

Data in Tables 5 and 6 and in the last paragraph on page 80 were corrected online on August 7, 2006.

### Employment outlook: 2004–14

# Occupational employment projections to 2014

*Employment in professional and related occupations and in service occupations is expected to increase the fastest of all occupations and add the most jobs from 2004 to 2014; office and administrative support occupations are projected to grow about half as fast as all occupations, and production occupations should decline slightly*

Daniel E. Hecker

Total employment is projected to increase by 18.9 million jobs over the 2004–14 period, reaching 164.5 million, according to the latest projections of the Bureau of Labor Statistics (BLS, the Bureau).<sup>1</sup> This increase represents about 2.6 million more jobs than were added over the previous 10-year period (1994–2004). The projected 13-percent increase from 2004 to 2014 is slightly higher than the 12.7-percent increase during the earlier period. Self-employment is projected to increase 2.8 percent, from 12.0 million to 12.3 million.<sup>2</sup>

This article discusses a number of aspects of the BLS projections, along with related information:

- changes in the structure of employment at the major occupational group level;<sup>3</sup>
- the detailed occupations<sup>4</sup> that are projected to grow the fastest, as well as those with the largest numerical increases and decreases, along with their most significant source of postsecondary education or training and their earnings;
- the total job openings projected to occur due to growth in the economy and

the net replacement needs resulting from workers who permanently either leave the labor force or transfer to other occupations; and

- employment and job openings by education attainment cluster.

In what follows, projected employment is analyzed from two perspectives—percent change and numeric change—because one can be large and the other small, depending on the size of employment in the base year. The following example using data for two occupations generally requiring the same level of education—a bachelor’s degree—illustrates the importance of viewing job outlooks from both perspectives:

Employment of biomedical engineers is projected to grow almost twice as fast as employment of industrial engineers over the 2004–14 period: 30.7 percent, compared with 16 percent. However, because employment was so much larger for industrial engineers than for biomedical engineers in 2004—177,000, as opposed to 10,000—the occupation of industrial engineers is projected to add about 9 times more new jobs.

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## Major occupational groups

Among the 10 major occupational groups, employment in the 2 largest in 2004—professional and related occupations and service occupations—is projected to increase the fastest and add the most jobs from 2004 to 2014. (See table 1.) These major groups, which are on opposite ends of the educational attainment and earnings spectrum, are expected to provide about 60 percent of the total job growth from 2004 to 2014. Employment in management, business, and financial occupations is projected to grow a bit faster than overall employment across all occupations. Employment in construction and extraction; installation, maintenance, and repair; transportation and material moving; and sales and related occupations will grow somewhat more slowly than overall employment. Office and administrative support occupations are projected to grow at only half the rate for the overall total, while farming, fishing, and forestry occupations and production occupations are projected to decline slightly.

As a result of the different growth rates among the major occupational groups, the occupational distribution of total employment should change somewhat by the year 2014, as will the ranking of some groups by employment size. (See table 1.) Professional and related occupations will continue to rank first, while farming, fishing, and forestry occupations will continue to rank last. The category of sales occupations, ranked fourth in 2004, is projected to drop to fifth place, while management, business, and financial occupations should rise from fifth to fourth place. The category of production occupations, ranked sixth in 2004, is projected to drop to seventh place, while transportation and material moving occupations should rise from seventh to sixth place. Professional and related occupations and service occupations will significantly increase their relative shares of employment, by 1.4 and 1.0

percentage points, respectively. By contrast, office and administrative support occupations and production occupations should decrease their shares significantly, by 1.0 and 0.9 point, respectively.

The growth of occupational groups (and occupations) is determined, in large part, by varying rates of growth in industries in which they are concentrated. For example, professional occupations are projected to grow the fastest, chiefly because they are concentrated in some fast-growing sectors, such as health care and social assistance as well as professional, scientific, and technical services, while production occupations are projected to decline, mainly because seven-tenths of employment in these occupations is in the declining manufacturing sector.

*Management, business, and financial occupations.* The number of jobs within this major occupational group is projected to grow by 2.2 million from 2004 to 2014. Nearly 25 percent of all new jobs will be in the professional, scientific, and technical services sector, which includes management, scientific, and technical consulting; and accounting, tax preparation, bookkeeping, and payroll services. About 30 percent of the new jobs will be in the three sectors of health care and social assistance, finance and insurance, and government, approximately 10 percent in each sector. Self-employment among management, business, and financial workers accounted for one-fifth of the total in 2004 and is projected to decline 1.2 percent. Overall projected growth in the group will be moderated by the 155,000 decline in the number of farmers and ranchers, most of whom are self-employed. (See appendix.) Excluding farmers and ranchers, this major group is projected to increase 16.6 percent. Self-employment, excluding that among farmers and ranchers, is projected to increase slowly, with most of the increase going

**Table 1. Employment by major occupational group, 2004 and projected 2014**

[Numbers in thousands]							
2004 National Employment Matrix code and title	Employment				Change		
	Number		Percent Distribution		Number	Percent	
	2004	2014	2004	2014			
00-0000 Total, all occupations .....	145,612	164,540	100.0	100.0	18,928	13.0	
11-1300 Management, business, and financial occupations <sup>1</sup> ..	14,987	17,142	10.3	10.4	2,155	14.4	
15-2900 Professional and related occupations <sup>2</sup> .....	28,544	34,590	19.6	21.0	6,046	21.2	
31-3900 Service occupations <sup>3</sup> .....	27,673	32,930	19.0	20.0	5,257	19.0	
41-0000 Sales and related occupations .....	15,330	16,806	10.5	10.2	1,476	9.6	
43-0000 Office and administrative support occupations .....	23,907	25,287	16.4	15.4	1,380	5.8	
45-0000 Farming, fishing, and forestry occupations .....	1,026	1,013	.7	.6	-13	-1.3	
47-0000 Construction and extraction occupations .....	7,738	8,669	5.3	5.3	931	12.0	
49-0000 Installation, maintenance, and repair occupations ....	5,747	6,404	3.9	3.9	657	11.4	
51-0000 Production occupations .....	10,562	10,483	7.3	6.4	-79	-.7	
53-0000 Transportation and material moving occupations .....	10,098	11,214	6.9	6.8	1,116	11.1	

<sup>1</sup> Major occupational groups 11-0000 through 13-0000 in the 2000 *Standard Occupational Classification* (soc).

<sup>2</sup> Major occupational groups 15-0000 through 29-0000 in the 2000 *Standard Occupational Classification* (soc).

<sup>3</sup> Major occupational groups 31-0000 through 39-0000 in the 2000 *Standard Occupational Classification* (soc).

NOTE: Details may not sum to totals or 100 percent due to rounding.

to two subgroups: accountants and auditors, and construction managers.

*Professional and related occupations.* Employment within this group is projected to grow the fastest of all major groups and to add more jobs (6.0 million) than any other major group. Three-tenths of the growth in these occupations is projected to take place in the health care and social assistance sector, one-fifth in government, and one-seventh in professional, scientific, and technical services. A 6.9-percent increase is expected for self-employment in professional and related occupations, with most of the growth projected in two subgroups: arts, design, entertainment, sports, and media occupations; and education, training, and library occupations.

Of the eight occupational subgroups within professional and related occupations, three—health care practitioner and technical occupations; education, training, and library occupations; and computer and mathematical science occupations—are expected to account for nearly 75 percent of the new jobs, as shown in both the appendix and the following tabulation:

<i>Occupational group</i>	<i>Numeric change (in thousands)</i>	<i>Percent change</i>
Professional and related .....	6,046	21.2
Health care practitioner and technical .....	1,756	25.8
Education, training, and library .....	1,740	20.0
Computer and mathematical science	967	30.7
Community and social services .....	483	20.8
Arts, design, entertainment, sports, and media .....	375	14.9
Architecture and engineering .....	315	12.5
Life, physical, and social science ....	216	16.4
Legal .....	194	15.9

Health care practitioner and technical occupations are projected to add nearly 1.8 million jobs and grow twice as fast as the average for all occupations. Registered nurses—by far the largest occupation in the group—should account for two-fifths of new jobs. More than 3 out of 4 new jobs in health care practitioner and technical occupations should be in the health care industry. Relatively few new jobs are projected to open up in government. Self-employment in the group is projected to increase slightly.

Education, training, and library occupations are projected to grow faster than the average for all occupations, adding more than 1.7 million jobs. Primary, secondary, and special education teachers are projected to grow as (1) the school-age population increases, (2) a greater proportion of pre-school-age children attends school, (3) a greater proportion

of students is provided with special education, and (4) classes become smaller. Postsecondary teachers are projected to grow rapidly. More than half of the new education, training, and library jobs are anticipated to arise in government and nearly 3 in 10 in the rapidly growing private educational services industry.

Computer and mathematical science occupations are projected to add 967,000 jobs and grow the fastest among the eight professional subgroups. The demand for computer-related occupations should increase as organizations continue to adopt and integrate increasingly sophisticated and complex technologies. Growth will not be as rapid as during the previous decade, however, as the software industry begins to mature and as routine work is increasingly outsourced overseas.<sup>5</sup> Three out of 10 new jobs will be in computer systems design and related services, and one-sixth will be in the information sector, primarily software publishers and data-processing and related industries. In both categories—computer systems design and information—growth is projected to exceed 40 percent, equivalent to a rate more than 3 times faster than the average for all occupations. In addition, in most industries, employment of computer and mathematical science workers is projected to grow a bit faster than the average for all occupations. Self-employment among computer and mathematical science workers is expected to increase 15.6 percent, with most growth occurring among network systems and data communications analysts.

Community and social services occupations are projected to add 483,000 jobs. Continued faster-than-average growth should result as the elderly population increases rapidly and as greater efforts are made to provide services for the disabled, the sick, substance abusers, and individuals and families in crisis. Within this occupational group, nearly three-fifths of new jobs should be in the health care and social assistance sector and one-seventh in religious organizations. Large numbers of jobs in community and social services are in the government sector, and even though jobs in that sector will be growing slowly, they will nevertheless account for one-sixth of all new jobs.

Arts, design, entertainment, sports, and media occupations are projected to add 375,000 jobs. More than one-fifth of these new jobs is expected to arise in professional, scientific, and technical services, a category that includes both advertising and computer systems design and related services. An additional one-sixth of new jobs is projected to arise in the information sector, which includes both the motion picture and publishing industries. Self-employment, which accounted for three-tenths of these jobs in 2004, is expected to increase slowly.

Architecture and engineering occupations are projected to add 315,000 jobs. Engineering, the largest occupation in the group, is expected to add 195,000 jobs. About half of the new jobs in these occupations are projected to arise in the

professional, scientific, and technical services sector. One-eighth of new jobs is projected for government. The manufacturing sector, which employed a third of these workers in 2004, is anticipated to account for only one-twelfth of new jobs.

Life, physical, and social science occupations are projected to add 216,000 jobs. More than three-tenths of the new jobs in these occupations are expected to arise in the professional, scientific, and technical services sector, which includes scientific consulting services and scientific research and development services. One-quarter of all new jobs is projected to be in government, and an additional one-tenth is projected for the rapidly growing health care and social assistance sector. Self-employment is anticipated to grow slowly, with most growth occurring among psychologists.

Legal occupations are projected to add 194,000 jobs. Paralegals and legal assistants are expected to grow the fastest, while lawyers should add the most jobs, 110,000. About five-eighths of new jobs are projected for legal services, another quarter for government. The number of self-employed in this group is expected to remain unchanged.

*Service occupations.* Employment in this group is projected to increase by 5.3 million (19 percent), the second-largest numerical gain and second-highest rate of growth among the major occupational groups. More than three-tenths of new jobs—and the fastest growth—are anticipated to be in the health care and social assistance sector. Almost another three-tenths of new jobs are expected for the accommodation and food services sector. Self-employment within service occupations is projected to increase slowly.

Fifty-five percent of the new jobs in service occupations are projected to be added in 2 of the occupation's 5 sub-groups: food preparation and serving related occupations and health care support occupations, as shown in both the appendix and the following tabulation:

<i>Occupational group</i>	<i>Numeric change (in thousands)</i>	<i>Percent change</i>
Service .....	5,257	19.0
Food preparation and serving related .....	1,714	16.0
Health care support .....	1,164	33.3
Personal care and service .....	991	21.0
Building and grounds cleaning and maintenance .....	948	17.0
Protective service .....	440	14.0

Food preparation and serving related occupations are projected to add about 1.7 million jobs and grow 16 percent, a bit faster than the average for all occupations. Four-fifths of new jobs are projected to arise in the accommodation and food services sector.

Health care support occupations are projected to add 1.2 million jobs, growing the fastest among the service sub-groups. Seven-eighths of new jobs are expected to be in the health care and social assistance sector. Self-employment within health care support occupations is projected to grow 12.7 percent, with most growth among massage therapists.

Personal care and service occupations are projected to add 991,000 jobs. More than two-fifths of the new jobs, and the fastest growth (45.2 percent), are anticipated to be in the health care and social assistance sector. One-seventh of new jobs is projected to be in the arts, entertainment, and recreation sector, which includes amusement parks and fitness and recreational sports centers. Self-employment for personal care and service occupations is expected to grow slowly, with most increases taking place among hairdressers, hairstylists, and cosmetologists and among child care workers.

Building and grounds cleaning and maintenance occupations are projected to add 948,000 jobs. Two-fifths of new jobs, and fast growth, are anticipated to be in the administrative and support and the waste management and remediation services sector, which includes both services to buildings and dwellings and employment services. About one-tenth of the new jobs is projected to arise in each of three sectors: accommodation and food services, health care and social assistance, and government. About 7 percent of the workers in building and grounds cleaning and maintenance occupations were in private households, but the number of jobs in the private household industry is projected to decline by 27,000. Self-employment in building and grounds cleaning and maintenance occupations is expected to grow slowly, with most new jobs arising among landscaping and grounds-keeping workers, as well as janitors and cleaners, except maids and housekeeping cleaners.

Protective service occupations are projected to add 440,000 jobs. Nearly three-fifths of the new jobs are anticipated to be in government and one-third in the rapidly growing investigation and security services industry.

*Sales and related occupations.* Employment in these occupations is projected to increase by 1.5 million. Three-fifths of new jobs are expected to arise in retail trade and more than one-tenth in wholesale trade. Self-employment in sales and related occupations is projected to decline slightly.

*Office and administrative support occupations.* Employment in this group of occupations is projected to increase by 1.4 million, which actually represents a slow rate of growth. Customer service representatives; office clerks, general; and receptionists and information clerks are anticipated to grow the most. However, 13 of the 30 occupations with the largest expected job declines, including word processors and typists; stock clerks and order fillers; and secretaries, except

legal, medical, and executive, are in this group. Almost one-third of new jobs is projected to be in the health care and social assistance sector. One-quarter is anticipated in the professional, scientific, and technical services sector, and another quarter is expected in the rapidly growing employment services industry, which provides temporary employees to other industries on a contract or fee basis. Employment of office and administrative support occupations should grow a bit more slowly than overall employment in almost all industries, due to both continued office automation, including that related to electronic business,<sup>6</sup> and the greater use that organizations make of temporary workers employed by the employment services industry.

*Construction and extraction occupations.* Employment in this major group is projected to grow by 931,000 jobs, with three-fifths of new jobs opening up in the construction sector. One-eighth of new jobs—and the fastest growth—is expected to be in the employment services industry. A decline of 12,000 jobs is anticipated for the mining sector, mostly among extraction workers. Self-employment among construction and extraction workers is projected to increase slowly. Self-employed carpenters and painters performing construction and maintenance are expected to have the largest increases.

*Installation, maintenance, and repair occupations.* Employment in this group is projected to increase by 657,000 jobs. About one-sixth of new jobs is expected to be in retail trade, which includes motor vehicle and parts dealers. One-seventh of the new jobs is anticipated to arise in automotive repair and maintenance and one-eighth in the construction sector. The manufacturing sector is expected to decline by 17,000. Self-employment in this group is projected to grow slightly.

*Farming, fishing, and forestry occupations.* Employment in these occupations is projected to decline by 13,000 jobs, with self-employment accounting for 8.1 percent of the drop. (Agricultural managers, including farmers and ranchers, are classified with management, business, and financial occupations.)

*Production occupations.* This group is expected to lose 79,000 jobs. Manufacturing, which accounted for 70 percent of production jobs in 2004, is projected to lose more than half a million of these jobs. However, employment is projected to grow by nearly a quarter of a million in the employment services industry, which provides employees to other industries on a contract or fee basis, and by 93,000 in the wholesale and retail trade sector.

*Transportation and material moving occupations.* Employment in these occupations is projected to grow by 1.1 million. Two-fifths of new jobs should be for truck drivers and driver/sales workers. Water transportation occupations are expected to grow slowly, while railroad occupations continue a long-term decline. Three-tenths of new jobs should be in transportation and warehousing, a quarter in employment services. A decline is projected for transportation and material moving workers in manufacturing, where one-seventh of their numbers was employed in 2004. Self-employment for transportation workers is expected to grow moderately, with most new jobs for truck drivers and for taxi drivers and chauffeurs.

## Detailed occupations

This section focuses on occupations that are the fastest growing, have the largest numeric increases, or have the largest numeric declines. Data on numeric changes and percent changes for about 750 detailed occupations are presented in the appendix.

The 2004–14 projected growth rates for detailed occupations range from an increase of 56 percent for home health aides to a decline of 56 percent for textile knitting and weaving machine setters, operators, and tenders. Numeric growth ranges from 736,000 additional jobs for retail salespersons to a loss of 155,000 farmers and ranchers. The 30 occupations that are projected to be the fastest growing (see table 2) have growth rates of 30 percent or greater, at least twice the average for all occupations. Six occupations—three health related, two computer occupations, and one in the category of education—are included in both groups: personal and home care aides; medical assistants; home health aides; computer software engineers, applications; computer systems analysts; and postsecondary teachers. The 30 occupations with the largest expected numeric increase (see table 3) account for 47 percent of the 18.9 million total job increase projected over the 2004–14 period.

*Fastest-growing occupations.* Sixteen of the 30 fastest-growing occupations are health related, including 13 in health care and 3 in other occupation groups. (See table 2.) Of the non-health-related occupations, 6 are computer specialist occupations, 3 are environment related, and 2 are in teaching. The remaining ones are forensic science technicians; employment, recruitment, and placement specialists; and paralegals and legal assistants.

