	5,280	5,860	580	11.0%	60	100	160
11-1021	General and Operations Mgrs	28,280	32,330	4,050	14.3%	410	530	940
11-1031	Legislators	5,300	4,980	(320)	-6.0%	0	70	70
11-2000	Ad/Mrkt/Prom/PR & Sales Mgrs	8,500	9,950	1,450	17.1%	150	160	310
11-2011	Advertising/Promotions Mgrs	880	1,030	150	17.0%	20	20	40
11-2021	Marketing Mgrs	1,920	2,230	310	16.1%	30	40	70
11-2022	Sales Mgrs	4,960	5,800	840	16.9%	80	90	170
11-2031	Public Relations Mgrs	740	880	140	18.9%	10	10	20
11-3000	Operations Specialties Managers	24,960	28,190	3,230	12.9%	320	440	760
11-3011	Administrative Services Mgrs	3,130	3,530	400	12.8%	40	60	100
11-3021	Computer/Information Systems Mgrs	4,710	5,760	1,050	22.3%	110	90	200
11-3031	Financial Mgrs	6,320	7,210	890	14.1%	90	90	180
11-3041	Compensation and Benefits Mgrs	910	1,050	140	15.4%	10	20	30
11-3042	Training and Development Mgrs	610	730	120	19.7%	10	10	20
11-3049	Human Resources Mgrs, All Other	1,060	1,210	150	14.2%	20	20	40
11-3051	Industrial Production Mgrs	5,190	5,370	180	3.5%	20	100	120
11-3061	Purchasing Mgrs	1,430	1,500	70	4.9%	10	30	40
11-3071	Transportation/Storage/Distrib Mgrs	1,600	1,830	230	14.4%	20	30	50
11-9000	Other Management Occupations	50,970	57,280	6,310	12.4%	630	1,020	1,650
11-9011	Farm/Ranch/Other Ag Mgrs	20	30	10	50.0%	0	0	0
11-9021	Construction Mgrs	4,740	5,490	750	15.8%	80	90	170
11-9031	Educ Admin, Preschool/Child Care	980	1,240	260	26.5%	30	20	50
11-9032	Educ Admin, Elem/Sec School	4,400	4,810	410	9.3%	40	110	150
11-9033	Educ Admin, Postsecondary	3,520	4,110	590	16.8%	60	90	150
11-9039	Educ Admin, All Other	550	630	80	14.5%	10	10	20
11-9041	Engineering Mgrs	3,660	4,050	390	10.7%	40	70	110
11-9051	Food Service Mgrs	6,220	6,880	660	10.6%	70	100	170
11-9061	Funeral Directors	810	820	10	1.2%	0	20	20
11-9071	Gaming Mgrs	130	130	0	0.0%	0	0	0
11-9081	Lodging Mgrs	1,360	1,590	230	16.9%	20	20	40
11-9111	Medical/Health Services Mgrs	4,630	5,760	1,130	24.4%	110	90	200
11-9121	Natural Sciences Mgrs	440	470	30	6.8%	0	10	10
11-9131	Postmasters/Mail Superintendents	680	680	0	0.0%	0	10	10
11-9141	Prop/RE/Community Assoc Mgrs	1,380	1,520	140	10.1%	10	30	40
11-9151	Social/Community Service Mgrs	2,530	3,060	530	20.9%	50	50	100
11-9199	Mgrs, All Other	14,930	16,020	1,090	7.3%	110	290	400

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
<b>00-0000</b>	<b>Total, All Occupations</b>		<b>35,759</b>	<b>8.40</b>	<b>21.59</b>
<b>11-0000</b>	<b>Management Occupations</b>		<b>84,430</b>	<b>20.64</b>	<b>50.57</b>
11-1000	Top Executives		NA	NA	NA
11-1011	Chief Executives	Degree & work experience	149,473	40.56	87.51
11-1021	General and Operations Mgrs	Degree & work experience	95,592	23.22	57.33
11-1031	Legislators	Degree & work experience	20,133	5.89	11.57
11-2000	Ad/Mrkt/Prom/PR & Sales Mgrs		NA	NA	NA
11-2011	Advertising/Promotions Mgrs	Degree & work experience	80,591	22.54	46.85
11-2021	Marketing Mgrs	Degree & work experience	97,662	27.09	56.89
11-2022	Sales Mgrs	Degree & work experience	96,607	24.42	57.46
11-2031	Public Relations Mgrs	Degree & work experience	78,187	20.28	46.25
11-3000	Operations Specialties Managers		NA	NA	NA
11-3011	Administrative Services Mgrs	Degree & work experience	71,936	21.88	40.94
11-3021	Computer/Information Systems Mgrs	Degree & work experience	91,560	30.64	50.71
11-3031	Financial Mgrs	Degree & work experience	99,884	28.71	57.68
11-3041	Compensation and Benefits Mgrs	Degree & work experience	75,918	22.61	43.44
11-3042	Training and Development Mgrs	Degree & work experience	74,801	20.67	43.61
11-3049	Human Resources Mgrs, All Other	Degree & work experience	90,407	27.79	51.30
11-3051	Industrial Production Mgrs	Bachelor's degree	78,009	24.88	43.82
11-3061	Purchasing Mgrs	Degree & work experience	79,025	24.42	44.78
11-3071	Transportation/Storage/Distrib Mgrs	Work experience in related occ	74,012	23.07	41.84
11-9000	Other Management Occupations		NA	NA	NA
11-9011	Farm/Ranch/Other Ag Mgrs	Degree & work experience	57,187	22.17	30.16
11-9021	Construction Mgrs	Bachelor's degree	79,985	23.54	45.91
11-9031	Educ Admin, Preschool/Child Care	Degree & work experience	NA	NA	NA
11-9032	Educ Admin, Elem/Sec School	Degree & work experience	78,846	NA	NA
11-9033	Educ Admin, Postsecondary	Degree & work experience	69,001	21.40	39.06
11-9039	Educ Admin, All Other	Degree & work experience	61,104	21.51	33.31
11-9041	Engineering Mgrs	Degree & work experience	91,912	32.32	50.12
11-9051	Food Service Mgrs	Work experience in related occ	40,405	13.19	22.54
11-9061	Funeral Directors	Associate degree	55,150	13.62	32.96
11-9071	Gaming Mgrs	Work experience in related occ	66,383	20.94	37.40
11-9081	Lodging Mgrs	Work experience in related occ	44,417	14.25	24.90
11-9111	Medical/Health Services Mgrs	Degree & work experience	78,368	24.86	44.08
11-9121	Natural Sciences Mgrs	Degree & work experience	95,369	31.87	52.84
11-9131	Postmasters/Mail Superintendents	Work experience in related occ	54,706	21.15	28.88
11-9141	Prop/RE/Community Assoc Mgrs	Bachelor's degree	61,934	16.54	36.39
11-9151	Social/Community Service Mgrs	Bachelor's degree	51,797	17.20	28.75
11-9199	Mgrs, All Other	Work experience in related occ	82,442	25.76	46.57

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
<b>13-0000</b>	<b>Business/Financial Operations Occs</b>	<b>117,850</b>	<b>138,050</b>	<b>20,200</b>	<b>17.1%</b>	<b>2,020</b>	<b>2,110</b>	<b>4,130</b>
13-1000	Business Operations Specialists	71,260	84,230	12,970	18.2%	1,300	1,290	2,590
13-1011	Agents/Bus Mgrs Artists/Pfrmr/Ath	150	140	(10)	-6.7%	0	0	0
13-1021	Purch Agents/Buyers Farm Prod	380	410	30	7.9%	0	10	10
13-1022	Whole/Retail Buyers Ex Farm Prod	2,670	2,910	240	9.0%	20	70	90
13-1023	Purch Agents Ex Whole/Retail/Farm	7,840	8,450	610	7.8%	60	200	260
13-1031	Claims Adjust/Exam/Investigators	5,290	6,170	880	16.6%	90	70	160
13-1032	Insurance Appraisers Auto Damage	250	310	60	24.0%	10	0	10
13-1041	Compl Offcrs Ex Ag/Cnst/Hlth/Sfty/Tr	2,570	2,880	310	12.1%	30	60	90
13-1051	Cost Estimators	5,040	6,060	1,020	20.2%	100	110	210
13-1061	Emergency Mgmt Specialists	290	320	30	10.3%	0	10	10
13-1071	Empl/Recruit/Placement Specialists	3,520	4,590	1,070	30.4%	110	50	160
13-1072	Compen/Benefits/Job Specialists	2,150	2,570	420	19.5%	40	30	70
13-1073	Training/Development Specialists	4,270	5,040	770	18.0%	80	70	150
13-1079	HR/Training/Labor Specialists, All Other	7,440	8,690	1,250	16.8%	130	130	260
13-1081	Logisticians	1,100	1,200	100	9.1%	10	20	30
13-1111	Management Analysts	7,760	8,560	800	10.3%	80	110	190
13-1121	Meeting and Convention Planners	1,100	1,300	200	18.2%	20	20	40
13-1199	Business Oper Specialists/All Other	19,460	24,650	5,190	26.7%	520	330	850
13-2000	Financial Specialists	46,590	53,820	7,230	15.5%	720	820	1,540
13-2011	Accountants and Auditors	22,690	26,830	4,140	18.2%	410	430	840
13-2021	Appraisers/Assessors Real Estate	1,950	2,390	440	22.6%	40	40	80
13-2031	Budget Analysts	690	750	60	8.7%	10	10	20
13-2041	Credit Analysts	1,000	990	(10)	-1.0%	0	20	20
13-2051	Financial Analysts	1,910	2,250	340	17.8%	30	30	60
13-2052	Personal Financial Advisors	3,350	4,340	990	29.6%	100	40	140
13-2053	Insurance Underwriters	2,650	2,820	170	6.4%	20	50	70
13-2061	Financial Examiners	430	490	60	14.0%	10	10	20
13-2071	Loan Counselors	170	190	20	11.8%	0	0	0
13-2072	Loan Officers	7,370	8,020	650	8.8%	70	120	190
13-2081	Tax Exam/Collctrs/Revenue Agents	670	680	10	1.5%	0	20	20
13-2082	Tax Preparers	2,450	2,580	130	5.3%	10	40	50
13-2099	Financial Specialists/All Other	1,260	1,490	230	18.3%	20	20	40
<b>15-0000</b>	<b>Computer &amp; Mathematical Occupations</b>	<b>51,380</b>	<b>65,320</b>	<b>13,940</b>	<b>27.1%</b>	<b>1,390</b>	<b>680</b>	<b>2,070</b>
15-1000	Computer Specialists	49,970	63,760	13,790	27.6%	1,380	640	2,020
15-1011	Computer/Info Scientists/Research	220	260	40	18.2%	0	0	0
15-1021	Computer Programmers	6,310	6,140	(170)	-2.7%	0	150	150
15-1031	Computer Software Engrs Apps	7,960	11,610	3,650	45.9%	370	80	450
15-1032	Computer Soft Engrs Sysms Soft	2,740	3,890	1,150	42.0%	120	30	150
15-1041	Computer Support Specialists	8,800	10,440	1,640	18.6%	160	110	270
15-1051	Computer Systems Analysts	11,280	14,110	2,830	25.1%	280	130	410

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
<b>13-0000</b>	<b>Business/Financial Operations Occs</b>		<b>52,121</b>	<b>14.72</b>	<b>30.23</b>
13-1000	Business Operations Specialists		NA	NA	NA
13-1011	Agents/Bus Mgrs Artsts/Pfrmr/Ath	Degree & work experience	32,302	9.45	18.57
13-1021	Purch Agents/Buyers Farm Prod	Work experience in related occ	41,221	14.55	22.45
13-1022	Whole/Retail Buyers Ex Farm Prod	Bachelor's degree	45,106	13.12	25.97
13-1023	Purch Agents Ex Whole/Retail/Farm	Bachelor's degree	48,350	16.14	26.80
13-1031	Claims Adjust/Exam/Investigators	Long-term on-the-job training	45,741	14.14	25.92
13-1032	Insurance Appraisers Auto Damage	Long-term on-the-job training	41,342	13.87	22.88
13-1041	Compl Offcrs Ex Ag/Cnst/Hlth/Sfty/Tr	Long-term on-the-job training	52,524	16.84	29.46
13-1051	Cost Estimators	Bachelor's degree	52,121	15.95	29.61
13-1061	Emergency Mgmt Specialists	Work experience in related occ	51,499	17.71	28.28
13-1071	Empl/Recruit/Placement Specialists	Bachelor's degree	46,133	14.02	26.26
13-1072	Compen/Benefits/Job Specialists	Bachelor's degree	49,447	16.82	27.25
13-1073	Training/Development Specialists	Bachelor's degree	46,092	14.46	26.01
13-1079	HR/Training/Labor Specialists, All Other	Bachelor's degree	32,663	6.09	20.51
13-1081	Logisticians	Bachelor's degree	58,068	20.91	31.42
13-1111	Management Analysts	Degree & work experience	60,886	19.47	34.17
13-1121	Meeting and Convention Planners	Bachelor's degree	39,048	12.72	21.80
13-1199	Business Oper Specialists/All Other	Postsecondary vocational training	54,405	14.68	31.90
13-2000	Financial Specialists		NA	NA	NA
13-2011	Accountants and Auditors	Bachelor's degree	57,547	18.78	32.11
13-2021	Appraisers/Assessors Real Estate	Postsecondary vocational training	44,965	9.84	27.51
13-2031	Budget Analysts	Bachelor's degree	55,918	20.27	30.19
13-2041	Credit Analysts	Bachelor's degree	49,130	16.23	27.32
13-2051	Financial Analysts	Bachelor's degree	67,143	19.58	38.63
13-2052	Personal Financial Advisors	Bachelor's degree	77,792	18.36	46.92
13-2053	Insurance Underwriters	Bachelor's degree	48,809	16.04	27.18
13-2061	Financial Examiners	Bachelor's degree	62,214	19.24	35.25
13-2071	Loan Counselors	Bachelor's degree	49,700	13.28	29.20
13-2072	Loan Officers	Bachelor's degree	55,662	14.93	32.67
13-2081	Tax Exam/Collctrs/Revenue Agents	Bachelor's degree	58,386	18.79	32.71
13-2082	Tax Preparers	Moderate-term on-the-job training	31,072	9.63	17.60
13-2099	Financial Specialists/All Other	Bachelor's degree	52,896	16.53	29.88
<b>15-0000</b>	<b>Computer &amp; Mathematical Occupations</b>		<b>58,580</b>	<b>17.69</b>	<b>33.40</b>
15-1000	Computer Specialists		NA	NA	NA
15-1011	Computer/Info Scientists/Research	Doctoral degree	79,351	27.10	43.68
15-1021	Computer Programmers	Bachelor's degree	58,770	19.48	32.64
15-1031	Computer Software Engnrs Apps	Bachelor's degree	70,386	23.44	39.04
15-1032	Computer Soft Engnrs Systms Soft	Bachelor's degree	76,324	25.00	42.54
15-1041	Computer Support Specialists	Associate degree	38,897	13.43	21.34
15-1051	Computer Systems Analysts	Bachelor's degree	62,910	21.93	34.40

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
15-1061	Database Administrators	1,550	2,090	540	34.8%	50	20	70
15-1071	Network/Computer Systems Admin	5,300	7,190	1,890	35.7%	190	60	250
15-1081	Network Sysms/Data Comm Analysts	4,220	6,240	2,020	47.9%	200	50	250
15-1099	Computer Specialists/All Other	1,580	1,810	230	14.6%	20	20	40
15-2000	Mathematical Scientists	1,410	1,560	150	10.6%	20	40	60
15-2011	Actuaries	570	700	130	22.8%	10	20	30
15-2021	Mathematicians	20	20	0	0.0%	0	0	0
15-2031	Operations Research Analysts	540	570	30	5.6%	0	10	10
15-2041	Statisticians	250	250	0	0.0%	0	10	10
15-2091	Mathematical Technicians	NA	NA	NA	NA	0	0	0
15-2099	Math Science Occs/All Other	NA	NA	NA	NA	0	0	0
<b>17-0000</b>	<b>Architecture/Engineering Occupations</b>	<b>48,720</b>	<b>53,470</b>	<b>4,750</b>	<b>9.7%</b>	<b>480</b>	<b>1,110</b>	<b>1,590</b>
17-1000	Architects/Surveyors/Cartographers	3,640	4,060	420	11.5%	40	70	110
17-1011	Architects/Ex Landscape/Naval	1,920	2,150	230	12.0%	20	20	40
17-1012	Landscape Architects	480	550	70	14.6%	10	10	20
17-1021	Cartographers/Photogrammetrists	330	350	20	6.1%	0	10	10
17-1022	Surveyors	900	1,010	110	12.2%	10	30	40
17-2000	Engineers	27,340	30,640	3,300	12.1%	330	610	940
17-2011	Aerospace Engineers	90	90	0	0.0%	0	0	0
17-2021	Agricultural Engineers	110	120	10	9.1%	0	0	0
17-2031	Biomedical Engineers	210	250	40	19.0%	0	0	0
17-2041	Chemical Engineers	330	360	30	9.1%	0	10	10
17-2051	Civil Engineers	3,770	4,200	430	11.4%	40	60	100
17-2061	Computer Hardware Engineers	780	870	90	11.5%	10	10	20
17-2071	Electrical Engineers	4,100	4,410	310	7.6%	30	80	110
17-2072	Electronics Engineers/Ex Computer	1,610	1,730	120	7.5%	10	30	40
17-2081	Environmental Engineers	1,020	1,300	280	27.5%	30	20	50
17-2111	Health/Safety Engineers/Ex Mining	340	390	50	14.7%	10	10	20
17-2112	Industrial Engineers	4,730	5,520	790	16.7%	80	120	200
17-2121	Marine Engineers/Naval Architects	20	20	0	0.0%	0	0	0
17-2131	Materials Engineers	530	620	90	17.0%	10	10	20
17-2141	Mechanical Engineers	7,080	7,810	730	10.3%	70	190	260
17-2151	Mining/Geological Engineers	NA	NA	NA	NA	0	0	0
17-2161	Nuclear Engineers	100	100	0	0.0%	0	0	0
17-2171	Petroleum Engineers	NA	NA	NA	NA	0	0	0
17-2199	Engineers/All Other	2,490	2,810	320	12.9%	30	50	80
17-3000	Drafters/Engineering/Mapping Techs	17,740	18,760	1,020	5.7%	100	440	540
17-3011	Architectural/Civil Drafters	1,300	1,320	20	1.5%	0	40	40
17-3012	Electrical/Electronics Drafters	930	900	(30)	-3.2%	0	30	30
17-3013	Mechanical Drafters	3,690	3,830	140	3.8%	10	100	110
17-3019	Drafters, All Other	NA	NA	NA	NA	0	10	10

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
15-1061	Database Administrators	Bachelor's degree	61,299	20.24	34.09
15-1071	Network/Computer Systems Admin	Bachelor's degree	56,246	18.65	31.24
15-1081	Network Sysrms/Data Comm Analysts	Bachelor's degree	56,789	18.30	31.80
15-1099	Computer Specialists/All Other	Associate degree	45,724	12.47	26.74
15-2000	Mathematical Scientists		NA	NA	NA
15-2011	Actuaries	Degree & work experience	92,398	25.77	53.75
15-2021	Mathematicians	Doctoral degree	NA	NA	NA
15-2031	Operations Research Analysts	Master's degree	57,861	20.35	31.55
15-2041	Statisticians	Master's degree	60,108	19.04	33.83
15-2091	Mathematical Technicians	Master's degree	NA	NA	NA
15-2099	Math Science Occs/All Other	Master's degree	NA	NA	NA
<b>17-0000</b>	<b>Architecture/Engineering Occupations</b>		<b>55,893</b>	<b>17.37</b>	<b>31.62</b>
17-1000	Architects/Surveyors/Cartographers	Bachelor's degree	NA	NA	NA
17-1011	Architects/Ex Landscape/Naval	Bachelor's degree	60,451	19.22	33.98
17-1012	Landscape Architects	Bachelor's degree	52,481	17.53	29.08
17-1021	Cartographers/Photogrammetrists	Bachelor's degree	NA	NA	NA
17-1022	Surveyors	Bachelor's degree	44,398	14.16	24.94
17-2000	Engineers	Bachelor's degree	NA	NA	NA
17-2011	Aerospace Engineers	Bachelor's degree	NA	NA	NA
17-2021	Agricultural Engineers	Bachelor's degree	67,543	22.59	37.41
17-2031	Biomedical Engineers	Bachelor's degree	79,362	27.67	43.40
17-2041	Chemical Engineers	Bachelor's degree	73,603	27.05	39.55
17-2051	Civil Engineers	Bachelor's degree	61,560	22.60	33.10
17-2061	Computer Hardware Engineers	Bachelor's degree	66,830	20.87	37.76
17-2071	Electrical Engineers	Bachelor's degree	69,569	23.62	38.36
17-2072	Electronics Engineers/Ex Computer	Bachelor's degree	68,233	24.31	37.05
17-2081	Environmental Engineers	Bachelor's degree	66,218	22.20	36.65
17-2111	Health/Safety Engineers/Ex Mining	Bachelor's degree	62,537	22.70	33.75
17-2112	Industrial Engineers	Bachelor's degree	61,978	22.24	33.57
17-2121	Marine Engineers/Naval Architects	Bachelor's degree	53,012	20.47	27.99
17-2131	Materials Engineers	Bachelor's degree	63,481	22.79	34.38
17-2141	Mechanical Engineers	Bachelor's degree	62,754	21.98	34.27
17-2151	Mining/Geological Engineers	Bachelor's degree	58,796	21.22	31.79
17-2161	Nuclear Engineers	Bachelor's degree	77,021	24.98	43.05
17-2171	Petroleum Engineers	Bachelor's degree	NA	NA	NA
17-2199	Engineers/All Other	Bachelor's degree	67,787	23.32	37.22
17-3000	Drafters/Engineering/Mapping Techs		NA	NA	NA
17-3011	Architectural/Civil Drafters	Postsecondary vocational training	41,017	14.17	22.49
17-3012	Electrical/Electronics Drafters	Postsecondary vocational training	44,855	15.66	24.52
17-3013	Mechanical Drafters	Postsecondary vocational training	42,888	14.93	23.47
17-3019	Drafters, All Other	Postsecondary vocational training	38,213	13.09	21.01

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
17-3021	Aerospace Engineering/Operation Techs	NA	NA	NA	NA	0	0	0
17-3022	Civil Engineering Technicians	1,870	2,010	140	7.5%	10	40	50
17-3023	Electrical/Electronic Engineering Techs	3,170	3,270	100	3.2%	10	70	80
17-3024	Electro-Mechanical Technicians	720	810	90	12.5%	10	20	30
17-3025	Environmental Engineering Techs	330	400	70	21.2%	10	10	20
17-3026	Industrial Engineering Techs	1,670	1,860	190	11.4%	20	40	60
17-3027	Mechanical Engineering Techs	1,530	1,640	110	7.2%	10	30	40
17-3029	Engineer Tech, Ex Drafters, All Other	1,090	1,240	150	13.8%	20	30	50
17-3031	Surveying/Mapping Techs	1,020	1,060	40	3.9%	0	40	40
<b>19-0000</b>	<b>Life, Physical, and Social Science Occs</b>	<b>28,850</b>	<b>33,340</b>	<b>4,490</b>	<b>15.6%</b>	<b>450</b>	<b>700</b>	<b>1,150</b>
19-1000	Life Scientists	6,580	7,690	1,110	16.9%	110	160	270
19-1011	Animal Scientists	180	200	20	11.1%	0	0	0
19-1012	Food Scientists and Technologists	560	610	50	8.9%	10	10	20
19-1013	Soil and Plant Scientists	800	920	120	15.0%	10	10	20
19-1021	Biochemists and Biophysicists	580	680	100	17.2%	10	20	30
19-1022	Microbiologists	440	530	90	20.5%	10	10	20
19-1023	Zoologists and Wildlife Biologists	350	380	30	8.6%	0	10	10
19-1029	Biological Scientists, All Other	510	620	110	21.6%	10	20	30
19-1031	Conservation Scientists	830	880	50	6.0%	10	20	30
19-1032	Foresters	520	540	20	3.8%	0	20	20
19-1041	Epidemiologists	40	40	0	0.0%	0	0	0
19-1042	Med Scientists Ex Epidemiologists	1,700	2,210	510	30.0%	50	30	80
19-1099	Life Scientists/All Other	70	90	20	28.6%	0	0	0
19-2000	Physical Scientists	5,010	5,620	610	12.2%	60	140	200
19-2011	Astronomers	NA	NA	NA	NA	0	0	0
19-2012	Physicists	400	440	40	10.0%	0	10	10
19-2021	Atmospheric and Space Scientists	260	290	30	11.5%	0	10	10
19-2031	Chemists	1,940	2,070	130	6.7%	10	60	70
19-2032	Materials Scientists	NA	NA	NA	NA	0	10	10
19-2041	Environment Sci/Specialists/Incl Health	1,100	1,250	150	13.6%	20	20	40
19-2042	Geoscientists Ex Hydrology/Geography	230	260	30	13.0%	0	0	0
19-2043	Hydrologists	350	460	110	31.4%	10	10	20
19-2099	Physical Scientists/All Other	560	640	80	14.3%	10	10	20
19-3000	Social Scientists & Related Workers	10,700	12,510	1,810	16.9%	180	260	440
19-3011	Economists	220	230	10	4.5%	0	10	10
19-3021	Market Research Analysts	4,640	5,480	840	18.1%	80	120	200
19-3022	Survey Researchers	90	120	30	33.3%	0	0	0
19-3031	Clinical/Counseling/School Psych	4,340	5,140	800	18.4%	80	100	180
19-3032	Industrial-Organizational Psych	NA	NA	NA	NA	0	0	0
19-3039	Psychologists, All Other	130	140	10	7.7%	0	0	0

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
17-3021	Aerospace Engineering/Operation Techs	Associate degree	42,120	18.18	21.29
17-3022	Civil Engineering Technicians	Associate degree	42,505	15.39	22.96
17-3023	Electrical/Electronic Engineering Techs	Associate degree	45,020	16.10	24.41
17-3024	Electro-Mechanical Technicians	Associate degree	47,283	15.54	26.33
17-3025	Environmental Engineering Techs	Associate degree	41,578	14.83	22.57
17-3026	Industrial Engineering Techs	Associate degree	40,798	15.12	21.86
17-3027	Mechanical Engineering Techs	Associate degree	43,287	13.83	24.30
17-3029	Engineer Tech, Ex Drafters, All Other	Associate degree	46,429	16.43	25.27
17-3031	Surveying/Mapping Techs	Moderate-term on-the-job training	33,088	11.38	18.17
<b>19-0000</b>	<b>Life, Physical, and Social Science Occs</b>		<b>51,259</b>	<b>15.16</b>	<b>29.39</b>
19-1000	Life Scientists		NA	NA	NA
19-1011	Animal Scientists	Bachelor's degree	58,710	18.55	33.07
19-1012	Food Scientists and Technologists	Bachelor's degree	57,476	15.37	33.76
19-1013	Soil and Plant Scientists	Bachelor's degree	49,187	17.86	26.54
19-1021	Biochemists and Biophysicists	Doctoral degree	50,298	17.97	27.29
19-1022	Microbiologists	Doctoral degree	52,513	18.40	28.67
19-1023	Zoologists and Wildlife Biologists	Doctoral degree	52,443	18.16	28.74
19-1029	Biological Scientists, All Other	Doctoral degree	51,214	18.10	27.88
19-1031	Conservation Scientists	Bachelor's degree	53,765	19.55	29.00
19-1032	Foresters	Bachelor's degree	46,429	17.08	24.94
19-1041	Epidemiologists	Master's degree	56,696	23.45	29.16
19-1042	Med Scientists Ex Epidemiologists	Doctoral degree	51,920	18.05	28.42
19-1099	Life Scientists/All Other	Bachelor's degree	48,594	16.31	26.89
19-2000	Physical Scientists		NA	NA	NA
19-2011	Astronomers	Doctoral degree	NA	NA	NA
19-2012	Physicists	Doctoral degree	60,923	17.95	34.96
19-2021	Atmospheric and Space Scientists	Bachelor's degree	63,799	18.48	36.77
19-2031	Chemists	Bachelor's degree	50,695	16.06	28.53
19-2032	Materials Scientists	Bachelor's degree	70,909	19.26	41.50
19-2041	Environment Sci/Specialists/Incl Health	Master's degree	50,213	17.43	27.50
19-2042	Geoscientists Ex Hydrology/Geography	Master's degree	NA	NA	NA
19-2043	Hydrologists	Master's degree	57,954	20.12	31.73
19-2099	Physical Scientists/All Other	Bachelor's degree	55,647	18.51	30.87
19-3000	Social Scientists & Related Workers		NA	NA	NA
19-3011	Economists	Master's degree	63,507	18.70	36.45
19-3021	Market Research Analysts	Master's degree	62,462	17.90	36.09
19-3022	Survey Researchers	Master's degree	NA	NA	NA
19-3031	Clinical/Counseling/School Psych	Doctoral degree	63,443	19.19	36.16
19-3032	Industrial-Organizational Psych	Master's degree	NA	NA	NA
19-3039	Psychologists, All Other	Master's degree	68,581	20.89	39.01

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
19-3041	Sociologists	130	130	0	0.0%	0	10	10
19-3051	Urban and Regional Planners	460	490	30	6.5%	0	20	20
19-3091	Anthropologists and Archeologists	30	40	10	33.3%	0	0	0
19-3092	Geographers	NA	NA	NA	NA	0	0	0
19-3093	Historians	40	40	0	0.0%	0	0	0
19-3094	Political Scientists	30	30	0	0.0%	0	0	0
19-3099	Social Scientists/Related Wkrs, All Other	560	640	80	14.3%	10	10	20
19-4000	Life, Physical, and Social Science Techs	6,560	7,530	970	14.8%	100	150	250
19-4011	Agricultural and Food Science Techs	610	680	70	11.5%	10	10	20
19-4021	Biological Techs	1,120	1,260	140	12.5%	10	20	30
19-4031	Chemical Techs	1,120	1,210	90	8.0%	10	30	40
19-4041	Geological and Petroleum Techs	NA	NA	NA	NA	0	0	0
19-4061	Social Science Research Assistants	650	750	100	15.4%	10	20	30
19-4091	Envir Sci/Protect Techs Incl Health	430	480	50	11.6%	10	10	20
19-4092	Forensic Science Techs	NA	NA	NA	NA	0	0	0
19-4093	Forest/Conservation Techs	400	430	30	7.5%	0	10	10
19-4099	Life/Physical/Social Sci Techs AO	2,170	2,650	480	22.1%	50	50	100
<b>21-0000</b>	<b>Community/Social Services Occs</b>	<b>54,870</b>	<b>65,120</b>	<b>10,250</b>	<b>18.7%</b>	<b>1,030</b>	<b>1,040</b>	<b>2,070</b>
21-1000	Counselors/Soc Workrs/Other Soc Serv	37,660	45,870	8,210	21.8%	820	730	1,550
21-1011	Sub Abuse/Behavior Disordr Cnslrs	1,630	2,030	400	24.5%	40	40	80
21-1012	Ed/Vocational/School Counselors	4,930	5,760	830	16.8%	80	110	190
21-1013	Marriage/Family Therapists	710	870	160	22.5%	20	20	40
21-1014	Mental Health Counselors	1,720	2,140	420	24.4%	40	40	80
21-1015	Rehabilitation Counselors	3,170	3,730	560	17.7%	60	70	130
21-1019	Counselors, All Other	1,130	1,310	180	15.9%	20	20	40
21-1021	Child/Family/School Social Wrkrs	6,300	7,550	1,250	19.8%	130	110	240
21-1022	Medical/Public Health Social Wrkrs	2,100	2,640	540	25.7%	50	40	90
21-1023	Mental Hlth/Sub Abuse Social Wrkrs	2,130	2,710	580	27.2%	60	40	100
21-1029	Social Workers, All Other	1,150	1,250	100	8.7%	10	20	30
21-1091	Health Educators	750	910	160	21.3%	20	10	30
21-1092	Prob Offcrs/Correctnl Treat Spclsts	1,360	1,480	120	8.8%	10	20	30
21-1093	Social/Human Service Assts	8,190	10,420	2,230	27.2%	220	140	360
21-1099	Community/Soc Serv Spclsts, All Other	2,380	3,070	690	29.0%	70	40	110
21-2000	Religious Workers	17,220	19,250	2,030	11.8%	200	320	520
21-2011	Clergy	11,860	13,210	1,350	11.4%	140	240	380
21-2021	Directors/Religious Activities/Ed	NA	NA	NA	NA	60	40	100
21-2099	Religious Workers, All Other	NA	NA	NA	NA	10	40	50

