

# News

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## **NATIONAL CENSUS OF FATAL OCCUPATIONAL INJURIES, 1999**

The number of fatal work injuries that occurred during 1999 was 6,023, nearly the same as the previous year's total despite an increase in employment, according to the Census of Fatal Occupational Injuries, conducted by the Bureau of Labor Statistics, U.S. Department of Labor. Decreases in job-related deaths from homicides and electrocutions in 1999 were offset by increases from workers struck by falling objects or caught in running machinery. Homicides fell from the second-leading cause of fatal work injuries to the third, behind highway fatalities and falls. Construction reported the largest number of fatal work injuries for any industry and accounted for one-fifth of the fatality total.

### Profiles of 1999 fatal work injuries

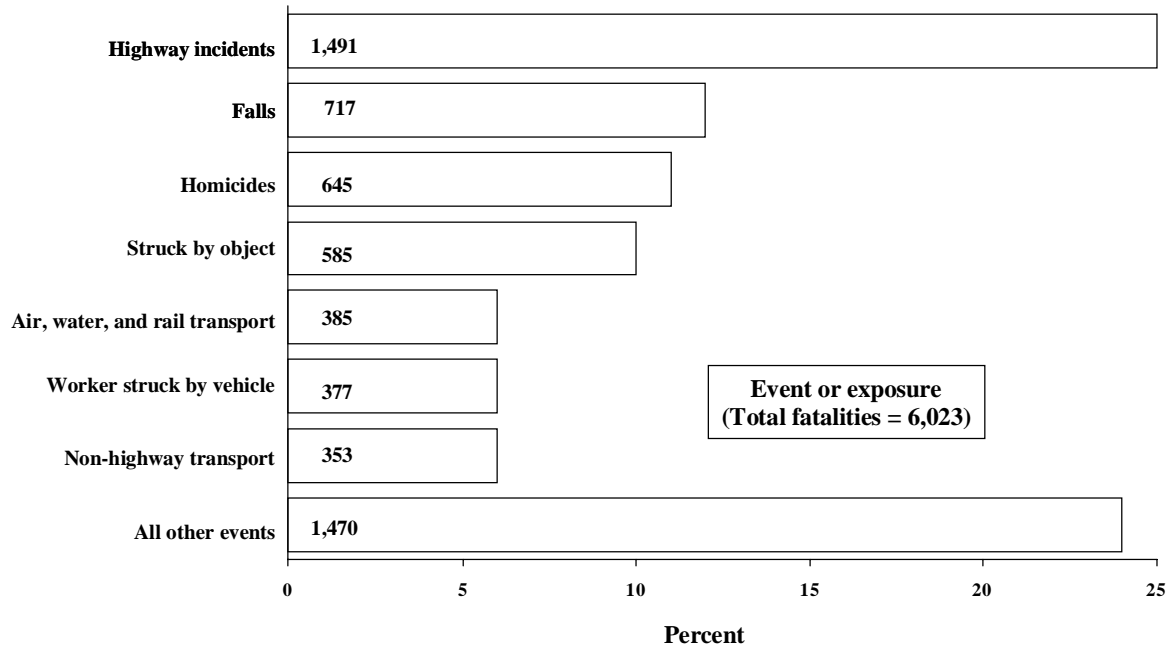
Highway crashes continued as the leading cause of on-the-job fatalities during 1999, accounting for one-fourth of the fatal work injury total. (See table 1 and chart 1.) The number of these fatalities increased slightly over 1998 to reach the highest level since the BLS fatality census began in 1992. Slightly over two-fifths of the 1,491 victims of job-related highway fatalities were employed as truck drivers.

In contrast to fatalities resulting from crashes that occurred on public roadways, the number of workers killed in nonhighway crashes and overturnings or killed after being struck by a vehicle declined from the previous year. The number of workers killed in air, water, and rail vehicle incidents during 1999 was about the same as in 1998.

In 1999, deaths resulting from on-the-job falls increased slightly to 717. This increase, coupled with a decline in homicides, made falls the second-leading cause of fatal work injuries for the first time since the fatality census began in 1992. (See chart 2.) About half of the fatal falls were from a roof, ladder, or scaffold, and slightly over half of the fatal falls occurred in the construction industry.