Rapid growth among health-related occupations reflects an aging population that requires more health care, a wealthier population that can afford better health care, and advances in medical technology that permit more health problems to be

**Table 2. Fastest-growing occupations, 2004–14**

[Numbers in thousands]

2004 National Employment Matrix code and title	Employment		Change		Quartile rank by 2004 median annual earnings <sup>1</sup>	Most significant source of postsecondary education or training <sup>2</sup>
	2004	2014	Number	Percent		
31–1011 Home health aides .....	624	974	350	56.0	VL	Short-term on-the-job training
15–1081 Network systems and data communications analysts .....	231	357	126	54.6	VH	Bachelor's degree
31–9092 Medical assistants .....	387	589	202	52.1	L	Moderate-term on-the-job training
29–1071 Physician assistants .....	62	93	31	49.6	VH	Bachelor's degree
15–1031 Computer software engineers, applications .....	460	682	222	48.4	VH	Bachelor's degree
31–2021 Physical therapist assistants .....	59	85	26	44.2	H	Associate degree
29–2021 Dental hygienists .....	158	226	68	43.3	VH	Associate degree
15–1032 Computer software engineers, systems software .....	340	486	146	43.0	VH	Bachelor's degree
31–9091 Dental assistants .....	267	382	114	42.7	L	Moderate-term on-the-job training
39–9021 Personal and home care aides .....	701	988	287	41.0	VL	Short-term on-the-job training
15–1071 Network and computer systems administrators .....	278	385	107	38.4	VH	Bachelor's degree
15–1061 Database administrators .....	104	144	40	38.2	VH	Bachelor's degree
29–1123 Physical therapists .....	155	211	57	36.7	VH	Master's degree
19–4092 Forensic science technicians .....	10	13	4	36.4	VH	Associate degree
29–2056 Veterinary technologists and technicians .....	60	81	21	35.3	L	Associate degree
29–2032 Diagnostic medical sonographers .....	42	57	15	34.8	VH	Associate degree
31–2022 Physical therapist aides .....	43	57	15	34.4	L	Short-term on-the-job training
31–2011 Occupational therapist assistants .....	21	29	7	34.1	H	Associate degree
19–1042 Medical scientists, except epidemiologists .....	72	97	25	34.1	VH	Doctoral degree
29–1122 Occupational therapists .....	92	123	31	33.6	VH	Master's degree
25–2011 Preschool teachers, except special education .....	431	573	143	33.1	L	Postsecondary vocational award
29–2031 Cardiovascular technologists and technicians .....	45	60	15	32.6	H	Associate degree
25–1000 Postsecondary teachers .....	1,628	2,153	524	32.2	VH	Doctoral degree
19–2043 Hydrologists .....	8	11	3	31.6	VH	Master's degree
15–1051 Computer systems analysts .....	487	640	153	31.4	VH	Bachelor's degree
47–4041 Hazardous materials removal workers .....	38	50	12	31.2	H	Moderate-term on-the-job training
17–2031 Biomedical engineers .....	10	13	3	30.7	VH	Bachelor's degree
13–1071 Employment, recruitment, and placement specialists .....	182	237	55	30.5	H	Bachelor's degree
17–2081 Environmental engineers .....	49	64	15	30.0	VH	Bachelor's degree
23–2011 Paralegals and legal assistants .....	224	291	67	29.7	H	Associate degree

<sup>1</sup> The quartile rankings of Occupational Employment Statistics Survey annual earnings data are presented in the following categories: VH = very high (\$43,600 or more), H = high (\$28,580 to \$43,590), L = low (\$20,190 to \$28,570), and VL = very low (up to \$20,180). The rankings were based on quartiles, with one-fourth of total employment defining each quartile. Earnings are for wage and salary workers.

<sup>2</sup> An occupation is placed into 1 of 11 categories that best describes the postsecondary education or training needed by most workers to become fully qualified in that occupation. For more information about the categories, see *Occupational Projections and Training Data, 2004–05* edition, Bulletin 2572 (Bureau of Labor Statistics, March 2004) and *Occupational Projections and Training Data, 2006–07* edition, Bulletin 2602 (Bureau of Labor Statistics, forthcoming).

treated more aggressively. However, job growth among health-related occupations will be limited by efforts on the part of both private medical insurers and government to control the rapid increase in spending on health care, including restricting the growth of Medicare and Medicaid reimbursements. Even so, continued efforts to control health care costs should stimulate some of the fastest-growing health-related occupations—mostly technicians, aides, and assistants—to grow even more rapidly than overall health employment. Workers in these occupations will assume some duties formerly performed by more highly paid health care workers, such as dentists, physicians, and therapists. Health technicians, aides, and assistants expected to grow rapidly include medical assistants, physician assistants, dental hygienists, dental assistants, physical therapist assistants and aides, and occupational therapist assistants. Some

health care occupations will grow more rapidly than overall health care employment because they are more likely to provide services to the rapidly growing older population. Among these occupations are physical therapist assistants and aides and occupational therapist assistants, as well as physical therapists, occupational therapists, diagnostic medical sonographers, and cardiovascular technicians and technologists.

Employment of home health aides—the occupation projected to grow the fastest—and of personal and home care aides, classified as a personal service occupation, should grow very rapidly as the elderly population expands and as efforts to contain health care costs continue. The emphasis on less costly home care and outpatient treatment of elderly persons, rather than expensive institutional care, will lead to growing numbers of aides to provide in-home health care, as

well as personal care and housekeeping assistance. In addition, patients of all ages are being sent home from hospitals and nursing facilities as quickly as possible, and many of those discharged need continued health care and personal care at home.

Employment of veterinary technologists and technicians, classified as a health care occupation, is projected to grow rapidly as pet owners spend more on advanced animal care services, such as preventive dental care and surgical procedures, and as employers replace veterinary assistants with these more highly skilled workers. Employment of medical scientists, except epidemiologists, is expected to grow rapidly due to expanded research and development in gene therapy, as well as in treatments for AIDS, cancer, and Alzheimer's disease. Biomedical engineers' employment should grow as an aging population and concern for cost efficiency increase the demand for improved medical devices and equipment.

Employment of computer specialists, including the six occupations listed in table 2, is expected to grow very rapidly as organizations continue to adopt and integrate increasingly sophisticated and complex technologies—in networking, to facilitate the sharing of information; in the expansion of client-server environments; in “cybersecurity”; and in electronic commerce applications. Falling prices of computer hardware and software also should encourage the expansion of computer operations. Two computer-related occupations that are among the fastest-growing ones are among those occupations with the largest projected numerical job growth as well.

Employment of environmental engineers, hydrologists, and hazardous material removal workers will grow in response to an increasing need to comply with environmental regulations, to develop methods of cleaning up existing hazards, and, more generally, to respond to increasing public concern over a safe and clean environment. Hydrologists will deal particularly with ground-water contamination and flood control and with developing strategies to protect and restore terrestrial and aquatic ecosystems. Employment of hazardous material removal workers will grow as the need for asbestos and lead abatement continues and as pressures increase for safer and cleaner power-generating facilities.

Employment of postsecondary teachers is projected to grow as the population of 18- to 24-year-olds increases, as a larger proportion of high school graduates attends college, and as more adults return to college to enhance their career prospects or update their skills. A significant proportion of new postsecondary teaching jobs will be part time, as institutions seek flexibility in dealing with financial matters and changing student interests. Employment of preschool teachers, except special education, should grow as the proportion of preschool-age children attending school increases.

Legislation and court rulings setting standards in occupational safety and health, equal employment opportunity, wages, health care, pensions, and family leave will increase demand for employment, recruitment, and placement specialists. Employment of paralegals and legal assistants also is projected to grow rapidly as employers try to reduce costs and increase the availability and efficiency of legal services by hiring paralegals to perform some routine tasks formerly carried out by lawyers.

Twenty-four of the 30 fastest-growing occupations are among those for which the most significant source of postsecondary education or training is a vocational award or an academic degree.<sup>7</sup> The fastest-growing major occupational group, professional and related occupations, is made up mostly of occupations that generally require postsecondary education or training. Seventeen of the fastest-growing occupations are concentrated in the highest earnings quartile, and six are in the second-highest earnings quartile.

*Occupations with the largest job growth.* The 30 occupations with the largest job growth account for 8.8 million new jobs, or 47 percent of total job growth. (See table 3.) These 30 occupations are from a much broader range of occupational groups than are the 30 fastest-growing occupations. Eleven are service occupations—3 health care support, 3 food preparation and serving related, 3 building and grounds cleaning and maintenance services, and 2 personal care and service. Four are office and administrative support occupations, 3 are in teaching, and 3 are transportation and material moving occupations, including the two truck-driving occupations. Two are management, business, and financial occupations, 2 are computer occupations, and 2 are sales and related occupations. The other 3 are the health care practitioner and technical occupation and the two major occupational groups of construction and extraction; and installation, maintenance, and repair.

Among sales occupations, that of retail salespersons, the largest occupation in 2004, is projected to have the most new jobs, 736,000, while the occupation of sales representatives, wholesale and manufacturing, except technical and scientific products, is expected to have 187,000. In health care, the category of registered nurses, the largest health care occupation in 2004, is projected to have 703,000 new jobs, home health aides 350,000, nursing aides, orderlies, and attendants 325,000, and medical assistants 202,000. In education, postsecondary teachers should be the beneficiaries of 524,000 new jobs, compared with 265,000 for elementary school teachers, except special education, and 183,000 for teacher assistants.

Among office and administrative support occupations, the category of customer service representatives is projected to have 471,000 openings; office clerks, general, 263,000;

**Table 3. Occupations with the largest job growth, 2004–14**

[Numbers in thousands]

2004 National Employment Matrix code and title	Employment		Change		Quartile rank by 2004 median annual earnings <sup>1</sup>	Most significant source of postsecondary education or training <sup>2</sup>
	2004	2014	Number	Percent		
41–2031 Retail salespersons .....	4,256	4,992	736	17.3	VL	Short-term on-the-job training
29–1111 Registered nurses .....	2,394	3,096	703	29.4	VH	Associate degree
25–1000 Postsecondary teachers .....	1,628	2,153	524	32.2	VH	Doctoral degree
43–4051 Customer service representatives .....	2,063	2,534	471	22.8	L	Moderate-term on-the-job training
37–2011 Janitors and cleaners, except maids and housekeeping cleaners .....	2,374	2,813	440	18.5	VL	Short-term on-the-job training
35–3031 Waiters and waitresses .....	2,252	2,627	376	16.7	VL	Short-term on-the-job training
35–3021 Combined food preparation and serving workers, including fast food .....	2,150	2,516	367	17.1	VL	Short-term on-the-job training
31–1011 Home health aides .....	624	974	350	56.0	VL	Short-term on-the-job training
31–1012 Nursing aides, orderlies, and attendants .....	1,455	1,781	325	22.3	L	Postsecondary vocational award
11–1021 General and operations managers .....	1,807	2,115	308	17.0	VH	Bachelor's degree plus work experience
39–9021 Personal and home care aides .....	701	988	287	41.0	VL	Short-term on-the-job training
25–2021 Elementary school teachers, except special education .....	1,457	1,722	265	18.2	H	Bachelor's degree
13–2011 Accountants and auditors .....	1,176	1,440	264	22.4	VH	Bachelor's degree
43–9061 Office clerks, general .....	3,138	3,401	263	8.4	L	Short-term on-the-job training
53–7062 Laborers and freight, stock, and material movers, hand .....	2,430	2,678	248	10.2	VL	Short-term on-the-job training
43–4171 Receptionists and information clerks .....	1,133	1,379	246	21.7	L	Short-term on-the-job training
37–3011 Landscaping and groundskeeping workers .....	1,177	1,407	230	19.5	L	Short-term on-the-job training
53–3032 Truck drivers, heavy and tractor-trailer .....	1,738	1,962	223	12.9	H	Moderate-term on-the-job training
15–1031 Computer software engineers, applications .....	460	682	222	48.4	VH	Bachelor's degree
49–9042 Maintenance and repair workers, general .....	1,332	1,533	202	15.2	H	Moderate-term on-the-job training
31–9092 Medical assistants .....	387	589	202	52.1	L	Moderate-term on-the-job training
43–6011 Executive secretaries and administrative assistants .....	1,547	1,739	192	12.4	H	Moderate-term on-the-job training
41–4012 Sales representatives, wholesale and manufacturing, except technical and scientific products .....	1,454	1,641	187	12.9	VH	Moderate-term on-the-job training
47–2031 Carpenters .....	1,349	1,535	186	13.8	H	Long-term on-the-job training
25–9041 Teacher assistants .....	1,296	1,478	183	14.1	VL	Short-term on-the-job training
39–9011 Child care workers .....	1,280	1,456	176	13.8	VL	Short-term on-the-job training
35–2021 Food preparation workers .....	889	1,064	175	19.7	VL	Short-term on-the-job training
37–2012 Maids and housekeeping cleaners .....	1,422	1,587	165	11.6	VL	Short-term on-the-job training
53–3033 Truck drivers, light or delivery services .....	1,042	1,206	164	15.7	L	Short-term on-the-job training
15–1051 Computer systems analysts .....	487	640	153	31.4	VH	Bachelor's degree

<sup>1</sup> The quartile rankings of Occupational Employment Statistics Survey annual earnings data are presented in the following categories: VH = very high (\$43,600 or more), H = high (\$28,580 to \$43,590), L = low (\$20,190 to \$28,570), and VL = very low (up to \$20,180). The rankings were based on quartiles, with one-fourth of total employment defining each quartile. Earnings are for wage and salary workers.

<sup>2</sup> An occupation is placed into 1 of 11 categories that best describes the postsecondary education or training needed by most workers to become fully qualified in that occupation. For more information about the categories, see *Occupational Projections and Training Data*, 2004–05 edition, Bulletin 2572 (Bureau of Labor Statistics, March 2004) and *Occupational Projections and Training Data*, 2006–07 edition, Bulletin 2602 (Bureau of Labor Statistics, forthcoming).

receptionists and information clerks, 246,000; and executive secretaries and administrative assistants, 192,000. Among service occupations, that of janitors and cleaners, except maids and housekeeping cleaners, is projected to have 440,000 job openings; waiters and waitresses, 376,000; and combined food preparation and serving workers, including fast food, 367,000. Other service occupations in this group include home health aides, personal and home care aides, and landscaping and groundskeeping workers. The two management, business, and financial occupations—general and operations managers, and accountants and auditors—

are projected to have 308,000 and 264,000 new jobs, respectively.

The transportation and material moving occupations include the category of laborers and freight, stock, and material movers, hand, projected to have 248,000 new jobs, and the 2 truck-driver occupations, with 223,000 and 164,000. Two computer specialist occupations are among those with the largest numeric growth: computer software engineers, applications, with a new-job count of 222,000, and computer systems analysts, with 153,000. Also included among occupations with the greatest numerical growth are main-



tenance and repair workers, general, with 202,000 new jobs, and carpenters, with 186,000.

Half of the 30 occupations with the largest numerical job growth have short-term on-the-job training as their most significant source of postsecondary education or training, while 8 have a postsecondary vocational award or academic degree. Of those with the largest numeric increases, 11 are in the lowest, and 7 are in the next-to-lowest, earnings quartile.

*Declining occupations.* This section focuses on just those occupations with the largest *numerical* job declines, because many detailed occupations with the fastest *rates* of decline are small, with very small employment declines. (See table 4.) The 30 occupations with the largest declines are projected to account for about 1.1 million job losses, 79 percent of the 1.4 million job losses projected among all occupations. Thirteen of the occupations with the largest declines are in the office and administrative support group, 10 fall into the production group, 3 are sales and related occupations, 2 are agricultural, and 2 are in transportation and material moving. Changes in technology or business practices will reduce the demand for most of the 30 occupations.

Farmers and ranchers should see a decline of 155,000 in their numbers, as market pressures and improved farm technology result in the consolidation of farms into fewer and larger units. Both farm consolidations and advances in agricultural technology should lead to 16,000 fewer workers in the category titled “farmworkers and laborers, crop, nursery, and greenhouse.”

Advances in computer, optical-scanning, and voice recognition technologies and growth in electronic business will reduce demand for many office and administrative support occupations.<sup>8</sup> Stock clerks and order fillers should lose 115,000 jobs, file clerks 93,000, and order clerks 63,000. Other declining occupations in this group include mail clerks and mail machine operators, except postal service; computer operators; secretaries, except legal, medical, and executive; word processors and typists; meter readers, utilities; and office machine operators, except computer.

Advances in manufacturing technology, such as faster machines and more automated processes, and a shift of assembly and other production activities to countries with lower labor costs are expected to decrease employment for a number of production and related occupations. Sewing machine operators are anticipated to drop by 93,000; cutting, punching, and press machine setters, operators, and tenders, metal and plastic by 43,000; machine feeders and offbearers by 27,000; and two textile machine setter, operator, and tender occupations by 26,000 and 24,000. The list of occupations with the largest declines also includes 2 other machine operator, setter, and tender occupations, as well as electrical and electronic equipment assemblers and chemical plant and

systems operators. Employment of photographic process machine operators should decline by 17,000 because of the greater use of digital cameras, which utilize electronic memory, rather than film, to record images. Automated inspection and the redistribution of some quality control responsibilities to production workers should lower needs for inspectors, testers, sorters, samplers, and weighers by 13,000. Parking lot attendants’ employment is expected to decline by 11,000 due to the use of smart cards and other technologies that allow drivers to pay without an attendant.

Telemarketers’ employment will decrease 42,000 as more people opt out of receiving telephone calls and as blocking technology improves. Door-to-door sales workers, news and street vendors, and related workers will decline by 18,000 because of competition from stores and online outlets. Electronic commerce ordering and reordering systems should automate much of the work of many parts salespersons, lowering their employment by 16,000.

Seventeen of the 30 occupations with the largest numerical declines have short-term on-the-job training as their most significant source of postsecondary education or training, 10 have moderate-term on-the-job training, and 3 have long-term on-the-job training. Of the largest declines, 20 are in the next-to-lowest earnings quartile and 5 are in the lowest earnings quartile.