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
19-3041	Sociologists	Master's degree	47,525	17.49	25.53
19-3051	Urban and Regional Planners	Master's degree	45,619	15.09	25.35
19-3091	Anthropologists and Archeologists	Master's degree	48,212	15.27	27.13
19-3092	Geographers	Master's degree	51,587	15.40	29.50
19-3093	Historians	Master's degree	42,570	11.85	24.77
19-3094	Political Scientists	Master's degree	50,502	15.48	28.68
19-3099	Social Scientists/Related Wkrs, All Other	Master's degree	55,990	18.68	31.04
19-4000	Life, Physical, and Social Science Techs		NA	NA	NA
19-4011	Agricultural and Food Science Techs	Associate degree	31,203	10.59	17.21
19-4021	Biological Techs	Associate degree	32,152	11.01	17.68
19-4031	Chemical Techs	Associate degree	38,530	12.44	21.56
19-4041	Geological and Petroleum Techs	Associate degree	NA	NA	NA
19-4061	Social Science Research Assistants	Associate degree	31,403	14.08	15.61
19-4091	Envir Sci/Protect Techs Incl Health	Associate degree	36,970	11.82	20.75
19-4092	Forensic Science Techs	Associate degree	41,794	13.99	23.15
19-4093	Forest/Conservation Techs	Associate degree	35,070	12.72	18.93
19-4099	Life/Physical/Social Sci Techs AO	Associate degree	35,981	13.15	19.37
<b>21-0000</b>	<b>Community/Social Services Occs</b>	Master's degree	<b>39,024</b>	<b>12.06</b>	<b>22.11</b>
21-1000	Counselors/Soc Workrs/Other Soc Serv	Master's degree	NA	NA	NA
21-1011	Sub Abuse/Behavior Disordr Cnslrs	Master's degree	37,828	12.97	20.80
21-1012	Ed/Vocational/School Counselors	Master's degree	45,040	13.92	25.52
21-1013	Marriage/Family Therapists	Master's degree	60,580	16.21	35.58
21-1014	Mental Health Counselors	Master's degree	43,934	13.10	25.13
21-1015	Rehabilitation Counselors	Master's degree	34,926	11.16	19.61
21-1019	Counselors, All Other	Master's degree	43,084	13.96	24.09
21-1021	Child/Family/School Social Wrkrs	Master's degree	41,885	13.80	23.30
21-1022	Medical/Public Health Social Wrkrs	Master's degree	42,293	15.66	22.67
21-1023	Mental Hlth/Sub Abuse Social Wrkrs	Master's degree	46,540	13.91	26.61
21-1029	Social Workers, All Other	Master's degree	50,380	17.81	27.43
21-1091	Health Educators	Master's degree	39,545	12.66	22.19
21-1092	Prob Offcrs/Correctnl Treat Spclsts	Bachelor's degree	41,328	17.53	21.04
21-1093	Social/Human Service Assts	Moderate-term on-the-job training	28,828	9.83	15.87
21-1099	Community/Soc Serv Spclsts, All Other	Bachelor's degree	31,302	9.33	17.91
21-2000	Religious Workers		NA	NA	NA
21-2011	Clergy	Master's degree	41,919	15.27	22.60
21-2021	Directors/Religious Activities/Ed	Bachelor's degree	30,162	9.73	16.88
21-2099	Religious Workers, All Other	Bachelor's degree	25,579	5.98	15.46

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
<b>23-0000</b>	<b>Legal Occupations</b>	<b>16,370</b>	<b>18,230</b>	<b>1,860</b>	<b>11.4%</b>	<b>190</b>	<b>190</b>	<b>380</b>
23-1000	Lawyers, Judges, and Related Wkrs	11,370	12,520	1,150	10.1%	120	150	270
23-1011	Lawyers	10,580	11,690	1,110	10.5%	110	140	250
23-1021	Admin Law Judges/Adjud/Hearing Offcr	70	80	10	14.3%	0	0	0
23-1022	Arbitrators/Mediators/Conciliators	250	280	30	12.0%	0	0	0
23-1023	Judges/Magistrate Judges/Magistrates	470	480	10	2.1%	0	10	10
23-2000	Legal Support Workers	5,000	5,720	720	14.4%	70	50	120
23-2011	Paralegals and Legal Assistants	2,710	3,320	610	22.5%	60	20	80
23-2091	Court Reporters	90	100	10	11.1%	0	0	0
23-2092	Law Clerks	430	430	0	0.0%	0	10	10
23-2093	Title Examiners/Abstractors/Searchers	1,120	1,160	40	3.6%	0	10	10
23-2099	Legal Support Workers, All Other	660	710	50	7.6%	10	10	20
<b>25-0000</b>	<b>Education, Training, &amp; Library Occs</b>	<b>187,700</b>	<b>217,930</b>	<b>30,230</b>	<b>16.1%</b>	<b>3,020</b>	<b>3,960</b>	<b>6,980</b>
25-1000	Postsecondary Teachers	30,230	38,420	8,190	27.1%	820	680	1,500
25-1011	Business Teachers/Postsecondary	1,810	2,300	490	27.1%	50	40	90
25-1021	Computer Science Teachers/Postsec	550	690	140	25.5%	10	10	20
25-1022	Mathematical Science Teachers/Postsec	1,040	1,330	290	27.9%	30	20	50
25-1031	Architecture Teachers/Postsecondary	70	90	20	28.6%	0	0	0
25-1032	Engineering Teachers/Postsecondary	540	690	150	27.8%	20	10	30
25-1041	Ag Sciences Teachers/Postsecondary	290	370	80	27.6%	10	10	20
25-1042	Biological Science Teachers/Postsec	800	1,020	220	27.5%	20	20	40
25-1043	Forestry/Consumer Sci Teachers/Ps	90	110	20	22.2%	0	0	0
25-1051	Atmos/Earth/Marine/Space Sci Tch/Ps	160	200	40	25.0%	0	0	0
25-1052	Chemistry Teachers/Postsecondary	390	490	100	25.6%	10	10	20
25-1053	Environmental Science Teachers/Ps	80	100	20	25.0%	0	0	0
25-1054	Physics Teachers/Postsecondary	310	400	90	29.0%	10	10	20
25-1061	Anthropology/Archeology Teachers/Ps	120	160	40	33.3%	0	0	0
25-1062	Area/Ethnic/Cultur Studies Teachers/Ps	150	190	40	26.7%	0	0	0
25-1063	Economics Teachers/Postsecondary	290	370	80	27.6%	10	10	20
25-1064	Geography Teachers/Postsecondary	140	180	40	28.6%	0	0	0
25-1065	Political Science Teachers/Postsec	270	340	70	25.9%	10	10	20
25-1066	Psychology Teachers/Postsecondary	610	780	170	27.9%	20	10	30
25-1067	Sociology Teachers/Postsecondary	290	370	80	27.6%	10	10	20
25-1069	Social Science Teachers/Ps, All Other	240	300	60	25.0%	10	10	20
25-1071	Health Specialties Teachers/Postsec	3,390	4,310	920	27.1%	90	80	170
25-1072	Nursing Instructors/Teachers/Postsec	1,240	1,580	340	27.4%	30	30	60
25-1081	Education Teachers/Postsecondary	1,510	1,920	410	27.2%	40	30	70
25-1082	Library Science Teachers/Postsecondary	70	90	20	28.6%	0	0	0

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
<b>23-0000</b>	<b>Legal Occupations</b>		<b>73,770</b>	<b>16.22</b>	<b>45.09</b>
23-1000	Lawyers, Judges, and Related Wkrs		NA	NA	NA
23-1011	Lawyers	First professional degree	96,042	25.64	56.44
23-1021	Admin Law Judges/Adjud/Hearing Offcr	Degree & work experience	103,894	32.47	58.69
23-1022	Arbitrators/Mediators/Conciliators	Degree & work experience	57,047	16.78	32.75
23-1023	Judges/Magistrate Judges/Magistrates	Degree & work experience	68,179	7.84	45.25
23-2000	Legal Support Workers		NA	NA	NA
23-2011	Paralegals and Legal Assistants	Associate degree	41,414	13.81	22.96
23-2091	Court Reporters	Postsecondary vocational training	44,803	13.13	25.74
23-2092	Law Clerks	Bachelor's degree	41,714	13.68	23.24
23-2093	Title Examiners/Abstractors/Searchers	Moderate-term on-the-job training	35,296	12.02	19.44
23-2099	Legal Support Workers, All Other	Bachelor's degree	44,191	15.76	23.99
<b>25-0000</b>	<b>Education, Training, &amp; Library Occs</b>		<b>41,359</b>	<b>11.52</b>	<b>24.06</b>
25-1000	Postsecondary Teachers		NA	NA	NA
25-1011	Business Teachers/Postsecondary	Doctoral degree	70,562	NA	NA
25-1021	Computer Science Teachers/Postsec	Doctoral degree	65,432	NA	NA
25-1022	Mathematical Science Teachers/Postsec	Doctoral degree	58,950	NA	NA
25-1031	Architecture Teachers/Postsecondary	Doctoral degree	61,843	NA	NA
25-1032	Engineering Teachers/Postsecondary	Doctoral degree	78,014	NA	NA
25-1041	Ag Sciences Teachers/Postsecondary	Doctoral degree	74,533	NA	NA
25-1042	Biological Science Teachers/Postsec	Doctoral degree	67,761	NA	NA
25-1043	Forestry/Consumer Sci Teachers/Ps	Doctoral degree	71,972	NA	NA
25-1051	Atmos/Earth/Marine/Space Sci Tch/Ps	Doctoral degree	65,657	NA	NA
25-1052	Chemistry Teachers/Postsecondary	Doctoral degree	60,224	NA	NA
25-1053	Environmental Science Teachers/Ps	Doctoral degree	60,079	NA	NA
25-1054	Physics Teachers/Postsecondary	Doctoral degree	69,969	NA	NA
25-1061	Anthropology/Archeology Teachers/Ps	Doctoral degree	58,510	NA	NA
25-1062	Area/Ethnic/Cultur Studies Teachers/Ps	Doctoral degree	60,044	NA	NA
25-1063	Economics Teachers/Postsecondary	Doctoral degree	75,318	NA	NA
25-1064	Geography Teachers/Postsecondary	Doctoral degree	55,861	NA	NA
25-1065	Political Science Teachers/Postsec	Doctoral degree	60,262	NA	NA
25-1066	Psychology Teachers/Postsecondary	Doctoral degree	54,160	NA	NA
25-1067	Sociology Teachers/Postsecondary	Doctoral degree	58,430	NA	NA
25-1069	Social Science Teachers/Ps, All Other	Doctoral degree	70,443	24.01	38.79
25-1071	Health Specialties Teachers/Postsec	Master's degree	NA	NA	NA
25-1072	Nursing Instructors/Teachers/Postsec	Doctoral degree	57,603	NA	NA
25-1081	Education Teachers/Postsecondary	Doctoral degree	49,797	NA	NA
25-1082	Library Science Teachers/Postsecondary	Doctoral degree	54,110	NA	NA

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
25-1111	Crim Justice/Law Enforce Teachers/Ps	170	210	40	23.5%	0	0	0
25-1112	Law Teachers/Postsecondary	110	140	30	27.3%	0	0	0
25-1113	Social Work Teachers/Postsecondary	200	260	60	30.0%	10	10	20
25-1121	Art/Drama/Music Teachers/Postsec	1,700	2,160	460	27.1%	50	40	90
25-1122	Communications Teachers/Postsec	880	1,120	240	27.3%	20	20	40
25-1123	English Language/Literature Teacher/Ps	1,220	1,560	340	27.9%	30	30	60
25-1124	Foreign Language/Literature Teacher/Ps	680	870	190	27.9%	20	20	40
25-1125	History Teachers/Postsecondary	410	520	110	26.8%	10	10	20
25-1126	Philosophy/Religion Teachers/Postsec	370	470	100	27.0%	10	10	20
25-1191	Graduate Teaching Assistants	2,940	3,730	790	26.9%	80	70	150
25-1192	Home Economics Teachers/Postsec	90	120	30	33.3%	0	0	0
25-1193	Recreation/Fitness Studies Teachers /Ps	340	430	90	26.5%	10	10	20
25-1194	Vocational Education Teacher/Ps	3,290	4,120	830	25.2%	80	70	150
25-1199	Postsecondary Teachers, All Other	3,420	4,350	930	27.2%	90	80	170
25-2000	Primary/Secondary/Special Ed Teachers	98,030	111,010	12,980	13.2%	1,300	2,230	3,530
25-2011	Preschool Teachers/Ex Special Ed	8,540	11,060	2,520	29.5%	250	100	350
25-2012	Kindergarten Tchrs Ex Special Ed	3,510	4,090	580	16.5%	60	40	100
25-2021	Elemen Schl Tchrs Ex Special Ed	31,520	35,550	4,030	12.8%	400	700	1,100
25-2022	Middle School Tchrs/Ex Sp./Voc Ed	16,530	17,760	1,230	7.4%	120	370	490
25-2023	Vocational Ed Tchrs/Middle School	580	610	30	5.2%	0	10	10
25-2031	Secondary Schl Tchrs Ex Sp/Voc Ed	26,530	29,190	2,660	10.0%	270	750	1,020
25-2032	Voc Ed Teachers/Secondary Schl	2,110	2,320	210	10.0%	20	60	80
25-2041	Sp Ed Tchrs/Presch/Kind/Elem Schl	3,670	4,490	820	22.3%	80	90	170
25-2042	Special Ed Teachers/Middle School	2,060	2,480	420	20.4%	40	50	90
25-2043	Special Ed Teachers/Sec School	2,990	3,460	470	15.7%	50	70	120
25-3000	Other Teachers and Instructors	21,420	25,140	3,720	17.4%	370	260	630
25-3011	Adult Liter/Rem Ed/GED Tchrs/Inst	2,310	2,560	250	10.8%	30	30	60
25-3021	Self-Enrichment Ed Teachers	6,030	7,020	990	16.4%	100	70	170
25-3099	Teachers and Instructors, All Other	13,090	15,560	2,470	18.9%	250	160	410
25-4000	Librarians, Curators, and Archivists	6,470	6,740	270	4.2%	30	190	220
25-4011	Archivists	120	120	0	0.0%	0	0	0
25-4012	Curators	200	210	10	5.0%	0	0	0
25-4013	Museum Technicians and Conservators	140	160	20	14.3%	0	0	0
25-4021	Librarians	3,110	3,160	50	1.6%	10	70	80
25-4031	Library Techs	2,910	3,090	180	6.2%	20	110	130
25-9000	Other Ed, Training, and Library Occs	31,540	36,620	5,080	16.1%	510	590	1,100
25-9011	Audio-Visual Collections Specialists	110	130	20	18.2%	0	0	0
25-9021	Farm/Home Management Advisors	930	1,000	70	7.5%	10	10	20
25-9031	Instructional Coordinators	1,340	1,650	310	23.1%	30	20	50
25-9041	Teacher Assts	26,770	30,980	4,210	15.7%	420	520	940
25-9099	Education/Training/Library Wkrs, AO	2,400	2,860	460	19.2%	50	40	90

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
25-1111	Crim Justice/Law Enforce Teachers/Ps	Doctoral degree	57,529	NA	NA
25-1112	Law Teachers/Postsecondary	Doctoral degree	85,813	NA	NA
25-1113	Social Work Teachers/Postsecondary	Doctoral degree	55,869	NA	NA
25-1121	Art/Drama/Music Teachers/Postsec	Master's degree	51,969	NA	NA
25-1122	Communications Teachers/Postsec	Doctoral degree	54,976	NA	NA
25-1123	English Language/Literature Teacher/Ps	Doctoral degree	56,422	NA	NA
25-1124	Foreign Language/Literature Teacher/Ps	Doctoral degree	50,468	NA	NA
25-1125	History Teachers/Postsecondary	Doctoral degree	59,109	NA	NA
25-1126	Philosophy/Religion Teachers/Postsec	Doctoral degree	57,556	NA	NA
25-1191	Graduate Teaching Assistants	Bachelor's degree	24,875	NA	NA
25-1192	Home Economics Teachers/Postsec	Doctoral degree	50,097	NA	NA
25-1193	Recreation/Fitness Studies Teachers /Ps	Master's degree	43,385	NA	NA
25-1194	Vocational Education Teacher/Ps	Work experience in related occ	56,686	16.43	32.66
25-1199	Postsecondary Teachers, All Other	Doctoral degree	55,950	NA	NA
25-2000	Primary/Secondary/Special Ed Teachers		NA	NA	NA
25-2011	Preschool Teachers/Ex Special Ed	Bachelor's degree	24,027	8.30	13.18
25-2012	Kindergarten Tchrs Ex Special Ed	Bachelor's degree	41,183	NA	NA
25-2021	Elemen Schl Tchrs Ex Special Ed	Bachelor's degree	45,031	NA	NA
25-2022	Middle School Tchrs/Ex Sp./Voc Ed	Bachelor's degree	44,375	NA	NA
25-2023	Vocational Ed Tchrs/Middle School	Bachelor's degree	47,092	NA	NA
25-2031	Secondary Schl Tchrs Ex Sp/Voc Ed	Bachelor's degree	45,459	NA	NA
25-2032	Voc Ed Teachers/Secondary Schl	Bachelor's degree	44,674	NA	NA
25-2041	Sp Ed Tchrs/Presch/Kind/Elem Schl	Bachelor's degree	43,829	NA	NA
25-2042	Special Ed Teachers/Middle School	Bachelor's degree	42,307	NA	NA
25-2043	Special Ed Teachers/Sec School	Bachelor's degree	46,471	NA	NA
25-3000	Other Teachers and Instructors		NA	NA	NA
25-3011	Adult Liter/Rem Ed/GED Tchrs/Inst	Bachelor's degree	47,533	15.90	26.33
25-3021	Self-Enrichment Ed Teachers	Work experience in related occ	31,870	8.87	18.55
25-3099	Teachers and Instructors, All Other	Bachelor's degree	31,492	10.86	17.28
25-4000	Librarians, Curators, and Archivists		NA	NA	NA
25-4011	Archivists	Master's degree	45,908	16.83	24.69
25-4012	Curators	Master's degree	44,235	13.74	25.03
25-4013	Museum Technicians and Conservators	Master's degree	36,884	12.83	20.18
25-4021	Librarians	Master's degree	45,719	16.49	24.73
25-4031	Library Techs	Postsecondary vocational training	24,286	7.88	13.57
25-9000	Other Ed, Training, and Library Occs		NA	NA	NA
25-9011	Audio-Visual Collections Specialists	Moderate-term on-the-job training	35,582	10.45	20.43
25-9021	Farm/Home Management Advisors	Bachelor's degree	43,231	14.75	23.80
25-9031	Instructional Coordinators	Master's degree	54,241	16.43	30.90
25-9041	Teacher Assts	Associate degree	23,638	NA	NA
25-9099	Education/Training/Library Wkrs, AO	Bachelor's degree	32,441	8.53	19.13

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
<b>27-0000</b>	<b>Arts/Design/Entertain/Sports/Media Occs</b>	<b>54,810</b>	<b>60,220</b>	<b>5,410</b>	<b>9.9%</b>	<b>540</b>	<b>1,050</b>	<b>1,590</b>
27-1000	Art and Design Workers	15,990	17,320	1,330	8.3%	130	240	370
27-1011	Art Directors	1,160	1,240	80	6.9%	10	30	40
27-1012	Craft Artists	190	190	0	0.0%	0	0	0
27-1013	Fine Artists/Inc Paint/Sculpt/ Illustrat	260	290	30	11.5%	0	10	10
27-1014	Multi-Media Artists and Animators	1,370	1,460	90	6.6%	10	30	40
27-1019	Artists and Related Workers, All Other	290	330	40	13.8%	0	10	10
27-1021	Commercial and Industrial Designers	1,420	1,480	60	4.2%	10	20	30
27-1022	Fashion Designers	NA	NA	NA	NA	0	0	0
27-1023	Floral Designers	2,340	2,540	200	8.5%	20	30	50
27-1024	Graphic Designers	5,920	6,480	560	9.5%	60	80	140
27-1025	Interior Designers	1,340	1,480	140	10.4%	10	20	30
27-1026	Merchandise Display/Window Trim	1,020	1,110	90	8.8%	10	10	20
27-1027	Set and Exhibit Designers	NA	NA	NA	NA	0	0	0
27-1029	Designers, All Other	510	560	50	9.8%	10	10	20
27-2000	Entertainers/Performers/Sports/Rel Wrks	18,060	19,850	1,790	9.9%	180	400	580
27-2011	Actors	290	280	(10)	-3.4%	0	0	0
27-2012	Producers/Directors	1,020	1,100	80	7.8%	10	20	30
27-2021	Athletes/Sports Competitors	650	740	90	13.8%	10	10	20
27-2022	Coaches/Scouts	4,470	5,080	610	13.6%	60	90	150
27-2023	Umpires/Refs/Other Sports Officials	NA	NA	NA	NA	30	50	80
27-2031	Dancers	NA	NA	NA	NA	0	20	20
27-2032	Choreographers	730	800	70	9.6%	10	50	60
27-2041	Music Directors/Composers	2,160	2,310	150	6.9%	20	50	70
27-2042	Musicians/Singers	5,560	6,000	440	7.9%	40	120	160
27-2099	Entertain/Perform/Sports, All Other	250	280	30	12.0%	0	0	0
27-3000	Media and Communication Workers	15,940	17,840	1,900	11.9%	190	310	500
27-3011	Radio and Television Announcers	1,320	1,180	(140)	-10.6%	0	30	30
27-3012	Public Address System/Other Ann	390	380	(10)	-2.6%	0	10	10
27-3021	Broadcast News Analysts	220	210	(10)	-4.5%	0	10	10
27-3022	Reporters and Correspondents	1,210	1,230	20	1.7%	0	30	30
27-3031	Public Relations Specialists	4,770	5,660	890	18.7%	90	70	160
27-3041	Editors	2,410	2,670	260	10.8%	30	60	90
27-3042	Technical Writers	990	1,150	160	16.2%	20	30	50
27-3043	Writers/Authors	3,510	4,040	530	15.1%	50	60	110
27-3091	Interpreters/Translators	760	920	160	21.1%	20	10	30
27-3099	Media/Communication Wrks/AO	380	400	20	5.3%	0	10	10
27-4000	Media/Communication Equipment Workers	4,820	5,220	400	8.3%	40	110	150
27-4011	Audio/Video Equipment Technicians	630	710	80	12.7%	10	20	30
27-4012	Broadcast Technicians	820	870	50	6.1%	10	20	30
27-4013	Radio Operators	NA	NA	NA	NA	0	0	0
27-4014	Sound Engineering Technicians	NA	NA	NA	NA	0	0	0

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
<b>27-0000</b>	<b>Arts/Design/Entertain/Sports/Media Occs</b>		<b>38,589</b>	<b>9.64</b>	<b>23.01</b>
27-1000	Art and Design Workers		NA	NA	NA
27-1011	Art Directors	Degree & work experience	61,239	18.47	34.93
27-1012	Craft Artists	Long-term on-the-job training	33,511	8.85	19.74
27-1013	Fine Artists/Inc Paint/Sculpt/ Illustrat	Long-term on-the-job training	37,184	11.94	20.85
27-1014	Multi-Media Artists and Animators	Bachelor's degree	44,058	14.54	24.50
27-1019	Artists and Related Workers, All Other	Long-term on-the-job training	33,949	10.52	19.22
27-1021	Commercial and Industrial Designers	Bachelor's degree	53,609	17.28	30.02
27-1022	Fashion Designers	Bachelor's degree	NA	NA	NA
27-1023	Floral Designers	Moderate-term on-the-job training	21,323	7.69	11.53
27-1024	Graphic Designers	Bachelor's degree	37,993	12.56	21.12
27-1025	Interior Designers	Bachelor's degree	38,420	11.66	21.88
27-1026	Merchandise Display/Window Trim	Moderate-term on-the-job training	25,102	7.80	14.20
27-1027	Set and Exhibit Designers	Bachelor's degree	34,386	10.72	19.44
27-1029	Designers, All Other	Bachelor's degree	34,640	11.80	19.08
27-2000	Entertainrs/Performrs/Sports/Rel Wrkrs		NA	NA	NA
27-2011	Actors	Long-term on-the-job training	NA	6.81	17.09
27-2012	Producers/Directors	Degree & work experience	47,156	13.99	27.01
27-2021	Athletes/Sports Competitors	Long-term on-the-job training	100,306	NA	NA
27-2022	Coaches/Scouts	Long-term on-the-job training	30,571	NA	NA
27-2023	Umpires/Refs/Other Sports Officials	Long-term on-the-job training	23,908	NA	NA
27-2031	Dancers	Long-term on-the-job training	NA	7.18	11.07
27-2032	Choreographers	Work experience in a related occ	27,233	8.87	15.20
27-2041	Music Directors/Composers	Degree & work experience	36,630	8.86	21.98
27-2042	Musicians/Singers	Long-term on-the-job training	NA	NA	NA
27-2099	Entertain/Perform/Sports, All Other	Long-term on-the-job training	NA	NA	NA
27-3000	Media and Communication Workers		NA	NA	NA
27-3011	Radio and Television Announcers	Long-term on-the-job training	28,073	7.28	16.61
27-3012	Public Address System/Other Ann	Long-term on-the-job training	26,210	8.33	14.74
27-3021	Broadcast News Analysts	Degree & work experience	40,275	10.49	23.80
27-3022	Reporters and Correspondents	Degree & work experience	34,677	10.00	20.01
27-3031	Public Relations Specialists	Bachelor's degree	47,061	14.25	26.81
27-3041	Editors	Bachelor's degree	46,075	14.16	26.15
27-3042	Technical Writers	Bachelor's degree	50,581	18.14	27.41
27-3043	Writers/Authors	Bachelor's degree	40,569	9.70	24.41
27-3091	Interpreters/Translators	Long-term on-the-job training	37,090	12.88	20.31
27-3099	Media/Communication Wrkrs/AO	Long-term on-the-job training	42,104	11.39	24.67
27-4000	Media/Communication Equipment Workers		NA	NA	NA
27-4011	Audio/Video Equipment Technicians	Long-term on-the-job training	34,798	10.09	20.05
27-4012	Broadcast Technicians	Postsecondary vocational training	32,396	8.40	19.17
27-4013	Radio Operators	Moderate-term on-the-job training	NA	NA	NA
27-4014	Sound Engineering Technicians	Postsecondary vocational training	44,842	8.85	27.91

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
27-4021	Photographers	2,620	2,850	230	8.8%	20	50	70
27-4031	Camera Operators, TV/Video/Motion Picture	380	410	30	7.9%	0	10	10
27-4032	Film and Video Editors	110	120	10	9.1%	0	0	0
27-4099	Media/Communication Equip Wkrs AO	160	160	0	0.0%	0	0	0
<b>29-0000</b>	<b>Healthcare Practitioners/Technical Occs</b>	<b>142,330</b>	<b>180,270</b>	<b>37,940</b>	<b>26.7%</b>	<b>3,790</b>	<b>2,640</b>	<b>6,430</b>
29-1000	Health Diagnosing/Treating Practitioners	87,100	111,610	24,510	28.1%	2,450	1,700	4,150
29-1011	Chiropractors	2,050	2,490	440	21.5%	40	40	80
29-1021	Dentists, General	3,310	3,630	320	9.7%	30	60	90
29-1022	Oral and Maxillofacial Surgeons	NA	NA	NA	NA	0	0	0
29-1023	Orthodontists	110	120	10	9.1%	0	0	0
29-1024	Prosthodontists	40	40	0	0.0%	0	0	0
29-1029	Dentists, All Other Specialists	NA	NA	NA	NA	0	0	0
29-1031	Dietitians and Nutritionists	1,160	1,360	200	17.2%	20	30	50
29-1041	Optometrists	630	730	100	15.9%	10	20	30
29-1051	Pharmacists	4,590	5,580	990	21.6%	100	90	190
29-1061	Anesthesiologists	370	470	100	27.0%	10	10	20
29-1062	Family and General Practitioners	1,820	2,260	440	24.2%	40	20	60
29-1063	Internists, General	1,670	2,050	380	22.8%	40	20	60
29-1064	Obstetricians and Gynecologists	170	210	40	23.5%	0	0	0
29-1065	Pediatricians, General	230	290	60	26.1%	10	0	10
29-1066	Psychiatrists	400	480	80	20.0%	10	10	20
29-1067	Surgeons	1,110	1,360	250	22.5%	30	20	50
29-1069	Physicians and Surgeons, All Other	4,210	5,180	970	23.0%	100	60	160
29-1071	Physician Assistants	1,310	1,990	680	51.9%	70	20	90
29-1081	Podiatrists	180	200	20	11.1%	0	0	0
29-1111	Registered Nurses	48,410	64,420	16,010	33.1%	1,600	1,010	2,610
29-1121	Audiologists	470	480	10	2.1%	0	10	10
29-1122	Occupational Therapists	3,040	3,940	900	29.6%	90	40	130
29-1123	Physical Therapists	3,550	4,610	1,060	29.9%	110	40	150
29-1124	Radiation Therapists	390	510	120	30.8%	10	10	20
29-1125	Recreational Therapists	610	630	20	3.3%	0	20	20
29-1126	Respiratory Therapists	1,460	1,960	500	34.2%	50	50	100
29-1127	Speech-Language Pathologists	2,430	2,720	290	11.9%	30	60	90
29-1129	Therapists, All Other	NA	NA	NA	NA	20	20	40
29-1131	Veterinarians	1,680	1,880	200	11.9%	20	40	60
29-1199	Health Diagnosing/Treat Practitioner, AO	740	870	130	17.6%	10	20	30
29-2000	Health Technologists/Technicians	52,820	65,690	12,870	24.4%	1,290	890	2,180
29-2011	Medical/Clinical Lab Technologists	3,260	4,200	940	28.8%	90	90	180
29-2012	Medical/Clinical Laboratory Technicians	2,020	2,600	580	28.7%	60	50	110
29-2021	Dental Hygienists	4,390	6,050	1,660	37.8%	170	40	210
29-2031	Cardiovascular Technologist/Technicians	660	860	200	30.3%	20	10	30
29-2032	Diagnostic Medical Sonographers	840	1,140	300	35.7%	30	20	50

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
27-4021	Photographers	Bachelor's degree	30,234	9.12	17.25
27-4031	Camera Operators, TV/Video/Motion Picture	Moderate-term on-the-job training	38,700	8.62	23.60
27-4032	Film and Video Editors	Bachelor's degree	34,301	10.05	19.71
27-4099	Media/Communication Equip Wkrs AO	Moderate-term on-the-job training	40,190	11.24	23.36
<b>29-0000</b>	<b>Healthcare Practitioners/Technical Occs</b>		<b>58,647</b>	<b>14.52</b>	<b>35.03</b>
29-1000	Health Diagnosing/Treating Practitioners		NA	NA	NA
29-1011	Chiropractors	First professional degree	104,228	22.39	63.97
29-1021	Dentists, General	First professional degree	145,997	45.42	82.58
29-1022	Oral and Maxillofacial Surgeons	First professional degree	186,602	NA	NA
29-1023	Orthodontists	First professional degree	192,314	NA	NA
29-1024	Prosthodontists	First professional degree	153,709	36.70	92.50
29-1029	Dentists, All Other Specialists	First professional degree	151,395	38.86	89.75
29-1031	Dietitians and Nutritionists	Bachelor's degree	46,784	18.11	24.68
29-1041	Optometrists	First professional degree	94,477	29.35	53.46
29-1051	Pharmacists	First professional degree	91,417	33.23	49.31
29-1061	Anesthesiologists	First professional degree	182,686	NA	NA
29-1062	Family and General Practitioners	First professional degree	160,249	49.48	90.82
29-1063	Internists, General	First professional degree	177,305	NA	NA
29-1064	Obstetricians and Gynecologists	First professional degree	187,565	NA	NA
29-1065	Pediatricians, General	First professional degree	163,754	55.02	90.58
29-1066	Psychiatrists	First professional degree	158,987	43.01	93.15
29-1067	Surgeons	First professional degree	187,002	NA	NA
29-1069	Physicians and Surgeons, All Other	First professional degree	168,559	NA	NA
29-1071	Physician Assistants	Bachelor's degree	NA	NA	NA
29-1081	Podiatrists	First professional degree	110,541	39.20	60.11
29-1111	Registered Nurses	Associate or Bachelor's degree <sup>(6)</sup>	55,060	21.53	28.94
29-1121	Audiologists	Doctoral degree	57,323	20.50	31.09
29-1122	Occupational Therapists	Master's degree	52,248	19.44	27.96
29-1123	Physical Therapists	Master's degree	62,582	22.65	33.81
29-1124	Radiation Therapists	Associate degree	65,931	25.15	34.97
29-1125	Recreational Therapists	Bachelor's degree	32,937	10.92	18.29
29-1126	Respiratory Therapists	Associate degree	47,309	18.81	24.71
29-1127	Speech-Language Pathologists	Master's degree	52,359	17.84	28.84
29-1129	Therapists, All Other	Bachelor's degree	NA	NA	NA
29-1131	Veterinarians	First professional degree	82,233	21.84	48.38
29-1199	Health Diagnosing/Treat Practitioner, AO	First professional degree	57,605	18.80	32.14
29-2000	Health Technologists/Technicians		NA	NA	NA
29-2011	Medical/Clinical Lab Technologists	Bachelor's degree	48,780	18.40	25.98
29-2012	Medical/Clinical Laboratory Technicians	Associate degree	34,900	13.37	18.48
29-2021	Dental Hygienists	Associate degree	54,203	23.01	27.58
29-2031	Cardiovascular Technologist/Technicians	Associate degree	42,569	13.42	23.99
29-2032	Diagnostic Medical Sonographers	Associate degree	66,410	25.54	35.12