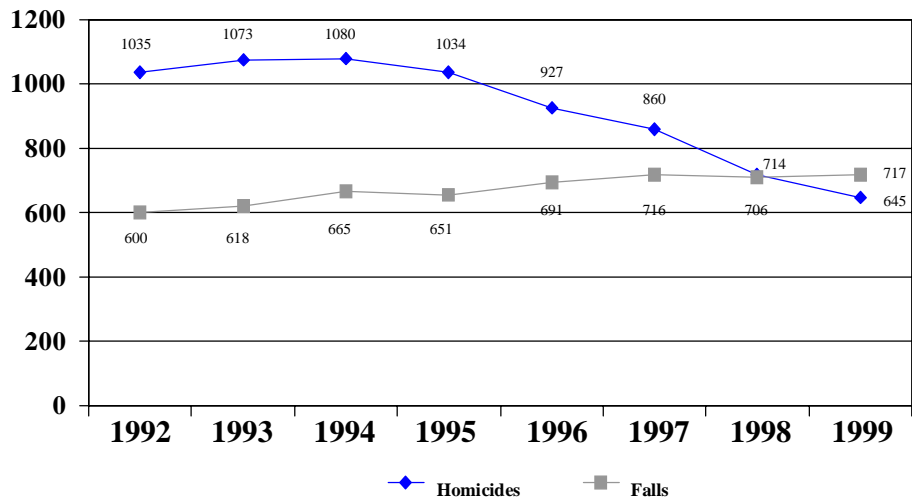
Now the third-leading cause of on-the-job deaths, workplace homicides fell to the lowest level since the fatality census' inception in 1992. Job-related homicides totaled 645 in 1999, a 10 percent drop from the 1998 total and a 40 percent decline from the 1,080 homicides that occurred in 1994, which had the highest count in the 8-year period. The drop in homicides at work was

### Chart 1: The manner in which workplace fatalities occurred, 1999



Highway vehicle incidents, falls, and homicides led all other fatal events.

### Chart 2: Homicides and Falls 1992-1999



most pronounced in retail trade, where homicides fell by 51 percent from 1994. The following table shows counts of workplace homicides for selected industries during 1994-99.

| Industry                                | 1994  | 1995  | 1996 | 1997 | 1998 | 1999 |
|---|-------|-------|------|------|------|------|
| <i>Total homicides</i> .....            | 1,080 | 1,034 | 927  | 860  | 714  | 645  |
| Retail trade .....                      | 530   | 422   | 437  | 395  | 286  | 260  |
| Grocery stores.....                     | 196   | 152   | 146  | 141  | 95   | 76   |
| Eating and drinking places .....        | 135   | 121   | 135  | 109  | 69   | 94   |
| Gasoline service stations .....         | 41    | 36    | 23   | 34   | 24   | 17   |
| Taxicab.....                            | 87    | 68    | 50   | 74   | 48   | 51   |
| Detective and armored car services..... | 49    | 27    | 29   | 21   | 18   | 17   |
| Police protection.....                  | 65    | 61    | 45   | 61   | 50   | 41   |

Among the job-related homicides for which a motive could be ascertained from the source documents, robbery continued to be the primary motive, followed by violence by co-workers and customers or clients. Occupations with high numbers of homicides include those that typically engage in cash transactions or have valuables on hand, including managers of food and lodging establishments, sales supervisors and proprietors, cashiers, and taxicab drivers.

Workers struck by objects or equipment accounted for 10 percent of the fatal work injuries in 1999. These types of injuries increased from the previous year. Electrocutions accounted for 5 percent of the fatal injuries and decreased by 17 percent from 1998. Contact with overhead power lines accounted for about two-fifths of the electrocutions.

On average, about 17 workers were fatally injured each day during 1999. Eighty-three percent of fatally injured workers died the day they were injured; 97 percent died within 30 days. There were 235 multiple-fatality incidents (incidents that resulted in two or more worker deaths), resulting in 617 job-related deaths. Although this was a slight increase over the 227 multiple-fatality events reported for 1998, there was a more substantial increase in the number of deaths resulting from these types of incidents in 1999 than in the previous year, when 555 worker deaths occurred.

**Occupation highlights (table 2 and chart 3):**

\* Occupations with large numbers of fatal injuries included truck drivers, construction trades, and farm occupations.

\* Fatal injuries to truck drivers were at their highest level in the 8-year period.