## Replacement needs and total job openings

In addition to occupational employment growth, another aspect of the demand for workers is the need to replace those who leave their jobs to enter other occupations, those who retire, or those who leave the labor force for other reasons. Job openings resulting from replacement needs are very important because, in most occupations, they exceed job openings resulting from employment growth. The measurement of replacement needs is complicated because of the continuous movement of workers into and out of occupations. The replacement needs cited in this article are based on the net change in employment (entrants minus separations) in each age cohort over the projection period. Although this measure understates the total job openings in an occupation, it best represents the job openings for new labor force entrants in that occupation.<sup>9</sup>

Over the 2004–14 period, 54.7 million job openings are expected in the economy, nearly 3 times as many as from employment growth alone (18.9 million). (See appendix.) Service occupations are projected to have the most total job openings, 13.2 million. The number of job openings due to net replacement needs should exceed the number due to growth in occupation groups with below-average projected growth, as well as in service occupations, a category that includes many occupations with high job turnover. Food

**Table 4. Occupations with the largest job declines, 2004–14**

[Numbers in thousands]

2004 National Employment Matrix code and title	Employment		Change		Quartile rank by 2004 median annual earnings <sup>1</sup>	Most significant source of postsecondary education or training <sup>2</sup>	
	2004	2014	Number	Percent			
							11–9012
43–5081	Stock clerks and order fillers .....	1,566	1,451	–115	–7.3	VL	Short-term on-the-job training
51–6031	Sewing machine operators .....	256	163	–93	–36.5	VL	Moderate-term on-the-job training
43–4071	File clerks .....	255	163	–93	–36.3	L	Short-term on-the-job training
43–4151	Order clerks .....	293	230	–63	–21.4	L	Short-term on-the-job training
43–9051	Mail clerks and mail machine operators, except postal service .....	160	101	–59	–37.1	L	Short-term on-the-job training
43–9011	Computer operators .....	149	101	–49	–32.6	H	Moderate-term on-the-job training
43–6014	Secretaries, except legal, medical, and executive .....	1,934	1,887	–48	–2.5	L	Moderate-term on-the-job training
51–4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic .....	251	208	–43	–17.2	L	Moderate-term on-the-job training
41–9041	Telemarketers .....	415	373	–42	–10.0	L	Short-term on-the-job training
43–9022	Word processors and typists .....	194	165	–30	–15.3	L	Moderate-term on-the-job training
43–4041	Credit authorizers, checkers, and clerks .....	67	39	–27	–41.2	H	Short-term on-the-job training
53–7063	Machine feeders and offbearers .....	148	122	–27	–18.0	L	Short-term on-the-job training
51–6063	Textile knitting and weaving machine setters, operators, and tenders .....	46	20	–26	–56.2	L	Long-term on-the-job training
51–6064	Textile winding, twisting, and drawing out machine setters, operators, and tenders .....	53	29	–24	–45.5	L	Moderate-term on-the-job training
43–5041	Meter readers, utilities .....	50	27	–22	–44.9	H	Short-term on-the-job training
43–9071	Office machine operators, except computer .....	100	78	–22	–21.9	L	Short-term on-the-job training
51–4021	Extruding and drawing machine setters, operators, and tenders, metal and plastic .....	89	70	–19	–21.3	L	Moderate-term on-the-job training
43–2011	Switchboard operators, including answering service .....	213	195	–19	–8.8	L	Short-term on-the-job training
41–9091	Door-to-door sales workers, news and street vendors, and related workers .....	239	221	–18	–7.4	L	Short-term on-the-job training
51–9132	Photographic processing machine operators .....	54	38	–17	–30.7	VL	Short-term on-the-job training
45–2092	Farmworkers and laborers, crop, nursery, and greenhouse .....	611	595	–16	–2.7	VL	Short-term on-the-job training
41–2022	Parts salespersons .....	239	223	–16	–6.6	L	Moderate-term on-the-job training
51–4072	Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic .....	157	142	–15	–9.5	L	Moderate-term on-the-job training
51–2022	Electrical and electronic equipment assemblers .....	221	207	–14	–6.4	L	Short-term on-the-job training
43–2021	Telephone operators .....	39	25	–14	–35.7	L	Short-term on-the-job training
51–9061	Inspectors, testers, sorters, samplers, and weighers .....	508	494	–13	–2.6	L	Moderate-term on-the-job training
43–5021	Couriers and messengers .....	147	134	–13	–8.6	L	Short-term on-the-job training
51–8091	Chemical plant and system operators .....	60	49	–11	–17.7	VH	Long-term on-the-job training
53–6021	Parking lot attendants .....	122	111	–11	–8.7	VL	Short-term on-the-job training

<sup>1</sup> The quartile rankings of Occupational Employment Statistics Survey annual earnings data are presented in the following categories: VH = very high (\$43,600 or more), H = high (\$28,580 to \$43,590), L = low (\$20,190 to \$28,570), and VL = very low (up to \$20,180). The rankings were based on quartiles, with one-fourth of total employment defining each quartile. Earnings are for wage and salary workers.

<sup>2</sup> An occupation is placed into 1 of 11 categories that best describes the postsecondary education or training needed by most workers to become fully qualified in that occupation. For more information about the categories, see *Occupational Projections and Training Data, 2004–05* edition, Bulletin 2572 (Bureau of Labor Statistics, March 2004) and *Occupational Projections and Training Data, 2006–07* edition, Bulletin 2602 (Bureau of Labor Statistics, forthcoming).

preparation and serving occupations and retail sales occupations have particularly high replacement needs because large numbers are continually entering and leaving these jobs. However, computer and mathematical science occupations, legal occupations, health care practitioner and technical occupations, and health care support occupations have relatively low replacement needs, primarily because fewer people enter these occupations seeking a short-term source of earnings. Because of replacement needs, even occupations that are projected to

decline—for example, farmers and ranchers, and parts salespersons—provide some job openings.

### Growth and openings by education cluster

This section updates the analysis published in the 2004–05 edition of *Occupational Projections and Training Data*. That publication introduced a new analytical product defining education clusters on the basis of the distribution of edu-

**Table 5. Employment and total job openings by six education clusters, 2004–14**

[Numbers in thousands]

Education cluster	Employment				Change			Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>	
	Number		Percent distribution		Number	Percent distribution	Percent	Number	Percent distribution
	2004	2014	2004	2014					
Total .....	145,612	164,540	100.0	100.0	18,928	100.0	13.0	54,680	100.0
High school occupations .....	19,164	21,100	13.2	12.8	1,935	10.2	10.1	6,834	12.5
High school/some college occupations .....	67,944	74,671	46.7	45.4	6,727	35.5	9.9	25,220	46.1
Some college occupations .....	218	279	.1	.2	61	.3	27.9	86	.2
High school/some college/college occupations .....	24,894	28,019	17.1	17.0	3,126	16.5	12.6	9,078	16.6
Some college/ college occupations .....	16,470	20,031	11.3	12.2	3,561	18.8	21.6	6,563	12.0
College occupations .....	16,922	20,440	11.6	12.4	3,517	18.6	20.8	6,898	12.6

<sup>1</sup> Total job openings represent the sum of employment increases and net replacements. If employment change is negative, job openings due to

growth are zero and total job openings equal net replacements.  
NOTE: Details may not sum to totals or 100 percent due to rounding.

**Table 6. Employment and total job openings by three education clusters, 2004–14**

[Numbers in thousands of jobs]

Education cluster	Employment				Change			Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>	
	Number		Percent distribution		Number	Percent distribution	Percent	Number	Percent distribution
	2004	2014	2004	2014					
Total .....	145,612	164,540	100.0	100.0	18,928	100.0	13.0	54,680	100.0
High school graduate or less .....	68,530	75,453	47.1	45.9	6,923	36.6	10.1	25,294	46.3
Some college .....	41,526	46,772	28.5	28.4	5,246	27.7	12.6	15,451	28.3
Bachelor's degree or higher .....	35,556	42,315	24.4	25.7	6,759	35.7	19.0	13,935	25.5

<sup>1</sup> Total job openings represent the sum of employment increases and net replacements. If employment change is negative, job openings due to

growth are zero and total job openings equal net replacements.  
NOTE: Details may not sum to totals or 100 percent due to rounding.

educational attainment across occupations, a measure that uses Current Population Survey data for the years 2002–04.<sup>10</sup> Current and projected occupational employment levels and job openings for the roughly 750 occupations listed in the appendix were assigned to 6 education clusters, as shown in table 5.<sup>11</sup> These measures were further assigned to 1 of 3 more education clusters: a high school diploma or less, some college (including, but not limited to, recipients of associate degrees), or a bachelor's degree or higher.<sup>12</sup>

About 24 percent of the 145.6 million jobs in 2004 were in occupations in the bachelor's-degree-or-higher cluster.<sup>13</sup> (See table 6.) Over the 2004–14 period, however, 36 percent of the 18.9 million new jobs that arise are projected to be filled by those with a bachelor's degree or higher.<sup>14</sup> In 2004, almost 29 percent of jobs were in occupations in the some-college cluster, and nearly the same percentage of new jobs created over the 2004–14 period is projected to be filled by those with some college. Forty-seven percent of jobs in 2004

were in the high-school-or-less cluster, but only 37 percent of new jobs over the 2004–14 period are projected to be filled by those with a high school education or less.

In general, occupations in the high-school-or-less cluster account for a greater share of net replacement needs—and total job openings—because many of those occupations have a high turnover. Occupations in the bachelor's-degree-or-higher cluster have a smaller share of total job openings. Over the 2004–14 period, 25 percent of the 54.7 million total job openings are projected to be filled by those with a bachelor's degree or higher, 28 percent by those with some college, and 46 percent by those with a high school education or less. (See table 6.) □

## Notes

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<sup>1</sup> Occupational projections presented in this article provide information to those interested in labor market issues. They also provide the background for analyses of future employment opportunities described in the forthcoming 2006–07 *Occupational Outlook Handbook*. The Internet version of this edition of the *Handbook*, which will be accessible at <http://www.bls.gov/oco/>, is expected to be available in late December 2005; the print version, BLS Bulletin 2600, should be available spring 2006. Job outlook information in the 2006–07 *Handbook* will use the projections presented in each of the articles in this issue of the *Monthly Labor Review*. For a description of the methodology used to develop employment projections, see *BLS Handbook of Methods*, Bulletin 2490 (Bureau of Labor Statistics, April 1997), Chapter 13, pp. 122–29.

<sup>2</sup> Ninety-one percent of the increase is projected for those who are self-employed in their primary job, 9 percent for those who are self-employed in their secondary job.

<sup>3</sup> For more information on occupation groups (and occupations), see Executive Office of the President, Office of Management and Budget, *Standard Occupational Classification Manual, 2000* (Lanham, MD, Bernan Associates, 2000).

<sup>4</sup> Base-year employment data were developed with the use of the Occupational Employment Statistics Survey, supplemented with data from the Current Population Survey (CPS) for self-employed and unpaid family workers.

<sup>5</sup> See Norman C. Saunders, “A summary of BLS projections to 2014,” this issue, pp. 3–9, for more on offshore outsourcing.

<sup>6</sup> See Daniel E. Hecker, “Employment impact of electronic business,” *Monthly Labor Review*, May 2001, pp. 3–16, especially p. 5.

<sup>7</sup> The education and training categories listed in tables 2, 3, and 4 best describe the postsecondary education or training needed by most workers to become fully qualified in their jobs. However, for many occupations, there are other sources of education and training as well. Data from the BLS Current Population Survey show that, for most occupations, workers have a variety of education levels. More detail on education and training is available in the *Occupational Outlook Handbook*; more on education and training categories is available in *Occupational Projections and Training Data*, 2004–05 edition, Bulletin 2572 (Bureau of Labor Statistics, March 2004), and *Occupational Projections and Training Data*, 2006–07 edition, Bulletin 2602 (Bureau of Labor Statistics, forthcoming.) (See also note 1.)

<sup>8</sup> Hecker, “Employment impact.”

<sup>9</sup> Net separations do not count all movements of workers out of an occupation, a measure termed *total separations*. For example, an opening caused by a worker who stops working for a time and then gets another job in his or her previous occupation would be counted in the measure of total separations, but not in net separations. (See the discussion on the uses of information on replacement needs in *Occupational Projections and Training Data*.)

<sup>10</sup> CPS data for the years 2000–04 were used for small occupations. (For a definition of a “small” occupation, see *Occupational Projections and Training Data*.)

<sup>11</sup> A *high school* occupation is defined as an occupation in which the percentage of employees aged 25 to 44 years and having high school as their highest level of educational attainment is greater than or equal to 60 percent and the percentage of those with some college or with a bachelor’s degree or higher are each less than 20 percent. Occupations requiring *some college* and *college* occupations are similarly defined. (That is, the definitions are identical to that of a high school occupation, except that the terms *some college* and *high school*, in the one case, and *college* and *high school*, in the other, are interchanged.) Three “mixture” occupations are defined as well. An occupation requiring *high school/some college* is defined as an occupation in which the percentages of those with at most a high school diploma or some college as their highest level of educational attainment are each greater than or equal to 20 percent, while the percentage with a bachelor’s degree or higher is less than 20 percent. Occupations described as *some college/college* are similarly defined. (That is, the terms *some college* and *college* replace *high school* and *some college*, respectively.) *High school/some college/college* occupations are defined as occupations in which 20 or more percent of employees have an education level of high school, some college, or college.

<sup>12</sup> For further discussion of the methodology used to develop the data, see *Occupational Projections and Training Data*, 2004–05 edition, Chapter 1; and *Occupational Projections and Training Data*, 2006–7 edition.

<sup>13</sup> The distribution of jobs by cluster data differs slightly from the actual educational attainment of individuals in 2004.

<sup>14</sup> Note that the 36-percent figure is *not* an estimate of the percentage of jobs that will “require” a college degree. (See *Occupational Projections and Training Data*, 2006–07 edition, p. 34, note 5.)

**APPENDIX: Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004-14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
00-0000	Total, all occupations .....	145,612	164,540	100.0	100.0	18,928	13.0	54,680
11-1300	Management, business, and financial occupations <sup>2</sup> .....	14,987	17,142	10.3	10.4	2,155	14.4	4,920
11-0000	Management occupations .....	9,115	10,147	6.3	6.2	1,032	11.3	2,757
11-1000	Top executives .....	2,317	2,692	1.6	1.6	375	16.2	808
11-1011	Chief executives .....	444	510	.3	.3	66	14.9	150
11-1021	General and operations managers .....	1,807	2,115	1.2	1.3	308	17.0	649
11-1031	Legislators .....	66	67	.0	.0	1	2.0	10
11-2000	Advertising, marketing, promotions, public relations, and sales managers .....	646	777	.4	.5	131	20.3	249
11-2011	Advertising and promotions managers .....	64	77	.0	.0	13	20.3	25
11-2020	Marketing and sales managers .....	525	630	.4	.4	105	20.1	202
11-2021	Marketing managers .....	188	228	.1	.1	39	20.8	74
11-2022	Sales managers .....	337	403	.2	.2	66	19.7	128
11-2031	Public relations managers .....	58	70	.0	.0	12	21.7	22
11-3000	Operations specialties managers .....	1,561	1,807	1.1	1.1	246	15.8	517
11-3011	Administrative services managers .....	268	314	.2	.2	45	16.9	97
11-3021	Computer and information systems managers .....	280	353	.2	.2	73	25.9	124
11-3031	Financial managers .....	528	606	.4	.4	78	14.8	154
11-3040	Human resources managers .....	157	189	.1	.1	32	20.3	58
11-3041	Compensation and benefits managers .....	57	70	.0	.0	12	21.5	22
11-3042	Training and development managers .....	37	47	.0	.0	10	25.9	16
11-3049	Human resources managers, all other .....	62	72	.0	.0	10	15.9	20
11-3051	Industrial production managers .....	160	162	.1	.1	1	.8	32
11-3061	Purchasing managers .....	75	80	.1	.0	5	7.0	21
11-3071	Transportation, storage, and distribution managers ..	92	104	.1	.1	12	12.7	30
11-9000	Other management occupations .....	4,591	4,870	3.2	3.0	280	6.1	1,183
11-9010	Agricultural managers .....	1,285	1,139	.9	.7	-146	-11.3	109
11-9011	Farm, ranch, and other agricultural managers .....	220	229	.2	.1	9	4.0	47
11-9012	Farmers and ranchers .....	1,065	910	.7	.6	-155	-14.5	63
11-9021	Construction managers .....	431	475	.3	.3	45	10.4	123
11-9030	Education administrators .....	442	515	.3	.3	73	16.6	183
11-9031	Education administrators, preschool and child care center/program .....	58	75	.0	.0	16	27.9	31
11-9032	Education administrators, elementary and secondary school .....	225	249	.2	.2	24	10.4	80
11-9033	Education administrators, postsecondary .....	132	160	.1	.1	28	21.3	61
11-9039	Education administrators, all other .....	26	31	.0	.0	5	20.3	12
11-9041	Engineering managers .....	190	215	.1	.1	25	13.0	63
11-9051	Food service managers .....	371	414	.3	.3	43	11.5	103
11-9061	Funeral directors .....	30	32	.0	.0	2	6.7	10
11-9071	Gaming managers .....	4	5	.0	.0	1	22.6	2
11-9081	Lodging managers .....	58	68	.0	.0	10	16.6	19
11-9111	Medical and health services managers .....	248	305	.2	.2	57	22.8	105
11-9121	Natural sciences managers .....	42	48	.0	.0	6	13.6	14
11-9131	Postmasters and mail superintendents .....	26	26	.0	.0	0	.0	5
11-9141	Property, real estate, and community association managers .....	361	416	.2	.3	55	15.3	123
11-9151	Social and community service managers .....	134	169	.1	.1	34	25.5	60
11-9199	Managers, all other .....	969	1,045	.7	.6	76	7.8	265
13-0000	Business and financial operations occupations .....	5,873	6,996	4.0	4.3	1,123	19.1	2,163
13-1000	Business operations specialists .....	3,375	4,054	2.3	2.5	679	20.1	1,276
13-1011	Agents and business managers of artists, performers, and athletes .....	21	23	.0	.0	2	11.8	7
13-1020	Buyers and purchasing agents .....	445	482	.3	.3	36	8.1	151
13-1021	Purchasing agents and buyers, farm products .....	16	17	.0	.0	1	7.0	6
13-1022	Wholesale and retail buyers, except farm products .....	156	169	.1	.1	13	8.4	54
13-1023	Purchasing agents, except wholesale, retail, and farm products .....	273	296	.2	.2	22	8.1	90
13-1030	Claims adjusters, appraisers, examiners, and investigators .....	263	303	.2	.2	40	15.1	72
13-1031	Claims adjusters, examiners, and investigators .....	250	288	.2	.2	38	15.1	69