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
29-2033	Nuclear Medicine Technologists	360	450	90	25.0%	10	10	20
29-2034	Radiologic Technologists/Technicians	4,130	5,440	1,310	31.7%	130	80	210
29-2041	EMT/Paramedics	7,140	8,560	1,420	19.9%	140	80	220
29-2051	Dietetic Technicians	420	490	70	16.7%	10	10	20
29-2052	Pharmacy Technicians	5,770	7,200	1,430	24.8%	140	80	220
29-2053	Psychiatric Technicians	1,260	1,390	130	10.3%	10	20	30
29-2054	Respiratory Therapy Technicians	230	250	20	8.7%	0	0	0
29-2055	Surgical Technologists	2,120	2,860	740	34.9%	70	30	100
29-2056	Veterinary Technologists/Technicians	1,280	1,650	370	28.9%	40	20	60
29-2061	Licensed Practical/Vocational Nurses	11,040	12,650	1,610	14.6%	160	240	400
29-2071	Medical Records/Health Info Technicians	3,540	4,770	1,230	34.7%	120	50	170
29-2081	Opticians, Dispensing	1,900	2,060	160	8.4%	20	30	50
29-2091	Orthotists and Prosthetists	80	80	0	0.0%	0	0	0
29-2099	Health Technologists/Technicians, AO	2,390	2,990	600	25.1%	60	40	100
29-9000	Other Healthcare Practitioner/Tech Occs	2,410	2,970	560	23.2%	60	50	110
29-9011	Occupational Health/Safety Specialists	750	840	90	12.0%	10	20	30
29-9012	Occupational Health/Safety Technicians	130	140	10	7.7%	0	0	0
29-9091	Athletic Trainers	460	600	140	30.4%	10	10	20
29-9099	Healthcare Prac/Tech Wkrs, All Other	1,080	1,390	310	28.7%	30	20	50
<b>31-0000</b>	<b>Healthcare Support Occupations</b>	<b>81,700</b>	<b>104,540</b>	<b>22,840</b>	<b>28.0%</b>	<b>2,280</b>	<b>1,270</b>	<b>3,550</b>
31-1000	Nursing/Psychiatric/Home Health Aides	52,760	66,620	13,860	26.3%	1,390	690	2,080
31-1011	Home Health Aides	13,730	20,790	7,060	51.4%	710	180	890
31-1012	Nursing Aides, Orderlies, and Attendants	38,630	45,320	6,690	17.3%	670	510	1,180
31-1013	Psychiatric Aides	410	510	100	24.4%	10	10	20
31-2000	Occupational/PT Assistants/Aides	2,800	3,610	810	28.9%	80	40	120
31-2011	Occupational Therapist Assistants	730	900	170	23.3%	20	10	30
31-2012	Occupational Therapist Aides	160	200	40	25.0%	0	0	0
31-2021	Physical Therapist Assistants	1,220	1,620	400	32.8%	40	20	60
31-2022	Physical Therapist Aides	690	900	210	30.4%	20	10	30
31-9000	Other Healthcare Support Occupations	26,140	34,310	8,170	31.3%	820	530	1,350
31-9011	Massage Therapists	1,920	2,290	370	19.3%	40	40	80
31-9091	Dental Assistants	5,050	6,950	1,900	37.6%	190	140	330
31-9092	Medical Assistants	5,890	8,640	2,750	46.7%	280	110	390
31-9093	Medical Equipment Preparers	820	1,050	230	28.0%	20	20	40
31-9094	Medical Transcriptionists	4,410	5,680	1,270	28.8%	130	80	210
31-9095	Pharmacy Aides	880	1,030	150	17.0%	20	20	40
31-9096	Vet Assistants/Lab Animal Caretakers	1,020	1,160	140	13.7%	10	20	30
31-9099	Healthcare Support Workers, All Other	6,160	7,510	1,350	21.9%	140	110	250

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
29-2033	Nuclear Medicine Technologists	Associate degree	61,263	24.32	32.02
29-2034	Radiologic Technologists/Technicians	Associate degree	46,916	17.91	24.88
29-2041	EMT/Paramedics	Postsecondary vocational training	24,375	7.05	14.05
29-2051	Dietetic Technicians	Moderate-term on-the-job training	25,017	8.54	13.77
29-2052	Pharmacy Technicians	Moderate-term on-the-job training	24,204	8.93	12.99
29-2053	Psychiatric Technicians	Moderate-term on-the-job training	30,242	11.11	16.25
29-2054	Respiratory Therapy Technicians	Associate degree	39,336	15.10	20.82
29-2055	Surgical Technologists	Postsecondary vocational training	40,055	15.38	21.20
29-2056	Veterinary Technologists/Technicians	Associate degree	27,233	10.00	14.64
29-2061	Licensed Practical/Vocational Nurses	Postsecondary vocational training	36,842	14.81	19.16
29-2071	Medical Records/Health Info Technicians	Associate degree	28,976	9.88	15.95
29-2081	Opticians, Dispensing	Long-term on-the-job training	26,659	9.25	14.60
29-2091	Orthotists and Prosthetists	Bachelor's degree	56,636	19.24	31.22
29-2099	Health Technologists/Technicians, AO	Postsecondary vocational training	36,103	11.98	20.04
29-9000	Other Healthcare Practitioner/Tech Occs		NA	NA	NA
29-9011	Occupational Health/Safety Specialists	Bachelor's degree	52,680	17.33	29.32
29-9012	Occupational Health/Safety Technicians	Postsecondary vocational training	44,832	15.53	24.56
29-9091	Athletic Trainers	Bachelor's degree	40,162	NA	NA
29-9099	Healthcare Prac/Tech Wkrs, All Other	Postsecondary vocational training	38,363	11.90	21.72
<b>31-0000</b>	<b>Healthcare Support Occupations</b>		<b>24,756</b>	<b>9.21</b>	<b>13.25</b>
31-1000	Nursing/Psychiatric/Home Health Aides		NA	NA	NA
31-1011	Home Health Aides	Short-term on-the-job training	20,162	8.16	10.46
31-1012	Nursing Aides, Orderlies, and Attendants	Postsecondary vocational training	23,624	9.37	12.35
31-1013	Psychiatric Aides	Short-term on-the-job training	20,885	8.20	10.96
31-2000	Occupational/PT Assistants/Aides		NA	NA	NA
31-2011	Occupational Therapist Assistants	Associate degree	36,332	14.20	19.10
31-2012	Occupational Therapist Aides	Short-term on-the-job training	22,453	8.17	12.11
31-2021	Physical Therapist Assistants	Associate degree	38,342	14.75	20.28
31-2022	Physical Therapist Aides	Short-term on-the-job training	23,632	8.97	12.56
31-9000	Other Healthcare Support Occupations		NA	NA	NA
31-9011	Massage Therapists	Postsecondary vocational training	31,932	7.71	19.17
31-9091	Dental Assistants	Moderate-term on-the-job training	28,602	10.78	15.23
31-9092	Medical Assistants	Moderate-term on-the-job training	27,441	10.98	14.30
31-9093	Medical Equipment Preparers	Short-term on-the-job training	28,225	10.39	15.16
31-9094	Medical Transcriptionists	Postsecondary vocational training	29,857	11.83	15.62
31-9095	Pharmacy Aides	Short-term on-the-job training	21,093	7.06	11.68
31-9096	Vet Assistants/Lab Animal Caretakers	Short-term on-the-job training	20,465	8.00	10.76
31-9099	Healthcare Support Workers, All Other	Short-term on-the-job training	25,451	9.38	13.66

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
<b>33-0000</b>	<b>Protective Service Occupations</b>	<b>48,740</b>	<b>52,590</b>	<b>3,850</b>	<b>7.9%</b>	<b>390</b>	<b>1,410</b>	<b>1,800</b>
33-1000	First-Line Sup/Mgrs Protect Service Wkrs	3,330	3,570	240	7.2%	20	110	130
33-1011	First-Line Sup/Mgrs Correction Officers	780	810	30	3.8%	0	20	20
33-1012	First-Line Sup/Mgrs Police/Detectives	1,270	1,360	90	7.1%	10	40	50
33-1021	First-Line Sup/Mgrs Fire Fight/Prevent	730	820	90	12.3%	10	30	40
33-1099	First-Line Sup/Mgrs/Protect Service, AO	550	580	30	5.5%	0	10	10
33-2000	Fire Fighting and Prevention Workers	7,700	8,800	1,100	14.3%	110	220	330
33-2011	Fire Fighters	7,500	8,630	1,130	15.1%	110	220	330
33-2021	Fire Inspectors and Investigators	NA	NA	NA	NA	0	10	10
33-2022	Forest Fire Inspect/Prevent Specialists	NA	NA	NA	NA	0	0	0
33-3000	Law Enforcement Workers	19,930	20,790	860	4.3%	90	480	570
33-3011	Bailiffs	190	200	10	5.3%	0	0	0
33-3012	Correctional Officers and Jailers	6,840	6,840	0	0.0%	0	140	140
33-3021	Detectives and Criminal Investigators	1,580	1,690	110	7.0%	10	40	50
33-3031	Fish and Game Wardens	NA	NA	NA	NA	0	0	0
33-3041	Parking Enforcement Workers	230	240	10	4.3%	0	0	0
33-3051	Police and Sheriff's Patrol Officers	10,910	11,630	720	6.6%	70	280	350
33-3052	Transit and Railroad Police	NA	NA	NA	NA	0	0	0
33-9000	Other Protective Service Workers	17,770	19,440	1,670	9.4%	170	600	770
33-9011	Animal Control Workers	70	70	0	0.0%	0	10	10
33-9021	Private Detectives and Investigators	420	460	40	9.5%	0	10	10
33-9031	Gaming Surveillance Officers/Investig	310	320	10	3.2%	0	10	10
33-9032	Security Guards	11,300	12,220	920	8.1%	90	250	340
33-9091	Crossing Guards	1,700	1,900	200	11.8%	20	60	80
33-9092	Lifeguards/Ski/Other Recreation Protect	2,460	2,830	370	15.0%	40	170	210
33-9099	Protective Service Workers, All Other	1,530	1,630	100	6.5%	10	110	120
<b>35-0000</b>	<b>Food Preparation &amp; Serving Related</b>	<b>235,530</b>	<b>269,090</b>	<b>33,560</b>	<b>14.2%</b>	<b>3,360</b>	<b>9,350</b>	<b>12,710</b>
35-1000	Supervisors, Food Prep/Serving Workers	19,390	22,400	3,010	15.5%	300	480	780
35-1011	Chefs and Head Cooks	3,500	4,050	550	15.7%	60	100	160
35-1012	First-Line Sup/Mgrs Food Prep/Serving	15,890	18,350	2,460	15.5%	250	380	630
35-2000	Cooks and Food Preparation Workers	53,980	61,180	7,200	13.3%	720	1,740	2,460
35-2011	Cooks, Fast Food	10,660	12,260	1,600	15.0%	160	330	490
35-2012	Cooks, Institution and Cafeteria	9,250	9,650	400	4.3%	40	290	330
35-2013	Cooks, Private Household	110	110	0	0.0%	0	0	0
35-2014	Cooks, Restaurant	13,140	15,140	2,000	15.2%	200	410	610
35-2015	Cooks, Short Order	5,040	5,450	410	8.1%	40	160	200
35-2019	Cooks, All Other	90	90	0	0.0%	0	0	0
35-2021	Food Preparation Workers	15,700	18,480	2,780	17.7%	280	560	840
35-3000	Food and Beverage Serving Workers	133,380	152,610	19,230	14.4%	1,920	6,170	8,090
35-3011	Bartenders	23,060	25,740	2,680	11.6%	270	910	1,180
35-3021	Combo Food Prep/Serve, Inc Fast Food	52,980	61,340	8,360	15.8%	840	2,300	3,140

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
<b>33-0000</b>	<b>Protective Service Occupations</b>		<b>34,091</b>	<b>8.75</b>	<b>20.21</b>
33-1000	First-Line Sup/Mgrs Protect Service Wkrs		NA	NA	NA
33-1011	First-Line Sup/Mgrs Correction Officers	Work experience in related occ	51,652	21.05	26.72
33-1012	First-Line Sup/Mgrs Police/Detectives	Work experience in related occ	61,885	23.68	32.79
33-1021	First-Line Sup/Mgrs Fire Fight/Prevent	Work experience in related occ	51,243	12.67	30.62
33-1099	First-Line Sup/Mgrs/Protect Service, AO	Work experience in related occ	44,090	13.77	24.91
33-2000	Fire Fighting and Prevention Workers		NA	NA	NA
33-2011	Fire Fighters	Long-term on-the-job training	30,551	7.53	18.27
33-2021	Fire Inspectors and Investigators	Work experience in related occ	NA	NA	NA
33-2022	Forest Fire Inspect/Prevent Specialists	Work experience in related occ	NA	NA	NA
33-3000	Law Enforcement Workers		NA	NA	NA
33-3011	Bailiffs	Moderate-term on-the-job training	23,268	7.93	12.81
33-3012	Correctional Officers and Jailers	Moderate-term on-the-job training	35,074	14.23	18.18
33-3021	Detectives and Criminal Investigators	Work experience in related occ	54,938	21.69	28.77
33-3031	Fish and Game Wardens	Associate degree	42,706	16.08	22.76
33-3041	Parking Enforcement Workers	Short-term on-the-job training	29,472	10.57	15.97
33-3051	Police and Sheriff's Patrol Officers	Long-term on-the-job training	44,433	16.09	24.00
33-3052	Transit and Railroad Police	Long-term on-the-job training	NA	NA	NA
33-9000	Other Protective Service Workers		NA	NA	NA
33-9011	Animal Control Workers	Moderate-term on-the-job training	25,087	6.82	14.68
33-9021	Private Detectives and Investigators	Work experience in related occ	33,063	10.54	18.57
33-9031	Gaming Surveillance Officers/Investig	Moderate-term on-the-job training	26,904	9.33	14.74
33-9032	Security Guards	Short-term on-the-job training	22,284	7.68	12.23
33-9091	Crossing Guards	Short-term on-the-job training	21,896	8.07	11.76
33-9092	Lifeguards/Ski/Other Recreation Protect	Short-term on-the-job training	17,054	6.80	8.90
33-9099	Protective Service Workers, All Other	Short-term on-the-job training	30,674	9.90	17.17
<b>35-0000</b>	<b>Food Preparation &amp; Serving Related</b>		<b>17,487</b>	<b>5.92</b>	<b>9.65</b>
35-1000	Supervisors, Food Prep/Serving Workers		NA	NA	NA
35-1011	Chefs and Head Cooks	Postsecondary vocational training	29,395	9.14	16.63
35-1012	First-Line Sup/Mgrs Food Prep/Serving	Work experience in related occ	28,265	9.31	15.73
35-2000	Cooks and Food Preparation Workers		NA	NA	NA
35-2011	Cooks, Fast Food	Short-term on-the-job training	16,015	6.05	8.53
35-2012	Cooks, Institution and Cafeteria	Long-term on-the-job training	22,230	8.47	11.80
35-2013	Cooks, Private Household	Long-term on-the-job training	NA	NA	NA
35-2014	Cooks, Restaurant	Long-term on-the-job training	19,703	7.16	10.63
35-2015	Cooks, Short Order	Short-term on-the-job training	17,840	6.72	9.50
35-2019	Cooks, All Other	Long-term on-the-job training	21,503	7.99	11.51
35-2021	Food Preparation Workers	Short-term on-the-job training	18,058	6.72	9.66
35-3000	Food and Beverage Serving Workers		NA	NA	NA
35-3011	Bartenders	Short-term on-the-job training	17,552	6.42	9.45
35-3021	Combo Food Prep/Serve, Inc Fast Food	Short-term on-the-job training	15,583	5.92	8.28

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
35-3022	Counter Attendant/Cafeteria/Concession	6,570	7,590	1,020	15.5%	100	430	530
35-3031	Waiters and Waitresses	46,470	53,390	6,920	14.9%	690	2,390	3,080
35-3041	Food Servers, Nonrestaurant	4,310	4,540	230	5.3%	20	140	160
35-9000	Other Food Prep/Serving Related Workers	28,780	32,900	4,120	14.3%	410	950	1,360
35-9011	Dining Room/Cafeteria Attendants	8,740	9,870	1,130	12.9%	110	290	400
35-9021	Dishwashers	12,770	14,660	1,890	14.8%	190	430	620
35-9031	Hosts/Hostesses	5,740	6,620	880	15.3%	90	180	270
35-9099	Food Preparation/Serving Wkrs, AO	1,530	1,750	220	14.4%	20	50	70
<b>37-0000</b>	<b>Building/Grounds/Maintenance Occs</b>	<b>112,370</b>	<b>130,280</b>	<b>17,910</b>	<b>15.9%</b>	<b>1,790</b>	<b>2,230</b>	<b>4,020</b>
37-1000	Supervisors, Bldg/Grounds/Maintenance	8,030	9,260	1,230	15.3%	120	140	260
37-1011	F-L Sup/Mgrs Housekeeping/Janitorial	4,680	5,460	780	16.7%	80	110	190
37-1012	F-L Sup/Mgrs Landscaping/Grounds	3,350	3,800	450	13.4%	50	30	80
37-2000	Building Cleaning and Pest Control Workers	82,880	96,070	13,190	15.9%	1,320	1,620	2,940
37-2011	Janitors/Cleaners, Exc Housekeeping	56,740	66,250	9,510	16.8%	950	1,080	2,030
37-2012	Maids and Housekeeping Cleaners	25,630	29,220	3,590	14.0%	360	540	900
37-2019	Building Cleaning Workers, All Other	NA	NA	NA	NA	0	0	0
37-2021	Pest Control Workers	NA	NA	NA	NA	10	10	20
37-3000	Grounds Maintenance Workers	21,470	24,950	3,480	16.2%	350	470	820
37-3011	Landscaping/Groundskeeping Wkrs	20,310	23,610	3,300	16.2%	330	440	770
37-3012	Pesticide Handlers/Sprayers	510	590	80	15.7%	10	10	20
37-3013	Tree Trimmers and Pruners	430	460	30	7.0%	0	10	10
37-3019	Grounds Maintenance Workers, AO	220	300	80	36.4%	10	10	20
<b>39-0000</b>	<b>Personal Care and Service Occupations</b>	<b>100,890</b>	<b>120,210</b>	<b>19,320</b>	<b>19.1%</b>	<b>1,930</b>	<b>2,320</b>	<b>4,250</b>
39-1000	Supervisors, Personal Care/Service Wkrs	6,240	7,170	930	14.9%	90	150	240
39-1011	Gaming Supervisors	630	710	80	12.7%	10	10	20
39-1012	Slot Key Persons	650	700	50	7.7%	10	10	20
39-1021	First-Line Sup/Mgrs Personal Serv Wkrs	4,960	5,760	800	16.1%	80	130	210
39-2000	Animal Care and Service Workers	2,910	3,510	600	20.6%	60	70	130
39-2011	Animal Trainers	NA	NA	NA	NA	10	10	20
39-2021	Nonfarm Animal Caretakers	NA	NA	NA	NA	50	60	110
39-3000	Entertainment Attendants/Related Workers	11,040	12,520	1,480	13.4%	150	380	530
39-3011	Gaming Dealers	980	1,230	250	25.5%	30	30	60
39-3012	Gaming/Sports Book Writers/Runners	200	220	20	10.0%	0	10	10
39-3019	Gaming Service Workers, All Other	290	360	70	24.1%	10	10	20
39-3021	Motion Picture Projectionists	290	250	(40)	-13.8%	0	20	20
39-3031	Ushers/Lobby Attendants/Ticket Takers	1,870	1,970	100	5.3%	10	110	120
39-3091	Amusement/Recreation Attendants	6,160	7,110	950	15.4%	100	180	280
39-3092	Costume Attendants	NA	NA	NA	NA	0	0	0
39-3093	Locker/Coat/Dressing Room Attendants	370	410	40	10.8%	0	10	10
39-3099	Entertainment Attend/Related Wkrs , AO	NA	NA	NA	NA	10	30	40

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
35-3022	Counter Attendant/Cafeteria/Concession	Short-term on-the-job training	15,238	5.90	8.04
35-3031	Waiters and Waitresses	Short-term on-the-job training	15,775	5.91	8.42
35-3041	Food Servers, Nonrestaurant	Short-term on-the-job training	19,091	7.04	10.25
35-9000	Other Food Prep/Serving Related Workers		NA	NA	NA
35-9011	Dining Room/Cafeteria Attendants	Short-term on-the-job training	14,635	5.92	7.60
35-9021	Dishwashers	Short-term on-the-job training	14,756	5.90	7.69
35-9031	Hosts/Hostesses	Short-term on-the-job training	16,063	5.94	8.61
35-9099	Food Preparation/Serving Wkrs, AO	Short-term on-the-job training	17,976	5.90	10.01
<b>37-0000</b>	<b>Building/Grounds/Maintenance Occs</b>		<b>22,323</b>	<b>7.22</b>	<b>12.49</b>
37-1000	Supervisors, Bldg/Grounds/Maintenance		NA	NA	NA
37-1011	F-L Sup/Mgrs Housekeeping/Janitorial	Work experience in related occ	33,959	10.94	19.02
37-1012	F-L Sup/Mgrs Landscaping/Grounds	Work experience in related occ	43,425	13.65	24.49
37-2000	Building Cleaning and Pest Control Workers		NA	NA	NA
37-2011	Janitors/Cleaners, Exc Housekeeping	Short-term on-the-job training	21,871	7.36	12.09
37-2012	Maids and Housekeeping Cleaners	Short-term on-the-job training	17,781	6.83	9.41
37-2019	Building Cleaning Workers, All Other	Short-term on-the-job training	NA	NA	NA
37-2021	Pest Control Workers	Moderate-term on-the-job training	33,142	10.28	18.76
37-3000	Grounds Maintenance Workers		NA	NA	NA
37-3011	Landscaping/Groundskeeping Wkrs	Short-term on-the-job training	22,931	7.52	12.78
37-3012	Pesticide Handlers/Sprayers	Moderate-term on-the-job training	25,097	9.26	13.47
37-3013	Tree Trimmers and Pruners	Short-term on-the-job training	30,156	11.52	15.98
37-3019	Grounds Maintenance Workers, AO	Short-term on-the-job training	23,799	7.30	13.51
<b>39-0000</b>	<b>Personal Care and Service Occupations</b>		<b>20,817</b>	<b>7.05</b>	<b>11.49</b>
39-1000	Supervisors, Personal Care/Service Wkrs		NA	NA	NA
39-1011	Gaming Supervisors	Work experience in related occ	36,354	12.48	19.98
39-1012	Slot Key Persons	Postsecondary vocational training	28,098	9.21	15.66
39-1021	First-Line Sup/Mgrs Personal Serv Wkrs	Work experience in related occ	33,197	11.11	18.38
39-2000	Animal Care and Service Workers		NA	NA	NA
39-2011	Animal Trainers	Moderate-term on-the-job training	25,806	9.41	13.90
39-2021	Nonfarm Animal Caretakers	Short-term on-the-job training	19,119	6.36	10.61
39-3000	Entertainment Attendants/Related Workers		NA	NA	NA
39-3011	Gaming Dealers	Postsecondary vocational training	NA	NA	NA
39-3012	Gaming/Sports Book Writers/Runners	Short-term on-the-job training	21,567	7.80	11.65
39-3019	Gaming Service Workers, All Other	Moderate-term on-the-job training	23,002	8.97	12.10
39-3021	Motion Picture Projectionists	Short-term on-the-job training	17,552	6.80	9.26
39-3031	Ushers/Lobby Attendants/Ticket Takers	Short-term on-the-job training	14,674	5.88	7.64
39-3091	Amusement/Recreation Attendants	Short-term on-the-job training	16,972	6.45	9.02
39-3092	Costume Attendants	Short-term on-the-job training	22,265	7.62	12.25
39-3093	Locker/Coat/Dressing Room Attendants	Short-term on-the-job training	19,038	6.97	10.25
39-3099	Entertainment Attend/Related Wkrs , AO	Moderate-term on-the-job training	NA	NA	NA

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
39-4000	Funeral Service Workers	670	760	90	13.4%	10	10	20
39-4011	Embalmers	120	140	20	16.7%	0	0	0
39-4021	Funeral Attendants	540	630	90	16.7%	10	10	20
39-5000	Personal Appearance Workers	20,510	22,610	2,100	10.2%	210	400	610
39-5011	Barbers	200	200	0	0.0%	0	10	10
39-5012	Hairdressers/Stylists/Cosmetologists	19,220	21,150	1,930	10.0%	190	370	560
39-5091	Makeup Artists/Theatrical Performance	NA	NA	NA	NA	0	0	0
39-5092	Manicurists and Pedicurists	630	730	100	15.9%	10	10	20
39-5093	Shampooers	NA	NA	NA	NA	0	0	0
39-5094	Skin Care Specialists	420	490	70	16.7%	10	10	20
39-6000	Transportation/Tourism/Lodging Attendants	2,610	2,950	340	13.0%	30	50	80
39-6011	Baggage Porters and Bellhops	400	450	50	12.5%	10	10	20
39-6012	Concierges	170	180	10	5.9%	0	0	0
39-6021	Tour Guides and Escorts	690	790	100	14.5%	10	20	30
39-6022	Travel Guides	NA	NA	NA	NA	0	10	10
39-6031	Flight Attendants	NA	NA	NA	NA	10	10	20
39-6032	Transpo Attendants, Ex Flight Attend	410	470	60	14.6%	10	10	20
39-9000	Other Personal Care and Service Workers	56,910	70,700	13,790	24.2%	1,380	1,250	2,630
39-9011	Child Care Workers	21,840	25,310	3,470	15.9%	350	600	950
39-9021	Personal and Home Care Aides	21,260	29,460	8,200	38.6%	820	340	1,160
39-9031	Fitness Trainers/Aerobics Instructors	4,610	5,340	730	15.8%	70	110	180
39-9032	Recreation Workers	7,070	8,020	950	13.4%	100	160	260
39-9041	Residential Advisors	1,060	1,340	280	26.4%	30	20	50
39-9099	Personal Care/Service Wkrs, All Other	1,070	1,230	160	15.0%	20	20	40
<b>41-0000</b>	<b>Sales and Related Occupations</b>	<b>291,190</b>	<b>311,260</b>	<b>20,070</b>	<b>6.9%</b>	<b>2,010</b>	<b>9,450</b>	<b>11,460</b>
41-1000	Supervisors, Sales Workers	37,910	38,350	440	1.2%	40	690	730
41-1011	First-Line Sup/Mgrs Retail Sales Wkrs	29,410	29,650	240	0.8%	20	530	550
41-1012	First-Line Sup/Mgrs Non-Retail Sales	8,500	8,700	200	2.4%	20	160	180
41-2000	Retail Sales Workers	160,770	172,550	11,780	7.3%	1,180	6,640	7,820
41-2011	Cashiers	65,440	64,810	(630)	-1.0%	0	3,180	3,180
41-2012	Gaming Change/Booth Cashiers	580	610	30	5.2%	0	30	30
41-2021	Counter and Rental Clerks	8,310	9,920	1,610	19.4%	160	320	480
41-2022	Parts Salespersons	4,420	4,060	(360)	-8.1%	0	130	130
41-2031	Retail Salespersons	82,030	93,140	11,110	13.5%	1,110	2,980	4,090
41-3000	Sales Representatives, Services	24,280	27,370	3,090	12.7%	310	480	790
41-3011	Advertising Sales Agents	3,170	3,510	340	10.7%	30	60	90
41-3021	Insurance Sales Agents	8,170	9,160	990	12.1%	100	200	300
41-3031	Securities/Commod/Financial Sales	4,070	4,740	670	16.5%	70	50	120
41-3041	Travel Agents	1,840	1,680	(160)	-8.7%	0	40	40
41-3099	Sales Representatives, Services, AO	7,040	8,280	1,240	17.6%	120	130	250

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
39-4000	Funeral Service Workers		NA	NA	NA
39-4011	Embalmers	Postsecondary vocational training	46,998	14.74	26.52
39-4021	Funeral Attendants	Short-term on-the-job training	25,677	9.23	13.90
39-5000	Personal Appearance Workers		NA	NA	NA
39-5011	Barbers	Postsecondary vocational training	22,416	8.40	11.97
39-5012	Hairdressers/Stylists/Cosmetologists	Postsecondary vocational training	22,874	6.93	13.03
39-5091	Makeup Artists/Theatrical Performance	Postsecondary vocational training	NA	NA	NA
39-5092	Manicurists and Pedicurists	Postsecondary vocational training	19,849	6.78	10.92
39-5093	Shampooers	Short-term on-the-job training	13,248	5.80	6.66
39-5094	Skin Care Specialists	Postsecondary vocational training	28,158	8.15	16.23
39-6000	Transportation/Tourism/Lodging Attendants		NA	NA	NA
39-6011	Baggage Porters and Bellhops	Short-term on-the-job training	16,577	5.95	8.98
39-6012	Concierges	Moderate-term on-the-job training	23,197	7.88	12.79
39-6021	Tour Guides and Escorts	Moderate-term on-the-job training	16,801	5.83	9.20
39-6022	Travel Guides	Moderate-term on-the-job training	25,775	9.64	13.77
39-6031	Flight Attendants	Long-term on-the-job training	NA	NA	NA
39-6032	Transpo Attendants, Ex Flight Attend	Short-term on-the-job training	17,132	6.93	8.89
39-9000	Other Personal Care and Service Workers		NA	NA	NA
39-9011	Child Care Workers	Short-term on-the-job training	18,585	6.88	9.96
39-9021	Personal and Home Care Aides	Short-term on-the-job training	19,200	7.58	10.06
39-9031	Fitness Trainers/Aerobics Instructors	Postsecondary vocational training	21,772	7.10	12.15
39-9032	Recreation Workers	Bachelor's degree	21,039	6.89	11.73
39-9041	Residential Advisors	Moderate-term on-the-job training	25,693	9.08	13.99
39-9099	Personal Care/Service Wkrs, All Other	Short-term on-the-job training	20,988	7.14	11.57
<b>41-0000</b>	<b>Sales and Related Occupations</b>		<b>32,910</b>	<b>7.07</b>	<b>20.20</b>
41-1000	Supervisors, Sales Workers		NA	NA	NA
41-1011	First-Line Sup/Mgrs Retail Sales Wkrs	Work experience in related occ	37,999	11.04	21.88
41-1012	First-Line Sup/Mgrs Non-Retail Sales	Work experience in related occ	74,395	19.84	43.73
41-2000	Retail Sales Workers		NA	NA	NA
41-2011	Cashiers	Short-term on-the-job training	16,638	6.33	8.83
41-2012	Gaming Change/Booth Cashiers	Short-term on-the-job training	NA	NA	NA
41-2021	Counter and Rental Clerks	Short-term on-the-job training	21,656	6.30	12.46
41-2022	Parts Salespersons	Moderate-term on-the-job training	29,310	9.68	16.30
41-2031	Retail Salespersons	Short-term on-the-job training	23,330	7.00	13.32
41-3000	Sales Representatives, Services		NA	NA	NA
41-3011	Advertising Sales Agents	Moderate-term on-the-job training	41,833	10.89	24.73
41-3021	Insurance Sales Agents	Bachelor's degree	61,221	12.87	37.71
41-3031	Securities/Commod/Financial Sales	Bachelor's degree	75,001	14.79	46.69
41-3041	Travel Agents	Postsecondary vocational training	28,740	9.58	15.93
41-3099	Sales Representatives, Services, AO	Moderate-term on-the-job training	56,183	13.10	33.97

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
41-4000	Sales Reps, Wholesale and Manufacturing	41,330	46,760	5,430	13.1%	540	1,090	1,630
41-4011	Sales Reps, Whole/Mfg, Tech/Scientific	7,590	8,670	1,080	14.2%	110	200	310
41-4012	Sales Reps, Whole/Mfg, Exc Tech/Scien	33,740	38,080	4,340	12.9%	430	890	1,320
41-9000	Other Sales and Related Workers	26,900	26,240	(660)	-2.5%	0	560	560
41-9011	Demonstrators and Product Promoters	2,480	2,980	500	20.2%	50	60	110
41-9012	Models	30	30	0	0.0%	0	0	0
41-9021	Real Estate Brokers	1,710	1,770	60	3.5%	10	30	40
41-9022	Real Estate Sales Agents	2,500	2,740	240	9.6%	20	50	70
41-9031	Sales Engineers	1,690	1,840	150	8.9%	20	50	70
41-9041	Telemarketers	6,850	6,020	(830)	-12.1%	0	110	110
41-9091	Door-To-Door Sales/Vendors	8,480	7,170	(1,310)	-15.4%	0	200	200
41-9099	Sales and Related Workers, All Other	3,170	3,690	520	16.4%	50	60	110
<b>43-0000</b>	<b>Office/Administrative Support Occs</b>	<b>482,350</b>	<b>503,160</b>	<b>20,810</b>	<b>4.3%</b>	<b>2,080</b>	<b>11,030</b>	<b>13,110</b>
43-1000	Supervisors, Office/Admin Support Workers	25,640	27,110	1,470	5.7%	150	550	700
43-1011	First-Line Sups/Mgrs Office/Admin Wkrs	25,640	27,110	1,470	5.7%	150	550	700
43-2000	Communications Equipment Operators	4,530	4,010	(520)	-11.5%	0	120	120
43-2011	Switchboard Oper, Inc Answering Serv	4,140	3,750	(390)	-9.4%	0	110	110
43-2021	Telephone Operators	320	200	(120)	-37.5%	0	10	10
43-2099	Communications Equip Operators, AO	70	60	(10)	-14.3%	0	0	0
43-3000	Financial Clerks	86,050	91,730	5,680	6.6%	570	2,080	2,650
43-3011	Bill and Account Collectors	6,170	7,540	1,370	22.2%	140	120	260
43-3021	Billing/Posting Clerks/Machine Oper	11,140	11,270	130	1.2%	10	190	200
43-3031	Bookkeeping/Account/Audit Clerks	48,050	50,030	1,980	4.1%	200	900	1,100
43-3041	Gaming Cage Workers	560	600	40	7.1%	0	30	30
43-3051	Payroll and Timekeeping Clerks	4,570	5,190	620	13.6%	60	120	180
43-3061	Procurement Clerks	1,700	1,650	(50)	-2.9%	0	40	40
43-3071	Tellers	13,860	15,460	1,600	11.5%	160	680	840
43-4000	Information and Record Clerks	117,550	130,320	12,770	10.9%	1,280	2,460	3,740
43-4011	Brokerage Clerks	600	690	90	15.0%	10	10	20
43-4021	Correspondence Clerks	290	260	(30)	-10.3%	0	10	10
43-4031	Court, Municipal, and License Clerks	1,550	1,700	150	9.7%	20	30	50
43-4041	Credit Authorizers/Checkers/Clerks	1,000	590	(410)	-41.0%	0	20	20
43-4051	Customer Service Representatives	46,010	54,790	8,780	19.1%	880	680	1,560
43-4061	Eligibility Interviewers, Gov Programs	1,010	890	(120)	-11.9%	0	30	30
43-4071	File Clerks	4,600	2,870	(1,730)	-37.6%	0	140	170
43-4081	Hotel/Motel/Resort Desk Clerks	4,850	5,650	800	16.5%	80	220	300
43-4111	Interviewers, Except Eligibility/Loan	3,640	4,690	1,050	28.8%	110	90	200
43-4121	Library Assistants, Clerical	1,850	1,960	110	5.9%	10	80	90
43-4131	Loan Interviewers and Clerks	4,400	4,320	(80)	-1.8%	0	60	60
43-4141	New Accounts Clerks	1,670	1,780	110	6.6%	10	40	50
43-4151	Order Clerks	10,480	9,540	(940)	-9.0%	0	240	340