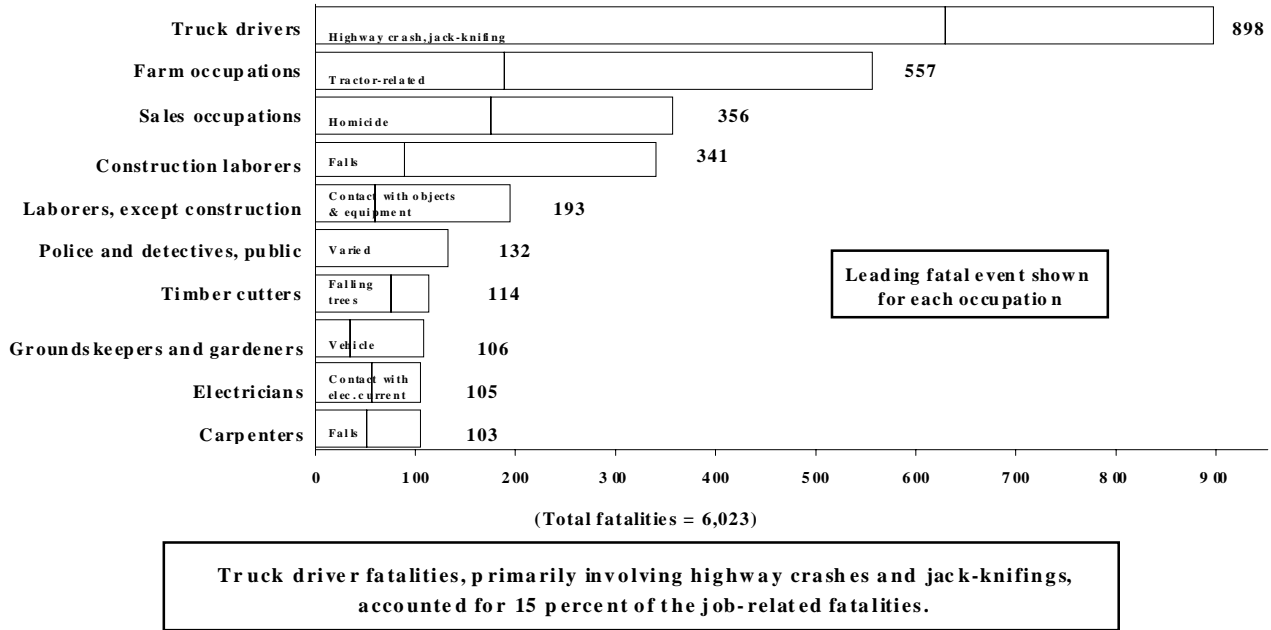
\* Mechanics and repairers also reported a noticeable increase in fatal work injuries over the previous year, reaching its highest level in the 8-year period.

\* In contrast, the number of fatalities in sales occupations fell to its lowest level during the same period, primarily because of the drop in homicides.

**Relative risk (tables 3 and 4):**

A comparison of percent distributions of fatalities and employment can be used to evaluate the relative risk of a job-related fatality for a given industry or worker characteristic. For example, the construction industry accounted for 20 percent of the fatality total, 3 times its

**Chart 3: Occupations with large numbers of worker fatalities and the leading event, 1999**



6 percent share of total employment. While employment can be used to evaluate the relative risk of a fatal work injury, other measures, such as hours worked, also can be used.

**Industry highlights (table 3):**

\* Industry divisions with large numbers of fatalities relative to their employment include agriculture, forestry, and fishing; construction; transportation and public utilities; and mining.

\* Retail trade posted a substantial decline in the number of fatal work injuries in 1999 over the previous year; transportation and public utilities posted a substantial increase.

\* A decline in fatal work injuries among government workers resulted in the lowest levels during the 8-year period.

**Demographic highlights (table 4):**

\* Men, the self-employed, and older workers suffered fatal injuries more often than their employment shares would suggest. Differences in the industries and occupations of these worker groups explain in part their high relative risk of fatal injury on the job.

\* Highway-related incidents were the leading cause of job-related fatalities among both men and women. Homicides, which had been the leading cause for women, were the second-leading cause in 1999. Falls ranked second for men.

\* Two-fifths of fatally injured workers under 18 years of age were killed while doing farm work; another one-fifth were killed while working for a retail trade establishment.

### **State highlights by major regional area (table 5):**

\* In general, the states with the largest number of persons employed have the largest number of work-related fatalities. Four of the largest states--California, Texas, Florida, and New York--accounted for over one-fourth of the total fatalities in the U.S. Each state's and region's industry mix, geographical features, age of population, and other characteristics of the workforce must be considered when evaluating state and region fatality profiles.

\* In all four regions of the U.S.--Northeast, Midwest, South, and West--highway motor vehicle incidents were the leading event for occupational fatalities. In the Southern and Western states, the second leading event was homicide. In the Northeast and Midwest states, the second-leading events were falls to lower level and being struck by an object, respectively.

\* About 44 percent of the fatal occupational highway incidents and almost half of the work-related homicides occurred in the South, which has 35 percent of total employment.