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
13–1032	Insurance appraisers, auto damage .....	13	15	.0	.0	2	16.6	4
13–1041	Compliance officers, except agriculture, construction, health and safety, and transportation .....	177	197	.1	.1	21	11.6	62
13–1051	Cost estimators .....	198	234	.1	.1	36	18.2	80
13–1061	Emergency management specialists .....	10	13	.0	.0	2	22.8	5
13–1070	Human resources, training, and labor relations specialists .....	663	823	.5	.5	161	24.2	265
13–1071	Employment, recruitment, and placement specialists .....	182	237	.1	.1	55	30.5	83
13–1072	Compensation, benefits, and job analysis specialists .....	99	119	.1	.1	20	20.4	35
13–1073	Training and development specialists .....	216	261	.1	.2	45	20.8	78
13–1079	Human resources, training, and labor relations specialists, all other .....	166	206	.1	.1	40	24.1	68
13–1081	Logisticians .....	53	60	.0	.0	7	13.2	16
13–1111	Management analysts .....	605	727	.4	.4	122	20.1	204
13–1121	Meeting and convention planners .....	43	52	.0	.0	10	22.2	19
13–1199	Business operation specialists, all other .....	897	1,139	.6	.7	242	27.0	395
13–2000	Financial specialists .....	2,497	2,941	1.7	1.8	444	17.8	887
13–2011	Accountants and auditors .....	1,176	1,440	.8	.9	264	22.4	486
13–2021	Appraisers and assessors of real estate .....	102	125	.1	.1	23	22.8	45
13–2031	Budget analysts .....	58	65	.0	.0	8	13.5	17
13–2041	Credit analysts .....	68	70	.0	.0	2	3.6	13
13–2050	Financial analysts and advisors .....	456	539	.3	.3	83	18.2	151
13–2051	Financial analysts .....	197	231	.1	.1	34	17.3	63
13–2052	Personal financial advisors .....	158	199	.1	.1	41	25.9	61
13–2053	Insurance underwriters .....	101	109	.1	.1	8	8.0	26
13–2061	Financial examiners .....	24	27	.0	.0	2	9.5	8
13–2070	Loan counselors and officers .....	325	355	.2	.2	30	9.2	82
13–2071	Loan counselors .....	34	40	.0	.0	6	17.7	11
13–2072	Loan officers .....	291	315	.2	.2	24	8.3	71
13–2080	Tax examiners, collectors, preparers, and revenue agents .....	162	175	.1	.1	13	8.0	45
13–2081	Tax examiners, collectors, and revenue agents .....	76	80	.1	.0	4	5.1	21
13–2082	Tax preparers .....	86	95	.1	.1	9	10.6	23
13–2099	Financial specialists, all other .....	127	145	.1	.1	18	14.4	40
15–2900	Professional and related occupations <sup>3</sup> .....	28,544	34,590	19.6	21.0	6,046	21.2	11,516
15–0000	Computer and mathematical science occupations .....	3,153	4,120	2.2	2.5	967	30.7	1,389
15–1000	Computer specialists .....	3,046	4,003	2.1	2.4	957	31.4	1,350
15–1011	Computer and information scientists, research .....	22	28	.0	.0	6	25.6	8
15–1021	Computer programmers .....	455	464	.3	.3	9	2.0	117
15–1030	Computer software engineers .....	800	1,169	.5	.7	369	46.1	448
15–1031	Computer software engineers, applications .....	460	682	.3	.4	222	48.4	268
15–1032	Computer software engineers, systems software .....	340	486	.2	.3	146	43.0	180
15–1041	Computer support specialists .....	518	638	.4	.4	119	23.0	183
15–1051	Computer systems analysts .....	487	640	.3	.4	153	31.4	208
15–1061	Database administrators .....	104	144	.1	.1	40	38.2	51
15–1071	Network and computer systems administrators .....	278	385	.2	.2	107	38.4	138
15–1081	Network systems and data communications analysts .....	231	357	.2	.2	126	54.6	153
15–1099	Computer specialists, all other .....	149	177	.1	.1	28	19.0	45
15–2000	Mathematical science occupations .....	107	117	.1	.1	10	9.7	39
15–2011	Actuaries .....	18	22	.0	.0	4	23.2	12
15–2021	Mathematicians .....	3	3	.0	.0	0	-1.3	1
15–2031	Operations research analysts .....	58	62	.0	.0	5	8.4	17
15–2041	Statisticians .....	19	20	.0	.0	1	4.6	6
15–2090	Miscellaneous mathematical science occupations .....	10	11	.0	.0	1	5.7	3
15–2091	Mathematical technicians .....	2	2	.0	.0	0	3.4	0
15–2099	Mathematical scientists, all other .....	9	9	.0	.0	1	6.2	2
17–0000	Architecture and engineering occupations .....	2,520	2,835	1.7	1.7	315	12.5	876

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004-14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
17-1000	Architects, surveyors, and cartographers .....	220	258	.2	.2	38	17.1	78
17-1010	Architects, except naval .....	154	181	.1	.1	27	17.7	45
17-1011	Architects, except landscape and naval .....	129	151	.1	.1	22	17.3	37
17-1012	Landscape architects .....	25	30	.0	.0	5	19.4	8
17-1020	Surveyors, cartographers, and photogrammetrists ...	67	77	.0	.0	11	15.8	33
17-1021	Cartographers and photogrammetrists .....	11	12	.0	.0	2	15.3	5
17-1022	Surveyors .....	56	65	.0	.0	9	15.9	28
17-2000	Engineers .....	1,449	1,644	1.0	1.0	195	13.4	507
17-2011	Aerospace engineers .....	76	82	.1	.0	6	8.3	25
17-2021	Agricultural engineers .....	3	4	.0	.0	0	12.0	2
17-2031	Biomedical engineers .....	10	13	.0	.0	3	30.7	5
17-2041	Chemical engineers .....	31	34	.0	.0	3	10.6	12
17-2051	Civil engineers .....	237	276	.2	.2	39	16.5	77
17-2061	Computer hardware engineers .....	77	84	.1	.1	8	10.1	20
17-2070	Electrical and electronics engineers .....	299	331	.2	.2	32	10.8	91
17-2071	Electrical engineers .....	156	174	.1	.1	18	11.8	49
17-2072	Electronics engineers, except computer .....	143	157	.1	.1	14	9.7	42
17-2081	Environmental engineers .....	49	64	.0	.0	15	30.0	23
17-2110	Industrial engineers, including health and safety .....	203	235	.1	.1	32	15.7	81
17-2111	Health and safety engineers, except mining safety engineers and inspectors .....	27	30	.0	.0	4	13.4	10
17-2112	Industrial engineers .....	177	205	.1	.1	28	16.0	71
17-2121	Marine engineers and naval architects .....	7	7	.0	.0	1	8.5	4
17-2131	Materials engineers .....	21	24	.0	.0	3	12.2	8
17-2141	Mechanical engineers .....	226	251	.2	.2	25	11.1	87
17-2151	Mining and geological engineers, including mining safety engineers .....	5	5	.0	.0	0	-1.5	2
17-2161	Nuclear engineers .....	17	19	.0	.0	1	7.3	6
17-2171	Petroleum engineers .....	16	16	.0	.0	0	-.1	5
17-2199	Engineers, all other .....	172	198	.1	.1	27	15.4	59
17-3000	Drafters, engineering, and mapping technicians .....	851	933	.6	.6	83	9.7	291
17-3010	Drafters .....	254	267	.2	.2	13	5.3	84
17-3011	Architectural and civil drafters .....	110	115	.1	.1	5	4.6	36
17-3012	Electrical and electronics drafters .....	38	38	.0	.0	0	1.2	11
17-3013	Mechanical drafters .....	82	87	.1	.1	4	5.5	28
17-3019	Drafters, all other .....	24	27	.0	.0	3	14.0	9
17-3020	Engineering technicians, except drafters .....	532	595	.4	.4	63	11.8	177
17-3021	Aerospace engineering and operations technicians .....	10	10	.0	.0	1	8.5	3
17-3022	Civil engineering technicians .....	94	107	.1	.1	13	14.1	33
17-3023	Electrical and electronic engineering technicians ..	182	199	.1	.1	18	9.8	56
17-3024	Electro-mechanical technicians .....	19	21	.0	.0	2	9.7	6
17-3025	Environmental engineering technicians .....	20	25	.0	.0	5	24.4	9
17-3026	Industrial engineering technicians .....	69	76	.0	.0	7	10.5	22
17-3027	Mechanical engineering technicians .....	48	54	.0	.0	6	12.3	16
17-3029	Engineering technicians, except drafters, all other	91	102	.1	.1	11	12.3	33
17-3031	Surveying and mapping technicians .....	65	71	.0	.0	6	9.6	30
19-0000	Life, physical, and social science occupations .....	1,316	1,532	.9	.9	216	16.4	531
19-1000	Life scientists .....	232	280	.2	.2	48	20.8	103
19-1010	Agricultural and food scientists .....	30	34	.0	.0	4	12.8	9
19-1011	Animal scientists .....	3	3	.0	.0	0	12.9	1
19-1012	Food scientists and technologists .....	11	12	.0	.0	1	10.9	3
19-1013	Soil and plant scientists .....	17	19	.0	.0	2	13.9	5
19-1020	Biological scientists .....	77	90	.1	.1	13	17.0	37
19-1021	Biochemists and biophysicists .....	16	20	.0	.0	3	21.0	8
19-1022	Microbiologists .....	15	18	.0	.0	3	17.2	7
19-1023	Zoologists and wildlife biologists .....	16	19	.0	.0	2	13.0	7
19-1029	Biological scientists, all other .....	29	34	.0	.0	5	17.0	14
19-1030	Conservation scientists and foresters .....	32	34	.0	.0	2	6.5	11
19-1031	Conservation scientists .....	19	20	.0	.0	1	6.3	7
19-1032	Foresters .....	13	14	.0	.0	1	6.7	5
19-1040	Medical scientists .....	77	103	.1	.1	26	33.6	40
19-1041	Epidemiologists .....	5	6	.0	.0	1	26.2	2
19-1042	Medical scientists, except epidemiologists .....	72	97	.0	.1	25	34.1	37
19-1099	Life scientists, all other .....	15	19	.0	.0	3	20.6	6

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004-14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
19-2000	Physical scientists .....	250	281	.2	.2	30	12.2	94
19-2010	Astronomers and physicists .....	16	17	.0	.0	1	7.1	6
19-2011	Astronomers .....	1	1	.0	.0	0	10.4	0
19-2012	Physicists .....	15	16	.0	.0	1	7.0	6
19-2021	Atmospheric and space scientists .....	7	9	.0	.0	1	16.5	4
19-2030	Chemists and materials scientists .....	90	96	.1	.1	7	7.3	36
19-2031	Chemists .....	82	88	.1	.1	6	7.3	33
19-2032	Materials scientists .....	8	8	.0	.0	1	8.0	3
19-2040	Environmental scientists and geoscientists .....	109	126	.1	.1	17	15.9	37
19-2041	Environmental scientists and specialists, including health .....	73	86	.1	.1	13	17.1	26
19-2042	Geoscientists, except hydrologists and geographers .....	28	30	.0	.0	2	8.3	7
19-2043	Hydrologists .....	8	11	.0	.0	3	31.6	4
19-2099	Physical scientists, all other .....	29	33	.0	.0	4	14.6	11
19-3000	Social scientists and related occupations .....	492	580	.3	.4	88	17.9	209
19-3011	Economists .....	13	13	.0	.0	1	5.6	4
19-3020	Market and survey researchers .....	212	255	.1	.2	43	20.2	98
19-3021	Market research analysts .....	190	227	.1	.1	37	19.6	86
19-3022	Survey researchers .....	22	28	.0	.0	6	25.9	12
19-3030	Psychologists .....	179	212	.1	.1	33	18.7	72
19-3031	Clinical, counseling, and school psychologists .....	167	199	.1	.1	32	19.1	68
19-3032	Industrial-organizational psychologists .....	2	3	.0	.0	0	20.4	1
19-3039	Psychologists, all other .....	10	11	.0	.0	1	9.9	3
19-3041	Sociologists .....	5	5	.0	.0	0	4.7	2
19-3051	Urban and regional planners .....	32	37	.0	.0	5	15.2	16
19-3090	Miscellaneous social scientists and related workers .....	51	57	.0	.0	6	11.8	17
19-3091	Anthropologists and archeologists .....	5	6	.0	.0	1	17.0	2
19-3092	Geographers .....	1	1	.0	.0	0	6.8	0
19-3093	Historians .....	3	3	.0	.0	0	4.3	1
19-3094	Political scientists .....	5	5	.0	.0	0	7.3	1
19-3099	Social scientists and related workers, all other .....	38	42	.0	.0	5	12.3	13
19-4000	Life, physical, and social science technicians .....	342	391	.2	.2	49	14.4	126
19-4011	Agricultural and food science technicians .....	23	26	.0	.0	3	13.4	7
19-4021	Biological technicians .....	64	75	.0	.0	11	17.2	22
19-4031	Chemical technicians .....	62	65	.0	.0	3	4.4	18
19-4041	Geological and petroleum technicians .....	11	12	.0	.0	1	6.5	3
19-4051	Nuclear technicians .....	7	8	.0	.0	1	13.7	3
19-4061	Social science research assistants .....	18	21	.0	.0	3	17.4	7
19-4090	Other life, physical, and social science technicians .....	157	184	.1	.1	27	17.5	64
19-4091	Environmental science and protection technicians, including health .....	31	36	.0	.0	5	16.3	12
19-4092	Forensic science technicians .....	10	13	.0	.0	4	36.4	6
19-4093	Forest and conservation technicians .....	33	35	.0	.0	2	6.6	10
19-4099	Life, physical, and social science technicians, all other .....	83	100	.1	.1	17	20.0	36
21-0000	Community and social services occupations .....	2,317	2,800	1.6	1.7	483	20.8	928
21-1000	Counselors, social workers, and other community and social service specialists .....	1,755	2,165	1.2	1.3	410	23.4	749
21-1010	Counselors .....	601	729	.4	.4	128	21.3	264
21-1011	Substance abuse and behavioral disorder counselors .....	76	98	.1	.1	22	28.7	39
21-1012	Educational, vocational, and school counselors .....	248	285	.2	.2	37	14.8	94
21-1013	Marriage and family therapists .....	24	30	.0	.0	6	25.4	12
21-1014	Mental health counselors .....	96	122	.1	.1	26	27.2	48
21-1015	Rehabilitation counselors .....	131	162	.1	.1	31	23.9	61
21-1019	Counselors, all other .....	25	31	.0	.0	6	23.1	10
21-1020	Social workers .....	562	686	.4	.4	124	22.0	221
21-1021	Child, family, and school social workers .....	272	324	.2	.2	52	19.0	98
21-1022	Medical and public health social workers .....	110	139	.1	.1	29	25.9	48
21-1023	Mental health and substance abuse social workers .....	116	147	.1	.1	31	26.7	51
21-1029	Social workers, all other .....	64	76	.0	.0	12	19.6	24
21-1090	Miscellaneous community and social service specialists .....	592	751	.4	.5	159	26.8	264

See footnotes at end of table.



**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
21-1091	Health educators .....	49	60	.0	.0	11	22.5	20
21-1092	Probation officers and correctional treatment specialists .....	93	105	.1	.1	12	12.8	28
21-1093	Social and human service assistants .....	352	456	.2	.3	104	29.7	166
21-1099	Community and social service specialists, all other .....	98	129	.1	.1	31	31.9	50
21-2000	Religious workers .....	562	635	.4	.4	73	12.9	178
21-2011	Clergy .....	422	474	.3	.3	52	12.4	139
21-2021	Directors, religious activities and education .....	90	107	.1	.1	17	18.5	27
21-2099	Religious workers, all other .....	50	54	.0	.0	4	7.4	13
23-0000	Legal occupations .....	1,220	1,414	.8	.9	194	15.9	336
23-1000	Lawyers, judges, and related workers .....	783	897	.5	.5	114	14.6	215
23-1011	Lawyers .....	735	845	.5	.5	110	15.0	205
23-1020	Judges, magistrates, and other judicial workers .....	47	52	.0	.0	4	8.9	10
23-1021	Administrative law judges, adjudicators, and hearing officers .....	16	17	.0	.0	2	10.1	4
23-1022	Arbitrators, mediators, and conciliators .....	5	6	.0	.0	1	15.5	1
23-1023	Judges, magistrate judges, and magistrates .....	27	28	.0	.0	2	6.9	5
23-2000	Legal support workers .....	437	517	.3	.3	80	18.2	121
23-2011	Paralegals and legal assistants .....	224	291	.2	.2	67	29.7	85
23-2090	Miscellaneous legal support workers .....	213	227	.1	.1	13	6.1	36
23-2091	Court reporters .....	18	21	.0	.0	3	14.8	5
23-2092	Law clerks .....	51	55	.0	.0	4	7.7	9
23-2093	Title examiners, abstractors, and searchers .....	61	62	.0	.0	1	.9	7
23-2099	Legal support workers, all other .....	83	89	.1	.1	6	7.1	15
25-0000	Education, training, and library occupations .....	8,698	10,438	6.0	6.3	1,740	20.0	3,558
25-1000	Postsecondary teachers .....	1,628	2,153	1.1	1.3	524	32.2	892
25-2000	Primary, secondary, and special education teachers .....	4,270	5,051	2.9	3.1	781	18.3	1,739
25-2010	Preschool and kindergarten teachers .....	601	782	.4	.5	181	30.1	252
25-2011	Preschool teachers, except special education .....	431	573	.3	.3	143	33.1	194
25-2012	Kindergarten teachers, except special education .....	171	209	.1	.1	38	22.4	59
25-2020	Elementary and middle school teachers .....	2,102	2,453	1.4	1.5	351	16.7	815
25-2021	Elementary school teachers, except special education .....	1,457	1,722	1.0	1.0	265	18.2	587
25-2022	Middle school teachers, except special and vocational education .....	628	714	.4	.4	86	13.7	225
25-2023	Vocational education teachers, middle school .....	17	16	.0	.0	0	-.9	4
25-2030	Secondary school teachers .....	1,126	1,283	.8	.8	157	14.0	474
25-2031	Secondary school teachers, except special and vocational education .....	1,024	1,172	.7	.7	148	14.4	436
25-2032	Vocational education teachers, secondary school .....	101	110	.1	.1	9	9.1	38
25-2040	Special education teachers .....	441	534	.3	.3	92	20.9	197
25-2041	Special education teachers, preschool, kindergarten, and elementary school .....	205	253	.1	.2	48	23.3	97
25-2042	Special education teachers, middle school .....	98	118	.1	.1	19	19.9	43
25-2043	Special education teachers, secondary school .....	138	163	.1	.1	25	17.9	58
25-3000	Other teachers and instructors .....	977	1,150	.7	.7	173	17.7	293
25-3011	Adult literacy, remedial education, and GED teachers and instructors .....	98	113	.1	.1	15	15.6	27
25-3021	Self-enrichment education teachers .....	253	317	.2	.2	64	25.3	95
25-3099	Teachers and instructors, all other .....	626	720	.4	.4	93	14.9	170
25-4000	Librarians, curators, and archivists .....	308	336	.2	.2	28	9.1	117
25-4010	Archivists, curators, and museum technicians .....	27	31	.0	.0	4	14.5	10
25-4011	Archivists .....	6	7	.0	.0	1	13.4	2
25-4012	Curators .....	10	12	.0	.0	2	15.7	4
25-4013	Museum technicians and conservators .....	10	12	.0	.0	1	14.1	4
25-4021	Librarians .....	159	167	.1	.1	8	4.9	46
25-4031	Library technicians .....	122	138	.1	.1	16	13.4	61
25-9000	Other education, training, and library occupations .....	1,515	1,748	1.0	1.1	233	15.4	517
25-9011	Audio-visual collections specialists .....	9	11	.0	.0	2	18.6	3