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
41-4000	Sales Reps, Wholesale and Manufacturing		NA	NA	NA
41-4011	Sales Reps, Whole/Mfg, Tech/Scientific	Moderate-term on-the-job training	67,950	19.44	39.28
41-4012	Sales Reps, Whole/Mfg, Exc Tech/Scien	Moderate-term on-the-job training	57,978	15.20	34.21
41-9000	Other Sales and Related Workers		NA	NA	NA
41-9011	Demonstrators and Product Promoters	Moderate-term on-the-job training	20,529	7.11	11.25
41-9012	Models	Moderate-term on-the-job training	NA	NA	NA
41-9021	Real Estate Brokers	Postsecondary vocational training	63,326	13.33	39.00
41-9022	Real Estate Sales Agents	Postsecondary vocational training	51,163	13.57	30.11
41-9031	Sales Engineers	Bachelor's degree	71,493	23.22	39.95
41-9041	Telemarketers	Short-term on-the-job training	22,551	7.52	12.50
41-9091	Door-To-Door Sales/Vendors	Short-term on-the-job training	17,954	5.85	10.02
41-9099	Sales and Related Workers, All Other	Moderate-term on-the-job training	41,049	9.28	24.96
<b>43-0000</b>	<b>Office/Administrative Support Occs</b>		<b>28,676</b>	<b>9.04</b>	<b>16.16</b>
43-1000	Supervisors, Office/Admin Support Workers		NA	NA	NA
43-1011	First-Line Sups/Mgrs Office/Admin Wkrs	Work experience in related occ	44,263	13.99	24.92
43-2000	Communications Equipment Operators		NA	NA	NA
43-2011	Switchboard Oper, Inc Answering Serv	Short-term on-the-job training	22,838	8.63	12.16
43-2021	Telephone Operators	Short-term on-the-job training	35,202	12.23	19.27
43-2099	Communications Equip Operators, AO	Short-term on-the-job training	37,288	14.09	19.85
43-3000	Financial Clerks		NA	NA	NA
43-3011	Bill and Account Collectors	Short-term on-the-job training	28,586	10.63	15.30
43-3021	Billing/Posting Clerks/Machine Oper	Moderate-term on-the-job training	28,135	10.87	14.86
43-3031	Bookkeeping/Account/Audit Clerks	Moderate-term on-the-job training	29,174	9.88	16.10
43-3041	Gaming Cage Workers	Short-term on-the-job training	22,660	8.87	11.91
43-3051	Payroll and Timekeeping Clerks	Moderate-term on-the-job training	30,645	10.74	16.73
43-3061	Procurement Clerks	Short-term on-the-job training	29,883	11.38	15.86
43-3071	Tellers	Short-term on-the-job training	21,051	8.35	11.01
43-4000	Information and Record Clerks		NA	NA	NA
43-4011	Brokerage Clerks	Moderate-term on-the-job training	35,699	12.49	19.50
43-4021	Correspondence Clerks	Short-term on-the-job training	28,790	10.70	15.41
43-4031	Court, Municipal, and License Clerks	Short-term on-the-job training	32,571	10.69	18.15
43-4041	Credit Authorizers/Checkers/Clerks	Short-term on-the-job training	29,972	10.51	16.36
43-4051	Customer Service Representatives	Moderate-term on-the-job training	30,262	10.03	16.81
43-4061	Eligibility Interviewers, Gov Programs	Moderate-term on-the-job training	35,748	12.95	19.31
43-4071	File Clerks	Short-term on-the-job training	22,919	8.46	12.30
43-4081	Hotel/Motel/Resort Desk Clerks	Short-term on-the-job training	18,208	7.16	9.55
43-4111	Interviewers, Except Eligibility/Loan	Short-term on-the-job training	25,478	9.57	13.59
43-4121	Library Assistants, Clerical	Short-term on-the-job training	21,740	7.07	12.14
43-4131	Loan Interviewers and Clerks	Short-term on-the-job training	29,870	10.76	16.16
43-4141	New Accounts Clerks	Work experience in related occ	27,107	11.47	13.81
43-4151	Order Clerks	Short-term on-the-job training	26,140	9.17	14.27

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
43-4161	Human Res Assist, Ex Payroll/Time	3,770	4,360	590	15.6%	60	80	140
43-4171	Receptionists and Information Clerks	25,640	30,200	4,560	17.8%	460	630	1,090
43-4181	Res/Transpo Ticket Agents/Travel Clerks	890	960	70	7.9%	10	20	30
43-4199	Information and Record Clerks, All Other	5,310	5,090	(220)	-4.1%	0	80	80
43-5000	Material Record/Schedule/Dispatch/Distribut	81,150	78,630	(2,520)	-3.1%	0	2,370	2,370
43-5011	Cargo and Freight Agents	940	890	(50)	-5.3%	0	20	20
43-5021	Couriers and Messengers	3,200	2,890	(310)	-9.7%	0	70	70
43-5031	Police, Fire, and Ambulance Dispatchers	1,530	1,620	90	5.9%	10	30	40
43-5032	Dispatchers, Exc Police/Fire/Ambulance	3,440	3,660	220	6.4%	20	70	90
43-5041	Meter Readers, Utilities	850	450	(400)	-47.1%	0	30	30
43-5051	Postal Service Clerks	1,250	1,240	(10)	-0.8%	0	30	30
43-5052	Postal Service Mail Carriers	7,070	7,030	(40)	-0.6%	0	220	220
43-5053	Postal Serv Mail Sorting/Processing	3,900	3,880	(20)	-0.5%	0	100	100
43-5061	Production/Plan/Expediting Clerks	7,270	7,740	470	6.5%	50	180	230
43-5071	Shipping/Receiving/Traffic Clerks	16,950	17,420	470	2.8%	50	350	400
43-5081	Stock Clerks and Order Fillers	32,300	29,600	(2,700)	-8.4%	0	1,200	1,200
43-5111	Weigh/Measure/Check/Sample Record	2,470	2,210	(260)	-10.5%	0	60	60
43-6000	Secretaries and Administrative Assistants	85,740	88,570	2,830	3.3%	280	1,640	1,920
43-6011	Executive Secretaries/Admin Assist	31,840	35,500	3,660	11.5%	370	610	980
43-6012	Legal Secretaries	4,140	4,620	480	11.6%	50	80	130
43-6013	Medical Secretaries	5,140	5,950	810	15.8%	80	100	180
43-6014	Secretaries, Exc Legal/Medical/Exec	44,620	42,510	(2,110)	-4.7%	0	860	860
43-9000	Other Office/Admin Support Workers	81,720	82,790	1,070	1.3%	110	1,820	1,930
43-9011	Computer Operators	2,490	1,660	(830)	-33.3%	0	50	50
43-9021	Data Entry Keyers	6,690	6,720	30	0.4%	0	160	160
43-9022	Word Processors and Typists	3,000	2,450	(550)	-18.3%	0	70	70
43-9031	Desktop Publishers	910	1,150	240	26.4%	20	20	40
43-9041	Insurance Claims/Policy Process Clerks	7,410	7,870	460	6.2%	50	120	170
43-9051	Mail Clerks/Machine Oper Ex Post Serv	3,720	2,370	(1,350)	-36.3%	0	110	110
43-9061	Office Clerks, General	48,170	51,250	3,080	6.4%	310	1,070	1,380
43-9071	Office Machine Operators, Ex Computer	1,810	1,400	(410)	-22.7%	0	50	50
43-9081	Proofreaders and Copy Markers	540	550	10	1.9%	0	10	10
43-9111	Statistical Assistants	200	200	0	0.0%	0	0	0
43-9199	Office/Admin Support Workers, AO	6,790	7,170	380	5.6%	40	160	200
<b>45-0000</b>	<b>Farming/Fishing/Forestry Occupations</b>	<b>4,480</b>	<b>4,990</b>	<b>510</b>	<b>11.4%</b>	<b>50</b>	<b>110</b>	<b>160</b>
45-1000	Supervisors, Farm/Fish/Forestry Workers	430	500	70	16.3%	10	10	20
45-1011	First-Line Sup/Mgrs Farm/Fish/Forest	430	500	70	16.3%	10	10	20
45-2000	Agricultural Workers	2,820	3,220	400	14.2%	40	70	110
45-2011	Agricultural Inspectors	220	230	10	4.5%	0	10	10
45-2021	Animal Breeders	490	640	150	30.6%	20	10	30
45-2041	Graders/Sorters, Agricultural Products	580	660	80	13.8%	10	20	30

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
43-4161	Human Res Assist, Ex Payroll/Time	Short-term on-the-job training	32,795	12.00	17.65
43-4171	Receptionists and Information Clerks	Short-term on-the-job training	23,141	8.42	12.48
43-4181	Res/Transpo Ticket Agents/Travel Clerks	Short-term on-the-job training	23,505	7.67	13.12
43-4199	Information and Record Clerks, All Other	Short-term on-the-job training	30,876	9.93	17.30
43-5000	Material Record/Schedule/Dispatch/Distribut		NA	NA	NA
43-5011	Cargo and Freight Agents	Moderate-term on-the-job training	31,222	9.31	17.86
43-5021	Couriers and Messengers	Short-term on-the-job training	22,887	7.42	12.80
43-5031	Police, Fire, and Ambulance Dispatchers	Moderate-term on-the-job training	33,831	13.33	17.73
43-5032	Dispatchers, Exc Police/Fire/Ambulance	Moderate-term on-the-job training	33,733	10.78	18.94
43-5041	Meter Readers, Utilities	Short-term on-the-job training	29,458	8.14	17.18
43-5051	Postal Service Clerks	Short-term on-the-job training	46,585	18.64	24.27
43-5052	Postal Service Mail Carriers	Short-term on-the-job training	43,255	15.63	23.38
43-5053	Postal Serv Mail Sorting/Processing	Short-term on-the-job training	41,705	14.76	22.70
43-5061	Production/Plan/Expediting Clerks	Short-term on-the-job training	38,840	13.45	21.28
43-5071	Shipping/Receiving/Traffic Clerks	Short-term on-the-job training	27,183	9.29	14.96
43-5081	Stock Clerks and Order Fillers	Short-term on-the-job training	21,386	7.07	11.89
43-5111	Weigh/Measure/Check/Sample Record	Short-term on-the-job training	27,821	9.52	15.30
43-6000	Secretaries and Administrative Assistants		NA	NA	NA
43-6011	Executive Secretaries/Admin Assist	Moderate-term on-the-job training	34,427	12.03	18.81
43-6012	Legal Secretaries	Postsecondary vocational training	32,816	11.44	17.94
43-6013	Medical Secretaries	Postsecondary vocational training	28,471	10.89	15.09
43-6014	Secretaries, Exc Legal/Medical/Exec	Moderate-term on-the-job training	27,426	10.06	14.75
43-9000	Other Office/Admin Support Workers		NA	NA	NA
43-9011	Computer Operators	Moderate-term on-the-job training	34,500	11.56	19.10
43-9021	Data Entry Keyers	Moderate-term on-the-job training	24,778	9.17	13.28
43-9022	Word Processors and Typists	Moderate-term on-the-job training	29,444	10.92	15.77
43-9031	Desktop Publishers	Postsecondary vocational training	33,045	10.35	18.65
43-9041	Insurance Claims/Policy Process Clerks	Moderate-term on-the-job training	29,410	10.99	15.72
43-9051	Mail Clerks/Machine Oper Ex Post Serv	Short-term on-the-job training	23,936	9.10	12.71
43-9061	Office Clerks, General	Short-term on-the-job training	23,663	8.06	13.04
43-9071	Office Machine Operators, Ex Computer	Short-term on-the-job training	25,953	9.00	14.21
43-9081	Proofreaders and Copy Markers	Short-term on-the-job training	26,537	9.33	14.47
43-9111	Statistical Assistants	Moderate-term on-the-job training	35,683	13.37	19.05
43-9199	Office/Admin Support Workers, AO	Short-term on-the-job training	24,597	7.71	13.88
<b>45-0000</b>	<b>Farming/Fishing/Forestry Occupations</b>		<b>26,520</b>	<b>7.90</b>	<b>15.18</b>
45-1000	Supervisors, Farm/Fish/Forestry Workers		NA	NA	NA
45-1011	First-Line Sup/Mgrs Farm/Fish/Forest	Work experience in related occ	41,219	14.21	22.62
45-2000	Agricultural Workers		NA	NA	NA
45-2011	Agricultural Inspectors	Work experience in related occ	35,376	12.42	19.30
45-2021	Animal Breeders	Associate degree	37,339	10.42	21.72
45-2041	Graders/Sorters, Agricultural Products	Work experience in related occ	23,376	7.74	12.99

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
45-2091	Agricultural Equipment Operators	140	160	20	14.3%	0	0	0
45-2092	Farmwks/Laborers, Crop/Nursery	520	600	80	15.4%	10	20	30
45-2093	Farmwks, Farm and Ranch Animals	680	750	70	10.3%	10	20	30
45-2099	Agricultural Workers, All Other	190	190	0	0.0%	0	10	10
45-3000	Fishing and Hunting Workers	NA	NA	NA	NA	0	0	0
45-3011	Fishers and Related Fishing Workers	NA	NA	NA	NA	0	0	0
45-4000	Forest, Conservation, and Logging Workers	NA	NA	NA	NA	0	20	20
45-4011	Forest and Conservation Workers	210	220	10	4.8%	0	10	10
45-4021	Fallers	NA	NA	NA	NA	0	0	0
45-4022	Logging Equipment Operators	380	430	50	13.2%	10	10	20
45-4023	Log Graders and Scalers	310	310	0	0.0%	0	10	10
45-4029	Logging Workers, All Other	NA	NA	NA	NA	0	0	0
<b>47-0000</b>	<b>Construction/Extraction Occupations</b>	<b>143,780</b>	<b>166,670</b>	<b>22,890</b>	<b>15.9%</b>	<b>2,290</b>	<b>2,740</b>	<b>5,030</b>
47-1000	Supervisors, Construction/Extraction Wkrs	11,170	12,950	1,780	15.9%	180	190	370
47-1011	First-Line Sup/Mgrs Construct/Extract	11,170	12,950	1,780	15.9%	180	190	370
47-2000	Construction Trades Workers	117,370	136,280	18,910	16.1%	1,890	2,150	4,040
47-2011	Boilermakers	40	40	0	0.0%	0	0	0
47-2021	Brickmasons and Blockmasons	3,800	4,510	710	18.7%	70	60	130
47-2022	Stonemasons	280	330	50	17.9%	10	0	10
47-2031	Carpenters	33,580	39,620	6,040	18.0%	600	550	1,150
47-2041	Carpet Installers	2,000	2,200	200	10.0%	20	30	50
47-2042	Floor Layers, Except Carpet/Wood/Tiles	950	1,080	130	13.7%	10	20	30
47-2043	Floor Sanders and Finishers	360	400	40	11.1%	0	10	10
47-2044	Tile and Marble Setters	720	920	200	27.8%	20	10	30
47-2051	Cement Masons and Concrete Finishers	4,290	5,300	1,010	23.5%	100	90	190
47-2053	Terrazzo Workers and Finishers	NA	NA	NA	NA	0	0	0
47-2061	Construction Laborers	15,340	16,400	1,060	6.9%	110	200	310
47-2071	Pave/Surface/Tamp Equip Operators	1,160	1,360	200	17.2%	20	20	40
47-2072	Pile-Driver Operators	NA	NA	NA	NA	0	0	0
47-2073	Operating Engineers/Other Equip Oper	7,580	8,740	1,160	15.3%	120	200	320
47-2081	Drywall and Ceiling Tile Installers	1,800	2,040	240	13.3%	20	40	60
47-2082	Tapers	860	960	100	11.6%	10	20	30
47-2111	Electricians	13,690	15,760	2,070	15.1%	210	270	480
47-2121	Glaziers	630	760	130	20.6%	10	10	20
47-2131	Insulation Wkrs, Floor/Ceiling/Wall	850	910	60	7.1%	10	30	40
47-2132	Insulation Workers, Mechanical	450	490	40	8.9%	0	10	10
47-2141	Painters, Construction and Maintenance	7,640	8,970	1,330	17.4%	130	120	250
47-2142	Paperhangers	380	400	20	5.3%	0	10	10
47-2151	Pipelayers	560	630	70	12.5%	10	10	20

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
45-2091	Agricultural Equipment Operators	Moderate-term on-the-job training	26,564	8.90	14.71
45-2092	Farmwks/Laborers, Crop/Nursery	Short-term on-the-job training	18,959	6.51	10.42
45-2093	Farmwks, Farm and Ranch Animals	Short-term on-the-job training	20,789	7.04	11.47
45-2099	Agricultural Workers, All Other	Short-term on-the-job training	22,288	7.55	12.30
45-3000	Fishing and Hunting Workers		NA	NA	NA
45-3011	Fishers and Related Fishing Workers	Moderate-term on-the-job training	NA	NA	NA
45-4000	Forest, Conservation, and Logging Workers		NA	NA	NA
45-4011	Forest and Conservation Workers	Moderate-term on-the-job training	29,067	8.30	16.81
45-4021	Fallers	Moderate-term on-the-job training	31,265	12.16	16.47
45-4022	Logging Equipment Operators	Moderate-term on-the-job training	27,310	10.45	14.47
45-4023	Log Graders and Scalers	Moderate-term on-the-job training	30,915	11.85	16.37
45-4029	Logging Workers, All Other	Moderate-term on-the-job training	30,813	12.05	16.20
<b>47-0000</b>	<b>Construction/Extraction Occupations</b>		<b>41,768</b>	<b>12.75</b>	<b>23.75</b>
47-1000	Supervisors, Construction/Extraction Wkrs		NA	NA	NA
47-1011	First-Line Sup/Mgrs Construct/Extract	Work experience in related occ	60,702	19.48	34.03
47-2000	Construction Trades Workers		NA	NA	NA
47-2011	Boilermakers	Long-term on-the-job training	47,732	15.97	26.44
47-2021	Brickmasons and Blockmasons	Long-term on-the-job training	48,083	16.55	26.40
47-2022	Stonemasons	Long-term on-the-job training	35,011	11.13	19.68
47-2031	Carpenters	Long-term on-the-job training	38,602	12.93	21.37
47-2041	Carpet Installers	Moderate-term on-the-job training	37,408	11.10	21.43
47-2042	Floor Layers, Except Carpet/Wood/Tiles	Moderate-term on-the-job training	38,685	12.17	21.81
47-2043	Floor Sanders and Finishers	Moderate-term on-the-job training	32,362	11.35	17.66
47-2044	Tile and Marble Setters	Long-term on-the-job training	45,104	15.02	25.02
47-2051	Cement Masons and Concrete Finishers	Moderate-term on-the-job training	37,515	12.61	20.75
47-2053	Terrazzo Workers and Finishers	Long-term on-the-job training	NA	NA	NA
47-2061	Construction Laborers	Moderate-term on-the-job training	33,988	10.76	19.13
47-2071	Pave/Surface/Tamp Equip Operators	Moderate-term on-the-job training	42,911	16.63	22.63
47-2072	Pile-Driver Operators	Moderate-term on-the-job training	NA	NA	NA
47-2073	Operating Engineers/Other Equip Oper	Moderate-term on-the-job training	43,669	15.38	23.80
47-2081	Drywall and Ceiling Tile Installers	Moderate-term on-the-job training	41,030	12.53	23.32
47-2082	Tapers	Moderate-term on-the-job training	44,598	14.72	24.80
47-2111	Electricians	Long-term on-the-job training	47,298	16.27	25.97
47-2121	Glaziers	Long-term on-the-job training	41,463	13.12	23.34
47-2131	Insulation Wkrs, Floor/Ceiling/Wall	Moderate-term on-the-job training	34,105	11.08	19.06
47-2132	Insulation Workers, Mechanical	Moderate-term on-the-job training	55,843	15.21	32.66
47-2141	Painters, Construction and Maintenance	Moderate-term on-the-job training	34,948	10.42	19.99
47-2142	Paperhangers	Moderate-term on-the-job training	35,880	14.79	18.48
47-2151	Pipelayers	Moderate-term on-the-job training	46,643	17.01	25.13

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
47-2152	Plumbers, Pipefitters, and Steamfitters	9,870	11,830	1,960	19.9%	200	230	430
47-2161	Plasterers and Stucco Masons	580	650	70	12.1%	10	10	20
47-2171	Reinforcing Iron and Rebar Workers	430	520	90	20.9%	10	10	20
47-2181	Roofers	3,160	3,930	770	24.4%	80	70	150
47-2211	Sheet Metal Workers	4,720	5,500	780	16.5%	80	110	190
47-2221	Structural Iron and Steel Workers	1,600	1,940	340	21.3%	30	30	60
47-3000	Helpers, Construction Trades	5,050	5,910	860	17.0%	90	210	300
47-3011	Helpers--Brick/Block/Stone/Tile/Marble	920	1,120	200	21.7%	20	40	60
47-3012	Helpers--Carpenters	1,570	1,870	300	19.1%	30	70	100
47-3013	Helpers--Electricians	1,010	1,100	90	8.9%	10	40	50
47-3014	Helpers--Paint/Paper//Plasterer/Stucco	320	360	40	12.5%	0	10	10
47-3015	Helpers--Pipelayers/Plumbers/Steamfit	750	910	160	21.3%	20	30	50
47-3016	Helpers--Roofers	270	340	70	25.9%	10	10	20
47-3019	Helpers, Construction Trades, All Other	230	220	(10)	-4.3%	0	10	10
47-4000	Other Construction and Related Workers	9,300	10,510	1,210	13.0%	120	170	290
47-4011	Construction and Building Inspectors	1,320	1,510	190	14.4%	20	30	50
47-4021	Elevator Installers and Repairers	NA	NA	NA	NA	10	10	20
47-4031	Fence Erectors	270	320	50	18.5%	10	0	10
47-4041	Hazardous Materials Removal Workers	490	600	110	22.4%	10	10	20
47-4051	Highway Maintenance Workers	5,010	5,700	690	13.8%	70	70	140
47-4061	Rail-Track Laying/Maint/ Equip Oper	NA	NA	NA	NA	0	10	10
47-4071	Septic Tank Serv/Sewer Pipe Cleaners	690	830	140	20.3%	10	20	30
47-4091	Segmental Pavers	NA	NA	NA	NA	0	0	0
47-4099	Construction/Related Wkrs, All Other	830	840	10	1.2%	0	10	10
47-5000	Extraction Workers	900	1,010	110	12.2%	10	20	30
47-5012	Rotary Drill Operators, Oil and Gas	NA	NA	NA	NA	0	0	0
47-5013	Service Unit Operators, Oil/Gas/Mining	NA	NA	NA	NA	0	0	0
47-5021	Earth Drillers, Except Oil and Gas	620	720	100	16.1%	10	10	20
47-5031	Explosives Wkrs, Ordnance/Blasters	60	60	0	0.0%	0	0	0
47-5041	Continuous Mining Machine Operators	50	50	0	0.0%	0	0	0
47-5042	Mine Cut/Channel Machine Operators	NA	NA	NA	NA	0	0	0
47-5051	Rock Splitters, Quarry	70	70	0	0.0%	0	0	0
47-5071	Roustabouts, Oil and Gas	NA	NA	NA	NA	0	0	0
47-5081	Helpers--Extraction Workers	40	50	10	25.0%	0	0	0
47-5099	Extraction Workers, All Other	NA	NA	NA	NA	0	0	0
<b>49-0000</b>	<b>Install/Maintenance/Repair Occupations</b>	<b>115,770</b>	<b>126,720</b>	<b>10,950</b>	<b>9.5%</b>	<b>1,100</b>	<b>2,640</b>	<b>3,740</b>
49-1000	Supervisors Install/ Maintenance/Repair	8,890	9,750	860	9.7%	90	220	310
49-1011	F-L Sup/Mgrs Mechanics/ Install/Repair	8,890	9,750	860	9.7%	90	220	310
49-2000	Electrical/Electronic Mech/Install/Repair	9,620	9,620	0	0.0%	0	190	190
49-2011	Computer/Teller/Office Machine Repair	2,080	2,150	70	3.4%	10	30	40

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
47-2152	Plumbers, Pipefitters, and Steamfitters	Long-term on-the-job training	52,075	17.49	28.81
47-2161	Plasterers and Stucco Masons	Long-term on-the-job training	41,165	13.83	22.77
47-2171	Reinforcing Iron and Rebar Workers	Long-term on-the-job training	43,321	13.51	24.49
47-2181	Roofers	Moderate-term on-the-job training	34,180	11.41	18.94
47-2211	Sheet Metal Workers	Long-term on-the-job training	44,323	13.55	25.19
47-2221	Structural Iron and Steel Workers	Long-term on-the-job training	42,998	12.68	24.67
47-3000	Helpers, Construction Trades		NA	NA	NA
47-3011	Helpers--Brick/Block/Stone/Tile/Marble	Short-term on-the-job training	29,300	10.02	16.12
47-3012	Helpers--Carpenters	Short-term on-the-job training	23,598	8.53	12.75
47-3013	Helpers--Electricians	Short-term on-the-job training	24,089	8.99	12.88
47-3014	Helpers--Paint/Paper//Plasterer/Stucco	Short-term on-the-job training	24,288	7.44	13.79
47-3015	Helpers--Pipelayers/Plumbers/Steamfit	Short-term on-the-job training	26,650	9.37	14.54
47-3016	Helpers--Roofers	Short-term on-the-job training	24,000	9.61	12.50
47-3019	Helpers, Construction Trades, All Other	Short-term on-the-job training	24,496	8.05	13.64
47-4000	Other Construction and Related Workers		NA	NA	NA
47-4011	Construction and Building Inspectors	Work experience in related occ	44,733	14.44	25.04
47-4021	Elevator Installers and Repairers	Long-term on-the-job training	72,807	26.53	39.24
47-4031	Fence Erectors	Moderate-term on-the-job training	30,100	10.25	16.58
47-4041	Hazardous Materials Removal Workers	Moderate-term on-the-job training	42,561	13.99	23.70
47-4051	Highway Maintenance Workers	Moderate-term on-the-job training	32,034	11.41	17.40
47-4061	Rail-Track Laying/Maint/ Equip Oper	Moderate-term on-the-job training	39,748	13.45	21.94
47-4071	Septic Tank Serv/Sewer Pipe Cleaners	Moderate-term on-the-job training	31,918	10.68	17.68
47-4091	Segmental Pavers	Moderate-term on-the-job training	NA	NA	NA
47-4099	Construction/Related Wkrs, All Other	Moderate-term on-the-job training	29,265	9.65	16.28
47-5000	Extraction Workers		NA	NA	NA
47-5012	Rotary Drill Operators, Oil and Gas	Moderate-term on-the-job training	NA	NA	NA
47-5013	Service Unit Operators, Oil/Gas/Mining	Moderate-term on-the-job training	NA	NA	NA
47-5021	Earth Drillers, Except Oil and Gas	Moderate-term on-the-job training	38,540	13.45	21.07
47-5031	Explosives Wkrs, Ordnance/Blasters	Moderate-term on-the-job training	45,684	16.26	24.82
47-5041	Continuous Mining Machine Operators	Moderate-term on-the-job training	33,389	11.66	18.25
47-5042	Mine Cut/Channel Machine Operators	Moderate-term on-the-job training	NA	NA	NA
47-5051	Rock Splitters, Quarry	Moderate-term on-the-job training	23,775	9.34	12.48
47-5071	Roustabouts, Oil and Gas	Moderate-term on-the-job training	NA	NA	NA
47-5081	Helpers--Extraction Workers	Short-term on-the-job training	NA	NA	NA
47-5099	Extraction Workers, All Other	Moderate-term on-the-job training	30,273	11.64	16.01
<b>49-0000</b>	<b>Install/Maintenance/Repair Occupations</b>		<b>37,954</b>	<b>11.74</b>	<b>21.50</b>
49-1000	Supervisors Install/ Maintenance/Repair		NA	NA	NA
49-1011	F-L Sup/Mgrs Mechanics/ Install/Repair	Work experience in related occ	54,939	17.78	30.73
49-2000	Electrical/Electronic Mech/Install/Repair		NA	NA	NA
49-2011	Computer/Teller/Office Machine Repair	Postsecondary vocational training	34,551	11.50	19.16

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
49-2021	Radio Mechanics	NA	NA	NA	NA	0	0	0
49-2022	Telecom Equip Install/Repair, Ex Line	3,230	2,870	(360)	-11.1%	0	70	70
49-2091	Avionics Technicians	180	190	10	5.6%	0	0	0
49-2092	Electr Motor/Power Tool/ Related Repair	740	740	0	0.0%	0	20	20
49-2093	Electrical Install/Repair Transpo Equip	NA	NA	NA	NA	0	0	0
49-2094	Electrical Repair Comm/Indust Equip	1,040	1,130	90	8.7%	10	20	30
49-2095	Electrical Repair Power/Sub/Relay	270	260	(10)	-3.7%	0	10	10
49-2096	Electr Equip Install/Repair Motor Vehicle	410	470	60	14.6%	10	10	20
49-2097	Electr Home Entertain Install/Repair	1,110	1,190	80	7.2%	10	20	30
49-2098	Security/Fire Alarm Systems Install	390	460	70	17.9%	10	10	20
49-3000	Vehicle/Mobile Equip Mechanics, Installers	36,410	40,060	3,650	10.0%	370	940	1,310
49-3011	Aircraft Mechanics/Service Technicians	1,210	1,340	130	10.7%	10	30	40
49-3021	Automotive Body/Related Repairers	4,210	4,390	180	4.3%	20	90	110
49-3022	Automotive Glass Installers/Repairers	NA	NA	NA	NA	0	0	0
49-3023	Auto Service Technicians/Mechanics	16,730	18,560	1,830	10.9%	180	450	630
49-3031	Bus/Truck Mech/Diesel Eng Specialists	5,640	6,480	840	14.9%	80	150	230
49-3041	Farm Equipment Mechanics	1,700	1,800	100	5.9%	10	40	50
49-3042	Mobile Hvy Equip Mech, Exc Engines	2,010	2,220	210	10.4%	20	40	60
49-3043	Rail Car Repairers	NA	NA	NA	NA	0	10	10
49-3051	Motorboat Mechanics	720	800	80	11.1%	10	20	30
49-3052	Motorcycle Mechanics	540	590	50	9.3%	10	10	20
49-3053	Outdoor Power Equip/ Small Eng Mech	1,030	1,140	110	10.7%	10	30	40
49-3091	Bicycle Repairers	360	400	40	11.1%	0	20	20
49-3092	Recreation Vehicle Service Technicians	230	270	40	17.4%	0	10	10
49-3093	Tire Repairers and Changers	1,420	1,450	30	2.1%	0	60	60
49-9000	Other Installation/ Maintenance/Repair Occs	60,850	67,290	6,440	10.6%	640	1,290	1,930
49-9011	Mechanical Door Repairers	180	220	40	22.2%	0	10	10
49-9012	Control/Valve Instal/Rep, Ex Mech Door	520	530	10	1.9%	0	10	10
49-9021	Heat/AC/Refrig Mechanics and Installers	6,070	7,690	1,620	26.7%	160	80	240
49-9031	Home Appliance Repairers	1,040	1,000	(40)	-3.8%	0	30	30
49-9041	Industrial Machinery Mechanics	6,990	7,170	180	2.6%	20	140	160
49-9042	Maintenance/Repair Wkrs, General	26,860	29,960	3,100	11.5%	310	520	830
49-9043	Maintenance Workers, Machinery	2,340	2,400	60	2.6%	10	50	60
49-9044	Millwrights	1,790	1,940	150	8.4%	20	40	60
49-9045	Refractory Materials Repair, Ex Brick	100	110	10	10.0%	0	0	0
49-9051	Electrical Power-Line Install/Repair	2,220	2,340	120	5.4%	10	70	80
49-9052	Telecommunications Line Install/Repair	2,580	2,940	360	14.0%	40	70	110
49-9061	Camera/Photographic Equip Repairers	30	20	(10)	-33.3%	0	0	0
49-9062	Medical Equipment Repairers	540	630	90	16.7%	10	20	30
49-9063	Musical Instrument Repair/Tuners	150	140	(10)	-6.7%	0	0	0
49-9064	Watch Repairers	NA	NA	NA	NA	0	0	0
49-9069	Precision Instrument/Equip Repair, AO	220	230	10	4.5%	0	10	10