### Background of the program

The Census of Fatal Occupational Injuries, part of the BLS occupational safety and health statistics program, provides the most complete count of fatal work injuries available because it uses diverse state and federal data sources to identify, verify, and profile fatal work injuries. Information about each workplace fatality (occupation and other worker characteristics, equipment being used, and circumstances of the event) is obtained by cross-referencing source documents, such as death certificates, workers' compensation records, and reports to federal and state agencies. This method assures counts are as complete and accurate as possible.

This is the eighth year that the fatality census has been conducted in all 50 states and the District of Columbia. The BLS fatality census is a federal/state cooperative venture in which costs are shared equally. Additional state-specific data are available from the participating state agencies listed in table 6.

Another BLS program, the Survey of Occupational Injuries and Illnesses, profiles worker and case characteristics of nonfatal workplace injuries and illnesses that result in lost worktime and presents frequency counts and incidence rates by industry. Copies of the 1998 news release on nonfatal injuries and illnesses are available from BLS by calling (202) 691-6179 or by accessing the Website listed below. Incidence rates for 1999 by industry will be published in December 2000, and information on 1999 worker and case characteristics will be available in April 2001. For additional data, access the BLS Internet site: <https://www.bls.gov/oshhome.htm>. To request a copy of BLS Report 934, which includes several articles and highlights 1997 fatality data, e-mail your address to [CFOIstaff@bls.gov](mailto:CFOIstaff@bls.gov) or write to Bureau of Labor Statistics, 2 Massachusetts Avenue, NE, Room 3180, Washington, DC 20212.

**Table 1. Fatal occupational injuries by event or exposure, 1994-99**

| Event or exposure <sup>1</sup>                              | Fatalities         |                   |        |         |
|---|--------------------|-------------------|--------|---------|
|   | 1994-98<br>average | 1998 <sup>2</sup> | 1999   |         |
|   |                    | Number            | Number | Percent |
| Total   | 6,280              | 6,055             | 6,023  | 100     |
| <b>Transportation incidents</b> .....                       | 2,640              | 2,645             | 2,613  | 43      |
| Highway .....   | 1,374              | 1,442             | 1,491  | 25      |
| Collision between vehicles, mobile equipment.....           | 662                | 707               | 711    | 12      |
| Moving in same direction .....                              | 113                | 120               | 129    | 2       |
| Moving in opposite directions, oncoming .....               | 240                | 272               | 269    | 4       |
| Moving in intersection .....                                | 136                | 143               | 160    | 3       |
| Vehicle struck stationary object or equipment.....          | 272                | 307               | 334    | 6       |
| Noncollision .....  | 368                | 375               | 388    | 6       |
| Jackknifed or overturned--no collision .....                | 280                | 302               | 321    | 5       |
| Nonhighway (farm, industrial premises) .....                | 387                | 388               | 353    | 6       |
| Overturned.....   | 215                | 217               | 206    | 3       |
| Aircraft.....   | 304                | 224               | 227    | 4       |
| Worker struck by a vehicle .....                            | 382                | 413               | 377    | 6       |
| Water vehicle.....  | 104                | 112               | 102    | 2       |
| Rail vehicle.....   | 78                 | 60                | 56     | 1       |
| <b>Assaults and violent acts</b> .....                      | 1,168              | 962               | 893    | 15      |
| Homicides .....   | 923                | 714               | 645    | 11      |
| Shooting.....   | 748                | 574               | 506    | 8       |
| Stabbing.....   | 68                 | 61                | 60     | 1       |
| Other .....   | 107                | 79                | 79     | 1       |
| Self-inflicted injuries.....                                | 215                | 221               | 208    | 3       |
| <b>Contact with objects and equipment</b> .....             | 984                | 944               | 1,029  | 17      |
| Struck by object.....                                       | 564                | 520               | 585    | 10      |
| Struck by falling object .....                              | 364                | 319               | 358    | 6       |
| Struck by flying object .....                               | 60                 | 59                | 55     | 1       |
| Caught in or compressed by equipment or objects.....        | 281                | 266               | 302    | 5       |
| Caught in running equipment or machinery .....              | 148                | 129               | 163    | 3       |
| Caught in or crushed in collapsing materials.....           | 124                | 140               | 128    | 2       |
| <b>Falls</b> .....  | 686                | 706               | 717    | 12      |
| Fall to lower level.....                                    | 609                | 625               | 634    | 11      |
| Fall from ladder.....                                       | 101                | 111               | 96     | 2       |
| Fall from roof.....   | 146                | 157               | 153    | 3       |
| Fall from scaffold .....                                    | 89                 | 98                | 92     | 2       |
| Fall on same level.....                                     | 53                 | 51                | 66     | 1       |
| <b>Exposure to harmful substances or environments</b> ..... | 583                | 576               | 529    | 9       |
| Contact with electric current.....                          | 322                | 334               | 278    | 5       |
| Contact with overhead powerlines.....                       | 136                | 153               | 124    | 2       |
| Contact with temperature extremes.....                      | 45                 | 48                | 50     | 1       |
| Exposure to caustic, noxious, or allergenic substances .... | 118                | 105               | 106    | 2       |
| Inhalation of substance .....                               | 66                 | 48                | 55     | 1       |
| Oxygen deficiency .....                                     | 96                 | 87                | 93     | 2       |
| Drowning, submersion.....                                   | 77                 | 75                | 75     | 1       |
| <b>Fires and explosions</b> .....                           | 199                | 206               | 216    | 4       |
| <b>Other events or exposures</b> <sup>3</sup> .....         | 21                 | 16                | 26     | -       |