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004-14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
25-9021	Farm and home management advisors .....	16	17	.0	.0	1	7.7	4
25-9031	Instructional coordinators .....	117	149	.1	.1	32	27.5	50
25-9041	Teacher assistants .....	1,296	1,478	.9	.9	183	14.1	433
25-9099	Education, training, and library workers, all other .....	77	92	.1	.1	16	20.5	27
27-0000	Arts, design, entertainment, sports, and media occupations .....	2,515	2,890	1.7	1.8	375	14.9	851
27-1000	Art and design occupations .....	780	880	.5	.5	100	12.8	221
27-1010	Artists and related workers .....	208	234	.1	.1	26	12.4	71
27-1011	Art directors .....	71	79	.0	.0	8	11.5	24
27-1012	Craft artists .....	6	7	.0	.0	1	10.6	2
27-1013	Fine artists, including painters, sculptors, and illustrators .....	29	32	.0	.0	3	10.2	9
27-1014	Multi-media artists and animators .....	94	107	.1	.1	13	14.1	34
27-1019	Artists and related workers, all other .....	9	9	.0	.0	1	10.0	2
27-1020	Designers .....	572	645	.4	.4	74	12.9	151
27-1021	Commercial and industrial designers .....	49	55	.0	.0	5	10.8	12
27-1022	Fashion designers .....	17	18	.0	.0	1	8.4	4
27-1023	Floral designers .....	98	108	.1	.1	10	10.3	23
27-1024	Graphic designers .....	228	263	.2	.2	35	15.2	65
27-1025	Interior designers .....	65	75	.0	.0	10	15.5	19
27-1026	Merchandise displayers and window trimmers .....	86	95	.1	.1	9	10.3	20
27-1027	Set and exhibit designers .....	13	14	.0	.0	1	9.3	3
27-1029	Designers, all other .....	16	18	.0	.0	2	13.6	5
27-2000	Entertainers and performers, sports and related occupations .....	732	856	.5	.5	124	16.9	271
27-2010	Actors, producers, and directors .....	157	182	.1	.1	26	16.4	47
27-2011	Actors .....	74	85	.1	.1	12	16.1	21
27-2012	Producers and directors .....	83	97	.1	.1	14	16.6	26
27-2020	Athletes, coaches, umpires, and related workers .....	212	255	.1	.2	43	20.4	84
27-2021	Athletes and sports competitors .....	17	21	.0	.0	4	21.1	7
27-2022	Coaches and scouts .....	178	215	.1	.1	36	20.4	71
27-2023	Umpires, referees, and other sports officials .....	16	19	.0	.0	3	19.0	6
27-2030	Dancers and choreographers .....	38	45	.0	.0	6	16.8	30
27-2031	Dancers .....	19	22	.0	.0	3	16.8	15
27-2032	Choreographers .....	19	22	.0	.0	3	16.8	15
27-2040	Musicians, singers, and related workers .....	249	282	.2	.2	33	13.2	85
27-2041	Music directors and composers .....	60	66	.0	.0	6	10.4	19
27-2042	Musicians and singers .....	189	216	.1	.1	26	14.0	66
27-2099	Entertainers and performers, sports and related workers, all other .....	76	92	.1	.1	16	21.0	25
27-3000	Media and communication occupations .....	710	821	.5	.5	111	15.6	253
27-3010	Announcers .....	69	66	.0	.0	-3	-4.8	18
27-3011	Radio and television announcers .....	57	54	.0	.0	-4	-6.5	15
27-3012	Public address system and other announcers .....	12	12	.0	.0	0	3.8	3
27-3020	News analysts, reporters, and correspondents .....	64	67	.0	.0	3	4.8	19
27-3021	Broadcast news analysts .....	8	8	.0	.0	0	4.3	2
27-3022	Reporters and correspondents .....	56	59	.0	.0	3	4.9	16
27-3031	Public relations specialists .....	188	231	.1	.1	43	22.9	70
27-3040	Writers and editors .....	320	376	.2	.2	56	17.4	125
27-3041	Editors .....	127	146	.1	.1	19	14.8	50
27-3042	Technical writers .....	50	62	.0	.0	12	23.2	26
27-3043	Writers and authors .....	142	167	.1	.1	25	17.7	50
27-3090	Miscellaneous media and communication workers .....	70	82	.0	.1	12	17.5	21
27-3091	Interpreters and translators .....	31	37	.0	.0	6	19.9	10
27-3099	Media and communication workers, all other .....	39	46	.0	.0	6	15.7	11
27-4000	Media and communication equipment occupations .....	293	334	.2	.2	41	14.0	105
27-4010	Broadcast and sound engineering technicians and radio operators .....	95	109	.1	.1	14	14.5	37
27-4011	Audio and video equipment technicians .....	46	55	.0	.0	8	18.1	20
27-4012	Broadcast technicians .....	34	37	.0	.0	3	9.8	12
27-4013	Radio operators .....	2	2	.0	.0	0	-12.9	0

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
27-4014	Sound engineering technicians .....	13	16	.0	.0	2	18.4	6
27-4021	Photographers .....	129	145	.1	.1	16	12.3	42
27-4030	Television, video, and motion picture camera operators and editors .....	49	56	.0	.0	8	16.0	18
27-4031	Camera operators, television, video, and motion picture .....	28	32	.0	.0	4	14.2	10
27-4032	Film and video editors .....	20	24	.0	.0	4	18.6	8
27-4099	Media and communication equipment workers, all other .....	19	23	.0	.0	3	17.0	7
29-0000	Healthcare practitioner and technical occupations .....	6,805	8,561	4.7	5.2	1,756	25.8	3,047
29-1000	Health diagnosing and treating practitioners .....	4,190	5,330	2.9	3.2	1,140	27.2	1,960
29-1011	Chiropractors .....	53	64	.0	.0	12	22.4	22
29-1020	Dentists .....	150	171	.1	.1	20	13.5	46
29-1021	Dentists, general .....	128	145	.1	.1	17	13.5	39
29-1022	Oral and maxillofacial surgeons .....	6	7	.0	.0	1	16.2	2
29-1023	Orthodontists .....	10	11	.0	.0	1	12.8	3
29-1024	Prosthodontists .....	1	1	.0	.0	0	13.6	0
29-1029	Dentists, all other specialists .....	5	6	.0	.0	1	12.2	1
29-1031	Dietitians and nutritionists .....	50	59	.0	.0	9	18.3	22
29-1041	Optometrists .....	34	40	.0	.0	7	19.7	16
29-1051	Pharmacists .....	230	287	.2	.2	57	24.6	101
29-1060	Physicians and surgeons .....	567	702	.4	.4	136	24.0	212
29-1071	Physician assistants .....	62	93	.0	.1	31	49.6	40
29-1081	Podiatrists .....	10	12	.0	.0	2	16.2	4
29-1111	Registered nurses .....	2,394	3,096	1.6	1.9	703	29.4	1,203
29-1120	Therapists .....	509	647	.3	.4	138	27.1	237
29-1121	Audiologists .....	10	11	.0	.0	1	9.1	3
29-1122	Occupational therapists .....	92	123	.1	.1	31	33.6	43
29-1123	Physical therapists .....	155	211	.1	.1	57	36.7	72
29-1124	Radiation therapists .....	15	19	.0	.0	4	26.3	7
29-1125	Recreational therapists .....	24	25	.0	.0	1	5.7	7
29-1126	Respiratory therapists .....	94	120	.1	.1	27	28.4	57
29-1127	Speech-language pathologists .....	96	110	.1	.1	14	14.6	38
29-1129	Therapists, all other .....	24	28	.0	.0	4	15.0	9
29-1131	Veterinarians .....	61	71	.0	.0	11	17.4	25
29-1199	Health diagnosing and treating practitioners, all other .....	72	88	.0	.1	16	22.5	32
29-2000	Health technologists and technicians .....	2,494	3,086	1.7	1.9	592	23.7	1,038
29-2010	Clinical laboratory technologists and technicians .....	302	371	.2	.2	69	22.7	150
29-2011	Medical and clinical laboratory technologists .....	156	188	.1	.1	32	20.5	74
29-2012	Medical and clinical laboratory technicians .....	147	183	.1	.1	37	25.0	76
29-2021	Dental hygienists .....	158	226	.1	.1	68	43.3	82
29-2030	Diagnostic related technologists and technicians .....	287	363	.2	.2	75	26.3	129
29-2031	Cardiovascular technologists and technicians .....	45	60	.0	.0	15	32.6	23
29-2032	Diagnostic medical sonographers .....	42	57	.0	.0	15	34.8	23
29-2033	Nuclear medicine technologists .....	18	22	.0	.0	4	21.5	7
29-2034	Radiologic technologists and technicians .....	182	224	.1	.1	42	23.2	76
29-2041	Emergency medical technicians and paramedics .....	192	244	.1	.1	52	27.3	74
29-2050	Health diagnosing and treating practitioner support technicians .....	514	641	.4	.4	127	24.8	194
29-2051	Dietetic technicians .....	25	30	.0	.0	5	19.1	8
29-2052	Pharmacy technicians .....	258	332	.2	.2	74	28.6	107
29-2053	Psychiatric technicians .....	61	63	.0	.0	2	3.2	10
29-2054	Respiratory therapy technicians .....	25	26	.0	.0	1	3.3	4
29-2055	Surgical technologists .....	84	109	.1	.1	25	29.5	36
29-2056	Veterinary technologists and technicians .....	60	81	.0	.0	21	35.3	29
29-2061	Licensed practical and licensed vocational nurses .....	726	850	.5	.5	124	17.1	282
29-2071	Medical records and health information technicians .....	159	205	.1	.1	46	28.9	69
29-2081	Opticians, dispensing .....	66	75	.0	.0	9	13.6	21

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004-14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
29-2090	Miscellaneous health technologists and technicians	91	112	.1	.1	21	22.5	37
29-2091	Orthotists and prosthetists .....	6	7	.0	.0	1	18.0	2
29-2099	Healthcare technologists and technicians, all other .....	85	104	.1	.1	19	22.9	35
29-9000	Other healthcare practitioner and technical occupations .....	121	145	.1	.1	24	20.1	49
29-9010	Occupational health and safety specialists and technicians .....	51	58	.0	.0	7	13.5	18
29-9011	Occupational health and safety specialists .....	40	45	.0	.0	5	12.4	14
29-9012	Occupational health and safety technicians .....	12	14	.0	.0	2	17.1	5
29-9090	Miscellaneous health practitioner and technical workers .....	70	87	.0	.1	17	25.0	31
29-9091	Athletic trainers .....	15	19	.0	.0	4	29.3	8
29-9099	Healthcare practitioner and technical workers, all other .....	55	68	.0	.0	13	23.8	23
31-3900	Service occupations <sup>4</sup> .....	27,673	32,930	19.0	20.0	5,257	19.0	13,210
31-0000	Healthcare support occupations .....	3,492	4,656	2.4	2.8	1,164	33.3	1,717
31-1000	Nursing, psychiatric, and home health aides .....	2,139	2,815	1.5	1.7	676	31.6	956
31-1011	Home health aides .....	624	974	.4	.6	350	56.0	431
31-1012	Nursing aides, orderlies, and attendants .....	1,455	1,781	1.0	1.1	325	22.3	516
31-1013	Psychiatric aides .....	59	61	.0	.0	1	2.3	9
31-2000	Occupational and physical therapist assistants and aides .....	128	178	.1	.1	49	38.5	70
31-2010	Occupational therapist assistants and aides .....	27	35	.0	.0	9	32.5	12
31-2011	Occupational therapist assistants .....	21	29	.0	.0	7	34.1	10
31-2012	Occupational therapist aides .....	5	7	.0	.0	1	26.3	2
31-2020	Physical therapist assistants and aides .....	101	142	.1	.1	41	40.1	58
31-2021	Physical therapist assistants .....	59	85	.0	.1	26	44.2	36
31-2022	Physical therapist aides .....	43	57	.0	.0	15	34.4	22
31-9000	Other healthcare support occupations .....	1,225	1,664	.8	1.0	438	35.8	691
31-9011	Massage therapists .....	97	120	.1	.1	23	23.6	42
31-9090	Miscellaneous healthcare support occupations .....	1,129	1,544	.8	.9	415	36.8	650
31-9091	Dental assistants .....	267	382	.2	.2	114	42.7	189
31-9092	Medical assistants .....	387	589	.3	.4	202	52.1	273
31-9093	Medical equipment preparers .....	43	51	.0	.0	9	20.0	16
31-9094	Medical transcriptionists .....	105	129	.1	.1	24	23.3	44
31-9095	Pharmacy aides .....	50	59	.0	.0	9	17.4	18
31-9096	Veterinary assistants and laboratory animal caretakers .....	74	90	.1	.1	16	21.0	29
31-9099	Healthcare support workers, all other .....	202	244	.1	.1	42	20.9	80
33-0000	Protective service occupations .....	3,138	3,578	2.2	2.2	440	14.0	1,329
33-1000	First-line supervisors/managers, protective service workers .....	243	278	.2	.2	35	14.5	115
33-1010	First-line supervisors/managers, law enforcement workers .....	138	157	.1	.1	19	13.8	63
33-1011	First-line supervisors/managers of correctional officers .....	38	41	.0	.0	4	9.4	15
33-1012	First-line supervisors/managers of police and detectives .....	100	115	.1	.1	16	15.5	48
33-1021	First-line supervisors/managers of fire fighting and prevention workers .....	56	68	.0	.0	12	21.1	35
33-1099	First-line supervisors/managers, protective service workers, all other .....	50	54	.0	.0	4	8.7	17
33-2000	Fire fighting and prevention workers .....	297	365	.2	.2	68	22.9	155
33-2011	Fire fighters .....	282	351	.2	.2	69	24.3	150
33-2020	Fire inspectors .....	15	14	.0	.0	-1	-5.2	4
33-2021	Fire inspectors and investigators .....	13	12	.0	.0	-1	-5.5	4
33-2022	Forest fire inspectors and prevention specialists ..	2	2	.0	.0	0	-3.1	0
33-3000	Law enforcement workers .....	1,199	1,347	.8	.8	148	12.3	435

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004-14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
33-3010	Bailiffs, correctional officers, and jailers .....	447	478	.3	.3	31	7.0	124
33-3011	Bailiffs .....	18	20	.0	.0	2	13.2	6
33-3012	Correctional officers and jailers .....	429	458	.3	.3	29	6.7	118
33-3021	Detectives and criminal investigators .....	91	106	.1	.1	15	16.3	39
33-3031	Fish and game wardens .....	7	8	.0	.0	1	10.5	3
33-3041	Parking enforcement workers .....	11	12	.0	.0	2	15.1	4
33-3050	Police officers .....	644	743	.4	.5	100	15.5	266
33-3051	Police and sheriff's patrol officers .....	639	738	.4	.4	99	15.5	265
33-3052	Transit and railroad police .....	5	5	.0	.0	0	9.2	1
33-9000	Other protective service workers .....	1,399	1,588	1.0	1.0	189	13.5	624
33-9011	Animal control workers .....	15	17	.0	.0	2	14.4	13
33-9021	Private detectives and investigators .....	43	50	.0	.0	8	17.7	17
33-9030	Security guards and gaming surveillance officers .....	1,025	1,155	.7	.7	130	12.7	353
33-9031	Gaming surveillance officers and gaming investigators .....	9	11	.0	.0	2	24.5	4
33-9032	Security guards .....	1,016	1,144	.7	.7	128	12.6	349
33-9090	Miscellaneous protective service workers .....	316	366	.2	.2	50	15.8	242
33-9091	Crossing guards .....	71	86	.0	.1	14	19.7	37
33-9092	Lifeguards, ski patrol, and other recreational protective service workers .....	113	137	.1	.1	23	20.4	102
33-9099	Protective service workers, all other .....	131	144	.1	.1	13	9.6	103
35-0000	Food preparation and serving related occupations .....	10,739	12,453	7.4	7.6	1,714	16.0	5,981
35-1000	Supervisors, food preparation and serving workers .....	898	1,047	.6	.6	149	16.6	370
35-1011	Chefs and head cooks .....	125	146	.1	.1	21	16.7	58
35-1012	First-line supervisors/managers of food preparation and serving workers .....	773	901	.5	.5	129	16.6	312
35-2000	Cooks and food preparation workers .....	3,011	3,459	2.1	2.1	448	14.9	1,419
35-2010	Cooks .....	2,122	2,395	1.5	1.5	272	12.8	930
35-2011	Cooks, fast food .....	662	771	.5	.5	109	16.4	314
35-2012	Cooks, institution and cafeteria .....	424	430	.3	.3	6	1.4	137
35-2013	Cooks, private household .....	9	9	.0	.0	-1	-5.6	3
35-2014	Cooks, restaurant .....	783	914	.5	.6	130	16.6	373
35-2015	Cooks, short order .....	230	257	.2	.2	27	11.8	98
35-2019	Cooks, all other .....	13	14	.0	.0	1	5.7	5
35-2021	Food preparation workers .....	889	1,064	.6	.6	175	19.7	490
35-3000	Food and beverage serving workers .....	5,530	6,440	3.8	3.9	911	16.5	3,555
35-3011	Bartenders .....	474	545	.3	.3	70	14.8	258
35-3020	Fast food and counter workers .....	2,614	3,062	1.8	1.9	448	17.1	1,683
35-3021	Combined food preparation and serving workers, including fast food .....	2,150	2,516	1.5	1.5	367	17.1	1,298
35-3022	Counter attendants, cafeteria, food concession, and coffee shop .....	465	546	.3	.3	81	17.5	385
35-3031	Waiters and waitresses .....	2,252	2,627	1.5	1.6	376	16.7	1,534
35-3041	Food servers, nonrestaurant .....	189	206	.1	.1	17	8.8	80
35-9000	Other food preparation and serving related workers .....	1,301	1,507	.9	.9	206	15.9	636
35-9011	Dining room and cafeteria attendants and bartender helpers .....	401	464	.3	.3	62	15.6	197
35-9021	Dishwashers .....	507	587	.3	.4	80	15.8	251
35-9031	Hosts and hostesses, restaurant, lounge, and coffee shop .....	328	381	.2	.2	53	16.3	157
35-9099	Food preparation and serving related workers, all other .....	64	75	.0	.0	11	16.7	31
37-0000	Building and grounds cleaning and maintenance occupations .....	5,582	6,530	3.8	4.0	948	17.0	2,062
37-1000	Supervisors, building and grounds cleaning and maintenance workers .....	420	497	.3	.3	78	18.5	150
37-1011	First-line supervisors/managers of housekeeping and janitorial workers .....	236	281	.2	.2	45	19.0	101
37-1012	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers .....	184	217	.1	.1	33	17.8	50
37-2000	Building cleaning and pest control workers .....	3,879	4,500	2.7	2.7	620	16.0	1,383
37-2010	Building cleaning workers .....	3,811	4,418	2.6	2.7	608	16.0	1,360
37-2011	Janitors and cleaners, except maids and housekeeping cleaners .....	2,374	2,813	1.6	1.7	440	18.5	890