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
49-2021	Radio Mechanics	Postsecondary vocational training	44,358	14.79	24.59
49-2022	Telecom Equip Install/Repair, Ex Line	Postsecondary vocational training	48,174	18.03	25.73
49-2091	Avionics Technicians	Postsecondary vocational training	43,303	17.28	22.59
49-2092	Electr Motor/Power Tool/ Related Repair	Postsecondary vocational training	34,920	12.07	19.15
49-2093	Electrical Install/Repair Transpo Equip	Postsecondary vocational training	41,736	16.06	22.07
49-2094	Electrical Repair Comm/Indust Equip	Postsecondary vocational training	43,850	16.27	23.49
49-2095	Electrical Repair Power/Sub/Relay	Postsecondary vocational training	58,051	23.34	30.19
49-2096	Electr Equip Install/Repair Motor Vehicle	Postsecondary vocational training	31,783	12.09	16.88
49-2097	Electr Home Entertain Install/Repair	Postsecondary vocational training	30,794	11.38	16.52
49-2098	Security/Fire Alarm Systems Install	Postsecondary vocational training	34,156	12.25	18.51
49-3000	Vehicle/Mobile Equip Mechanics, Installers		NA	NA	NA
49-3011	Aircraft Mechanics/Service Technicians	Postsecondary vocational training	49,219	17.05	26.97
49-3021	Automotive Body/Related Repairers	Long-term on-the-job training	34,394	11.31	19.15
49-3022	Automotive Glass Installers/Repairers	Long-term on-the-job training	34,124	13.07	18.07
49-3023	Auto Service Technicians/Mechanics	Postsecondary vocational training	33,749	10.35	19.16
49-3031	Bus/Truck Mech/Diesel Eng Specialists	Postsecondary vocational training	36,184	12.86	19.66
49-3041	Farm Equipment Mechanics	Postsecondary vocational training	30,386	10.96	16.43
49-3042	Mobile Hvy Equip Mech, Exc Engines	Postsecondary vocational training	40,309	15.74	21.20
49-3043	Rail Car Repairers	Long-term on-the-job training	45,241	18.49	23.38
49-3051	Motorboat Mechanics	Long-term on-the-job training	30,598	10.08	17.03
49-3052	Motorcycle Mechanics	Long-term on-the-job training	31,965	11.05	17.53
49-3053	Outdoor Power Equip/ Small Eng Mech	Moderate-term on-the-job training	27,855	9.08	15.55
49-3091	Bicycle Repairers	Moderate-term on-the-job training	23,097	8.04	12.64
49-3092	Recreation Vehicle Service Technicians	Long-term on-the-job training	27,630	9.21	15.32
49-3093	Tire Repairers and Changers	Short-term on-the-job training	21,732	8.06	11.64
49-9000	Other Installation/ Maintenance/Repair Occs		NA	NA	NA
49-9011	Mechanical Door Repairers	Moderate-term on-the-job training	47,574	15.94	26.34
49-9012	Control/Valve Instal/Rep, Ex Mech Door	Moderate-term on-the-job training	41,699	12.47	23.84
49-9021	Heat/AC/Refrig Mechanics and Installers	Long-term on-the-job training	39,795	13.04	22.18
49-9031	Home Appliance Repairers	Long-term on-the-job training	32,363	12.45	17.11
49-9041	Industrial Machinery Mechanics	Long-term on-the-job training	42,137	15.37	22.70
49-9042	Maintenance/Repair Wkrs, General	Long-term on-the-job training	34,576	11.49	19.19
49-9043	Maintenance Workers, Machinery	Short-term on-the-job training	34,730	11.36	19.37
49-9044	Millwrights	Long-term on-the-job training	49,479	18.22	26.57
49-9045	Refractory Materials Repair, Ex Brick	Moderate-term on-the-job training	41,974	15.75	22.39
49-9051	Electrical Power-Line Install/Repair	Long-term on-the-job training	52,326	19.85	27.81
49-9052	Telecommunications Line Install/Repair	Long-term on-the-job training	37,089	12.21	20.64
49-9061	Camera/Photographic Equip Repairers	Moderate-term on-the-job training	45,085	13.16	25.93
49-9062	Medical Equipment Repairers	Associate degree	45,849	16.41	24.86
49-9063	Musical Instrument Repair/Tuners	Long-term on-the-job training	29,155	9.12	16.46
49-9064	Watch Repairers	Long-term on-the-job training	27,890	12.79	13.72
49-9069	Precision Instrument/Equip Repair, AO	Moderate-term on-the-job training	54,097	15.12	31.45

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
49-9091	Coin/Vending/Amuse Machine Serv/Rep	1,340	1,290	(50)	-3.7%	0	30	30
49-9092	Commercial Divers	NA	NA	NA	NA	0	0	0
49-9093	Fabric Menders, Except Garment	20	20	0	0.0%	0	0	0
49-9094	Locksmiths and Safe Repairers	310	350	40	12.9%	0	10	10
49-9095	Manufactured Build/Mobile Home Install	250	270	20	8.0%	0	10	10
49-9096	Riggers	230	240	10	4.3%	0	10	10
49-9097	Signal and Track Switch Repairers	60	60	0	0.0%	0	0	0
49-9098	Helpers--Install/Maint/Repair Workers	2,740	3,090	350	12.8%	40	90	130
49-9099	Install/Maint/Repair Workers, All Other	4,240	4,620	380	9.0%	40	100	140
<b>51-0000</b>	<b>Production Occupations</b>	<b>357,270</b>	<b>364,600</b>	<b>7,330</b>	<b>2.1%</b>	<b>730</b>	<b>8,560</b>	<b>9,290</b>
51-1000	Supervisors, Production Workers	22,810	23,870	1,060	4.6%	110	480	590
51-1011	F-L Sup/Mgr Production/Operating Wkrs	22,810	23,870	1,060	4.6%	110	480	590
51-2000	Assemblers and Fabricators	69,970	73,240	3,270	4.7%	330	1,790	2,120
51-2011	Aircraft Struct/Surfaces/Rig Sys Assemb	60	60	0	0.0%	0	0	0
51-2021	Coil Winders, Tapers, and Finishers	1,170	870	(300)	-25.6%	0	30	30
51-2022	Electrical Equipment Assemblers	6,180	5,750	(430)	-7.0%	0	150	150
51-2023	Electromechanical Equip Assemblers	1,450	1,280	(170)	-11.7%	0	30	30
51-2031	Engine/Other Machine Assemblers	1,900	1,850	(50)	-2.6%	0	50	50
51-2041	Structural Metal Fabricators/Fitters	3,700	3,850	150	4.1%	20	90	110
51-2091	Fiberglass Laminators/Fabricators	710	740	30	4.2%	0	20	20
51-2092	Team Assemblers	46,540	50,430	3,890	8.4%	390	1,200	1,590
51-2093	Timing Device Assemb/Adjust/Calibrator	10	10	0	0.0%	0	0	0
51-2099	Assemblers and Fabricators, All Other	8,250	8,400	150	1.8%	20	210	230
51-3000	Food Processing Workers	19,570	21,510	1,940	9.9%	190	450	640
51-3011	Bakers	4,130	4,690	560	13.6%	60	100	160
51-3021	Butchers and Meat Cutters	3,560	3,780	220	6.2%	20	80	100
51-3022	Meat/Poultry/Fish Cutters/Trimmers	1,200	1,420	220	18.3%	20	30	50
51-3023	Slaughterers and Meat Packers	5,040	5,860	820	16.3%	80	110	190
51-3091	Food/Tob Roast/Bake/Dry Set/Op/Tend	660	690	30	4.5%	0	20	20
51-3092	Food Batchmakers	3,720	3,830	110	3.0%	10	90	100
51-3093	Food Cooking Machine Oper/Tend	1,250	1,250	0	0.0%	0	30	30
51-4000	Metal Workers and Plastic Workers	91,000	89,920	(1,080)	-1.2%	0	2,160	2,160
51-4011	Computer-Control Machine Tool Oper	7,250	7,350	100	1.4%	10	120	130
51-4012	Numerical Tool/Process Cntrl Program	690	700	10	1.4%	0	10	10
51-4021	Extrude/Draw Machine Set/Oper/Tend	2,460	2,190	(270)	-11.0%	0	80	80
51-4022	Forging Machine Set/Oper/Tend	1,940	2,130	190	9.8%	20	30	50
51-4023	Rolling Machine Set/Oper/Tend	680	720	40	5.9%	0	20	20
51-4031	Cut/Punch/Press Mach Set/Oper/Tend	11,520	9,840	(1,680)	-14.6%	0	270	270
51-4032	Drill/Bore Machine Tool Set/Oper/Tend	2,240	2,190	(50)	-2.2%	0	70	70

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
49-9091	Coin/Vending/Amuse Machine Serv/Rep	Moderate-term on-the-job training	30,426	10.76	16.56
49-9092	Commercial Divers	Moderate-term on-the-job training	NA	NA	NA
49-9093	Fabric Menders, Except Garment	Moderate-term on-the-job training	41,370	14.34	22.67
49-9094	Locksmiths and Safe Repairers	Moderate-term on-the-job training	33,129	9.77	19.00
49-9095	Manufactured Build/Mobile Home Install	Moderate-term on-the-job training	26,283	9.78	14.06
49-9096	Riggers	Short-term on-the-job training	28,549	9.70	15.74
49-9097	Signal and Track Switch Repairers	Moderate-term on-the-job training	51,685	23.85	25.35
49-9098	Helpers--Install/Maint/Repair Workers	Short-term on-the-job training	23,421	7.26	13.26
49-9099	Install/Maint/Repair Workers, All Other	Moderate-term on-the-job training	35,523	10.83	20.20
<b>51-0000</b>	<b>Production Occupations</b>		<b>31,268</b>	<b>9.70</b>	<b>17.70</b>
51-1000	Supervisors, Production Workers		NA	NA	NA
51-1011	F-L Sup/Mgr Production/Operating Wkrs	Work experience in related occ	49,886	16.08	27.93
51-2000	Assemblers and Fabricators		NA	NA	NA
51-2011	Aircraft Struct/Surfaces/Rig Sys Assemb	Long-term on-the-job training	36,437	13.19	19.68
51-2021	Coil Winders, Tapers, and Finishers	Short-term on-the-job training	24,461	9.33	12.97
51-2022	Electrical Equipment Assemblers	Short-term on-the-job training	28,858	9.45	16.09
51-2023	Electromechanical Equip Assemblers	Short-term on-the-job training	30,499	10.43	16.78
51-2031	Engine/Other Machine Assemblers	Short-term on-the-job training	38,051	12.52	21.18
51-2041	Structural Metal Fabricators/Fitters	Moderate-term on-the-job training	34,877	13.63	18.34
51-2091	Fiberglass Laminators/Fabricators	Moderate-term on-the-job training	27,374	10.12	14.68
51-2092	Team Assemblers	Moderate-term on-the-job training	26,555	8.84	14.73
51-2093	Timing Device Assemb/Adjust/Calibrator	Moderate-term on-the-job training	NA	NA	NA
51-2099	Assemblers and Fabricators, All Other	Moderate-term on-the-job training	32,586	9.38	18.81
51-3000	Food Processing Workers		NA	NA	NA
51-3011	Bakers	Long-term on-the-job training	22,515	8.01	12.23
51-3021	Butchers and Meat Cutters	Long-term on-the-job training	28,239	9.55	15.59
51-3022	Meat/Poultry/Fish Cutters/Trimmers	Short-term on-the-job training	22,755	8.81	12.00
51-3023	Slaughterers and Meat Packers	Moderate-term on-the-job training	22,093	9.29	11.29
51-3091	Food/Tob Roast/Bake/Dry Set/Op/Tend	Short-term on-the-job training	28,823	9.87	15.85
51-3092	Food Batchmakers	Short-term on-the-job training	26,782	8.76	14.94
51-3093	Food Cooking Machine Oper/Tend	Short-term on-the-job training	26,534	8.40	14.94
51-4000	Metal Workers and Plastic Workers		NA	NA	NA
51-4011	Computer-Control Machine Tool Oper	Moderate-term on-the-job training	34,853	11.82	19.22
51-4012	Numerical Tool/Process Cntrl Program	Long-term on-the-job training	43,338	16.46	23.02
51-4021	Extrude/Draw Machine Set/Oper/Tend	Moderate-term on-the-job training	29,125	10.01	16.00
51-4022	Forging Machine Set/Oper/Tend	Moderate-term on-the-job training	NA	NA	NA
51-4023	Rolling Machine Set/Oper/Tend	Moderate-term on-the-job training	32,951	12.73	17.40
51-4031	Cut/Punch/Press Mach Set/Oper/Tend	Moderate-term on-the-job training	28,868	10.00	15.82
51-4032	Drill/Bore Machine Tool Set/Oper/Tend	Moderate-term on-the-job training	31,403	10.35	17.47

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
51-4033	Grind/Lap/Polish/Buff Machine Tool	5,690	5,370	(320)	-5.6%	0	110	110
51-4034	Lathe/Turn Machine Tool Set/Op/Tend	3,090	2,840	(250)	-8.1%	0	60	60
51-4035	Milling/Planing Machine Set/Oper/Tend	1,260	1,240	(20)	-1.6%	0	20	20
51-4041	Machinists	13,400	14,490	1,090	8.1%	110	310	420
51-4051	Metal-Refining Furnace Oper/Tenders	640	620	(20)	-3.1%	0	10	10
51-4052	Pourers and Casters, Metal	870	850	(20)	-2.3%	0	20	20
51-4061	Model Makers, Metal and Plastic	340	330	(10)	-2.9%	0	10	10
51-4062	Patternmakers, Metal and Plastic	600	590	(10)	-1.7%	0	20	20
51-4071	Foundry Mold and Coremakers	1,370	1,330	(40)	-2.9%	0	30	30
51-4072	Mold/Core/Cast Machine Set/Oper/Tend	8,420	8,250	(170)	-2.0%	0	210	210
51-4081	Multiple Machine Tool Set/Oper/Tend	3,990	4,160	170	4.3%	20	110	130
51-4111	Tool and Die Makers	4,470	4,420	(50)	-1.1%	0	100	100
51-4121	Welders/Cutters/Solderers/Brazers	12,000	12,560	560	4.7%	60	340	400
51-4122	Weld/Solder/Braze Mach Set/Op/Tend	2,390	2,380	(10)	-0.4%	0	70	70
51-4191	Heat Treating Equipment Set/Oper/Tend	940	970	30	3.2%	0	30	30
51-4192	Lay-Out Workers, Metal and Plastic	310	290	(20)	-6.5%	0	10	10
51-4193	Plating/Coating Machine Set/Oper/Tend	1,200	1,200	0	0.0%	0	30	30
51-4194	Tool Grinders, Filers, and Sharpeners	840	790	(50)	-6.0%	0	30	30
51-4199	Metal/Plastic Workers, All Other	2,400	2,120	(280)	-11.7%	0	60	60
51-5000	Printing Workers	18,970	20,050	1,080	5.7%	110	460	570
51-5011	Bindery Workers	5,520	6,150	630	11.4%	60	150	210
51-5012	Bookbinders	430	440	10	2.3%	0	10	10
51-5021	Job Printers	2,050	2,250	200	9.8%	20	50	70
51-5022	Prepress Technicians and Workers	2,840	2,650	(190)	-6.7%	0	70	70
51-5023	Printing Machine Operators	8,130	8,560	430	5.3%	40	190	230
51-6000	Textile, Apparel, and Furnishings Workers	15,200	14,720	(480)	-3.2%	0	300	300
51-6011	Laundry and Dry-Cleaning Workers	4,150	4,510	360	8.7%	40	110	150
51-6021	Pressers Textile/Garment/Related	950	990	40	4.2%	0	20	20
51-6031	Sewing Machine Operators	4,420	4,260	(160)	-3.6%	0	60	60
51-6041	Shoe/Leather Workers/Repairers	260	220	(40)	-15.4%	0	10	10
51-6042	Shoe Machine Operators and Tenders	280	200	(80)	-28.6%	0	0	0
51-6051	Sewers, Hand	120	110	(10)	-8.3%	0	0	0
51-6052	Tailors/Dressmakers/Custom Sewers	1,610	1,690	80	5.0%	10	30	40
51-6061	Textile Bleach/Dye Machine Oper/Tend	240	140	(100)	-41.7%	0	10	10
51-6062	Textile Cutting Machine Set/Oper/Tend	610	620	10	1.6%	0	10	10
51-6063	Textile Knit/Weave Machine Set/Op/Ten	490	240	(250)	-51.0%	0	10	10
51-6064	Textile Wind/Twist/Draw Out Set/Op/Ten	190	120	(70)	-36.8%	0	0	0
51-6091	Extrude/Form Set/Op/Tend Synthetic	520	480	(40)	-7.7%	0	10	10
51-6092	Fabric and Apparel Patternmakers	NA	NA	NA	NA	0	0	0
51-6093	Upholsterers	560	460	(100)	-17.9%	0	10	10
51-6099	Textile/Apparel/Furnishings Workers, AO	NA	NA	NA	NA	0	20	20

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
51-4033	Grind/Lap/Polish/Buff Machine Tool	Moderate-term on-the-job training	31,653	10.81	17.42
51-4034	Lathe/Turn Machine Tool Set/Op/Tend	Moderate-term on-the-job training	32,667	11.48	17.82
51-4035	Milling/Planing Machine Set/Oper/Tend	Moderate-term on-the-job training	32,444	11.61	17.59
51-4041	Machinists	Long-term on-the-job training	36,206	12.79	19.72
51-4051	Metal-Refining Furnace Oper/Tenders	Moderate-term on-the-job training	33,515	12.11	18.12
51-4052	Pourers and Casters, Metal	Moderate-term on-the-job training	30,257	11.09	16.27
51-4061	Model Makers, Metal and Plastic	Moderate-term on-the-job training	43,788	15.47	23.84
51-4062	Patternmakers, Metal and Plastic	Moderate-term on-the-job training	41,931	14.21	23.13
51-4071	Foundry Mold and Coremakers	Moderate-term on-the-job training	31,080	10.59	17.12
51-4072	Mold/Core/Cast Machine Set/Oper/Tend	Moderate-term on-the-job training	28,838	10.23	15.68
51-4081	Multiple Machine Tool Set/Oper/Tend	Moderate-term on-the-job training	33,487	11.90	18.20
51-4111	Tool and Die Makers	Long-term on-the-job training	44,111	16.56	23.53
51-4121	Welders/Cutters/Solderers/Brazers	Postsecondary vocational training	33,618	12.69	17.90
51-4122	Weld/Solder/Braze Mach Set/Op/Tend	Moderate-term on-the-job training	32,175	11.09	17.66
51-4191	Heat Treating Equipment Set/Oper/Tend	Moderate-term on-the-job training	29,873	10.78	16.15
51-4192	Lay-Out Workers, Metal and Plastic	Moderate-term on-the-job training	37,154	14.01	19.79
51-4193	Plating/Coating Machine Set/Oper/Tend	Moderate-term on-the-job training	26,974	9.43	14.74
51-4194	Tool Grinders, Filers, and Sharpeners	Moderate-term on-the-job training	34,964	12.66	18.88
51-4199	Metal/Plastic Workers, All Other	Moderate-term on-the-job training	47,269	13.56	27.31
51-5000	Printing Workers		NA	NA	NA
51-5011	Bindery Workers	Moderate-term on-the-job training	27,286	8.86	15.25
51-5012	Bookbinders	Moderate-term on-the-job training	28,412	9.14	15.92
51-5021	Job Printers	Long-term on-the-job training	34,741	11.51	19.30
51-5022	Prepress Technicians and Workers	Postsecondary vocational training	35,447	11.84	19.64
51-5023	Printing Machine Operators	Moderate-term on-the-job training	35,902	11.99	19.90
51-6000	Textile, Apparel, and Furnishings Workers		NA	NA	NA
51-6011	Laundry and Dry-Cleaning Workers	Moderate-term on-the-job training	19,728	7.26	10.60
51-6021	Pressers Textile/Garment/Related	Short-term on-the-job training	19,497	7.40	10.36
51-6031	Sewing Machine Operators	Moderate-term on-the-job training	22,761	8.31	12.26
51-6041	Shoe/Leather Workers/Repairers	Long-term on-the-job training	22,415	8.20	12.07
51-6042	Shoe Machine Operators and Tenders	Moderate-term on-the-job training	20,329	7.20	11.06
51-6051	Sewers, Hand	Short-term on-the-job training	20,303	7.41	10.94
51-6052	Tailors/Dressmakers/Custom Sewers	Work experience in related occ	23,029	8.05	12.58
51-6061	Textile Bleach/Dye Machine Oper/Tend	Moderate-term on-the-job training	27,269	9.24	15.05
51-6062	Textile Cutting Machine Set/Oper/Tend	Moderate-term on-the-job training	22,315	9.16	11.51
51-6063	Textile Knit/Weave Machine Set/Op/Ten	Long-term on-the-job training	29,240	9.97	16.10
51-6064	Textile Wind/Twist/Draw Out Set/Op/Ten	Moderate-term on-the-job training	28,885	9.78	15.94
51-6091	Extrude/Form Set/Op/Tend Synthetic	Moderate-term on-the-job training	32,281	11.53	17.51
51-6092	Fabric and Apparel Patternmakers	Long-term on-the-job training	33,635	10.57	18.97
51-6093	Upholsterers	Long-term on-the-job training	30,269	10.37	16.64
51-6099	Textile/Apparel/Furnishings Workers, AO	Short-term on-the-job training	27,434	9.16	15.20

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
51-7000	Woodworkers	11,980	11,050	(930)	-7.8%	0	320	320
51-7011	Cabinetmakers and Bench Carpenters	3,990	3,950	(40)	-1.0%	0	100	100
51-7021	Furniture Finishers	510	440	(70)	-13.7%	0	10	10
51-7031	Model Makers, Wood	NA	NA	NA	NA	0	0	0
51-7032	Patternmakers, Wood	60	60	0	0.0%	0	0	0
51-7041	Sawing Machine Set/Oper/Tend, Wood	2,410	2,140	(270)	-11.2%	0	70	70
51-7042	Woodwkg Mach Set/Oper/Tend Ex Saw	3,820	3,420	(400)	-10.5%	0	100	100
51-7099	Woodworkers, All Other	NA	NA	NA	NA	0	30	30
51-8000	Plant and System Operators	5,410	5,580	170	3.1%	20	160	180
51-8011	Nuclear Power Reactor Operators	NA	NA	NA	NA	0	0	0
51-8012	Power Distributors and Dispatchers	180	170	(10)	-5.6%	0	10	10
51-8013	Power Plant Operators	1,000	1,000	0	0.0%	0	30	30
51-8021	Stationary Engineers/Boiler Operators	740	750	10	1.4%	0	10	10
51-8031	Water/Liquid Waste Treat Plant/Sys Op	2,210	2,340	130	5.9%	10	80	90
51-8091	Chemical Plant and System Operators	810	840	30	3.7%	0	30	30
51-8092	Gas Plant Operators	80	90	10	12.5%	0	0	0
51-8093	Petro Pump System/Refinery Operators	NA	NA	NA	NA	0	0	0
51-8099	Plant and System Operators, All Other	200	200	0	0.0%	0	10	10
51-9000	Other Production Occupations	102,370	104,670	2,300	2.2%	230	2,450	2,680
51-9011	Chemical Equip Operators and Tenders	900	900	0	0.0%	0	30	30
51-9012	Separate/Filter/Clarify/Precipitate S/O/T	1,730	1,800	70	4.0%	10	60	70
51-9021	Crush/Grind/Polish Machine S/O/T	1,390	1,380	(10)	-0.7%	0	40	40
51-9022	Grinding/Polishing Workers, Hand	1,560	1,410	(150)	-9.6%	0	40	40
51-9023	Mix/Blend Machine Set/Oper/Tenders	3,870	3,990	120	3.1%	10	100	110
51-9031	Cutters and Trimmers, Hand	610	670	60	9.8%	10	10	20
51-9032	Cut/Slice Machine Set/Oper/Tenders	4,380	4,380	0	0.0%	0	90	90
51-9041	Extrude/Form/Press/Compact S/O/T	2,200	2,270	70	3.2%	10	60	70
51-9051	Furnace/Kiln/Oven/Drier/Kettle Oper/Ten	730	750	20	2.7%	0	20	20
51-9061	Inspect/Test/Sort/Sample/Weigh	21,230	23,400	2,170	10.2%	220	480	700
51-9071	Jewelers/Precious Stone/Metal Wkrs	480	530	50	10.4%	10	10	20
51-9081	Dental Laboratory Technicians	1,030	1,080	50	4.9%	10	20	30
51-9082	Medical Appliance Technicians	130	160	30	23.1%	0	0	0
51-9083	Ophthalmic Laboratory Technicians	670	710	40	6.0%	0	20	20
51-9111	Packaging/Filling Machine Oper/Tenders	15,910	15,630	(280)	-1.8%	0	320	320
51-9121	Coat/Paint/Spray Machine Set/Opr/Tend	4,820	4,790	(30)	-0.6%	0	130	130
51-9122	Painters, Transportation Equipment	1,300	1,440	140	10.8%	10	30	40
51-9123	Painting/Coating/Decorating Workers	960	1,020	60	6.3%	10	30	40
51-9131	Photographic Process Workers	600	480	(120)	-20.0%	0	20	20
51-9132	Photo Processing Machine Operators	1,270	840	(430)	-33.9%	0	30	30
51-9141	Semiconductor Processors	60	60	0	0.0%	0	0	0
51-9191	Cementing Gluing Machine Oper/Tend	360	360	0	0.0%	0	10	10

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
51-7000	Woodworkers		NA	NA	NA
51-7011	Cabinetmakers and Bench Carpenters	Long-term on-the-job training	29,788	9.87	16.55
51-7021	Furniture Finishers	Long-term on-the-job training	27,316	9.84	14.78
51-7031	Model Makers, Wood	Long-term on-the-job training	32,932	11.53	17.98
51-7032	Patternmakers, Wood	Long-term on-the-job training	32,188	12.04	17.19
51-7041	Sawing Machine Set/Oper/Tend, Wood	Moderate-term on-the-job training	25,163	8.97	13.66
51-7042	Woodwkg Mach Set/Oper/Tend Ex Saw	Moderate-term on-the-job training	26,906	9.50	14.65
51-7099	Woodworkers, All Other	Moderate-term on-the-job training	21,952	7.54	12.06
51-8000	Plant and System Operators		NA	NA	NA
51-8011	Nuclear Power Reactor Operators	Long-term on-the-job training	NA	NA	NA
51-8012	Power Distributors and Dispatchers	Long-term on-the-job training	62,806	22.80	33.89
51-8013	Power Plant Operators	Long-term on-the-job training	49,385	15.95	27.64
51-8021	Stationary Engineers/Boiler Operators	Long-term on-the-job training	41,425	15.92	21.92
51-8031	Water/Liquid Waste Treat Plant/Sys Op	Long-term on-the-job training	33,847	9.22	19.80
51-8091	Chemical Plant and System Operators	Long-term on-the-job training	40,186	14.03	21.97
51-8092	Gas Plant Operators	Long-term on-the-job training	56,331	22.49	29.38
51-8093	Petro Pump System/Refinery Operators	Long-term on-the-job training	43,981	17.98	22.73
51-8099	Plant and System Operators, All Other	Long-term on-the-job training	NA	NA	NA
51-9000	Other Production Occupations		NA	NA	NA
51-9011	Chemical Equip Operators and Tenders	Moderate-term on-the-job training	35,319	12.00	19.47
51-9012	Separate/Filter/Clarify/Precipitate S/O/T	Moderate-term on-the-job training	35,536	12.18	19.54
51-9021	Crush/Grind/Polish Machine S/O/T	Moderate-term on-the-job training	30,492	9.42	17.28
51-9022	Grinding/Polishing Workers, Hand	Moderate-term on-the-job training	27,671	9.90	15.01
51-9023	Mix/Blend Machine Set/Oper/Tenders	Moderate-term on-the-job training	31,952	11.05	17.52
51-9031	Cutters and Trimmers, Hand	Short-term on-the-job training	27,000	9.33	14.81
51-9032	Cut/Slice Machine Set/Oper/Tenders	Moderate-term on-the-job training	31,979	10.99	17.57
51-9041	Extrude/Form/Press/Compact S/O/T	Moderate-term on-the-job training	30,912	9.68	17.45
51-9051	Furnace/Kiln/Oven/Drier/Kettle Oper/Ten	Moderate-term on-the-job training	31,747	10.89	17.45
51-9061	Inspect/Test/Sort/Sample/Weigh	Moderate-term on-the-job training	29,007	8.88	16.48
51-9071	Jewelers/Precious Stone/Metal Wkrs	Postsecondary vocational training	38,888	13.26	21.41
51-9081	Dental Laboratory Technicians	Long-term on-the-job training	34,225	10.89	19.24
51-9082	Medical Appliance Technicians	Long-term on-the-job training	34,440	11.04	19.32
51-9083	Ophthalmic Laboratory Technicians	Moderate-term on-the-job training	27,391	9.29	15.11
51-9111	Packaging/Filling Machine Oper/Tenders	Short-term on-the-job training	26,037	8.51	14.52
51-9121	Coat/Paint/Spray Machine Set/Opr/Tend	Moderate-term on-the-job training	31,670	11.01	17.33
51-9122	Painters, Transportation Equipment	Long-term on-the-job training	39,583	13.78	21.66
51-9123	Painting/Coating/Decorating Workers	Short-term on-the-job training	23,586	8.64	12.69
51-9131	Photographic Process Workers	Moderate-term on-the-job training	NA	NA	NA
51-9132	Photo Processing Machine Operators	Short-term on-the-job training	20,042	7.52	10.69
51-9141	Semiconductor Processors	Associate degree	32,938	10.07	18.72
51-9191	Cementing Gluing Machine Oper/Tend	Moderate-term on-the-job training	30,233	10.60	16.50

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
51-9192	Clean/Wash/Metal Pickle Equip Op/Tend	420	430	10	2.4%	0	10	10
51-9193	Cool/Freeze Equip Oper/Tenders	130	130	0	0.0%	0	0	0
51-9194	Etchers and Engravers	350	350	0	0.0%	0	10	10
51-9195	Mold/Shape/Cast Exc Metal and Plastic	1,040	1,020	(20)	-1.9%	0	30	30
51-9196	Paper Goods Machine Set/Oper/Tend	8,300	8,050	(250)	-3.0%	0	180	180
51-9197	Tire Builders	90	100	10	11.1%	0	0	0
51-9198	Helpers--Production Workers	16,740	17,960	1,220	7.3%	120	470	590
51-9199	Production Workers, All Other	9,130	8,590	(540)	-5.9%	0	220	220
<b>53-0000</b>	<b>Transpo/Material Moving Occupations</b>	<b>232,570</b>	<b>255,780</b>	<b>23,210</b>	<b>10.0%</b>	<b>2,320</b>	<b>5,040</b>	<b>7,360</b>
53-1000	Supervisors, Transpo/Material Moving Wkrs	9,130	10,240	1,110	12.2%	110	220	330
53-1011	Aircraft Cargo Handling Supervisors	140	150	10	7.1%	0	0	0
53-1021	First-Line Sups/Mgrs Help/Labor/Movers	4,160	4,490	330	7.9%	30	100	130
53-1031	F-L Sup/Managers Transpo/Motor Veh	4,840	5,600	760	15.7%	80	110	190
53-2000	Air Transportation Workers	1,710	1,980	270	15.8%	30	50	80
53-2011	Airline Pilots/Copilots/ Flight Engineers	NA	NA	NA	NA	10	20	30
53-2012	Commercial Pilots	570	670	100	17.5%	10	20	30
53-2021	Air Traffic Controllers	210	230	20	9.5%	0	10	10
53-2022	Airfield Operations Specialists	NA	NA	NA	NA	0	0	0
53-3000	Motor Vehicle Operators	104,500	119,880	15,380	14.7%	1,540	1,560	3,100
53-3011	Ambulance Drivers/Attends, Ex EMTs	470	590	120	25.5%	10	10	20
53-3021	Bus Drivers, Transit and Intercity	3,170	3,900	730	23.0%	70	70	140
53-3022	Bus Drivers, School	9,510	11,250	1,740	18.3%	170	210	380
53-3031	Driver/Sales Workers	7,360	8,360	1,000	13.6%	100	120	220
53-3032	Truck Drivers, Heavy/Tractor-Trailer	53,490	60,470	6,980	13.0%	700	870	1,570
53-3033	Truck Drivers, Light/Delivery Services	24,350	27,790	3,440	14.1%	340	220	560
53-3041	Taxi Drivers and Chauffeurs	4,830	6,000	1,170	24.2%	120	40	160
53-3099	Motor Vehicle Operators, All Other	1,320	1,530	210	15.9%	20	20	40
53-4000	Rail Transportation Workers	1,550	1,580	30	1.9%	0	40	40
53-4011	Locomotive Engineers	610	640	30	4.9%	0	20	20
53-4012	Locomotive Firers	NA	NA	NA	NA	0	0	0
53-4013	Rail Yd Engineers/Dinkey Oper/Hostlers	NA	NA	NA	NA	0	0	0
53-4021	Railroad Brake/Signal/Switch Oper	260	150	(110)	-42.3%	0	0	0
53-4031	Railroad Conductors/Yardmasters	650	760	110	16.9%	10	20	30
53-4099	Rail Transportation Wkrs, All Other	20	20	0	0.0%	0	0	0