<sup>1</sup> Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

<sup>2</sup> The BLS news release issued Aug. 4, 1999, reported a total of 6,026 fatal work injuries for calendar year 1998. Since then, an additional 29 job-related fatalities were identified, bringing the total job-related fatality count for 1998 to 6,055.

<sup>3</sup> Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dashes indicate less than 0.5 percent or data that are not available or that do not meet publication criteria.

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor, in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1994-99.

**Table 2. Fatal occupational injuries by occupation and major event or exposure, 1999**

| Occupation <sup>1</sup>   | Fatalities |         | Major event or exposure <sup>2</sup><br>(percent of total for occupation) |          |                  |                     |
|---|------------|---------|---|----------|------------------|---------------------|
|   | Number     | Percent | Highway <sup>3</sup>  | Homicide | Struck by object | Fall to lower level |
| Total .....   | 6,023      | 100     | 25  | 11       | 10               | 11                  |
| <b>Managerial and professional specialty</b> .....                          | 597        | 10      | 24  | 19       | 4                | 7                   |
| Executive, administrative, and managerial.....                              | 371        | 6       | 22  | 26       | 5                | 8                   |
| Professional specialty.....   | 226        | 4       | 27  | 8        | 3                | 6                   |
| <b>Technical, sales, and administrative support</b> .....                   | 610        | 10      | 27  | 32       | 2                | 3                   |
| Technicians and related support occupations.....                            | 158        | 3       | 16  | -        | 3                | 3                   |
| Airplane pilots and navigators.....   | 94         | 2       | -   | -        | -                | -                   |
| Sales occupations .....   | 356        | 6       | 28  | 49       | 2                | 2                   |
| Supervisors and proprietors, sales occupations .....                        | 140        | 2       | 13  | 62       | 4                | 2                   |
| Sales workers, retail and personal services.....                            | 144        | 2       | 27  | 51       | -                | -                   |
| Cashiers.....   | 55         | 1       | -   | 80       | -                | -                   |
| Administrative support occupations, including clerical..                    | 96         | 2       | 44  | 19       | -                | 4                   |
| <b>Service occupations</b> .....  | 468        | 8       | 20  | 33       | 1                | 9                   |
| Protective service occupations .....  | 261        | 4       | 26  | 32       | 1                | 3                   |
| Firefighting and fire prevention occupations,<br>including supervisors..... | 57         | 1       | 18  | -        | -                | 5                   |
| Police and detectives, including supervisors.....                           | 132        | 2       | 39  | 36       | -                | -                   |
| Guards, including supervisors.....  | 72         | 1       | 10  | 50       | -                | 4                   |
| <b>Farming, forestry, and fishing</b> .....                                 | 897        | 15      | 13  | 2        | 21               | 5                   |
| Farming operators and managers .....  | 362        | 6       | 13  | 1        | 15               | 3                   |
| Farmers, except horticultural .....   | 233        | 4       | 13  | -        | 17               | 3                   |
| Managers, farms, except horticultural .....                                 | 118        | 2       | 13  | -        | 10               | 4                   |
| Other agricultural and related occupations.....                             | 335        | 6       | 18  | 4        | 14               | 8                   |
| Farm workers, including supervisors .....                                   | 206        | 3       | 22  | 4        | 9                | 4                   |
| Groundskeepers and gardeners, except farm.....                              | 106        | 2       | 8   | -        | 26               | 15                  |
| Forestry and logging occupations.....                                       | 122        | 2       | 6   | -        | 67               | 3                   |
| Timber cutting and logging occupations.....                                 | 114        | 2       | 6   | -        | 70               | 3                   |
| Fishers, hunters, and trappers .....  | 78         | 1       | -   | -        | -                | -                   |
| Fishers, including vessel captains and officers.....                        | 78         | 1       | -   | -        | -                | -                   |
| <b>Precision production, craft, and repair</b> .....                        | 1,142      | 19      | 11  | 3        | 12               | 28                  |
| Mechanics and repairers.....  | 353        | 6       | 12  | 7        | 19               | 13                  |
| Construction trades .....   | 633        | 11      | 11  | 1        | 7                | 39                  |
| Carpenters and apprentices.....   | 103        | 2       | 6   | -        | 13               | 48                  |
| Electricians and apprentices .....  | 105        | 2       | 15  | -        | 4                | 12                  |
| Painters.....   | 38         | 1       | -   | -        | -                | 68                  |
| Roofers .....   | 59         | 1       | 5   | -        | -                | 85                  |
| Structural metal workers .....  | 43         | 1       | -   | -        | 19               | 77                  |
| <b>Operators, fabricators, and laborers</b> .....                           | 2,194      | 36      | 37  | 5        | 10               | 8                   |
| Machine operators, assemblers, and inspectors.....                          | 216        | 4       | 5   | 4        | 14               | 15                  |
| Transportation and material moving occupations .....                        | 1,320      | 22      | 56  | 6        | 7                | 2                   |
| Motor vehicle operators.....  | 1,063      | 18      | 67  | 8        | 5                | 2                   |
| Truck drivers.....  | 898        | 15      | 70  | 2        | 6                | 2                   |
| Driver-sales workers .....  | 42         | 1       | 79  | 10       | -                | -                   |
| Taxicab drivers and chauffeurs.....   | 74         | 1       | 28  | 69       | -                | -                   |
| Material moving equipment operators .....                                   | 205        | 3       | 14  | -        | 14               | 5                   |
| Handlers, equipment cleaners, helpers, and laborers ..                      | 658        | 11      | 11  | 4        | 14               | 17                  |
| Construction laborers .....   | 341        | 6       | 11  | -        | 14               | 25                  |
| Laborers, except construction.....  | 193        | 3       | 11  | 6        | 16               | 10                  |
| <b>Military</b> <sup>4</sup> .....  | 80         | 1       | 24  | -        | 4                | -                   |