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
37-2012	Maids and housekeeping cleaners .....	1,422	1,587	1.0	1.0	165	11.6	464
37-2019	Building cleaning workers, all other .....	15	18	.0	.0	3	19.8	6
37-2021	Pest control workers .....	68	81	.0	.0	13	18.4	23
37-3000	Grounds maintenance workers .....	1,283	1,533	.9	.9	250	19.4	529
37-3010	Grounds maintenance workers .....	1,283	1,533	.9	.9	250	19.4	529
37-3011	Landscaping and groundskeeping workers .....	1,177	1,407	.8	.9	230	19.5	486
37-3012	Pesticide handlers, sprayers, and applicators, vegetation .....	30	34	.0	.0	5	16.6	11
37-3013	Tree trimmers and pruners .....	55	64	.0	.0	9	16.5	21
37-3019	Grounds maintenance workers, all other .....	21	27	.0	.0	6	26.3	10
39-0000	Personal care and service occupations .....	4,721	5,713	3.2	3.5	991	21.0	2,121
39-1000	Supervisors, personal care and service workers .....	267	316	.2	.2	49	18.4	114
39-1010	First-line supervisors/managers of gaming workers ..	61	72	.0	.0	11	18.8	24
39-1011	Gaming supervisors .....	38	44	.0	.0	6	16.3	14
39-1012	Slot key persons .....	23	28	.0	.0	5	23.0	10
39-1021	First-line supervisors/managers of personal service workers .....	206	244	.1	.1	38	18.3	89
39-2000	Animal care and service workers .....	172	214	.1	.1	42	24.3	83
39-2011	Animal trainers .....	44	53	.0	.0	9	20.3	18
39-2021	Nonfarm animal caretakers .....	128	161	.1	.1	33	25.6	65
39-3000	Entertainment attendants and related workers .....	558	682	.4	.4	125	22.4	324
39-3010	Gaming services workers .....	116	147	.1	.1	31	26.6	67
39-3011	Gaming dealers .....	83	106	.1	.1	23	28.0	49
39-3012	Gaming and sports book writers and runners .....	18	22	.0	.0	4	22.1	10
39-3019	Gaming service workers, all other .....	15	19	.0	.0	4	24.2	8
39-3021	Motion picture projectionists .....	12	11	.0	.0	-1	-9.9	6
39-3031	Ushers, lobby attendants, and ticket takers .....	112	124	.1	.1	12	10.6	76
39-3090	Miscellaneous entertainment attendants and related workers .....	318	401	.2	.2	83	26.2	175
39-3091	Amusement and recreation attendants .....	252	322	.2	.2	70	28.0	143
39-3092	Costume attendants .....	4	4	.0	.0	1	23.4	2
39-3093	Locker room, coatroom, and dressing room attendants	25	29	.0	.0	4	17.3	11
39-3099	Entertainment attendants and related workers, all other .....	38	45	.0	.0	8	20.0	19
39-4000	Funeral service workers .....	38	46	.0	.0	8	19.7	16
39-4011	Embalmers .....	9	10	.0	.0	1	15.6	3
39-4021	Funeral attendants .....	30	36	.0	.0	6	20.8	12
39-5000	Personal appearance workers .....	790	915	.5	.6	126	15.9	283
39-5010	Barbers and cosmetologists .....	670	773	.5	.5	103	15.4	237
39-5011	Barbers .....	60	65	.0	.0	5	8.2	22
39-5012	Hairdressers, hairstylists, and cosmetologists .....	610	708	.4	.4	98	16.1	215
39-5090	Miscellaneous personal appearance workers .....	120	142	.1	.1	23	18.9	46
39-5091	Makeup artists, theatrical and performance .....	2	2	.0	.0	0	13.2	1
39-5092	Manicurists and pedicurists .....	60	73	.0	.0	13	21.0	24
39-5093	Shampooers .....	27	31	.0	.0	4	13.1	9
39-5094	Skin care specialists .....	30	37	.0	.0	6	20.4	12
39-6000	Transportation, tourism, and lodging attendants .....	248	287	.2	.2	39	15.6	87
39-6010	Baggage porters, bellhops, and concierges .....	75	85	.1	.1	11	14.4	30
39-6011	Baggage porters and bellhops .....	57	65	.0	.0	8	14.0	23
39-6012	Concierges .....	18	21	.0	.0	3	16.0	8
39-6020	Tour and travel guides .....	44	51	.0	.0	7	15.7	18
39-6021	Tour guides and escorts .....	38	44	.0	.0	6	16.6	16
39-6022	Travel guides .....	6	6	.0	.0	1	9.6	2
39-6030	Transportation attendants .....	130	151	.1	.1	21	16.2	38
39-6031	Flight attendants .....	102	119	.1	.1	17	16.3	30
39-6032	Transportation attendants, except flight attendants and baggage porters .....	28	32	.0	.0	4	15.9	8
39-9000	Other personal care and service workers .....	2,648	3,252	1.8	2.0	604	22.8	1,215
39-9011	Child care workers .....	1,280	1,456	.9	.9	176	13.8	525
39-9021	Personal and home care aides .....	701	988	.5	.6	287	41.0	400
39-9030	Recreation and fitness workers .....	514	623	.4	.4	109	21.2	227
39-9031	Fitness trainers and aerobics instructors .....	205	260	.1	.2	55	27.1	102
39-9032	Recreation workers .....	310	363	.2	.2	54	17.3	125
39-9041	Residential advisors .....	56	72	.0	.0	16	28.9	28

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004-14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
39-9099	Personal care and service workers, all other .....	96	112	.1	.1	15	15.9	36
41-0000	Sales and related occupations .....	15,330	16,806	10.5	10.2	1,476	9.6	6,491
41-1000	Supervisors, sales workers .....	2,183	2,256	1.5	1.4	74	3.4	471
41-1011	First-line supervisors/managers of retail sales workers .....	1,667	1,731	1.1	1.1	64	3.8	363
41-1012	First-line supervisors/managers of non-retail sales workers .....	516	526	.4	.3	10	1.9	107
41-2000	Retail sales workers .....	8,445	9,382	5.8	5.7	937	11.1	4,444
41-2010	Cashiers .....	3,499	3,612	2.4	2.2	113	3.2	1,815
41-2011	Cashiers, except gaming .....	3,470	3,578	2.4	2.2	108	3.1	1,796
41-2012	Gaming change persons and booth cashiers .....	29	35	.0	.0	5	18.5	20
41-2020	Counter and rental clerks and parts salespersons .....	690	778	.5	.5	88	12.8	345
41-2021	Counter and rental clerks .....	451	555	.3	.3	104	23.1	277
41-2022	Parts salespersons .....	239	223	.2	.1	-16	-6.6	68
41-2031	Retail salespersons .....	4,256	4,992	2.9	3.0	736	17.3	2,283
41-3000	Sales representatives, services .....	1,318	1,467	.9	.9	149	11.3	408
41-3011	Advertising sales agents .....	154	180	.1	.1	25	16.3	55
41-3021	Insurance sales agents .....	400	426	.3	.3	26	6.6	122
41-3031	Securities, commodities, and financial services sales agents .....	281	313	.2	.2	32	11.5	64
41-3041	Travel agents .....	103	96	.1	.1	-6	-6.1	23
41-3099	Sales representatives, services, all other .....	380	452	.3	.3	71	18.7	144
41-4000	Sales representatives, wholesale and manufacturing .....	1,851	2,095	1.3	1.3	244	13.2	730
41-4011	Sales representatives, wholesale and manufacturing, technical and scientific products .....	397	454	.3	.3	57	14.4	161
41-4012	Sales representatives, wholesale and manufacturing, except technical and scientific products .....	1,454	1,641	1.0	1.0	187	12.9	569
41-9000	Other sales and related workers .....	1,533	1,606	1.1	1.0	72	4.7	439
41-9010	Models, demonstrators, and product promoters .....	120	140	.1	.1	20	16.5	47
41-9011	Demonstrators and product promoters .....	118	138	.1	.1	19	16.5	46
41-9012	Models .....	2	3	.0	.0	0	15.7	1
41-9020	Real estate brokers and sales agents .....	460	520	.3	.3	60	13.0	151
41-9021	Real estate brokers .....	111	120	.1	.1	9	7.8	31
41-9022	Real estate sales agents .....	348	400	.2	.2	51	14.7	120
41-9031	Sales engineers .....	74	84	.1	.1	10	14.0	32
41-9041	Telemarketers .....	415	373	.3	.2	-42	-10.0	68
41-9090	Miscellaneous sales and related workers .....	465	489	.3	.3	24	5.1	141
41-9091	Door-to-door sales workers, news and street vendors, and related workers .....	239	221	.2	.1	-18	-7.4	56
41-9099	Sales and related workers, all other .....	226	267	.2	.2	42	18.4	85
43-0000	Office and administrative support occupations .....	23,907	25,287	16.4	15.4	1,380	5.8	7,455
43-1000	Supervisors, office and administrative support workers .....	1,482	1,602	1.0	1.0	120	8.1	438
43-1011	First-line supervisors/managers of office and administrative support workers .....	1,482	1,602	1.0	1.0	120	8.1	438
43-2000	Communications equipment operators .....	256	223	.2	.1	-33	-12.9	66
43-2011	Switchboard operators, including answering service .....	213	195	.1	.1	-19	-8.8	55
43-2021	Telephone operators .....	39	25	.0	.0	-14	-35.7	10
43-2099	Communications equipment operators, all other .....	4	4	.0	.0	0	-10.8	1
43-3000	Financial clerks .....	3,891	4,203	2.7	2.6	312	8.0	1,232
43-3011	Bill and account collectors .....	456	554	.3	.3	98	21.4	184
43-3021	Billing and posting clerks and machine operators .....	523	541	.4	.3	18	3.4	107
43-3031	Bookkeeping, accounting, and auditing clerks .....	2,046	2,166	1.4	1.3	120	5.9	503
43-3041	Gaming cage workers .....	20	23	.0	.0	3	17.0	13
43-3051	Payroll and timekeeping clerks .....	214	251	.1	.2	37	17.3	94
43-3061	Procurement clerks .....	74	72	.1	.0	-2	-2.7	19
43-3071	Tellers .....	558	596	.4	.4	38	6.8	313
43-4000	Information and record clerks .....	5,554	6,212	3.8	3.8	657	11.8	2,045
43-4011	Brokerage clerks .....	75	81	.1	.0	6	7.5	16

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004-14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
43-4021	Correspondence clerks .....	23	21	.0	.0	-2	-6.9	7
43-4031	Court, municipal, and license clerks .....	110	131	.1	.1	21	18.6	45
43-4041	Credit authorizers, checkers, and clerks .....	67	39	.0	.0	-27	-41.2	13
43-4051	Customer service representatives .....	2,063	2,534	1.4	1.5	471	22.8	778
43-4061	Eligibility interviewers, government programs .....	98	88	.1	.1	-9	-9.4	26
43-4071	File clerks .....	255	163	.2	.1	-93	-36.3	76
43-4081	Hotel, motel, and resort desk clerks .....	195	229	.1	.1	34	17.2	121
43-4111	Interviewers, except eligibility and loan .....	199	251	.1	.2	52	26.0	103
43-4121	Library assistants, clerical .....	109	122	.1	.1	14	12.5	58
43-4131	Loan interviewers and clerks .....	218	217	.1	.1	-1	-.6	30
43-4141	New accounts clerks .....	98	99	.1	.1	2	1.7	26
43-4151	Order clerks .....	293	230	.2	.1	-63	-21.4	66
43-4161	Human resources assistants, except payroll and timekeeping .....	172	200	.1	.1	29	16.7	66
43-4171	Receptionists and information clerks .....	1,133	1,379	.8	.8	246	21.7	524
43-4181	Reservation and transportation ticket agents and travel clerks .....	163	167	.1	.1	4	2.4	46
43-4199	Information and record clerks, all other .....	285	260	.2	.2	-24	-8.6	45
43-5000	Material recording, scheduling, dispatching, and distributing occupations .....	3,849	3,761	2.6	2.3	-88	-2.3	1,204
43-5011	Cargo and freight agents .....	70	67	.0	.0	-4	-5.6	16
43-5021	Couriers and messengers .....	147	134	.1	.1	-13	-8.6	34
43-5030	Dispatchers .....	266	291	.2	.2	25	9.4	82
43-5031	Police, fire, and ambulance dispatchers .....	95	111	.1	.1	15	15.9	36
43-5032	Dispatchers, except police, fire, and ambulance .....	171	181	.1	.1	10	5.7	46
43-5041	Meter readers, utilities .....	50	27	.0	.0	-22	-44.9	16
43-5050	Postal service workers .....	619	619	.4	.4	0	.0	180
43-5051	Postal service clerks .....	75	75	.1	.0	0	.0	20
43-5052	Postal service mail carriers .....	335	335	.2	.2	0	.0	105
43-5053	Postal service mail sorters, processors, and processing machine operators .....	209	209	.1	.1	0	.0	55
43-5061	Production, planning, and expediting clerks .....	292	315	.2	.2	23	7.7	93
43-5071	Shipping, receiving, and traffic clerks .....	751	779	.5	.5	28	3.7	182
43-5081	Stock clerks and order fillers .....	1,566	1,451	1.1	.9	-115	-7.3	579
43-5111	Weighers, measurers, checkers, and samplers, recordkeeping .....	88	78	.1	.0	-10	-11.3	22
43-6000	Secretaries and administrative assistants .....	4,126	4,382	2.8	2.7	255	6.2	1,093
43-6011	Executive secretaries and administrative assistants .....	1,547	1,739	1.1	1.1	192	12.4	488
43-6012	Legal secretaries .....	272	319	.2	.2	47	17.4	99
43-6013	Medical secretaries .....	373	436	.3	.3	63	17.0	135
43-6014	Secretaries, except legal, medical, and executive .....	1,934	1,887	1.3	1.1	-48	-2.5	370
43-9000	Other office and administrative support workers .....	4,748	4,905	3.3	3.0	157	3.3	1,378
43-9011	Computer operators .....	149	101	.1	.1	-49	-32.6	32
43-9020	Data entry and information processing workers .....	525	493	.4	.3	-32	-6.1	121
43-9021	Data entry keyers .....	330	328	.2	.2	-2	-.7	78
43-9022	Word processors and typists .....	194	165	.1	.1	-30	-15.3	43
43-9031	Desktop publishers .....	34	41	.0	.0	8	23.2	15
43-9041	Insurance claims and policy processing clerks .....	251	262	.2	.2	11	4.5	52
43-9051	Mail clerks and mail machine operators, except postal service .....	160	101	.1	.1	-59	-37.1	48
43-9061	Office clerks, general .....	3,138	3,401	2.2	2.1	263	8.4	958
43-9071	Office machine operators, except computer .....	100	78	.1	.0	-22	-21.9	25
43-9081	Proofreaders and copy markers .....	23	24	.0	.0	0	1.7	5
43-9111	Statistical assistants .....	19	20	.0	.0	1	5.7	4
43-9199	Office and administrative support workers, all other .....	349	384	.2	.2	35	10.0	117
45-0000	Farming, fishing, and forestry occupations .....	1,026	1,013	.7	.6	-13	-1.3	286
45-1000	Supervisors, farming, fishing, and forestry workers .....	61	63	.0	.0	2	3.6	14
45-2000	Agricultural workers .....	834	824	.6	.5	-10	-1.2	240

See footnotes at end of table.