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
51-9192	Clean/Wash/Metal Pickle Equip Op/Tend	Moderate-term on-the-job training	30,815	10.55	16.95
51-9193	Cool/Freeze Equip Oper/Tenders	Moderate-term on-the-job training	29,838	9.82	16.61
51-9194	Etchers and Engravers	Long-term on-the-job training	NA	NA	NA
51-9195	Mold/Shape/Cast Exc Metal and Plastic	Moderate-term on-the-job training	30,786	10.20	17.10
51-9196	Paper Goods Machine Set/Oper/Tend	Moderate-term on-the-job training	34,522	11.89	18.95
51-9197	Tire Builders	Moderate-term on-the-job training	24,082	9.60	12.57
51-9198	Helpers--Production Workers	Short-term on-the-job training	24,089	8.21	13.27
51-9199	Production Workers, All Other	Moderate-term on-the-job training	29,418	8.57	16.93
<b>53-0000</b>	<b>Transpo/Material Moving Occupations</b>		<b>28,907</b>	<b>8.16</b>	<b>16.77</b>
53-1000	Supervisors, Transpo/Material Moving Wkrs		NA	NA	NA
53-1011	Aircraft Cargo Handling Supervisors	Work experience in related occ	39,236	13.15	21.72
53-1021	First-Line Sups/Mgrs Help/Labor/Movers	Work experience in related occ	43,287	13.70	24.37
53-1031	F-L Sup/Managers Transpo/Motor Veh	Work experience in related occ	52,468	15.20	30.24
53-2000	Air Transportation Workers		NA	NA	NA
53-2011	Airline Pilots/Copilots/ Flight Engineers	Bachelor's degree	NA	NA	NA
53-2012	Commercial Pilots	Postsecondary vocational training	52,748	NA	NA
53-2021	Air Traffic Controllers	Bachelor's degree	NA	NA	NA
53-2022	Airfield Operations Specialists	Long-term on-the-job training	NA	NA	NA
53-3000	Motor Vehicle Operators		NA	NA	NA
53-3011	Ambulance Drivers/Attends, Ex EMTs	Moderate-term on-the-job training	21,537	7.06	12.00
53-3021	Bus Drivers, Transit and Intercity	Moderate-term on-the-job training	34,154	10.59	19.34
53-3022	Bus Drivers, School	Short-term on-the-job training	24,550	8.78	13.32
53-3031	Driver/Sales Workers	Short-term on-the-job training	25,335	6.54	15.00
53-3032	Truck Drivers, Heavy/Tractor-Trailer	Moderate-term on-the-job training	36,797	12.60	20.24
53-3033	Truck Drivers, Light/Delivery Services	Short-term on-the-job training	24,765	7.67	14.03
53-3041	Taxi Drivers and Chauffeurs	Short-term on-the-job training	19,451	7.05	10.50
53-3099	Motor Vehicle Operators, All Other	Short-term on-the-job training	17,985	5.89	10.03
53-4000	Rail Transportation Workers		NA	NA	NA
53-4011	Locomotive Engineers	Work experience in related occ	63,542	23.40	34.12
53-4012	Locomotive Firers	Work experience in related occ	NA	NA	NA
53-4013	Rail Yd Engineers/Dinkey Oper/Hostlers	Work experience in related occ	NA	NA	NA
53-4021	Railroad Brake/Signal/Switch Oper	Moderate-term on-the-job training	50,741	18.59	27.30
53-4031	Railroad Conductors/Yardmasters	Work experience in related occ	60,725	23.46	32.06
53-4099	Rail Transportation Wkrs, All Other	Moderate-term on-the-job training	34,665	9.99	20.00

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Estimated Employment <sup>(1)</sup>				Estimated Average Annual Openings <sup>(1)</sup>		
		2004	2014	Change	Percent Change	New Jobs	Replacements <sup>(2)</sup>	Total <sup>(3)</sup>
53-5000	Water Transportation Workers	1,190	1,210	20	1.7%	0	40	40
53-5011	Sailors and Marine Oilers	590	600	10	1.7%	0	20	20
53-5021	Captains/Mates/Pilots of Water Vessels	540	550	10	1.9%	0	20	20
53-5022	Motorboat Operators	NA	NA	NA	NA	0	0	0
53-5031	Ship Engineers	NA	NA	NA	NA	0	0	0
53-6000	Other Transportation Workers	3,100	3,180	80	2.6%	10	110	120
53-6011	Bridge and Lock Tenders	NA	NA	NA	NA	0	0	0
53-6021	Parking Lot Attendants	1,110	950	(160)	-14.4%	0	30	30
53-6031	Service Station Attendants	1,050	1,210	160	15.2%	20	50	70
53-6041	Traffic Technicians	NA	NA	NA	NA	0	0	0
53-6051	Transportation Inspectors	280	310	30	10.7%	0	10	10
53-6099	Transportation Workers, All Other	530	590	60	11.3%	10	20	30
53-7000	Material Moving Workers	111,390	117,720	6,330	5.7%	630	3,030	3,660
53-7011	Conveyor Operators and Tenders	980	1,020	40	4.1%	0	30	30
53-7021	Crane and Tower Operators	560	620	60	10.7%	10	10	20
53-7031	Dredge Operators	20	30	10	50.0%	0	0	0
53-7032	Excavate/Load Machine/Drayline Oper	860	970	110	12.8%	10	20	30
53-7033	Load Machine Oper/Undergrnd Mining	50	50	0	0.0%	0	0	0
53-7041	Hoist and Winch Operators	60	70	10	16.7%	0	0	0
53-7051	Industrial Truck and Tractor Operators	17,380	18,340	960	5.5%	100	330	430
53-7061	Cleaners of Vehicles and Equipment	6,970	7,310	340	4.9%	30	240	270
53-7062	Labor/Freight/Stock Material Mvrs, Hand	53,510	56,330	2,820	5.3%	280	1,750	2,030
53-7063	Machine Feeders and Offbearers	4,220	3,610	(610)	-14.5%	0	120	120
53-7064	Packers and Packagers, Hand	23,300	25,970	2,670	11.5%	270	440	710
53-7071	Gas Compressor/Pump Station Oper	NA	NA	NA	NA	0	0	0
53-7072	Pump Operators, Except Wellhead	80	60	(20)	-25.0%	0	0	0
53-7073	Wellhead Pumpers	0	0	0	0.0%	0	0	0
53-7081	Refuse/Recyclable Material Collectors	1,800	1,920	120	6.7%	10	50	60
53-7111	Shuttle Car Operators	NA	NA	NA	NA	0	0	0
53-7121	Tank Car, Truck, and Ship Loaders	140	140	0	0.0%	0	0	0
53-7199	Material Moving Workers, All Other	1,440	1,270	(170)	-11.8%	0	40	40

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

SOC Code	Occupational Title	Education and Training Path <sup>(4)</sup>	Estimated Salary and Wages (\$) <sup>(5)</sup>		
			Average Annual Salary	Entry Level	Experienced Level
53-5000	Water Transportation Workers		NA	NA	NA
53-5011	Sailors and Marine Oilers	Short-term on-the-job training	27,009	7.20	15.88
53-5021	Captains/Mates/Pilots of Water Vessels	Work experience in related occ	48,641	14.09	28.03
53-5022	Motorboat Operators	Moderate-term on-the-job training	29,723	12.10	15.38
53-5031	Ship Engineers	Postsecondary vocational training	38,486	13.66	20.92
53-6000	Other Transportation Workers		NA	NA	NA
53-6011	Bridge and Lock Tenders	Short-term on-the-job training	41,155	14.10	22.63
53-6021	Parking Lot Attendants	Short-term on-the-job training	19,180	7.46	10.10
53-6031	Service Station Attendants	Short-term on-the-job training	19,261	6.98	10.40
53-6041	Traffic Technicians	Short-term on-the-job training	NA	NA	NA
53-6051	Transportation Inspectors	Work experience in related occ	50,321	12.51	30.03
53-6099	Transportation Workers, All Other	Short-term on-the-job training	21,609	5.92	12.62
53-7000	Material Moving Workers		NA	NA	NA
53-7011	Conveyor Operators and Tenders	Short-term on-the-job training	29,819	9.42	16.80
53-7021	Crane and Tower Operators	Long-term on-the-job training	42,775	13.93	23.88
53-7031	Dredge Operators	Moderate-term on-the-job training	40,099	14.00	21.92
53-7032	Excavate/Load Machine/Dragline Oper	Moderate-term on-the-job training	39,520	12.85	22.08
53-7033	Load Machine Oper/Undergrnd Mining	Moderate-term on-the-job training	35,388	12.45	19.30
53-7041	Hoist and Winch Operators	Moderate-term on-the-job training	29,796	12.39	15.29
53-7051	Industrial Truck and Tractor Operators	Short-term on-the-job training	29,323	10.62	15.83
53-7061	Cleaners of Vehicles and Equipment	Short-term on-the-job training	19,999	6.37	11.24
53-7062	Labor/Freight/Stock Material Mvrs, Hand	Short-term on-the-job training	23,693	7.64	13.27
53-7063	Machine Feeders and Offbearers	Short-term on-the-job training	25,490	8.58	14.09
53-7064	Packers and Packagers, Hand	Short-term on-the-job training	21,155	6.69	11.91
53-7071	Gas Compressor/Pump Station Oper	Moderate-term on-the-job training	NA	NA	NA
53-7072	Pump Operators, Except Wellhead	Moderate-term on-the-job training	NA	NA	NA
53-7073	Wellhead Pumpers	Moderate-term on-the-job training	NA	NA	NA
53-7081	Refuse/Recyclable Material Collectors	Short-term on-the-job training	33,884	9.97	19.45
53-7111	Shuttle Car Operators	Short-term on-the-job training	30,517	8.01	18.00
53-7121	Tank Car, Truck, and Ship Loaders	Moderate-term on-the-job training	36,527	14.15	19.27
53-7199	Material Moving Workers, All Other	Moderate-term on-the-job training	28,330	8.23	16.31

(continued)

**Figure 2-9: Detailed 2004 to 2014 Occupational Trends  
Including Typical Education and Training Path and Wages (continued)**

Notes:

1. Employment is a count of jobs rather than people, and includes all part- and full-time nonfarm jobs. Employment also includes self-employed and unpaid family workers. Employment is rounded to the nearest ten, with employment less than five rounded to zero. Totals may not add due to rounding.
2. Replacements are an estimate of the number of job openings expected because people have permanently left a given occupation. Permanent exits occur if someone dies, retires, or otherwise leaves the labor force. Permanent exits also include openings resulting from someone permanently changing occupations. For example, a person leaves their job as a cashier and becomes a truck driver. Openings resulting from people changing employers, but staying in the same occupation are not included.
3. Total openings are the sum of new jobs and replacements. Total openings are an indication of how many people are need to enter a given occupation
4. Typical education and training path gives a general indication of the education or training usually needed in the occupation. There may be other pathways into the occupation, as well as additional educational, training, or licensing requirements.  
  
Short-Term On-the-Job Training: These occupations require no more than one month of on-the-job training and the training usually happens at the workplace.  
  
Moderate-Term On-the-Job Training: Training for these occupations usually occurs at the workplace and lasts from one to twelve months.  
  
Long-Term On-the-Job Training: These occupations require more than one year of on-the-job training, or combined work experience and classroom instruction.  
  
Work Experience in Related Occupation: Occupations in this category require skills and experience gained in other jobs.  
  
Postsecondary Vocational Training: These formal training programs last from a few weeks to more than a year, and are offered at vocational or technical schools.  
  
Associate Degree: This degree requires two years of full-time academic work beyond high school.  
  
Bachelor's Degree: This degree requires four or five years of full-time academic work at a college or university.  
  
Master's Degree: This degree requires one to two years of full-time study beyond a bachelor's degree.  
  
Doctoral Degree: This degree usually requires at least three years of full-time study beyond a bachelor's degree.  
  
First Professional Degree: These degrees typically require at least two years of full-time study beyond a bachelor's degree.  
  
Degree & Work Experience: These occupations require a bachelor's or higher degree, in addition to work experience in a related non-managerial position.
5. Average Annual Salary: An occupation's average hourly wage is calculated by summing the wages of all employees in a given occupation and then dividing by the total number of employees in that occupation. In most cases, the annual average salary is equal to the average hourly wage multiplied by 2,080. The Entry Level Hourly Wage is the average of the lower third of wages that are paid in a given occupation. The Experienced Level Hourly Wage is the average of the upper two-thirds of wages that are paid in a given occupation.
6. Depending upon the specific position and employer either a bachelor's degree or an associate degree are most common.

NA: Information is not available

Information is derived using the November 2004 OES Survey, 2004 QCEW and 2004 CES (3/05 Benchmark) data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau was also used.

To the extent possible, the projections take into account anticipated changes in Wisconsin's economy from 2004 to 2014. It is important to note that unanticipated events may affect the accuracy of these projections.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

## Wisconsin Projections 2004 - 2014

### Chapter 3: Workforce Development Area Projections

#### WHAT ARE THE WORKFORCE DEVELOPMENT AREAS?

In addition to projections for Wisconsin as a whole, projections are developed for the state's eleven Workforce Development Areas (WDAs). The counties included in each WDA are illustrated in figure 3.1. In the projections, data for the Milwaukee and Waukesha-Ozaukee-Washington WDAs are combined because these areas function as one labor market.

<b>Figure 3.1: Wisconsin Workforce Development Areas</b>	
<b>Area Name</b>	<b>Counties</b>
WDA 1 Southeast	Kenosha, Racine, Walworth
WDA 2 Milwaukee	Milwaukee
WDA 3 WOW	Ozaukee, Washington, Waukesha
WDA 4 Fox Valley	Calumet, Fond du Lac, Green Lake, Outagamie, Waupaca, Waushara, Winnebago
WDA 5 Bay Area	Brown, Door, Florence, Kewaunee, Manitowoc, Marinette, Menominee, Oconto, Shawano, Sheboygan
WDA 6 North Central	Adams, Forest, Langlade, Lincoln, Marathon, Oneida, Portage, Vilas, Wood
WDA 7 Northwest	Ashland, Bayfield, Burnett, Douglas, Iron, Price, Rusk, Sawyer, Taylor, Washburn
WDA 8 West Central	Barron, Chippewa, Clark, Dunn, Eau Claire, Pepin, Pierce, Polk, St. Croix
WDA 9 Western	Buffalo, Crawford, Jackson, Juneau, La Crosse, Monroe, Trempealeau, Vernon
WDA 10 South Central	Columbia, Dane, Dodge, Jefferson, Marquette, Sauk
WDA 11 Southwest	Grant, Green, Iowa, Lafayette, Richland, Rock

#### COMPARING WDA AND STATEWIDE PROJECTIONS

In comparing the WDA projections to the state projections there are some differences to keep in mind:

- (1) Due to lack of data at the county level, the WDA projections exclude jobs not covered by Wisconsin's unemployment insurance law except those in religious organizations. Jobs among the self-employed and jobs among unpaid family workers are also excluded. Estimates of railroad industry jobs are included only in the Northwest and West Central areas.
- (2) Some of the state's jobs are not assigned to any particular county, and therefore not to a specific WDA, because some employers do not report county breakdowns of their jobs.
- (3) As a result of (1) and (2) above, the totals of jobs and job openings for the WDAs are different than what is reflected in the statewide projections.
- (4) In order to protect the confidentiality of major employers in specific industries within each region, WDA industry projections are not available at the same detailed level as for the state as a whole.
- (5) Also in order to protect the confidentiality of major employers of people in specific occupations, complete occupational projections data may not be available for each occupation in each region.

**COMPARISONS OF WORKFORCE DEVELOPMENT AREAS**

**Milwaukee-WOW and South Central are the Largest Job Markets**

By far, the dominate job market in the state is the Milwaukee-WOW area (see figure 3.2). Most of the state's jobs are, and will continue to be, in this region. This area is expected to account for 31% of the state's total jobs in 2014, as well as 34% of the new jobs and 31% of total job openings. Overall this area is expected to have about 934,500 jobs in 2014. The dominant industry sectors are education and health services with 22% of the area's jobs and information, professional and business services, and other services with another 22% of jobs (see figure 3.3). Manufacturing is third, yet only accounts for 14% of the region's jobs.

The second largest job market is the South Central area, which will have about 16% of the state's future jobs. This area is also projected to have 16% of the state's new jobs as well as 16% of its total openings. This region is expected to have 476,700 jobs in 2014, or about one-half as many as the Milwaukee-WOW area. In South Central, the largest concentration of jobs is in education and health services ( which accounts for 21% of employment). Information, professional and business services, and other services comprises another 17% of jobs. Manufacturing ranks fourth with 13% of the area's jobs.

<b>Figure 3-2: 2004-2014 Projections for Wisconsin's Workforce Development Areas</b>											
	Se	Milw-WOW	Fox	Bay	NC	Nw	WC	West	SC	Sw	WDA Totals
<b>2004 Jobs</b>	170,260	824,170	283,330	307,450	199,070	69,700	173,880	136,640	423,430	118,070	2,706,020
<b>2014 Jobs</b>	189,840	934,470	312,660	338,120	222,540	76,620	194,330	152,080	476,650	132,240	3,029,610
<b>New Jobs</b>	19,580	110,300	29,330	30,670	23,470	6,920	20,450	15,440	53,220	14,170	323,590
<b>Percent Change</b>	11.5%	13.4%	10.4%	10.0%	11.8%	9.9%	11.8%	11.3%	12.6%	12.0%	12.0%
<b>Total Job Openings</b>	61,600	304,600	98,000	105,600	71,700	24,600	63,700	49,000	154,200	43,600	976,600
Notes:											
Jobs counts are rounded to the nearest ten. Totals may not add due to rounding.											
Total job openings are the sum of newly created jobs and replacement openings. Replacement openings occur when people permanently leave a given occupation											
Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, November 2004 OES, and statewide 2004-2014 projections data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.											
Source: Office of Economic Advisors, Wisconsin Department of Workforce Development											

## PROPORTION OF JOBS IN SELECTED INDUSTRY AND OCCUPATIONAL GROUPS

Figure 3-3 illustrates the relative size of the industry super-sectors or “super” super-sectors in each WDA, and compares the WDAs to each other and the Wisconsin average. The “super” super-sectors are combinations of super-sectors. Super-sectors are large aggregate groupings of industries. For more information about super-sectors refer to Chapter 1, page 2 and figure 1-7 on pages 13-16.

Manufacturing jobs are a relatively more important source of employment in the Bay Area and Fox Valley, and relatively less important in the Milwaukee-WOW and South Central regions. The Bay Area has 21.7% of its total jobs in manufacturing while the Fox Valley has 20.1%. The statewide average is 16.4%. Milwaukee-WOW has 14.4% and South Central has 12.6%.

Jobs in trade are comparatively more important to the Southwest region. Southwest has 21.4% of its jobs in the trade sector versus the WDA average of 15.1%. Positions in the information, professional and business services, other services sector are relatively more important to the Milwaukee-WOW area. This region has 21.6% of its employment in this sector versus the WDA average of 16.6%.

Figure 3-4 compares the proportion of jobs found in each broad occupational group, except farming, fishing, and forestry. Information for this group is not shown because each area has less than 1% of its jobs in this group (keep in mind that agricultural employment is not included in the projections). For more information about the broad occupational groups see Chapter 2, page 24 and figure 2-9 on pages 34-80.

## ADDITIONAL PROJECTIONS INFORMATION

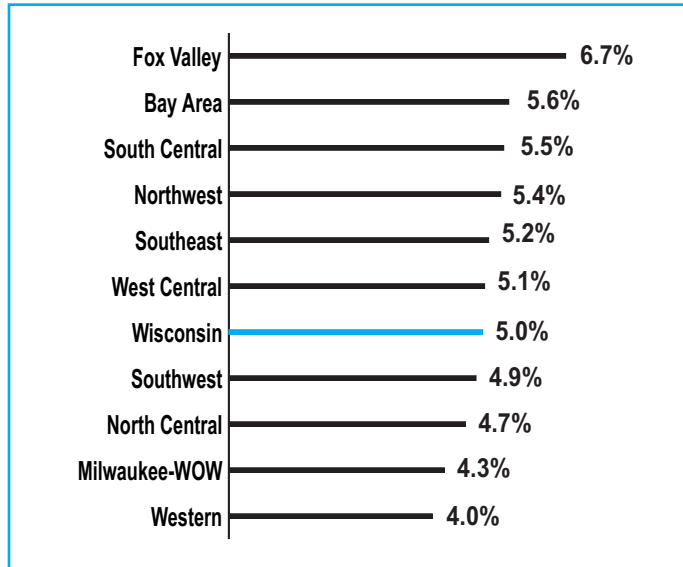
More projections information for the Workforce Development Areas is available on-line at [http://dwd.wisconsin.gov/oea/employment\\_projections.htm](http://dwd.wisconsin.gov/oea/employment_projections.htm).

For each area the following items are available:

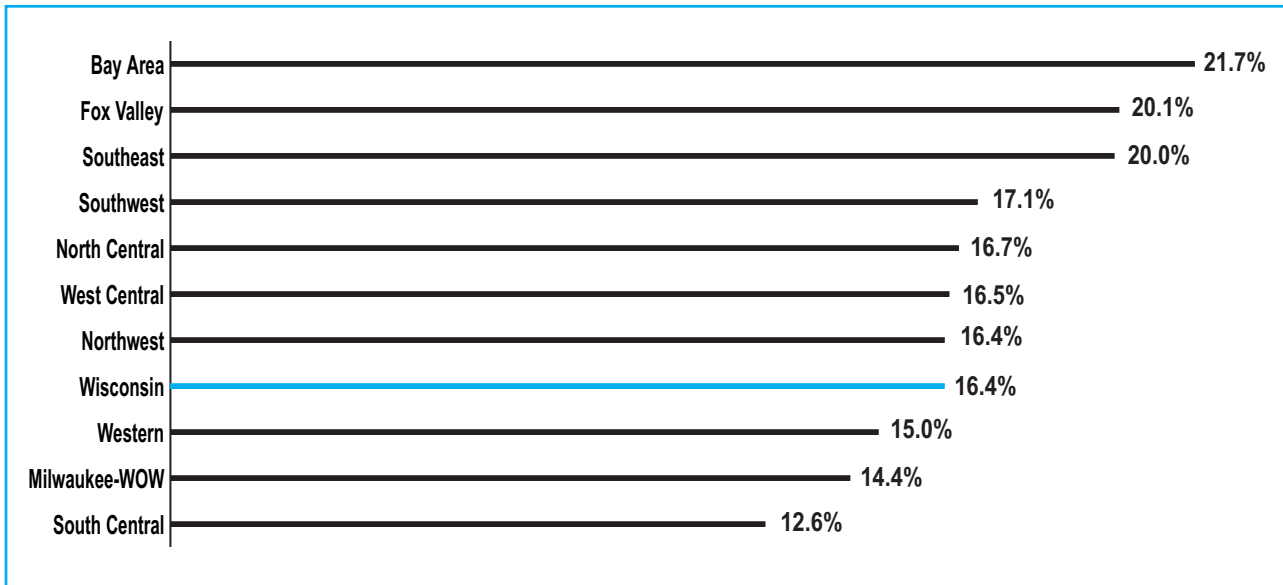
1. Industry projections for aggregate industry groups and selected industry sub-sectors.
2. Detailed occupational projections for each occupation (except where the data is confidential). The data also include wage information and education and training pathways.
3. Tables ranking the occupations with the largest number of jobs overall, most new jobs, most total openings, most replacement openings, growing the fastest, and losing the most jobs.
4. A listing of 25 occupations in each region that pay relatively high wages and are expected to have numerous job openings.

**Figure 3-3: Percentage of Area Jobs in Selected Industry Groups  
2014 Projection**

**Construction/Mining/Natural Resources (NAICS 1133, 21, 23)**



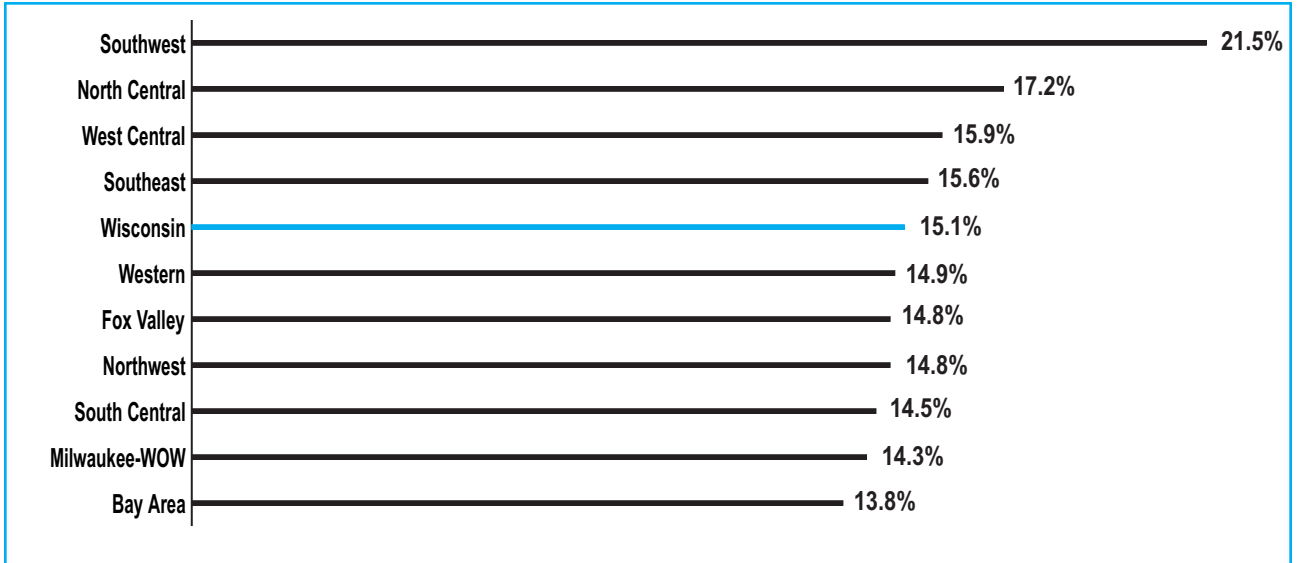
**Manufacturing (NAICS 31-33)**



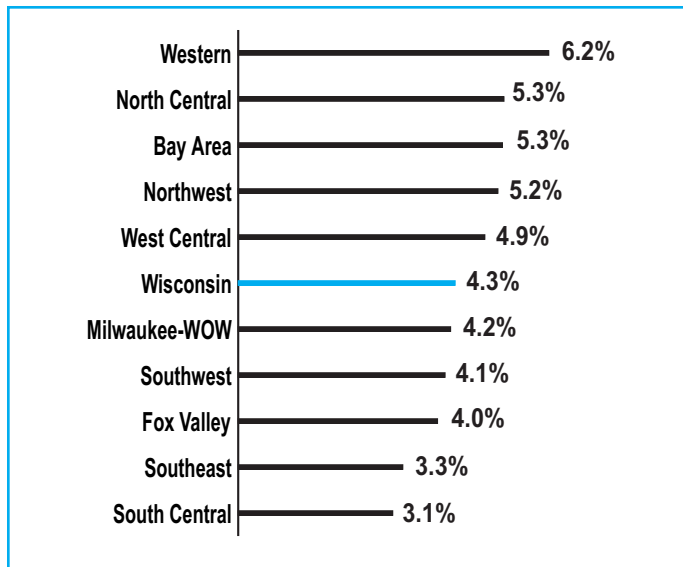
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**Figure 3-3: Percentage of Area Jobs in Selected Industry Groups  
2014 Projection (continued)**

**Trade (NAICS 42-45)**



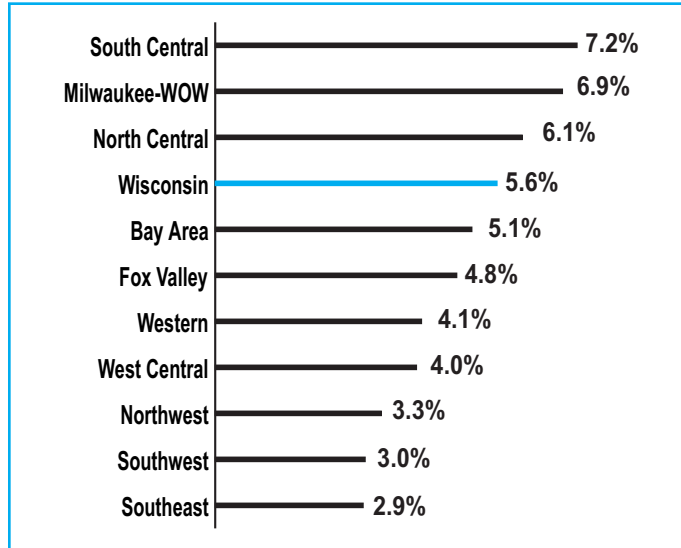
**Transportation and Utilities, Including U.S. Postal (NAICS 22, 48-49)**



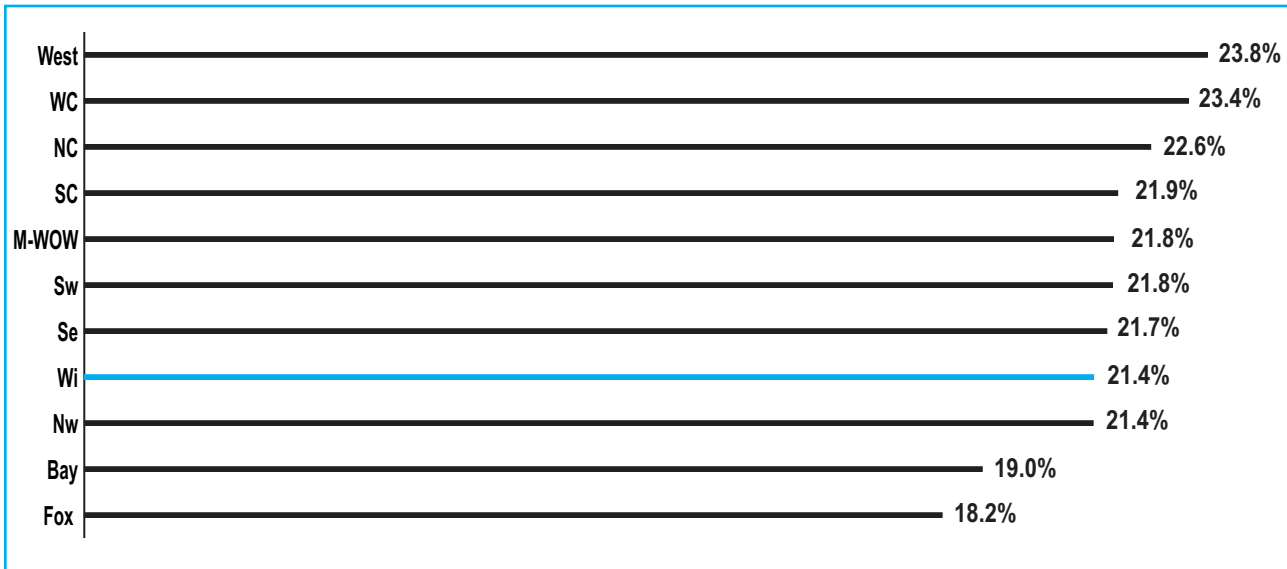
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**Figure 3-3: Percentage of Area Jobs in Selected Industry Groups  
2014 Projection (continued)**

**Financial Activities (NAICS 52-53)**



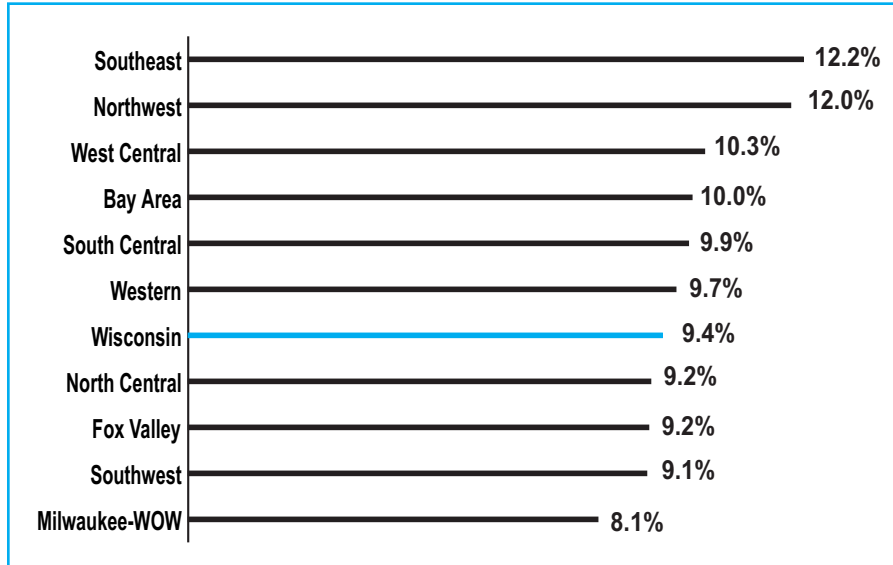
**Education and Health Services, Including State and Local Government (NAICS 61-62)**