<sup>1</sup> Based on the 1990 Occupational Classification System developed by the Bureau of the Census.

<sup>2</sup> The figure shown is the percent of the total fatalities for that occupational group.

<sup>3</sup> "Highway" includes deaths to vehicle occupants resulting from traffic incidents that occur on the public roadway, shoulder, or surrounding area. It excludes incidents occurring entirely off the roadway, such as in parking lots and on farms; incidents involving trains; and deaths to pedestrians or other nonpassengers.

<sup>4</sup> Resident armed forces.

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. There were 35 fatalities for which there was insufficient information to determine an occupation classification. Dashes indicate less than 0.5 percent or data that are not available or that do not meet publication criteria.

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor, in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1999.

**Table 3. Fatal occupational injuries and employment by industry, 1999**

| Industry   | SIC Code <sup>1</sup> | Fatalities         |                   |        |         | Employment <sup>2</sup><br>(in thousands) |         |
|--|-----------------------|--------------------|-------------------|--------|---------|---|---------|
|  |                       | 1994-98<br>average | 1998<br>(revised) | 1999   |         | Number                                    | Percent |
|  |                       | Number             | Number            | Number | Percent |   |         |
| Total .....  |                       | 6,280              | 6,055             | 6,023  | 100     | 134,666                                   | 100     |
| <b>Private industry</b> .....                      |                       | 5,625              | 5,457             | 5,461  | 91      | 114,570                                   | 85      |
| <b>Agriculture, forestry, and fishing</b> .....    |                       | 826                | 840               | 807    | 13      | 3,349                                     | 2       |
| Agricultural production – crops .....              | 01                    | 379                | 380               | 350    | 6       | 955                                       | 1       |
| Agricultural production – livestock .....          | 02                    | 170                | 174               | 163    | 3       | 993                                       | 1       |
| Agricultural services .....                        | 07                    | 168                | 170               | 164    | 3       | 1,317                                     | 1       |
| <b>Mining</b> .....                                |                       | 159                | 147               | 121    | 2       | 562                                       | -       |
| Coal mining.....                                   | 12                    | 37                 | 30                | 35     | 1       | 84  | -       |
| Oil and gas extraction.....                        | 13                    | 84                 | 76                | 50     | 1       | 329                                       | -       |
| <b>Construction</b> .....                          |                       | 1,082              | 1,174             | 1,190  | 20      | 8,479                                     | 6       |
| General building contractors .....                 | 15                    | 191                | 213               | 183    | 3       | -   | -       |
| Heavy construction, except building .....          | 16                    | 253                | 272               | 280    | 5       | -   | -       |
| Special trades contractors.....                    | 17                    | 629                | 680               | 709    | 12      | -   | -       |
| <b>Manufacturing</b> .....                         |                       | 733                | 698               | 719    | 12      | 19,994                                    | 15      |
| Food and kindred products .....                    | 20                    | 75                 | 72                | 83     | 1       | 1,643                                     | 1       |
| Lumber and wood products.....                      | 24                    | 191                | 172               | 190    | 3       | 824                                       | 1       |