**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
45-2011	Agricultural inspectors .....	14	15	.0	.0	1	6.8	4
45-2021	Animal breeders .....	12	12	.0	.0	1	5.6	3
45-2041	Graders and sorters, agricultural products .....	45	49	.0	.0	4	7.9	16
45-2090	Miscellaneous agricultural workers .....	764	749	.5	.5	-15	-2.0	217
45-2091	Agricultural equipment operators .....	60	60	.0	.0	0	-.1	17
45-2092	Farmworkers and laborers, crop, nursery, and greenhouse .....	611	595	.4	.4	-16	-2.7	173
45-2093	Farmworkers, farm and ranch animals .....	79	80	.1	.0	1	.9	23
45-2099	Agricultural workers, all other .....	14	15	.0	.0	1	4.3	4
45-3000	Fishing and hunting workers .....	39	33	.0	.0	-7	-16.6	12
45-3011	Fishers and related fishing workers .....	38	32	.0	.0	-7	-17.2	11
45-3021	Hunters and trappers .....	1	1	.0	.0	0	5.2	1
45-4000	Forest, conservation, and logging workers .....	92	93	.1	.1	1	1.6	21
45-4011	Forest and conservation workers .....	17	18	.0	.0	1	6.0	5
45-4020	Logging workers .....	75	75	.1	.0	0	.6	16
45-4021	Fallers .....	15	14	.0	.0	-1	-5.7	3
45-4022	Logging equipment operators .....	43	45	.0	.0	1	3.4	9
45-4023	Log graders and scalers .....	9	9	.0	.0	0	1.7	2
45-4029	Logging workers, all other .....	7	7	.0	.0	0	-4.2	2
47-0000	Construction and extraction occupations .....	7,738	8,669	5.3	5.3	931	12.0	2,459
47-1000	Supervisors, construction and extraction workers .....	750	832	.5	.5	82	10.9	209
47-1011	First-line supervisors/managers of construction trades and extraction workers .....	750	832	.5	.5	82	10.9	209
47-2000	Construction trades and related workers .....	5,929	6,627	4.1	4.0	699	11.8	1,785
47-2011	Boilermakers .....	19	20	.0	.0	2	8.7	8
47-2020	Brickmasons, blockmasons, and stonemasons .....	177	198	.1	.1	21	12.1	48
47-2021	Brickmasons and blockmasons .....	155	174	.1	.1	19	12.0	42
47-2022	Stonemasons .....	22	25	.0	.0	3	13.0	6
47-2031	Carpenters .....	1,349	1,535	.9	.9	186	13.8	405
47-2040	Carpet, floor, and tile installers and finishers .....	184	209	.1	.1	25	13.4	53
47-2041	Carpet installers .....	79	86	.1	.1	7	8.4	19
47-2042	Floor layers, except carpet, wood, and hard tiles .....	31	34	.0	.0	3	10.2	8
47-2043	Floor sanders and finishers .....	15	16	.0	.0	1	8.2	4
47-2044	Tile and marble setters .....	59	73	.0	.0	14	22.9	23
47-2050	Cement masons, concrete finishers, and terrazzo workers .....	208	241	.1	.1	33	15.9	75
47-2051	Cement masons and concrete finishers .....	201	233	.1	.1	32	15.9	72
47-2053	Terrazzo workers and finishers .....	7	8	.0	.0	1	15.2	2
47-2061	Construction laborers .....	1,009	1,069	.7	.6	60	5.9	194
47-2070	Construction equipment operators .....	449	504	.3	.3	55	12.2	162
47-2071	Paving, surfacing, and tamping equipment operators .....	63	73	.0	.0	10	15.6	19
47-2072	Pile-driver operators .....	4	5	.0	.0	1	11.9	1
47-2073	Operating engineers and other construction equipment operators .....	382	426	.3	.3	44	11.6	142
47-2080	Drywall installers, ceiling tile installers, and tapers .....	196	212	.1	.1	16	8.3	59
47-2081	Drywall and ceiling tile installers .....	149	162	.1	.1	13	9.0	46
47-2082	Tapers .....	47	50	.0	.0	3	5.9	13
47-2111	Electricians .....	656	734	.5	.4	77	11.8	207
47-2121	Glaziers .....	49	56	.0	.0	7	14.2	17
47-2130	Insulation workers .....	61	63	.0	.0	1	2.4	20
47-2131	Insulation workers, floor, ceiling, and wall .....	42	44	.0	.0	1	3.0	14
47-2132	Insulation workers, mechanical .....	19	19	.0	.0	0	1.0	6
47-2140	Painters and paperhangers .....	486	546	.3	.3	60	12.4	134
47-2141	Painters, construction and maintenance .....	471	531	.3	.3	60	12.6	131
47-2142	Paperhangers .....	14	15	.0	.0	0	3.2	2
47-2150	Pipelayers, plumbers, pipefitters, and steamfitters .....	561	645	.4	.4	84	15.0	213
47-2151	Pipelayers .....	62	69	.0	.0	6	9.9	21
47-2152	Plumbers, pipefitters, and steamfitters .....	499	577	.3	.4	78	15.7	193
47-2161	Plasterers and stucco masons .....	59	64	.0	.0	5	8.2	16

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
47-2171	Reinforcing iron and rebar workers .....	34	38	.0	.0	5	14.1	11
47-2181	Roofers .....	162	189	.1	.1	27	16.8	65
47-2211	Sheet metal workers .....	198	222	.1	.1	24	12.2	72
47-2221	Structural iron and steel workers .....	73	83	.0	.1	11	15.0	25
47-3000	Helpers, construction trades .....	431	480	.3	.3	49	11.4	228
47-3010	Helpers, construction trades .....	431	480	.3	.3	49	11.4	228
47-3011	Helpers—Brickmasons, blockmasons, stonemasons, and tile and marble setters .....	62	71	.0	.0	9	14.9	35
47-3012	Helpers—Carpenters .....	109	125	.1	.1	16	14.5	61
47-3013	Helpers—Electricians .....	95	99	.1	.1	4	4.0	43
47-3014	Helpers—Painters, paperhangers, plasterers, and stucco masons .....	27	30	.0	.0	3	11.5	14
47-3015	Helpers—Pipelayers, plumbers, pipefitters, and steamfitters .....	76	89	.1	.1	13	16.6	44
47-3016	Helpers—Roofers .....	22	26	.0	.0	4	16.5	13
47-3019	Helpers, construction trades, all other .....	39	40	.0	.0	1	1.8	17
47-4000	Other construction and related workers .....	460	562	.3	.3	102	22.2	189
47-4011	Construction and building inspectors .....	94	115	.1	.1	21	22.3	42
47-4021	Elevator installers and repairers .....	22	25	.0	.0	3	14.8	9
47-4031	Fence erectors .....	38	42	.0	.0	4	9.9	9
47-4041	Hazardous materials removal workers .....	38	50	.0	.0	12	31.2	22
47-4051	Highway maintenance workers .....	143	177	.1	.1	33	23.3	54
47-4061	Rail-track laying and maintenance equipment operators .....	11	10	.0	.0	-1	-10.9	2
47-4071	Septic tank servicers and sewer pipe cleaners .....	20	24	.0	.0	4	21.8	10
47-4090	Miscellaneous construction and related workers .....	94	119	.1	.1	26	27.3	40
47-4091	Segmental pavers .....	1	1	.0	.0	0	12.5	0
47-4099	Construction and related workers, all other .....	92	118	.1	.1	25	27.5	40
47-5000	Extraction workers .....	169	169	.1	.1	-1	-4	48
47-5010	Derrick, rotary drill, and service unit operators, oil, gas, and mining .....	47	47	.0	.0	0	-3	14
47-5011	Derrick operators, oil and gas .....	15	15	.0	.0	0	-5	4
47-5012	Rotary drill operators, oil and gas .....	15	15	.0	.0	0	.1	4
47-5013	Service unit operators, oil, gas, and mining .....	17	17	.0	.0	0	-6	5
47-5021	Earth drillers, except oil and gas .....	22	23	.0	.0	2	7.9	6
47-5031	Explosives workers, ordnance handling experts, and blasters .....	5	6	.0	.0	0	2.2	2
47-5040	Mining machine operators .....	15	14	.0	.0	-1	-9.6	4
47-5041	Continuous mining machine operators .....	8	7	.0	.0	-1	-12.4	2
47-5042	Mine cutting and channeling machine operators .....	4	4	.0	.0	0	-11.1	1
47-5049	Mining machine operators, all other .....	3	3	.0	.0	0	.9	1
47-5051	Rock splitters, quarry .....	3	4	.0	.0	0	4.1	1
47-5061	Roof bolters, mining .....	4	3	.0	.0	-1	-29.5	1
47-5071	Roustabouts, oil and gas .....	34	34	.0	.0	0	1.0	10
47-5081	Helpers—Extraction workers .....	27	27	.0	.0	0	-1	8
47-5099	Extraction workers, all other .....	12	12	.0	.0	0	-7	3
49-0000	Installation, maintenance, and repair occupations .....	5,747	6,404	3.9	3.9	657	11.4	1,984
49-1000	Supervisors of installation, maintenance, and repair workers .....	469	527	.3	.3	58	12.4	175
49-1011	First-line supervisors/managers of mechanics, installers, and repairers .....	469	527	.3	.3	58	12.4	175
49-2000	Electrical and electronic equipment mechanics, installers, and repairers .....	664	686	.5	.4	22	3.3	159
49-2011	Computer, automated teller, and office machine repairers .....	168	174	.1	.1	6	3.8	27
49-2020	Radio and telecommunications equipment installers and repairers .....	222	211	.2	.1	-11	-4.7	46

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
49-2021	Radio mechanics .....	7	7	.0	.0	0	-1.1	1
49-2022	Telecommunications equipment installers and repairers, except line installers .....	215	204	.1	.1	-10	-4.9	44
49-2090	Miscellaneous electrical and electronic equipment mechanics, installers, and repairers .....	275	301	.2	.2	26	9.6	86
49-2091	Avionics technicians .....	23	25	.0	.0	2	9.1	8
49-2092	Electric motor, power tool, and related repairers ...	28	29	.0	.0	1	4.1	8
49-2093	Electrical and electronics installers and repairers, transportation equipment .....	18	19	.0	.0	1	6.6	5
49-2094	Electrical and electronics repairers, commercial and industrial equipment .....	72	79	.0	.0	7	9.7	23
49-2095	Electrical and electronics repairers, powerhouse, substation, and relay .....	21	21	.0	.0	0	-4	5
49-2096	Electronic equipment installers and repairers, motor vehicles .....	19	21	.0	.0	3	13.6	7
49-2097	Electronic home entertainment equipment installers and repairers .....	47	49	.0	.0	2	4.7	11
49-2098	Security and fire alarm systems installers .....	47	57	.0	.0	10	21.7	19
49-3000	Vehicle and mobile equipment mechanics, installers, and repairers .....	1,778	2,012	1.2	1.2	234	13.2	695
49-3011	Aircraft mechanics and service technicians .....	119	135	.1	.1	16	13.4	44
49-3020	Automotive technicians and repairers .....	1,026	1,175	.7	.7	150	14.6	408
49-302	Automotive body and related repairers .....	201	221	.1	.1	21	10.3	61
49-3022	Automotive glass installers and repairers .....	22	26	.0	.0	3	15.1	8
49-3023	Automotive service technicians and mechanics .....	803	929	.6	.6	126	15.7	339
49-3031	Bus and truck mechanics and diesel engine specialists .....	270	309	.2	.2	39	14.4	108
49-3040	Heavy vehicle and mobile equipment service technicians and mechanics .....	178	189	.1	.1	12	6.7	51
49-3041	Farm equipment mechanics .....	33	34	.0	.0	1	3.3	8
49-3042	Mobile heavy equipment mechanics, except engines .....	125	136	.1	.1	11	8.8	38
49-3043	Rail car repairers .....	20	20	.0	.0	0	-1.2	4
49-3050	Small engine mechanics .....	73	83	.1	.1	10	14.2	28
49-3051	Motorboat mechanics .....	23	26	.0	.0	3	15.1	9
49-3052	Motorcycle mechanics .....	19	22	.0	.0	3	13.7	7
49-3053	Outdoor power equipment and other small engine mechanics .....	31	36	.0	.0	4	14.0	12
49-3090	Miscellaneous vehicle and mobile equipment mechanics, installers, and repairers .....	112	120	.1	.1	8	6.9	55
49-3091	Bicycle repairers .....	8	9	.0	.0	1	14.3	5
49-3092	Recreational vehicle service technicians .....	13	15	.0	.0	3	19.5	8
49-3093	Tire repairers and changers .....	91	96	.1	.1	4	4.5	43
49-9000	Other installation, maintenance, and repair occupations .....	2,837	3,180	1.9	1.9	342	12.1	955
49-9010	Control and valve installers and repairers .....	48	52	.0	.0	4	7.3	16
49-9011	Mechanical door repairers .....	11	12	.0	.0	2	15.8	4
49-9012	Control and valve installers and repairers, except mechanical door .....	38	40	.0	.0	2	4.9	11
49-9021	Heating, air conditioning, and refrigeration mechanics and installers .....	270	321	.2	.2	51	19.0	87
49-9031	Home appliance repairers .....	50	51	.0	.0	1	2.6	13
49-9040	Industrial machinery installation, repair, and maintenance workers .....	1,700	1,907	1.2	1.2	207	12.2	542
49-9041	Industrial machinery mechanics .....	220	220	.2	.1	0	-2	44
49-9042	Maintenance and repair workers, general .....	1,332	1,533	.9	.9	202	15.2	457
49-9043	Maintenance workers, machinery .....	86	89	.1	.1	2	2.8	22
49-9044	Millwrights .....	59	62	.0	.0	3	5.9	18
49-9045	Refractory materials repairers, except brickmasons ...	4	3	.0	.0	0	-5.2	1
49-9050	Line installers and repairers .....	251	269	.2	.2	18	7.4	91
49-9051	Electrical power-line installers and repairers .....	104	107	.1	.1	3	2.5	36
49-9052	Telecommunications line installers and repairers ....	147	163	.1	.1	16	10.8	56
49-9060	Precision instrument and equipment repairers .....	62	67	.0	.0	5	8.7	23
49-9061	Camera and photographic equipment repairers .....	5	5	.0	.0	0	-9.1	1

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004-14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
49-9062	Medical equipment repairers .....	29	34	.0	.0	4	14.8	13
49-9063	Musical instrument repairers and tuners .....	6	6	.0	.0	0	2.8	2
49-9064	Watch repairers .....	4	4	.0	.0	0	.6	1
49-9069	Precision instrument and equipment repairers, all other .....	17	18	.0	.0	1	7.7	6
49-9090	Miscellaneous installation, maintenance, and repair workers .....	456	512	.3	.3	55	12.1	182
49-9091	Coin, vending, and amusement machine servicers and repairers .....	46	47	.0	.0	1	2.4	12
49-9092	Commercial divers .....	3	3	.0	.0	0	9.5	1
49-9093	Fabric menders, except garment .....	3	3	.0	.0	0	-.6	1
49-9094	Locksmiths and safe repairers .....	28	33	.0	.0	5	16.1	14
49-9095	Manufactured building and mobile home installers ..	15	16	.0	.0	1	7.9	5
49-9096	Riggers .....	13	14	.0	.0	2	13.9	5
49-9097	Signal and track switch repairers .....	8	8	.0	.0	0	2.3	3
49-9098	Helpers—Installation, maintenance, and repair workers .....	163	190	.1	.1	27	16.4	82
49-9099	Installation, maintenance, and repair workers, all other .....	178	197	.1	.1	20	11.0	60
51-0000	Production occupations .....	10,562	10,483	7.3	6.4	-79	-.7	2,909
51-1000	Supervisors, production workers .....	731	750	.5	.5	20	2.7	173
51-1011	First-line supervisors/managers of production and operating workers .....	731	750	.5	.5	20	2.7	173
51-2000	Assemblers and fabricators .....	1,997	2,075	1.4	1.3	78	3.9	616
51-2011	Aircraft structure, surfaces, rigging, and systems assemblers .....	19	21	.0	.0	1	7.8	7
51-2020	Electrical, electronics, and electromechanical assemblers .....	301	272	.2	.2	-29	-9.8	71
51-2021	Coil winders, tapers, and finishers .....	28	20	.0	.0	-8	-28.5	7
51-2022	Electrical and electronic equipment assemblers .....	221	207	.2	.1	-14	-6.4	52
51-2023	Electromechanical equipment assemblers .....	52	45	.0	.0	-7	-13.9	12
51-2031	Engine and other machine assemblers .....	46	46	.0	.0	0	.2	13
51-2041	Structural metal fabricators and fitters .....	90	93	.1	.1	3	2.9	24
51-2090	Miscellaneous assemblers and fabricators .....	1,541	1,644	1.1	1.0	103	6.7	502
51-2091	Fiberglass laminators and fabricators .....	31	32	.0	.0	1	4.0	9
51-2092	Team assemblers .....	1,239	1,329	.9	.8	90	7.3	410
51-2093	Timing device assemblers, adjusters, and calibrators .....	3	3	.0	.0	0	-1.5	1
51-2099	Assemblers and fabricators, all other .....	268	280	.2	.2	12	4.5	81
51-3000	Food processing occupations .....	725	810	.5	.5	86	11.8	251
51-3011	Bakers .....	166	191	.1	.1	25	15.2	64
51-3020	Butchers and other meat, poultry, and fish processing workers .....	411	462	.3	.3	51	12.5	142
51-3021	Butchers and meat cutters .....	134	145	.1	.1	11	7.9	40
51-3022	Meat, poultry, and fish cutters and trimmers .....	140	163	.1	.1	22	15.8	53
51-3023	Slaughterers and meat packers .....	136	155	.1	.1	19	13.8	49
51-3090	Miscellaneous food processing workers .....	148	157	.1	.1	9	6.0	45
51-3091	Food and tobacco roasting, baking, and drying machine operators and tenders .....	18	19	.0	.0	1	4.7	6
51-3092	Food batchmakers .....	87	94	.1	.1	7	7.9	28
51-3093	Food cooking machine operators and tenders .....	43	44	.0	.0	1	2.9	11
51-4000	Metal workers and plastic workers .....	2,175	2,085	1.5	1.3	-90	-4.1	562
51-4010	Computer control programmers and operators .....	143	141	.1	.1	-2	-1.2	24
51-4011	Computer-controlled machine tool operators, metal and plastic .....	126	124	.1	.1	-1	-1.2	21
51-4012	Numerical tool and process control programmers ..	18	17	.0	.0	0	-1.1	3
51-4020	Forming machine setters, operators, and tenders, metal and plastic .....	165	143	.1	.1	-22	-13.5	44
51-4021	Extruding and drawing machine setters, operators, and tenders, metal and plastic .....	89	70	.1	.0	-19	-21.3	30
51-4022	Forging machine setters, operators, and tenders, metal and plastic .....	38	37	.0	.0	-2	-4.6	6
51-4023	Rolling machine setters, operators, and tenders, metal and plastic .....	37	36	.0	.0	-1	-3.9	8
51-4030	Machine tool cutting setters, operators, and tenders, metal and plastic .....	495	431	.3	.3	-65	-13.1	109