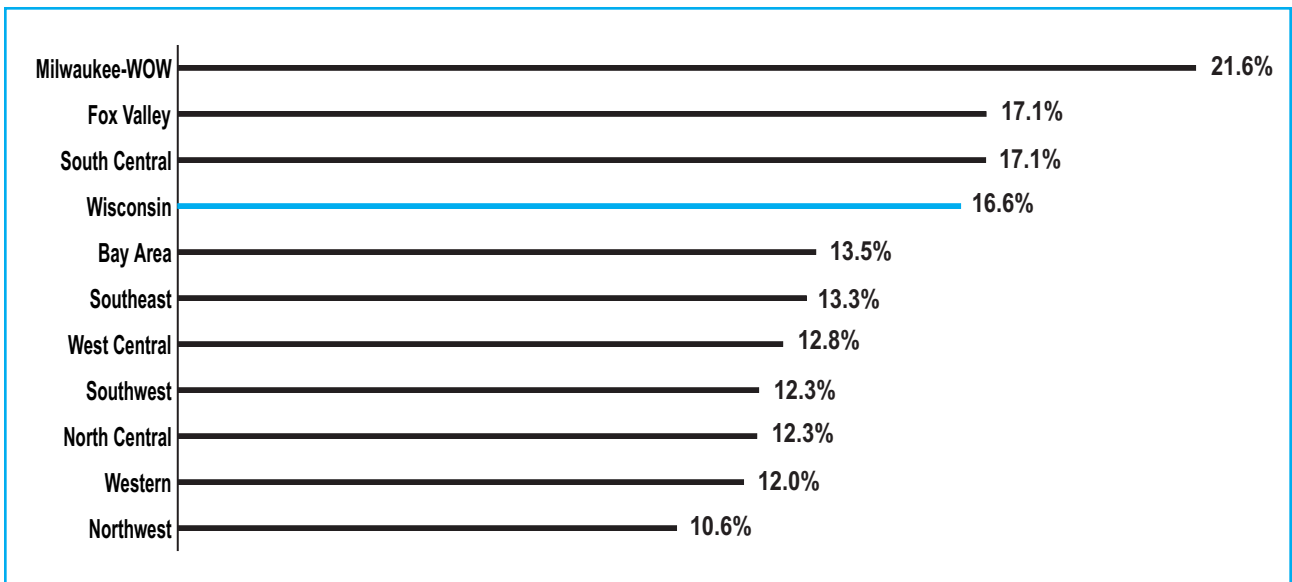
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**Figure 3-3: Percentage of Area Jobs in Selected Industry Groups  
2014 Projection (continued)**

**Leisure and Hospitality (NAICS 71-72)**



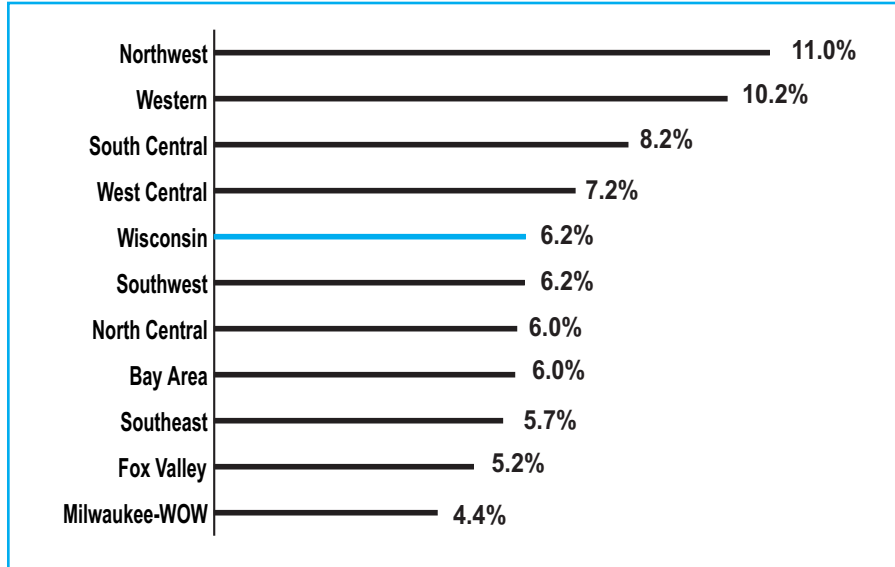
**Information/Professional and Business Services/Other Services (NAICS 51, 54-56, 81)**



(continued)

**Figure 3-3: Percentage of Area Jobs in Selected Industry Groups  
2014 Projection (continued)**

**Government, Excluding Education and Hospitals and Including all Tribal-Owned Operations**

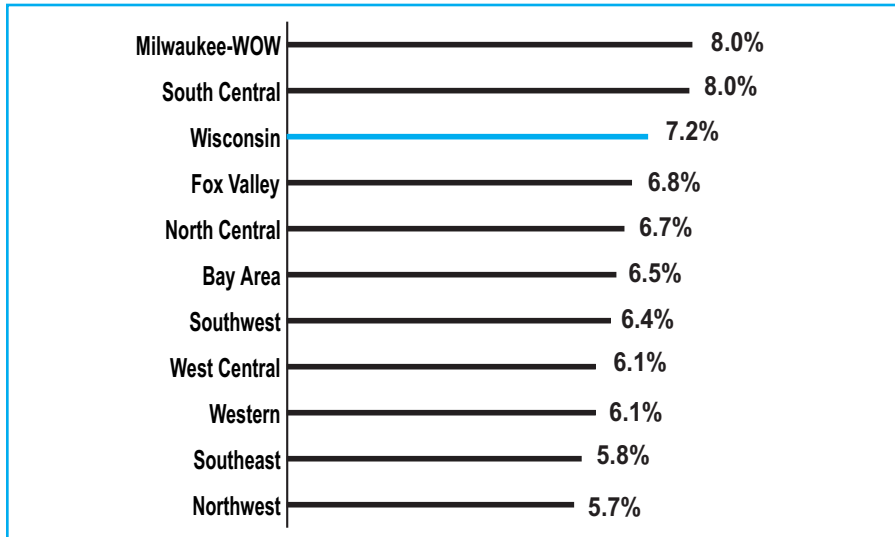


Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, November 2004 OES, and statewide 2004-2014 projections data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

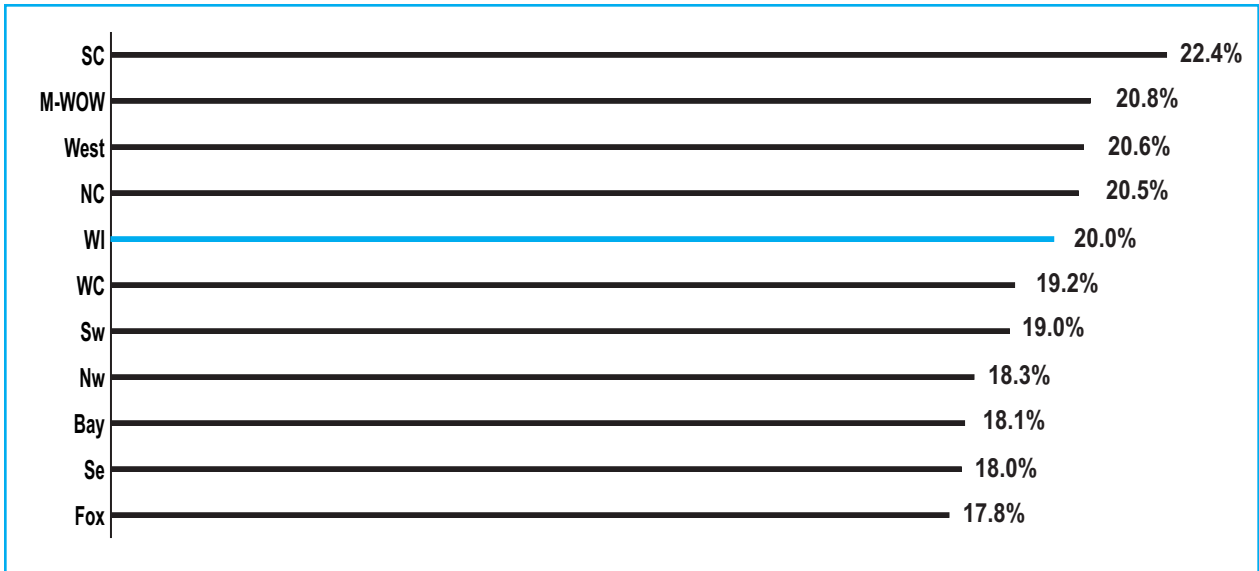
Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

**Figure 3-4: Percentage of Area Jobs in Broad Occupational Groups  
2014 Projection**

**Management, Business, and Financial Occupations (SOC 11-13)**



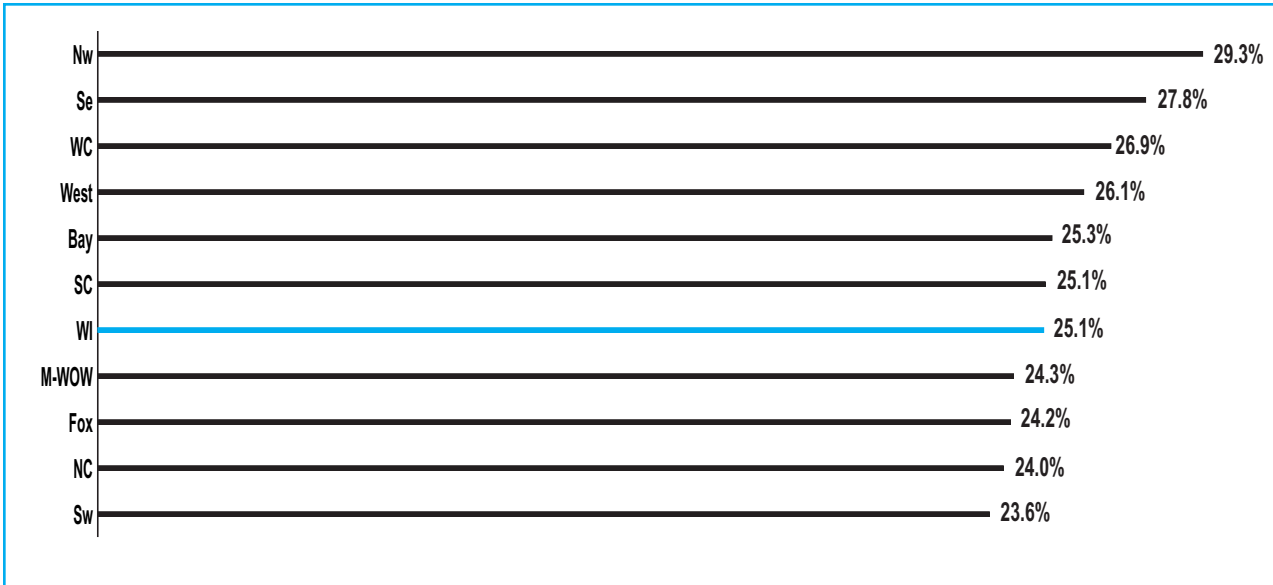
**Professional and Related Occupations (SOC 15-29)**



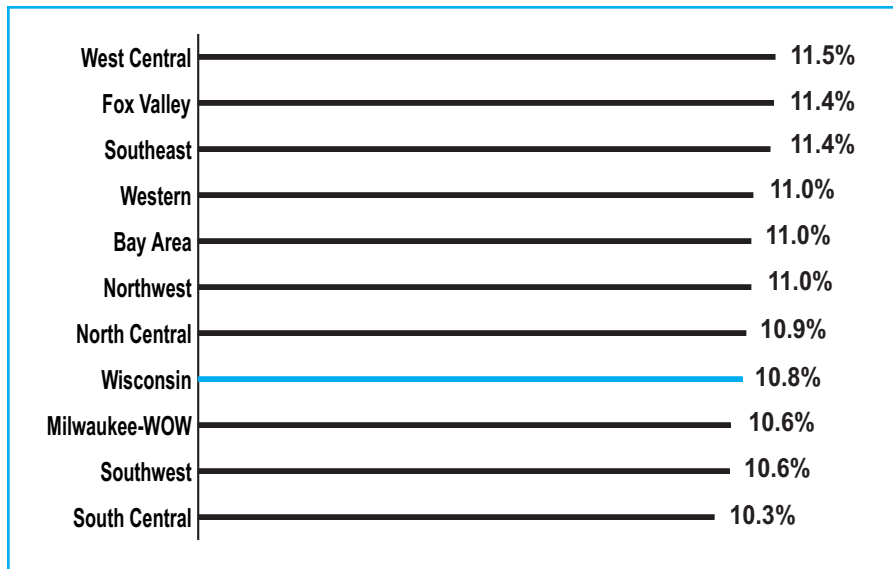
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**Figure 3-4: Percentage of Area Jobs in Broad Occupational Groups  
2014 Projection (continued)**

**Service Occupations (SOC 31-39)**



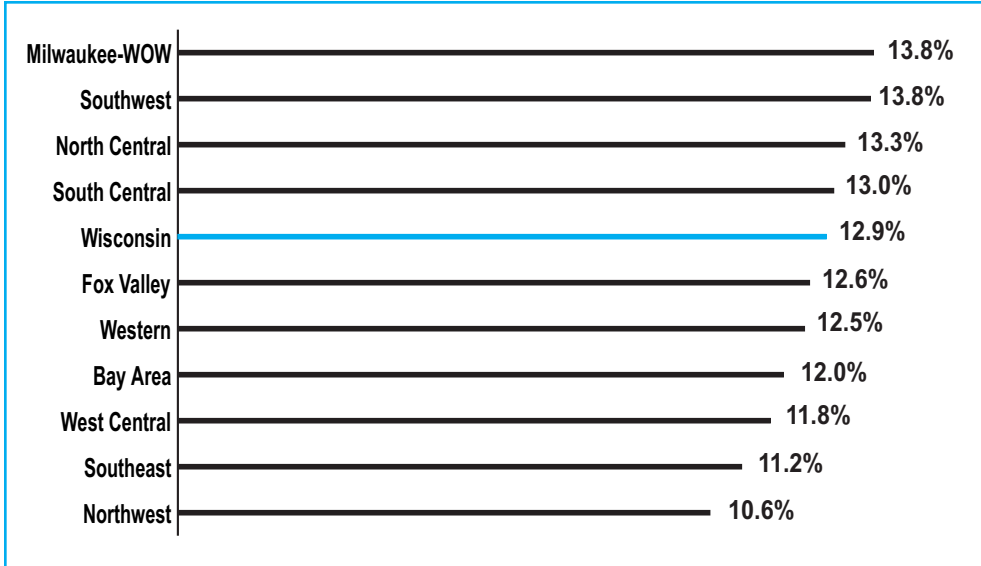
**Sales Occupations (SOC 41)**



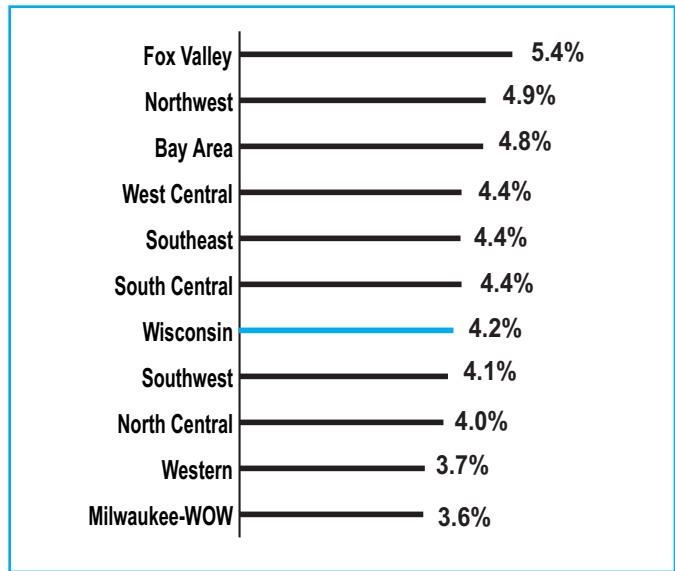
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**Figure 3-4: Percentage of Area Jobs in Broad Occupational Groups  
2014 Projection (continued)**

**Office and Administrative Support Occupations (SOC 43)**



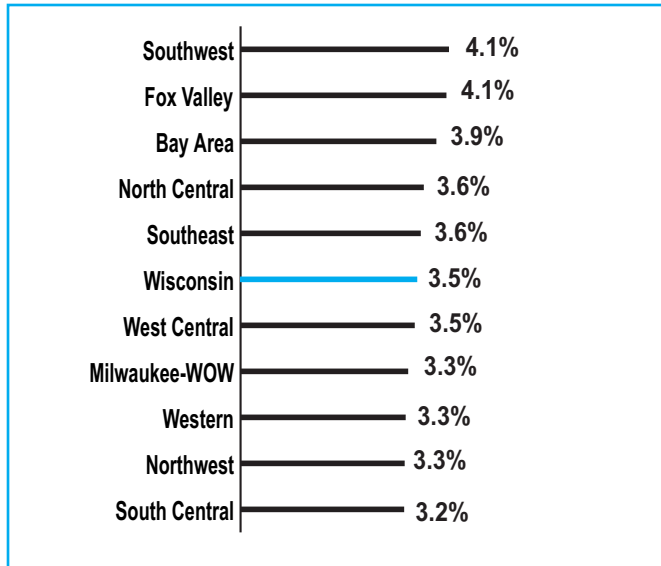
**Construction and Extraction Occupations (SOC 47)**



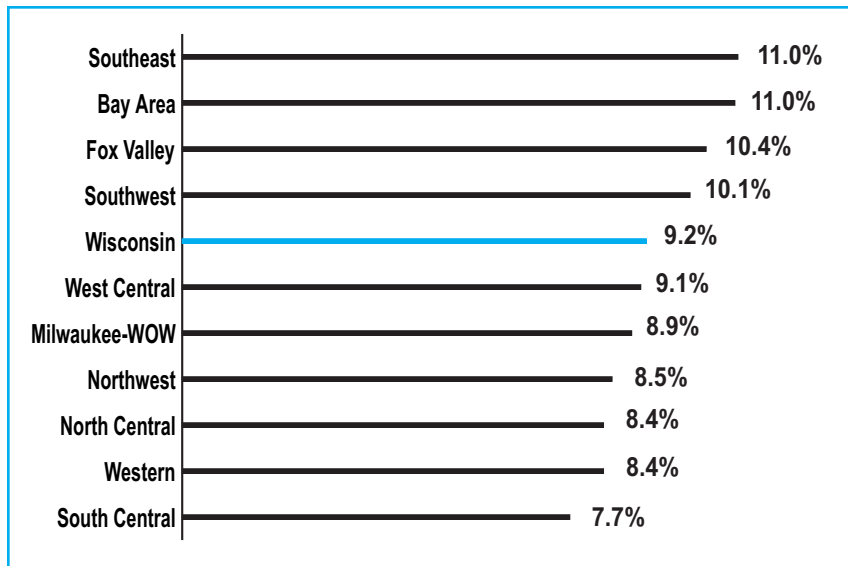
(continued)

**Figure 3-4: Percentage of Area Jobs in Broad Occupational Groups  
2014 Projection (continued)**

**Installation, Maintenance, and Repair Occupations (SOC 49)**



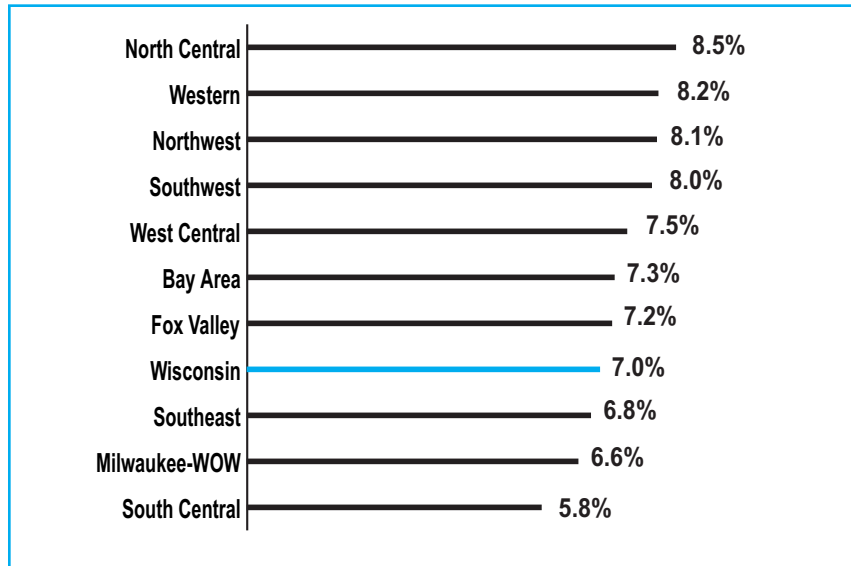
**Production Occupations (SOC 51)**



(continued)

**Figure 3-4: Percentage of Area Jobs in Broad Occupational Groups  
2014 Projection (continued)**

**Transportation and Material Moving Occupations (SOC 53)**



Information is derived using 2004 CES (3/05 Benchmark), 2004 QCEW, November 2004 OES, and statewide 2004-2014 projections data. Unpublished data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau is also used.

Source: Office of Economic Advisors, Wisconsin Department of Workforce Development

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**Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend**

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<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
13-2011	Accountants and Auditors	36
27-2011	Actors	48
15-2011	Actuaries	38
23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	44
11-3011	Administrative Services Managers	34
25-3011	Adult Literacy, Remedial Education, and GED Teachers and Instructors	46
11-2011	Advertising and Promotions Managers	34
41-3011	Advertising Sales Agents	58
17-3021	Aerospace Engineering and Operations Technicians	40
17-2011	Aerospace Engineers	38
13-1011	Agents and Business Managers of Artists, Performers, and Athletes	36
19-4011	Agricultural and Food Science Technicians	42
17-2021	Agricultural Engineers	38
45-2091	Agricultural Equipment Operators	64
45-2011	Agricultural Inspectors	62
25-1041	Agricultural Sciences Teachers, Postsecondary	44
45-2099	Agricultural Workers, All Other	64
53-2021	Air Traffic Controllers	76
53-1011	Aircraft Cargo Handling Supervisors	76
49-3011	Aircraft Mechanics and Service Technicians	68
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	70
53-2022	Airfield Operations Specialists	76
53-2011	Airline Pilots, Copilots, and Flight Engineers	76
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	76
39-3091	Amusement and Recreation Attendants	56
29-1061	Anesthesiologists	51
45-2021	Animal Breeders	62
33-9011	Animal Control Workers	54
19-1011	Animal Scientists	40
39-2011	Animal Trainers	56
19-3091	Anthropologists and Archeologists	42
25-1061	Anthropology and Archeology Teachers, Postsecondary	44
13-2021	Appraisers and Assessors of Real Estate	36
23-1022	Arbitrators, Mediators, and Conciliators	44
17-1011	Architects, Except Landscape and Naval	38
17-3011	Architectural and Civil Drafters	38
25-1031	Architecture Teachers, Postsecondary	44

Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend

<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
25-4011	Archivists	46
25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	44
27-1011	Art Directors	48
25-1121	Art, Drama, and Music Teachers, Postsecondary	46
27-1019	Artists and Related Workers, All Other	48
51-2099	Assemblers and Fabricators, All Other	70
19-2011	Astronomers	40
27-2021	Athletes and Sports Competitors	48
29-9091	Athletic Trainers	52
19-2021	Atmospheric and Space Scientists	40
25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	44
27-4011	Audio and Video Equipment Technicians	48
29-1121	Audiologists	51
25-9011	Audio-Visual Collections Specialists	46
49-3021	Automotive Body and Related Repairers	68
49-3022	Automotive Glass Installers and Repairers	68
49-3023	Automotive Service Technicians and Mechanics	68
49-2091	Avionics Technicians	68
39-6011	Baggage Porters and Bellhops	58
33-3011	Bailiffs	54
51-3011	Bakers	70
39-5011	Barbers	58
35-3011	Bartenders	54
49-3091	Bicycle Repairers	68
43-3011	Bill and Account Collectors	60
43-3021	Billing and Posting Clerks and Machine Operators	60
51-5011	Bindery Workers	72
19-1021	Biochemists and Biophysicists	40
25-1042	Biological Science Teachers, Postsecondary	44
19-1029	Biological Scientists, All Other	40
19-4021	Biological Technicians	42
17-2031	Biomedical Engineers	38
47-2011	Boilermakers	64
51-5012	Bookbinders	72
43-3031	Bookkeeping, Accounting, and Auditing Clerks	60
47-2021	Brickmasons and Blockmasons	64
53-6011	Bridge and Lock Tenders	78
27-3021	Broadcast News Analysts	48
27-4012	Broadcast Technicians	48

Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend

<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
43-4011	Brokerage Clerks	60
13-2031	Budget Analysts	36
37-2019	Building Cleaning Workers, All Other	56
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	68
53-3022	Bus Drivers, School	76
53-3021	Bus Drivers, Transit and Intercity	76
13-1199	Business Operations Specialists, All Other	36
25-1011	Business Teachers, Postsecondary	44
51-3021	Butchers and Meat Cutters	70
51-7011	Cabinetmakers and Bench Carpenters	74
49-9061	Camera and Photographic Equipment Repairers	68
27-4031	Camera Operators, Television, Video, and Motion Picture	51
53-5021	Captains, Mates, and Pilots of Water Vessels	78
29-2031	Cardiovascular Technologists and Technicians	51
43-5011	Cargo and Freight Agents	62
47-2031	Carpenters	64
47-2041	Carpet Installers	64
17-1021	Cartographers and Photogrammetrists	38
41-2011	Cashiers	58
47-2051	Cement Masons and Concrete Finishers	64
51-9191	Cementing and Gluing Machine Operators and Tenders	74
35-1011	Chefs and Head Cooks	54
17-2041	Chemical Engineers	38
51-9011	Chemical Equipment Operators and Tenders	74
51-8091	Chemical Plant and System Operators	74
19-4031	Chemical Technicians	42
25-1052	Chemistry Teachers, Postsecondary	44
19-2031	Chemists	40
11-1011	Chief Executives	34
39-9011	Child Care Workers	58
21-1021	Child, Family, and School Social Workers	42
29-1011	Chiropractors	51
27-2032	Choreographers	48
17-3022	Civil Engineering Technicians	40
17-2051	Civil Engineers	38
13-1031	Claims Adjusters, Examiners, and Investigators	36
53-7061	Cleaners of Vehicles and Equipment	78
51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	76
21-2011	Clergy	42

Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend

<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
19-3031	Clinical, Counseling, and School Psychologists	40
27-2022	Coaches and Scouts	48
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	74
51-2021	Coil Winders, Tapers, and Finishers	70
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	70
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	54
27-1021	Commercial and Industrial Designers	48
49-9092	Commercial Divers	70
53-2012	Commercial Pilots	76
43-2099	Communications Equipment Operators, All Other	60
25-1122	Communications Teachers, Postsecondary	46
21-1099	Community and Social Service Specialists, All Other	42
11-3041	Compensation and Benefits Managers	34
13-1072	Compensation, Benefits, and Job Analysis Specialists	36
13-1041	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	36
15-1011	Computer and Information Scientists, Research	36
11-3021	Computer and Information Systems Managers	34
17-2061	Computer Hardware Engineers	38
43-9011	Computer Operators	62
15-1021	Computer Programmers	36
25-1021	Computer Science Teachers, Postsecondary	44
15-1031	Computer Software Engineers, Applications	36
15-1032	Computer Software Engineers, Systems Software	36
15-1099	Computer Specialists, All Other	38
15-1041	Computer Support Specialists	36
15-1051	Computer Systems Analysts	36
49-2011	Computer, Automated Teller, and Office Machine Repairers	66
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	70
39-6012	Concierges	58
19-1031	Conservation Scientists	40
47-4011	Construction and Building Inspectors	66
47-4099	Construction and Related Workers, All Other	66
47-2061	Construction Laborers	64
11-9021	Construction Managers	34
47-5041	Continuous Mining Machine Operators	66
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	68
53-7011	Conveyor Operators and Tenders	78
35-2019	Cooks, All Other	54
35-2011	Cooks, Fast Food	54

Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend

<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
35-2012	Cooks, Institution and Cafeteria	54
35-2013	Cooks, Private Household	54
35-2014	Cooks, Restaurant	54
35-2015	Cooks, Short Order	54
51-9193	Cooling and Freezing Equipment Operators and Tenders	76
33-3012	Correctional Officers and Jailers	54
43-4021	Correspondence Clerks	60
13-1051	Cost Estimators	36
39-3092	Costume Attendants	56
21-1019	Counselors, All Other	42
41-2021	Counter and Rental Clerks	58
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	56
43-5021	Couriers and Messengers	62
23-2091	Court Reporters	44
43-4031	Court, Municipal, and License Clerks	60
27-1012	Craft Artists	48
53-7021	Crane and Tower Operators	78
13-2041	Credit Analysts	36
43-4041	Credit Authorizers, Checkers, and Clerks	60
25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	46
33-9091	Crossing Guards	54
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	74
25-4012	Curators	46
43-4051	Customer Service Representatives	60
51-9031	Cutters and Trimmers, Hand	74
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	74
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	70
27-2031	Dancers	48
43-9021	Data Entry Keyers	62
15-1061	Database Administrators	38
41-9011	Demonstrators and Product Promoters	60
31-9091	Dental Assistants	52
29-2021	Dental Hygienists	51
51-9081	Dental Laboratory Technicians	74
29-1029	Dentists, All Other Specialists	51
29-1021	Dentists, General	51
27-1029	Designers, All Other	48
43-9031	Desktop Publishers	62
33-3021	Detectives and Criminal Investigators	54

Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend

<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
29-2032	Diagnostic Medical Sonographers	51
29-2051	Dietetic Technicians	52
29-1031	Dietitians and Nutritionists	51
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	56
21-2021	Directors, Religious Activities and Education	42
35-9021	Dishwashers	56
43-5032	Dispatchers, Except Police, Fire, and Ambulance	62
41-9091	Door-To-Door Sales Workers, News and Street Vendors, and Related Workers	60
17-3019	Drafters, All Other	38
53-7031	Dredge Operators	78
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	70
53-3031	Driver/Sales Workers	76
47-2081	Drywall and Ceiling Tile Installers	64
47-5021	Earth Drillers, Except Oil and Gas	66
25-1063	Economics Teachers, Postsecondary	44
19-3011	Economists	40
27-3041	Editors	48
11-9039	Education Administrators, All Other	34
11-9032	Education Administrators, Elementary and Secondary School	34
11-9033	Education Administrators, Postsecondary	34
11-9031	Education Administrators, Preschool and Child Care Center/Program	34
25-1081	Education Teachers, Postsecondary	44
25-9099	Education, Training, and Library Workers, All Other	46
21-1012	Educational, Vocational, and School Counselors	42
49-2092	Electric Motor, Power Tool, and Related Repairers	68
17-3023	Electrical and Electronic Engineering Technicians	40
51-2022	Electrical and Electronic Equipment Assemblers	70
17-3012	Electrical and Electronics Drafters	38
49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	68
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	68
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	68
17-2071	Electrical Engineers	38
49-9051	Electrical Power-Line Installers and Repairers	68
47-2111	Electricians	64
51-2023	Electromechanical Equipment Assemblers	70
17-3024	Electro-Mechanical Technicians	40
49-2096	Electronic Equipment Installers and Repairers, Motor Vehicles	68
49-2097	Electronic Home Entertainment Equipment Installers and Repairers	68
17-2072	Electronics Engineers, Except Computer	38

Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend

<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
25-2021	Elementary School Teachers, Except Special Education	46
47-4021	Elevator Installers and Repairers	66
43-4061	Eligibility Interviewers, Government Programs	60
39-4011	Embalmers	58
13-1061	Emergency Management Specialists	36
29-2041	Emergency Medical Technicians and Paramedics	52
13-1071	Employment, Recruitment, and Placement Specialists	36
51-2031	Engine and Other Machine Assemblers	70
11-9041	Engineering Managers	34
25-1032	Engineering Teachers, Postsecondary	44
17-3029	Engineering Technicians, Except Drafters, All Other	40
17-2199	Engineers, All Other	38
25-1123	English Language and Literature Teachers, Postsecondary	46
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	48
39-3099	Entertainment Attendants and Related Workers, All Other	56
17-3025	Environmental Engineering Technicians	40
17-2081	Environmental Engineers	38
19-4091	Environmental Science and Protection Technicians, Including Health	42
25-1053	Environmental Science Teachers, Postsecondary	44
19-2041	Environmental Scientists and Specialists, Including Health	40
19-1041	Epidemiologists	40
51-9194	Etchers and Engravers	76
53-7032	Excavating and Loading Machine and Dragline Operators	78
43-6011	Executive Secretaries and Administrative Assistants	62
47-5031	Explosives Workers, Ordnance Handling Experts, and Blasters	66
47-5099	Extraction Workers, All Other	66
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	70
51-6091	Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	72
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	74
51-6092	Fabric and Apparel Patternmakers	72
49-9093	Fabric Menders, Except Garment	70
45-4021	Fallers	64
29-1062	Family and General Practitioners	51
25-9021	Farm and Home Management Advisors	46
49-3041	Farm Equipment Mechanics	68
11-9011	Farm, Ranch, and Other Agricultural Managers	34
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	64
45-2093	Farmworkers, Farm and Ranch Animals	64
27-1022	Fashion Designers	48