| <b>Transportation and public utilities</b> .....   |                       | 948                | 911               | 1,006  | 17      | 7,947                                     | 6       |
| Local and interurban passenger transportation..... | 41                    | 100                | 85                | 102    | 2       | 593                                       | -       |
| Trucking and warehousing .....                     | 42                    | 528                | 564               | 605    | 10      | 2,679                                     | 2       |
| Transportation by air .....                        | 45                    | 90                 | 74                | 74     | 1       | 864                                       | 1       |
| Electric, gas, and sanitary services .....         | 49                    | 88                 | 83                | 86     | 1       | 1,029                                     | 1       |
| <b>Wholesale trade</b> .....                       |                       | 253                | 229               | 237    | 4       | 5,173                                     | 4       |
| <b>Retail trade</b> .....                          |                       | 683                | 570               | 507    | 8       | 22,300                                    | 17      |
| Food stores.....                                   | 54                    | 187                | 135               | 115    | 2       | 3,511                                     | 3       |
| Automotive dealers and service stations .....      | 55                    | 116                | 120               | 82     | 1       | 2,238                                     | 2       |
| Eating and drinking places .....                   | 58                    | 155                | 107               | 145    | 2       | 6,718                                     | 5       |
| <b>Finance, insurance, and real estate</b> .....   |                       | 109                | 92                | 105    | 2       | 8,610                                     | 6       |
| <b>Services</b> .....                              |                       | 773                | 763               | 732    | 12      | 38,240                                    | 28      |
| Business services.....                             | 73                    | 203                | 196               | 161    | 3       | 6,756                                     | 5       |
| Automotive repair, services, and parking .....     | 75                    | 111                | 133               | 132    | 2       | 1,576                                     | 2       |
| <b>Government</b> <sup>3</sup> .....               |                       | 656                | 598               | 562    | 9       | 20,096                                    | 15      |
| Federal (including resident armed forces) .....    |                       | 204                | 162               | 147    | 2       | 4,427                                     | 3       |
| State.....   |                       | 126                | 136               | 108    | 2       | 5,237                                     | 4       |
| Local.....   |                       | 319                | 296               | 301    | 5       | 10,433                                    | 8       |
| Police protection .....                            | 9221                  | 104                | 102               | 91     | 2       | -   | -       |

<sup>1</sup> Standard Industrial Classification Manual, 1987 Edition.

<sup>2</sup> Employment is an annual average of employed civilians 16 years of age and older from the Current Population Survey, 1999, adjusted to include data for resident armed forces from the Department of Defense.

<sup>3</sup> Includes fatalities to workers employed by government organizations regardless of industry.

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. There were 37 fatalities for which there was insufficient information to determine a specific industry classification, though a distinction between private sector and government was made for each. Dashes indicate less than 0.5 percent or data that are not available or that do not meet publication criteria.

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor, in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1994-99.