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
51-4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic .....	251	208	.2	.1	-43	-17.2	58
51-4032	Drilling and boring machine tool setters, operators, and tenders, metal and plastic .....	42	39	.0	.0	-4	-8.4	12
51-4033	Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic .....	101	91	.1	.1	-10	-10.0	19
51-4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic .....	71	64	.0	.0	-6	-9.0	14
51-4035	Milling and planing machine setters, operators, and tenders, metal and plastic .....	31	29	.0	.0	-2	-5.3	5
51-4041	Machinists .....	370	386	.3	.2	16	4.3	102
51-4050	Metal furnace and kiln operators and tenders .....	31	26	.0	.0	-5	-14.7	7
51-4051	Metal-refining furnace operators and tenders .....	17	15	.0	.0	-2	-13.5	4
51-4052	Pourers and casters, metal .....	14	12	.0	.0	-2	-16.1	3
51-4060	Model makers and patternmakers, metal and plastic .....	14	13	.0	.0	-1	-5.5	4
51-4061	Model makers, metal and plastic .....	8	8	.0	.0	0	-4.0	3
51-4062	Patternmakers, metal and plastic .....	6	6	.0	.0	0	-7.5	2
51-4070	Molders and molding machine setters, operators, and tenders, metal and plastic .....	175	157	.1	.1	-17	-9.9	43
51-4071	Foundry mold and coremakers .....	17	15	.0	.0	-2	-13.3	4
51-4072	Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic .....	157	142	.1	.1	-15	-9.5	39
51-4081	Multiple machine tool setters, operators, and tenders, metal and plastic .....	97	98	.1	.1	0	.3	27
51-4111	Tool and die makers .....	103	100	.1	.1	-3	-2.6	23
51-4120	Welding, soldering, and brazing workers .....	429	448	.3	.3	19	4.5	140
51-4121	Welders, cutters, solderers, and brazers .....	377	396	.3	.2	19	5.0	125
51-4122	Welding, soldering, and brazing machine setters, operators, and tenders .....	52	52	.0	.0	0	.4	15
51-4190	Miscellaneous metalworkers and plastic workers .....	153	142	.1	.1	-11	-7.4	38
51-4191	Heat treating equipment setters, operators, and tenders, metal and plastic .....	26	26	.0	.0	0	-.4	8
51-4192	Lay-out workers, metal and plastic .....	11	11	.0	.0	-1	-4.6	2
51-4193	Plating and coating machine setters, operators, and tenders, metal and plastic .....	40	38	.0	.0	-2	-4.0	9
51-4194	Tool grinders, filers, and sharpeners .....	21	19	.0	.0	-2	-7.7	7
51-4199	Metal workers and plastic workers, all other .....	55	47	.0	.0	-7	-13.6	13
51-5000	Printing occupations .....	413	405	.3	.2	-8	-1.9	106
51-5010	Bookbinders and bindery workers .....	81	73	.1	.0	-8	-9.9	22
51-5011	Bindery workers .....	74	66	.1	.0	-8	-10.4	20
51-5012	Bookbinders .....	7	7	.0	.0	0	-4.5	2
51-5020	Printers .....	332	332	.2	.2	0	.1	84
51-5021	Job printers .....	63	64	.0	.0	1	1.8	16
51-5022	Prepress technicians and workers .....	78	71	.1	.0	-7	-8.4	18
51-5023	Printing machine operators .....	191	197	.1	.1	6	2.9	50
51-6000	Textile, apparel, and furnishings occupations .....	929	768	.6	.5	-161	-17.3	214
51-6011	Laundry and dry-cleaning workers .....	235	265	.2	.2	30	12.7	94
51-6021	Pressers, textile, garment, and related materials .....	82	84	.1	.1	2	2.9	15
51-6031	Sewing machine operators .....	256	163	.2	.1	-93	-36.5	32
51-6040	Shoe and leather workers .....	15	12	.0	.0	-3	-19.4	4
51-6041	Shoe and leather workers and repairers .....	10	9	.0	.0	-2	-16.0	3
51-6042	Shoe machine operators and tenders .....	5	3	.0	.0	-1	-27.3	1
51-6050	Tailors, dressmakers, and sewers .....	85	79	.1	.0	-6	-7.0	15
51-6051	Sewers, hand .....	31	25	.0	.0	-6	-19.7	5
51-6052	Tailors, dressmakers, and custom sewers .....	54	54	.0	.0	0	.3	10
51-6060	Textile machine setters, operators, and tenders .....	148	81	.1	.0	-66	-45.0	26
51-6061	Textile bleaching and dyeing machine operators and tenders .....	21	12	.0	.0	-10	-45.3	5
51-6062	Textile cutting machine setters, operators, and tenders .....	28	21	.0	.0	-7	-25.0	6
51-6063	Textile knitting and weaving machine setters, operators, and tenders .....	46	20	.0	.0	-26	-56.2	5
51-6064	Textile winding, twisting, and drawing out machine setters, operators, and tenders .....	53	29	.0	.0	-24	-45.5	10

See footnotes at end of table.

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
51-6090	Miscellaneous textile, apparel, and furnishings workers .....	109	84	.1	.1	-24	-22.4	28
51-6091	Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers .....	23	17	.0	.0	-6	-25.3	4
51-6092	Fabric and apparel patternmakers .....	9	6	.0	.0	-3	-30.5	4
51-6093	Upholsterers .....	53	44	.0	.0	-9	-16.5	14
51-6099	Textile, apparel, and furnishings workers, all other .....	23	16	.0	.0	-7	-29.8	6
51-7000	Woodworkers .....	364	345	.2	.2	-18	-5.0	100
51-7011	Cabinetmakers and bench carpenters .....	148	154	.1	.1	6	4.1	43
51-7021	Furniture finishers .....	34	30	.0	.0	-5	-13.3	7
51-7030	Model makers and patternmakers, wood .....	6	6	.0	.0	0	6.5	2
51-7031	Model makers, wood .....	3	4	.0	.0	0	9.0	1
51-7032	Patternmakers, wood .....	3	3	.0	.0	0	3.3	1
51-7040	Woodworking machine setters, operators, and tenders .....	150	133	.1	.1	-17	-11.1	40
51-7041	Sawing machine setters, operators, and tenders, wood .....	58	51	.0	.0	-7	-11.3	16
51-7042	Woodworking machine setters, operators, and tenders, except sawing .....	92	82	.1	.0	-10	-11.0	24
51-7099	Woodworkers, all other .....	26	23	.0	.0	-4	-13.9	8
51-8000	Plant and system operators .....	320	324	.2	.2	4	1.4	113
51-8010	Power plant operators, distributors, and dispatchers .....	47	46	.0	.0	0	-4	13
51-8011	Nuclear power reactor operators .....	4	4	.0	.0	0	-5	1
51-8012	Power distributors and dispatchers .....	8	8	.0	.0	0	.0	2
51-8013	Power plant operators .....	34	34	.0	.0	0	-4	9
51-8021	Stationary engineers and boiler operators .....	50	52	.0	.0	2	3.4	11
51-8031	Water and liquid waste treatment plant and system operators .....	94	110	.1	.1	15	16.2	48
51-8090	Miscellaneous plant and system operators .....	129	117	.1	.1	-12	-9.6	42
51-8091	Chemical plant and system operators .....	60	49	.0	.0	-11	-17.7	19
51-8092	Gas plant operators .....	11	12	.0	.0	1	7.7	4
51-8093	Petroleum pump system operators, refinery operators, and gaugers .....	43	39	.0	.0	-4	-8.6	13
51-8099	Plant and system operators, all other .....	15	16	.0	.0	1	7.1	6
51-9000	Other production occupations .....	2,909	2,920	2.0	1.8	10	.4	775
51-9010	Chemical processing machine setters, operators, and tenders .....	87	85	.1	.1	-2	-1.8	28
51-9011	Chemical equipment operators and tenders .....	49	47	.0	.0	-2	-4.5	16
51-9012	Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders .....	38	38	.0	.0	1	1.6	13
51-9020	Crushing, grinding, polishing, mixing, and blending workers .....	208	207	.1	.1	-1	-6	57
51-9021	Crushing, grinding, and polishing machine setters, operators, and tenders .....	43	43	.0	.0	0	.8	12
51-9022	Grinding and polishing workers, hand .....	45	41	.0	.0	-4	-8.7	12
51-9023	Mixing and blending machine setters, operators, and tenders .....	120	122	.1	.1	2	2.0	34
51-9030	Cutting workers .....	104	103	.1	.1	-1	-1.3	22
51-9031	Cutters and trimmers, hand .....	29	30	.0	.0	1	2.4	7
51-9032	Cutting and slicing machine setters, operators, and tenders .....	75	73	.1	.0	-2	-2.7	16
51-9041	Extruding, forming, pressing, and compacting machine setters, operators, and tenders .....	74	72	.1	.0	-2	-2.2	20
51-9051	Furnace, kiln, oven, drier, and kettle operators and tenders .....	30	29	.0	.0	-1	-4.2	7
51-9061	Inspectors, testers, sorters, samplers, and weighers ..	508	494	.3	.3	-13	-2.6	116
51-9071	Jewelers and precious stone and metal workers .....	42	42	.0	.0	0	.0	8
51-9080	Medical, dental, and ophthalmic laboratory technicians .....	87	94	.1	.1	7	8.4	26
51-9081	Dental laboratory technicians .....	50	54	.0	.0	4	7.6	15
51-9082	Medical appliance technicians .....	11	13	.0	.0	2	13.2	4

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title	Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
	Number		Percent distribution		Number	Percent	
	2004	2014	2004	2014			
51-9083 Ophthalmic laboratory technicians .....	25	27	.0	.0	2	7.8	7
51-9111 Packaging and filling machine operators and tenders	412	422	.3	.3	9	2.3	91
51-9120 Painting workers .....	186	192	.1	.1	6	3.4	58
51-9121 Coating, painting, and spraying machine setters, operators, and tenders .....	103	100	.1	.1	-3	-3.4	27
51-9122 Painters, transportation equipment .....	53	61	.0	.0	7	14.1	21
51-9123 Painting, coating, and decorating workers .....	29	31	.0	.0	2	7.9	10
51-9130 Photographic process workers and processing machine operators .....	86	66	.1	.0	-20	-23.6	21
51-9131 Photographic process workers .....	32	28	.0	.0	-4	-11.4	8
51-9132 Photographic processing machine operators .....	54	38	.0	.0	-17	-30.7	13
51-9141 Semiconductor processors .....	45	42	.0	.0	-3	-7.5	10
51-9190 Miscellaneous production workers .....	1,040	1,072	.7	.7	31	3.0	310
51-9191 Cementing and gluing machine operators and tenders .....	25	25	.0	.0	0	1.9	7
51-9192 Cleaning, washing, and metal pickling equipment operators and tenders .....	18	18	.0	.0	0	1.0	5
51-9193 Cooling and freezing equipment operators and tenders .....	9	9	.0	.0	0	.8	2
51-9194 Etchers and engravers .....	12	12	.0	.0	0	2.1	3
51-9195 Molders, shapers, and casters, except metal and plastic .....	47	43	.0	.0	-3	-7.0	11
51-9196 Paper goods machine setters, operators, and tenders .....	111	113	.1	.1	3	2.4	26
51-9197 Tire builders .....	18	15	.0	.0	-3	-16.6	4
51-9198 Helpers—Production workers .....	484	522	.3	.3	38	7.9	174
51-9199 Production workers, all other .....	319	315	.2	.2	-4	-1.3	76
53-0000 Transportation and material moving occupations .....	10,098	11,214	6.9	6.8	1,116	11.1	3,449
53-1000 Supervisors, transportation and material moving workers .....	408	458	.3	.3	50	12.3	146
53-1011 Aircraft cargo handling supervisors .....	8	9	.0	.0	1	17.3	3
53-1021 First-line supervisors/managers of helpers, laborers, and material movers, hand .....	173	187	.1	.1	14	8.1	55
53-1031 First-line supervisors/managers of transportation and material-moving machine and vehicle operators .....	228	262	.2	.2	35	15.3	88
53-2000 Air transportation occupations .....	135	157	.1	.1	22	16.5	58
53-2010 Aircraft pilots and flight engineers .....	106	124	.1	.1	18	17.2	46
53-2011 Airline pilots, copilots, and flight engineers .....	84	98	.1	.1	14	17.2	37
53-2012 Commercial pilots .....	22	26	.0	.0	4	16.8	10
53-2020 Air traffic controllers and airfield operations specialists .....	29	34	.0	.0	4	14.4	12
53-2021 Air traffic controllers .....	24	28	.0	.0	3	14.3	10
53-2022 Airfield operations specialists .....	5	6	.0	.0	1	15.0	2
53-3000 Motor vehicle operators .....	4,182	4,810	2.9	2.9	629	15.0	1,256
53-3011 Ambulance drivers and attendants, except emergency medical technicians .....	20	26	.0	.0	6	28.0	8
53-3020 Bus drivers .....	653	757	.4	.5	104	15.9	246
53-3021 Bus drivers, transit and intercity .....	190	231	.1	.1	41	21.7	83
53-3022 Bus drivers, school .....	463	526	.3	.3	63	13.6	164
53-3030 Driver/sales workers and truck drivers .....	3,232	3,681	2.2	2.2	449	13.9	902
53-3031 Driver/sales workers .....	451	513	.3	.3	62	13.8	136
53-3032 Truck drivers, heavy and tractor-trailer .....	1,738	1,962	1.2	1.2	223	12.9	507
53-3033 Truck drivers, light or delivery services .....	1,042	1,206	.7	.7	164	15.7	259
53-3041 Taxi drivers and chauffeurs .....	188	235	.1	.1	47	24.8	64
53-3099 Motor vehicle operators, all other .....	88	111	.1	.1	23	25.7	35
53-4000 Rail transportation occupations .....	112	111	.1	.1	-1	-1.1	39
53-4010 Locomotive engineers and operators .....	40	39	.0	.0	-1	-2.5	13
53-4021 Railroad brake, signal, and switch operators .....	17	11	.0	.0	-7	-38.5	2
53-4031 Railroad conductors and yardmasters .....	38	45	.0	.0	8	20.3	18
53-4041 Subway and streetcar operators .....	9	10	.0	.0	1	13.7	4
53-4099 Rail transportation workers, all other .....	8	6	.0	.0	-2	-30.8	2
53-5000 Water transportation occupations .....	72	77	.0	.0	4	6.2	29
53-5011 Sailors and marine oilers .....	28	30	.0	.0	1	5.2	11
53-5020 Ship and boat captains and operators .....	32	34	.0	.0	2	4.7	11
53-5021 Captains, mates, and pilots of water vessels .....	29	30	.0	.0	1	4.8	10
53-5022 Motorboat operators .....	3	4	.0	.0	0	4.4	1
53-5031 Ship engineers .....	12	13	.0	.0	1	12.7	7
53-6000 Other transportation workers .....	301	309	.2	.2	8	2.5	120

**APPENDIX: Continued—Employment by occupation, 2004 and projected 2014**

[Numbers in thousands]

2004 National Employment Matrix code and title		Employment				Change		Total job openings due to growth and net replacements, 2004–14 <sup>1</sup>
		Number		Percent distribution		Number	Percent	
		2004	2014	2004	2014			
53-6011	Bridge and lock tenders .....	4	4	.0	.0	0	7.2	1
53-6021	Parking lot attendants .....	122	111	.1	.1	-11	-8.7	36
53-6031	Service station attendants .....	91	98	.1	.1	7	7.5	48
53-6041	Traffic technicians .....	6	7	.0	.0	1	14.1	3
53-6051	Transportation inspectors .....	26	29	.0	.0	3	11.4	9
53-6099	Transportation workers, all other .....	52	60	.0	.0	7	13.9	23
53-7000	Material moving occupations .....	4,887	5,292	3.4	3.2	405	8.3	1,801
53-7011	Conveyor operators and tenders .....	53	58	.0	.0	4	7.7	19
53-7021	Crane and tower operators .....	44	48	.0	.0	4	8.2	13
53-7030	Dredge, excavating, and loading machine operators .....	92	99	.1	.1	7	7.1	32
53-7031	Dredge operators .....	3	3	.0	.0	0	3.7	1
53-7032	Excavating and loading machine and dragline operators .....	86	92	.1	.1	7	8.0	30
53-7033	Loading machine operators, underground mining ...	4	4	.0	.0	0	-8.3	1
53-7041	Hoist and winch operators .....	6	6	.0	.0	0	7.0	2
53-7051	Industrial truck and tractor operators .....	635	685	.4	.4	50	7.9	170
53-7060	Laborers and material movers, hand .....	3,803	4,142	2.6	2.5	339	8.9	1,485
53-7061	Cleaners of vehicles and equipment .....	347	376	.2	.2	29	8.3	150
53-7062	Laborers and freight, stock, and material movers, hand .....	2,430	2,678	1.7	1.6	248	10.2	1,042
53-7063	Machine feeders and offbearers .....	148	122	.1	.1	-27	-18.0	40
53-7064	Packers and packagers, hand .....	877	966	.6	.6	89	10.1	253
53-7070	Pumping station operators .....	27	21	.0	.0	-6	-22.6	6
53-7071	Gas compressor and gas pumping station operators .....	5	4	.0	.0	-1	-21.3	1
53-7072	Pump operators, except wellhead pumpers .....	11	8	.0	.0	-2	-22.2	2
53-7073	Wellhead pumpers .....	11	8	.0	.0	-3	-23.6	3
53-7081	Refuse and recyclable material collectors .....	149	163	.1	.1	13	8.9	52
53-7111	Shuttle car operators .....	3	2	.0	.0	-1	-42.4	1
53-7121	Tank car, truck, and ship loaders .....	17	15	.0	.0	-2	-11.0	5
53-7199	Material moving workers, all other .....	58	55	.0	.0	-3	-5.3	16

<sup>1</sup> Total job openings represent the sum of employment increases and net replacements. If employment change is negative, job openings due to growth are zero and total job openings equal net replacements.

<sup>2</sup> Codes 11-0000 through 13-0000 in the 2000 *Standard Occupational Classification* (soc).

<sup>3</sup> Codes 15-0000 through 29-0000 in the 2000 *Standard Occupational Classification* (soc).

<sup>4</sup> Codes 31-0000 through 39-0000 in the 2000 *Standard Occupational Classification* (soc).

NOTE: Details may not sum to totals or 100 percent due to rounding.