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<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
47-4031	Fence Erectors	66
51-2091	Fiberglass Laminators and Fabricators	70
43-4071	File Clerks	60
27-4032	Film and Video Editors	51
13-2051	Financial Analysts	36
13-2061	Financial Examiners	36
11-3031	Financial Managers	34
13-2099	Financial Specialists, All Other	36
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	48
33-2011	Fire Fighters	54
33-2021	Fire Inspectors and Investigators	54
47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	64
33-1011	First-Line Supervisors/Managers of Correctional Officers	54
45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers	62
33-1021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers	54
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	54
53-1021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	76
37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	56
37-1012	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	56
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	66
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	58
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	60
39-1021	First-Line Supervisors/Managers of Personal Service Workers	56
33-1012	First-Line Supervisors/Managers of Police and Detectives	54
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	70
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	58
53-1031	First-Line Supervisors/Managers of Transportation & Material-Moving Machine & Vehicle Operators	76
33-1099	First-Line Supervisors/Managers, Protective Service Workers, All Other	54
33-3031	Fish and Game Wardens	54
45-3011	Fishers and Related Fishing Workers	64
39-9031	Fitness Trainers and Aerobics Instructors	58
39-6031	Flight Attendants	58
47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	64
47-2043	Floor Sanders and Finishers	64
27-1023	Floral Designers	48
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	70
51-3092	Food Batchmakers	70
51-3093	Food Cooking Machine Operators and Tenders	70
35-9099	Food Preparation and Serving Related Workers, All Other	56

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<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
35-2021	Food Preparation Workers	54
19-1012	Food Scientists and Technologists	40
35-3041	Food Servers, Nonrestaurant	56
11-9051	Food Service Managers	34
25-1124	Foreign Language and Literature Teachers, Postsecondary	46
19-4092	Forensic Science Technicians	42
19-4093	Forest and Conservation Technicians	42
45-4011	Forest and Conservation Workers	64
33-2022	Forest Fire Inspectors and Prevention Specialists	54
19-1032	Foresters	40
25-1043	Forestry and Conservation Science Teachers, Postsecondary	44
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	70
51-4071	Foundry Mold and Coremakers	72
39-4021	Funeral Attendants	58
11-9061	Funeral Directors	34
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	74
51-7021	Furniture Finishers	74
39-3012	Gaming and Sports Book Writers and Runners	56
43-3041	Gaming Cage Workers	60
41-2012	Gaming Change Persons and Booth Cashiers	58
39-3011	Gaming Dealers	56
11-9071	Gaming Managers	34
39-3019	Gaming Service Workers, All Other	56
39-1011	Gaming Supervisors	56
33-9031	Gaming Surveillance Officers and Gaming Investigators	54
53-7071	Gas Compressor and Gas Pumping Station Operators	78
51-8092	Gas Plant Operators	74
11-1021	General and Operations Managers	34
19-3092	Geographers	42
25-1064	Geography Teachers, Postsecondary	44
19-4041	Geological and Petroleum Technicians	42
19-2042	Geoscientists, Except Hydrologists and Geographers	40
47-2121	Glaziers	64
45-2041	Graders and Sorters, Agricultural Products	62
25-1191	Graduate Teaching Assistants	46
27-1024	Graphic Designers	48
51-9022	Grinding and Polishing Workers, Hand	74
51-4033	Grinding, Lapping, Polishing & Buffing Machine Tool Setters, Operators & Tenders, Metal and Plastic	72
37-3019	Grounds Maintenance Workers, All Other	56

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<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
39-5012	Hairdressers, Hairstylists, and Cosmetologists	58
47-4041	Hazardous Materials Removal Workers	66
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	38
29-1199	Health Diagnosing and Treating Practitioners, All Other	51
21-1091	Health Educators	42
25-1071	Health Specialties Teachers, Postsecondary	44
29-2099	Health Technologists and Technicians, All Other	52
29-9099	Healthcare Practitioners and Technical Workers, All Other	52
31-9099	Healthcare Support Workers, All Other	52
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	72
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	68
47-3019	Helpers, Construction Trades, All Other	66
47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	66
47-3012	Helpers--Carpenters	66
47-3013	Helpers--Electricians	66
47-5081	Helpers--Extraction Workers	66
49-9098	Helpers--Installation, Maintenance, and Repair Workers	70
47-3014	Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons	66
47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	66
51-9198	Helpers--Production Workers	76
47-3016	Helpers--Roofers	66
47-4051	Highway Maintenance Workers	66
19-3093	Historians	42
25-1125	History Teachers, Postsecondary	46
53-7041	Hoist and Winch Operators	78
49-9031	Home Appliance Repairers	68
25-1192	Home Economics Teachers, Postsecondary	46
31-1011	Home Health Aides	52
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	56
43-4081	Hotel, Motel, and Resort Desk Clerks	60
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	62
11-3049	Human Resources Managers, All Other	34
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	36
19-2043	Hydrologists	40
17-3026	Industrial Engineering Technicians	40
17-2112	Industrial Engineers	38
49-9041	Industrial Machinery Mechanics	68
11-3051	Industrial Production Managers	34
53-7051	Industrial Truck and Tractor Operators	78

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19-3032	Industrial-Organizational Psychologists	40
43-4199	Information and Record Clerks, All Other	62
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	74
49-9099	Installation, Maintenance, and Repair Workers, All Other	70
25-9031	Instructional Coordinators	46
47-2131	Insulation Workers, Floor, Ceiling, and Wall	64
47-2132	Insulation Workers, Mechanical	64
13-1032	Insurance Appraisers, Auto Damage	36
43-9041	Insurance Claims and Policy Processing Clerks	62
41-3021	Insurance Sales Agents	58
13-2053	Insurance Underwriters	36
27-1025	Interior Designers	48
29-1063	Internists, General	51
27-3091	Interpreters and Translators	48
43-4111	Interviewers, Except Eligibility and Loan	60
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	56
51-9071	Jewelers and Precious Stone and Metal Workers	74
51-5021	Job Printers	72
23-1023	Judges, Magistrate Judges, and Magistrates	44
25-2012	Kindergarten Teachers, Except Special Education	46
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	78
17-1012	Landscape Architects	38
37-3011	Landscaping and Groundskeeping Workers	56
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	72
51-6011	Laundry and Dry-Cleaning Workers	72
23-2092	Law Clerks	44
25-1112	Law Teachers, Postsecondary	46
23-1011	Lawyers	44
51-4192	Lay-Out Workers, Metal and Plastic	72
43-6012	Legal Secretaries	62
23-2099	Legal Support Workers, All Other	44
11-1031	Legislators	34
25-4021	Librarians	46
43-4121	Library Assistants, Clerical	60
25-1082	Library Science Teachers, Postsecondary	44
25-4031	Library Technicians	46
29-2061	Licensed Practical and Licensed Vocational Nurses	52
19-1099	Life Scientists, All Other	40
19-4099	Life, Physical, and Social Science Technicians, All Other	42

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<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	54
53-7033	Loading Machine Operators, Underground Mining	78
13-2071	Loan Counselors	36
43-4131	Loan Interviewers and Clerks	60
13-2072	Loan Officers	36
39-3093	Locker Room, Coatroom, and Dressing Room Attendants	56
49-9094	Locksmiths and Safe Repairers	70
53-4011	Locomotive Engineers	76
53-4012	Locomotive Firers	76
11-9081	Lodging Managers	34
45-4023	Log Graders and Scalers	64
45-4022	Logging Equipment Operators	64
45-4029	Logging Workers, All Other	64
13-1081	Logisticians	36
53-7063	Machine Feeders and Offbearers	78
51-4041	Machinists	72
37-2012	Maids and Housekeeping Cleaners	56
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	62
49-9042	Maintenance and Repair Workers, General	68
49-9043	Maintenance Workers, Machinery	68
39-5091	Makeup Artists, Theatrical and Performance	58
13-1111	Management Analysts	36
11-9199	Managers, All Other	34
39-5092	Manicurists and Pedicurists	58
49-9095	Manufactured Building and Mobile Home Installers	70
17-2121	Marine Engineers and Naval Architects	38
19-3021	Market Research Analysts	40
11-2021	Marketing Managers	34
21-1013	Marriage and Family Therapists	42
31-9011	Massage Therapists	52
53-7199	Material Moving Workers, All Other	78
17-2131	Materials Engineers	38
19-2032	Materials Scientists	40
15-2099	Mathematical Science Occupations, All Other	38
25-1022	Mathematical Science Teachers, Postsecondary	44
15-2091	Mathematical Technicians	38
15-2021	Mathematicians	38
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	70
49-9011	Mechanical Door Repairers	68

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<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
17-3013	Mechanical Drafters	38
17-3027	Mechanical Engineering Technicians	40
17-2141	Mechanical Engineers	38
27-4099	Media and Communication Equipment Workers, All Other	51
27-3099	Media and Communication Workers, All Other	48
29-2012	Medical and Clinical Laboratory Technicians	51
29-2011	Medical and Clinical Laboratory Technologists	51
11-9111	Medical and Health Services Managers	34
21-1022	Medical and Public Health Social Workers	42
51-9082	Medical Appliance Technicians	74
31-9092	Medical Assistants	52
31-9093	Medical Equipment Preparers	52
49-9062	Medical Equipment Repairers	68
29-2071	Medical Records and Health Information Technicians	52
19-1042	Medical Scientists, Except Epidemiologists	40
43-6013	Medical Secretaries	62
31-9094	Medical Transcriptionists	52
13-1121	Meeting and Convention Planners	36
21-1023	Mental Health and Substance Abuse Social Workers	42
21-1014	Mental Health Counselors	42
27-1026	Merchandise Displayers and Window Trimmers	48
51-4199	Metal Workers and Plastic Workers, All Other	72
51-4051	Metal-Refining Furnace Operators and Tenders	72
43-5041	Meter Readers, Utilities	62
19-1022	Microbiologists	40
25-2022	Middle School Teachers, Except Special and Vocational Education	46
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	72
49-9044	Millwrights	68
47-5042	Mine Cutting and Channeling Machine Operators	66
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	38
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	74
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	68
51-4061	Model Makers, Metal and Plastic	72
51-7031	Model Makers, Wood	74
41-9012	Models	60
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	76
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	72
39-3021	Motion Picture Projectionists	56
53-3099	Motor Vehicle Operators, All Other	76

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49-3051	Motorboat Mechanics	68
53-5022	Motorboat Operators	78
49-3052	Motorcycle Mechanics	68
27-1014	Multi-Media Artists and Animators	48
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	72
25-4013	Museum Technicians and Conservators	46
27-2041	Music Directors and Composers	48
49-9063	Musical Instrument Repairers and Tuners	68
27-2042	Musicians and Singers	48
11-9121	Natural Sciences Managers	34
15-1071	Network and Computer Systems Administrators	38
15-1081	Network Systems and Data Communications Analysts	38
43-4141	New Accounts Clerks	60
39-2021	Nonfarm Animal Caretakers	56
17-2161	Nuclear Engineers	38
29-2033	Nuclear Medicine Technologists	52
51-8011	Nuclear Power Reactor Operators	74
51-4012	Numerical Tool and Process Control Programmers	70
31-1012	Nursing Aides, Orderlies, and Attendants	52
25-1072	Nursing Instructors and Teachers, Postsecondary	44
29-1064	Obstetricians and Gynecologists	51
29-9011	Occupational Health and Safety Specialists	52
29-9012	Occupational Health and Safety Technicians	52
31-2012	Occupational Therapist Aides	52
31-2011	Occupational Therapist Assistants	52
29-1122	Occupational Therapists	51
43-9199	Office and Administrative Support Workers, All Other	62
43-9061	Office Clerks, General	62
43-9071	Office Machine Operators, Except Computer	62
47-2073	Operating Engineers and Other Construction Equipment Operators	64
15-2031	Operations Research Analysts	38
51-9083	Ophthalmic Laboratory Technicians	74
29-2081	Opticians, Dispensing	52
29-1041	Optometrists	51
29-1022	Oral and Maxillofacial Surgeons	51
43-4151	Order Clerks	60
29-1023	Orthodontists	51
29-2091	Orthotists and Prosthetists	52
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	68

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51-9111	Packaging and Filling Machine Operators and Tenders	74
53-7064	Packers and Packagers, Hand	78
47-2141	Painters, Construction and Maintenance	64
51-9122	Painters, Transportation Equipment	74
51-9123	Painting, Coating, and Decorating Workers	74
51-9196	Paper Goods Machine Setters, Operators, and Tenders	76
47-2142	Paperhangers	64
23-2011	Paralegals and Legal Assistants	44
33-3041	Parking Enforcement Workers	54
53-6021	Parking Lot Attendants	78
41-2022	Parts Salespersons	58
51-4062	Patternmakers, Metal and Plastic	72
51-7032	Patternmakers, Wood	74
47-2071	Paving, Surfacing, and Tamping Equipment Operators	64
43-3051	Payroll and Timekeeping Clerks	60
29-1065	Pediatricians, General	51
39-9021	Personal and Home Care Aides	58
39-9099	Personal Care and Service Workers, All Other	58
13-2052	Personal Financial Advisors	36
37-2021	Pest Control Workers	56
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	56
17-2171	Petroleum Engineers	38
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	74
29-1051	Pharmacists	51
31-9095	Pharmacy Aides	52
29-2052	Pharmacy Technicians	52
25-1126	Philosophy and Religion Teachers, Postsecondary	46
27-4021	Photographers	51
51-9131	Photographic Process Workers	74
51-9132	Photographic Processing Machine Operators	74
19-2099	Physical Scientists, All Other	40
31-2022	Physical Therapist Aides	52
31-2021	Physical Therapist Assistants	52
29-1123	Physical Therapists	51
29-1071	Physician Assistants	51
29-1069	Physicians and Surgeons, All Other	51
19-2012	Physicists	40
25-1054	Physics Teachers, Postsecondary	44
47-2072	Pile-Driver Operators	64

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47-2151	Pipelayers	64
51-8099	Plant and System Operators, All Other	74
47-2161	Plasterers and Stucco Masons	66
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	72
47-2152	Plumbers, Pipefitters, and Steamfitters	66
29-1081	Podiatrists	51
33-3051	Police and Sheriff's Patrol Officers	54
43-5031	Police, Fire, and Ambulance Dispatchers	62
25-1065	Political Science Teachers, Postsecondary	44
19-3094	Political Scientists	42
43-5051	Postal Service Clerks	62
43-5052	Postal Service Mail Carriers	62
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	62
11-9131	Postmasters and Mail Superintendents	34
25-1199	Postsecondary Teachers, All Other	46
51-4052	Pourers and Casters, Metal	72
51-8012	Power Distributors and Dispatchers	74
51-8013	Power Plant Operators	74
49-9069	Precision Instrument and Equipment Repairers, All Other	68
51-5022	Prepress Technicians and Workers	72
25-2011	Preschool Teachers, Except Special Education	46
51-6021	Pressers, Textile, Garment, and Related Materials	72
51-5023	Printing Machine Operators	72
33-9021	Private Detectives and Investigators	54
21-1092	Probation Officers and Correctional Treatment Specialists	42
43-3061	Procurement Clerks	60
27-2012	Producers and Directors	48
51-9199	Production Workers, All Other	76
43-5061	Production, Planning, and Expediting Clerks	62
43-9081	Proofreaders and Copy Markers	62
11-9141	Property, Real Estate, and Community Association Managers	34
29-1024	Prosthodontists	51
33-9099	Protective Service Workers, All Other	54
31-1013	Psychiatric Aides	52
29-2053	Psychiatric Technicians	52
29-1066	Psychiatrists	51
19-3039	Psychologists, All Other	40
25-1066	Psychology Teachers, Postsecondary	44
27-3012	Public Address System and Other Announcers	48

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11-2031	Public Relations Managers	34
27-3031	Public Relations Specialists	48
53-7072	Pump Operators, Except Wellhead Pumpers	78
13-1021	Purchasing Agents and Buyers, Farm Products	36
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	36
11-3061	Purchasing Managers	34
29-1124	Radiation Therapists	51
27-3011	Radio and Television Announcers	48
49-2021	Radio Mechanics	68
27-4013	Radio Operators	48
29-2034	Radiologic Technologists and Technicians	52
49-3043	Rail Car Repairers	68
53-4099	Rail Transportation Workers, All Other	76
53-4013	Rail Yard Engineers, Dinkey Operators, and Hostlers	76
53-4021	Railroad Brake, Signal, and Switch Operators	76
53-4031	Railroad Conductors and Yardmasters	76
47-4061	Rail-Track Laying and Maintenance Equipment Operators	66
41-9021	Real Estate Brokers	60
41-9022	Real Estate Sales Agents	60
43-4171	Receptionists and Information Clerks	62
25-1193	Recreation and Fitness Studies Teachers, Postsecondary	46
39-9032	Recreation Workers	58
29-1125	Recreational Therapists	51
49-3092	Recreational Vehicle Service Technicians	68
49-9045	Refractory Materials Repairers, Except Brickmasons	68
53-7081	Refuse and Recyclable Material Collectors	78
29-1111	Registered Nurses	51
21-1015	Rehabilitation Counselors	42
47-2171	Reinforcing Iron and Rebar Workers	66
21-2099	Religious Workers, All Other	42
27-3022	Reporters and Correspondents	48
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	62
39-9041	Residential Advisors	58
29-1126	Respiratory Therapists	51
29-2054	Respiratory Therapy Technicians	52
41-2031	Retail Salespersons	58
49-9096	Riggers	70
47-5051	Rock Splitters, Quarry	66
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	70

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47-2181	Roofers	66
47-5012	Rotary Drill Operators, Oil and Gas	66
47-5071	Roustabouts, Oil and Gas	66
53-5011	Sailors and Marine Oilers	78
41-9099	Sales and Related Workers, All Other	60
41-9031	Sales Engineers	60
11-2022	Sales Managers	34
41-3099	Sales Representatives, Services, All Other	58
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	60
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	60
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	74
25-2031	Secondary School Teachers, Except Special and Vocational Education	46
43-6014	Secretaries, Except Legal, Medical, and Executive	62
41-3031	Securities, Commodities, and Financial Services Sales Agents	58
49-2098	Security and Fire Alarm Systems Installers	68
33-9032	Security Guards	54
47-4091	Segmental Pavers	66
25-3021	Self-Enrichment Education Teachers	46
51-9141	Semiconductor Processors	74
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	74
47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	66
53-6031	Service Station Attendants	78
47-5013	Service Unit Operators, Oil, Gas, and Mining	66
27-1027	Set and Exhibit Designers	48
51-6051	Sewers, Hand	72
51-6031	Sewing Machine Operators	72
39-5093	Shampooers	58
47-2211	Sheet Metal Workers	66
53-5031	Ship Engineers	78
43-5071	Shipping, Receiving, and Traffic Clerks	62
51-6041	Shoe and Leather Workers and Repairers	72
51-6042	Shoe Machine Operators and Tenders	72
53-7111	Shuttle Car Operators	78
49-9097	Signal and Track Switch Repairers	70
39-5094	Skin Care Specialists	58
51-3023	Slaughterers and Meat Packers	70
39-1012	Slot Key Persons	56
11-9151	Social and Community Service Managers	34
21-1093	Social and Human Service Assistants	42

Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend

<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
19-4061	Social Science Research Assistants	42
25-1069	Social Sciences Teachers, Postsecondary, All Other	44
19-3099	Social Scientists and Related Workers, All Other	42
25-1113	Social Work Teachers, Postsecondary	46
21-1029	Social Workers, All Other	42
19-3041	Sociologists	42
25-1067	Sociology Teachers, Postsecondary	44
19-1013	Soil and Plant Scientists	40
27-4014	Sound Engineering Technicians	48
25-2042	Special Education Teachers, Middle School	46
25-2041	Special Education Teachers, Preschool, Kindergarten, and Elementary School	46
25-2043	Special Education Teachers, Secondary School	46
29-1127	Speech-Language Pathologists	51
51-8021	Stationary Engineers and Boiler Operators	74
43-9111	Statistical Assistants	62
15-2041	Statisticians	38
43-5081	Stock Clerks and Order Fillers	62
47-2022	Stonemasons	64
47-2221	Structural Iron and Steel Workers	66
51-2041	Structural Metal Fabricators and Fitters	70
21-1011	Substance Abuse and Behavioral Disorder Counselors	42
29-1067	Surgeons	51
29-2055	Surgical Technologists	52
19-3022	Survey Researchers	40
17-3031	Surveying and Mapping Technicians	40
17-1022	Surveyors	38
43-2011	Switchboard Operators, Including Answering Service	60
51-6052	Tailors, Dressmakers, and Custom Sewers	72
53-7121	Tank Car, Truck, and Ship Loaders	78
47-2082	Tapers	64
13-2081	Tax Examiners, Collectors, and Revenue Agents	36
13-2082	Tax Preparers	36
53-3041	Taxi Drivers and Chauffeurs	76
25-9041	Teacher Assistants	46
25-3099	Teachers and Instructors, All Other	46
51-2092	Team Assemblers	70
27-3042	Technical Writers	48
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	68
49-9052	Telecommunications Line Installers and Repairers	68

Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend

<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
41-9041	Telemarketers	60
43-2021	Telephone Operators	60
43-3071	Tellers	60
47-2053	Terrazzo Workers and Finishers	64
51-6061	Textile Bleaching and Dyeing Machine Operators and Tenders	72
51-6062	Textile Cutting Machine Setters, Operators, and Tenders	72
51-6063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders	72
51-6064	Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	72
51-6099	Textile, Apparel, and Furnishings Workers, All Other	72
29-1129	Therapists, All Other	51
47-2044	Tile and Marble Setters	64
51-2093	Timing Device Assemblers, Adjusters, and Calibrators	70
51-9197	Tire Builders	76
49-3093	Tire Repairers and Changers	68
23-2093	Title Examiners, Abstractors, and Searchers	44
51-4111	Tool and Die Makers	72
51-4194	Tool Grinders, Filers, and Sharpeners	72
39-6021	Tour Guides and Escorts	58
53-6041	Traffic Technicians	78
11-3042	Training and Development Managers	34
13-1073	Training and Development Specialists	36
33-3052	Transit and Railroad Police	54
39-6032	Transportation Attendants, Except Flight Attendants and Baggage Porters	58
53-6051	Transportation Inspectors	78
53-6099	Transportation Workers, All Other	78
11-3071	Transportation, Storage, and Distribution Managers	34
41-3041	Travel Agents	58
39-6022	Travel Guides	58
37-3013	Tree Trimmers and Pruners	56
53-3032	Truck Drivers, Heavy and Tractor-Trailer	76
53-3033	Truck Drivers, Light or Delivery Services	76
27-2023	Umpires, Referees, and Other Sports Officials	48
51-6093	Upholsterers	72
19-3051	Urban and Regional Planners	42
39-3031	Ushers, Lobby Attendants, and Ticket Takers	56
29-1131	Veterinarians	51
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	52
29-2056	Veterinary Technologists and Technicians	52
25-2023	Vocational Education Teachers, Middle School	46

Appendix 1: Long Occupational Title and Page of Detailed Occupational Trend

<b>SOC Code</b>	<b>Long Occupational Title</b>	<b>Page of Detailed Trend</b>
25-1194	Vocational Education Teachers, Postsecondary	46
25-2032	Vocational Education Teachers, Secondary School	46
35-3031	Waiters and Waitresses	56
49-9064	Watch Repairers	68
51-8031	Water and Liquid Waste Treatment Plant and System Operators	74
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	62
51-4121	Welders, Cutters, Solderers, and Brazers	72
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	72
53-7073	Wellhead Pumpers	78
13-1022	Wholesale and Retail Buyers, Except Farm Products	36
51-7099	Woodworkers, All Other	74
51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	74
43-9022	Word Processors and Typists	62
27-3043	Writers and Authors	48
19-1023	Zoologists and Wildlife Biologists	40

**Wisconsin Department of Workforce Development <http://dwd.wisconsin.gov>**

The Department of Workforce Development offers several resources to job seekers, counselors, and employers. Four resources are described below. For a more detailed listing of resources please refer to the website at <http://dwd.wisconsin.gov>.

**Office of Economic Advisors <http://dwd.wisconsin.gov/oea>**

The Office of Economic Advisors helps customers better understand labor markets and other economic and demographic influences on Wisconsin's economy.

The Office publishes monthly, quarterly, and annual reports that provide an overview of county, regional, and statewide economic trends. Examples of products include:

- *County Workforce Profiles* which capture changes in population, labor force, employment by industry, and wages in Wisconsin's 72 counties. These publications are updated annually.
- *Workforce Observations* which include quarterly updates of unemployment rates, labor force, and employment by industry. Counties and metropolitan areas are grouped by Workforce Development Areas.
- *Economic Indicators* which are a set of 22 data series measuring Wisconsin's economic and labor market conditions throughout the stages of the business cycle. The indicators are updated monthly.
- *Employment Projections* which examine the job outlook in Wisconsin's industries and occupations. Projections are developed for Wisconsin as a whole and for Workforce Development Areas. Both long- and short-term outlooks are prepared. The long-term projections are for ten years out into the future and are updated every two years. The short-term projections are for two years into the future and are updated annually.

**WORKnet <http://worknet.wisconsin.gov>**

Wisconsin's WORKnet is an interactive web application developed to disseminate labor market, demographic and other useful data to (1) job seekers; (2) businesses; (3) economic developers; (4) boards and partners; and (5) data analysts. WORKnet helps customers make informed decisions about employment choices, wage earning potential, workforce projections, and economic forecasts.

Some examples of the information available via interactive queries or file download are:

- Civilian labor force estimates from the Local Area Unemployment Statistics (LAUS) program.
- Unemployment rates from the Local Area Unemployment Statistics (LAUS) program.
- Wage data for occupations from the Occupational Employment Statistics/Wage (OES) program.
- Industry employment data from the Current Employment Statistics (CES) and Quarterly Census of Employment and Wages (QCEW, CEW or ES-202) programs.
- Employer information by county, industry, and/or occupation.
- Industry and occupational employment projections.

**Wisconsin Job Centers <http://wisconsinjobcenter.org> or 1-888-258-9966**

There are 78 Job Centers in Wisconsin providing 'one-stop shopping' for employers to meet their workforce needs and for job seekers to find the career planning, job placement and training services needed to get jobs. All Job Centers offer the following core services:

- JobNet, an automated system of job openings, available on-site or through internet access.
- The ability for employers to input job listings electronically through an internet connection.
- Information on education and training programs.
- Automated links to the unemployment insurance system.

The Wisconsin Job Center Contact Line is a toll-free number employers or job seekers may call to learn the phone number and address of their nearest Wisconsin Job Center. Call toll free 1-888-258-9966.

**Wisconsin JobNet <http://dwd.wisconsin.gov/jobnet/mapwi.htm>**

JobNet is Wisconsin's single largest source for job postings. Wisconsin's JobNet is a computerized system that allows employers to post job openings and job seekers to find out about opportunities.

Employers can list job openings on JobNet using the Job Order System. Employers with an internet connection can use the JobNet address listed above to directly enter their job orders. Also, employers may call or visit their local Job Center to place their orders. In the job order, employers can list the specific background, training, and other skills required for the position.

Job seekers can access JobNet through any computer that has internet access. Job seekers can also use JobNet at their local Job Center. Each job listing has information on how to apply for the job.

### Overview

The Projections Unit of the Office of Economic Advisors develops both long- and short-term outlooks of employment in Wisconsin's industries and occupations. Employment includes all nonfarm wage and salary employment and nonfarm self-employment. Employment trends in approximately 300 industries and 800 occupations are examined.

The long-term projections are for ten years out into the future and are updated every two years. The short-term projections are for two years into the future and are updated annually. Projections are done for Wisconsin as a whole and for the Workforce Development Areas.

Long-term projections assist customers in long-range planning, while short-term projections help inform customers of more immediate employment conditions. Students, job seekers, and counselors may use the projections to explore employment in occupations and industries. Educational institutions may use occupational projections to evaluate degree and/or course offerings. Researchers may use the data in analyses of Wisconsin's labor market. Employers may use the data to examine expected employment in industries and occupations.

This program is funded by the U.S. Department of Labor, Employment and Training Administration (ETA).

### Important Points

- The projections provide a count of jobs, not people. An individual may hold more than one job.
- A distinction is not made between full- and part-time jobs.
- The projections provide an estimate of the number of jobs *that will be filled* in the projected year. The projections do not estimate the demand and/or supply of workers in the strict economic sense of these words. For any given wage, it is not known how many jobs employers would really want to provide. Likewise, for any given wage, it is not known how many people would want to work for that wage.
- The projections do not provide information about the dynamics of employment in intervening years. For example, the 2004-2014 projections only compare two points in time, 2004 and 2014. Jobs overall, and jobs in any particular industry or occupation may have many ups and downs during the ten year period.
- To the extent possible the projections take into account anticipated changes in Wisconsin's economy during the projection period. It is important to note that unexpected events may affect the accuracy of the projections.

### Data Used

U.S. Census Bureau, Decennial Censuses; U.S. Bureau of Labor Statistics, Current Population Survey (CPS) and Employment Projections; Current Employment Statistics (CES); Quarterly Census of Employment and Wages (QCEW, CEW, or ES-202); and Occupational Employment Statistics (OES).

## Industrial Employment Projections

Preparing industrial projections involves four steps. First, historical time series of industry employment are developed using data from the Current Employment Statistics (CES) and Quarterly Census of Employment and Wages (QCEW, CEW, or ES-202) programs.

Several statistical methods and econometric models are then used to develop a set of preliminary projections for each industry. The models for the long-term projections include shift-share and ordinary least-squares models. The short-term models include trend, ordinary least-squares, autoregressive-moving average, vector autoregressive, and Bayesian vector autoregressive models.

Next, a panel of analysts from business, academia, and government review the historical data and the preliminary projections for approximately 50 industry groups. These groups are based on two- and three-digit North American Industry Classification System (NAICS) codes. The analysts use their knowledge of economic, social, and technological trends to anticipate future scenarios and changes in employment. Each analyst then provides their own projection for each of the 50 industry groups. The analysts' projections are then pooled and used as the basis for the final industrial employment projections for the 50 industry groups.

The fourth step involves using the employment projections from the 50 industry groups to develop industry projections at a more detailed level. The projections from each industry group are dispersed across the three- and four-digit NAICS level industries within that group.

The ratios used in the conversion from the larger 50 industry groups to the three- and four-digit levels are based on ratios that come from the national projections prepared by the U.S. Bureau of Labor Statistics. An assumption is made that each Wisconsin detailed industry's growth will be in same proportion to the more aggregate level as the U.S. detailed industry's growth is to the more aggregated U.S. level. As warranted, further adjustments are made to the projections at the detailed level.

## Occupational Employment Projections

Occupational employment projections involve merging data from three sources: (1) The Occupational Employment Statistics (OES) survey; (2) The U.S. Bureau of Labor Statistics (BLS) national projections; and (3) Wisconsin industrial employment for the base and projected years at the four-digit NAICS level.

The primary source of the base year occupational data is the OES survey. The survey obtains employment by occupation within each nonfarm wage and salary industry based on four-digit NAICS. About 15,000 firms are surveyed over a three year period. Each firm is asked to report how many people are employed in each occupation and how much they are paid. For each 4-digit industry, a staffing pattern is developed. The staffing pattern indicates the number, and proportion, of jobs in each occupation within each industry.

The OES Survey does not obtain a sample of self-employment or unpaid family employment by occupation. As a result, national ratios of self-employment and unpaid family employment to nonfarm wage and salary employment by occupation are obtained from BLS. The BLS ratios are based on data from the Current Population Survey (CPS). The national ratios are applied to Wisconsin OES data to estimate self-employed and unpaid family workers in Wisconsin.

BLS also provides replacement rates by occupation which are derived from the national CPS. Replacement rates are the expected rate at which job openings will emerge due to people permanently leaving a given occupation. A permanent leave occurs when a person retires, dies, or for some other reason decides to leave the occupation. In addition, BLS provides change factors which are used to estimate shifts in the distribution of employment among occupations, within each industry, over the projection period.

## Occupational Employment Projections (continued)

A base year table, called a matrix, of employment by occupation and industry is developed. The matrix is based on occupational and industrial employment for the current base year. The base year matrix is then merged with the projected year industrial employment projections, and the BLS separation rates and change factors. The merger of this information creates the projections of occupational employment by industry. As warranted, further adjustments are made to the occupational projections based on information specific to Wisconsin.

## Workforce Development Area Projections

In addition to projections for Wisconsin as a whole, projections are developed for the state's Workforce Development Areas (WDAs). The data for the Milwaukee and Waukesha-Ozaukee-Washington regions are combined since these two areas function as one labor market.

The final statewide 4-digit industry projections serve as the starting point for the WDA projections. Initially each 4-digit WDA industry is projected to change at the same rate as the statewide projection for that industry. These preliminary numbers are then rolled-up to the 3-digit level. The Office of Economic Advisors regional analysts and economists review these 3-digit projections for their areas. Using their specialized knowledge of each region they make adjustments as warranted. These adjustments are then applied both to the 3- and 4-digit industries to produce the final industry projections.

After the industry projections are completed, a preliminary set of occupational projections are developed based on the statewide Occupational Employment Statistics staffing patterns and the Bureau of Labor Statistics change factors and replacement rates. The process is similar to that for the statewide occupational projections. The initial set of occupational projections are then reviewed, and revised as needed, by the regional analysts and economists. The revisions are incorporated and then the final set of projections is developed.

In comparing the WDA projections to the state projections there are some differences to keep in mind:

- (1) The WDA projections exclude jobs that are not covered by Wisconsin's unemployment insurance law in all industries except religious organizations. Jobs among the self-employed and jobs among unpaid family workers are also excluded. Estimates of railroad industry jobs are included only in the Northwest and West Central areas.
- (2) Some of the state's jobs are not assigned to any particular county, and therefore not to a specific WDA, because some employers do not report county breakdowns of their jobs
- (3) As a result of (1) and (2) above, the totals of jobs and job openings for the WDAs are different than what is reflected in the statewide projections.
- (4) In order to protect the confidentiality of major employers in specific industries within each region, WDA industry projections are not available at the same detailed level as for the state as a whole.
- (5) Also in order to protect the confidentiality of major employers in specific occupations, complete occupational projections data may not be available for each occupation in each region.