**Table 4. Fatal occupational injuries and employment by selected worker characteristics, 1999**

| Characteristics                     | Fatalities |         | Employment<br>(in thousands) <sup>1</sup> |         | Most frequent events <sup>2</sup><br>(percent of total) |
|-------------------------------------|------------|---------|---|---------|---|
|                                     | Number     | Percent | Number                                    | Percent |   |
| Total.....                          | 6,023      | 100     | 134,666                                   | 100     | Highway (25), falls (12)                                |
| <b>Employee status</b>              |            |         |   |         |   |
| Wage and salary workers .....       | 4,884      | 81      | 124,445                                   | 92      | Highway (27), falls (13)                                |
| Self-employed <sup>3</sup> .....    | 1,139      | 19      | 10,221                                    | 8       | Highway (14), homicides (14)                            |
| <b>Sex</b>                          |            |         |   |         |   |
| Men.....                            | 5,582      | 93      | 72,457                                    | 54      | Highway (24), falls (12)                                |
| Women .....                         | 441        | 7       | 62,209                                    | 46      | Highway (34), homicides (29)                            |
| <b>Age<sup>4</sup></b>              |            |         |   |         |   |
| Under 16 years.....                 | 26         | -       | -   | -       | Highway (35), nonhighway (19)                           |
| 16 to 17 years .....                | 46         | 1       | 2,796                                     | 2       | Highway (28), homicides (17)                            |
| 18 to 19 years .....                | 122        | 2       | 4,494                                     | 3       | Highway (26), struck by object (11)                     |
| 20 to 24 years .....                | 450        | 7       | 13,242                                    | 10      | Highway (26), homicides (11)                            |
| 25 to 34 years .....                | 1,171      | 19      | 31,280                                    | 24      | Highway (24), homicides (12)                            |
| 35 to 44 years .....                | 1,499      | 25      | 36,983                                    | 28      | Highway (24), falls (13)                                |
| 45 to 54 years .....                | 1,326      | 22      | 28,671                                    | 21      | Highway (25), homicides (12)                            |
| 55 to 64 years .....                | 814        | 14      | 13,317                                    | 10      | Highway (25), falls (14)                                |
| 65 years and over .....             | 559        | 9       | 3,883                                     | 3       | Highway (23), nonhighway (16)                           |
| <b>Race</b>                         |            |         |   |         |   |
| White.....                          | 4,990      | 83      | 113,023                                   | 84      | Highway (26), falls (12)                                |
| Black.....                          | 626        | 10      | 15,284                                    | 11      | Highway (23), homicides (19)                            |
| American Indian, Aleut, Eskimo..... | 57         | 1       | -   | -       | Highway (18), falls (14)                                |
| Asian, Pacific Islander.....        | 191        | 3       | -   | -       | Homicides (46), highway (13)                            |
| Other or not reported .....         | 159        | 3       | -   | -       | Highway (20), falls and homicides (13)                  |
| <b>Hispanic origin</b>              |            |         |   |         |   |
| Hispanic <sup>5</sup> .....         | 725        | 12      | 13,811                                    | 12      | Highway (21), falls (16)                                |

<sup>1</sup> Employment is an annual average of employed civilians 16 years of age and older, plus resident armed forces, from the Current Population Survey, 1999, adjusted to include data for resident armed forces from the Department of Defense.

<sup>2</sup> "Highway" includes deaths to vehicle occupants resulting from traffic incidents that occur on the public roadway, shoulder, or surrounding area. It excludes incidents occurring entirely off the roadway, such as in parking lots and on farms. "Nonhighway" includes transport-related deaths of vehicle occupants that occur or originate entirely off the roadway. Incidents involving trains and deaths to pedestrians or other nonpassengers are excluded from both categories.

<sup>3</sup> Includes paid and unpaid family workers and may include owners of incorporated businesses or members of partnerships.

<sup>4</sup> There were 10 fatalities for which age was not reported.

<sup>5</sup> Persons identified as Hispanic may be of any race.

NOTE: Totals may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dashes indicate less than 0.5 percent or data that are not available or that do not meet publication criteria.

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor, in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1999.

**Table 5. Fatal occupational injuries by state and event or exposure, 1999**

| State of injury                | Total fatalities <sup>1</sup> |       | Event or exposure <sup>2</sup> (percent of state total for 1999) |  |                                    |       |  |                      |
|--------------------------------|-------------------------------|-------|--|--|------------------------------------|-------|--|----------------------|
|                                | 1998<br>(revised)             | 1999  | Transportation incidents <sup>3</sup>                            | Assaults and violent acts <sup>4</sup> | Contact with objects and equipment | Falls | Exposure to harmful substances or environments | Fires and explosions |
| Total <sup>5</sup> .....       | 6,055                         | 6,023 | 43   | 15                                     | 17                                 | 12    | 9  | 4                    |
| <b>Northeast</b>               | 853                           | 756   | 36   | 18                                     | 15                                 | 17    | 8  | 5                    |
| Connecticut .....              | 57                            | 38    | 34   | 34                                     | 13                                 | 11    | -  | -                    |
| Maine .....                    | 26                            | 32    | 50   | 9                                      | 22                                 | 9     | -  | -                    |
| Massachusetts .....            | 44                            | 82    | 32   | 10                                     | 13                                 | 24    | 6  | 15                   |
| New Hampshire .....            | 23                            | 14    | 36   | 21                                     | -                                  | -     | -  | -                    |
| New Jersey .....               | 103                           | 103   | 34   | 17                                     | 17                                 | 21    | 9  | -                    |
| New York (including N.Y.C.) .. | 243                           | 241   | 30   | 25                                     | 12                                 | 18    | 11   | 2                    |
| New York City .....            | 94                            | 120   | 13   | 44                                     | 8                                  | 22    | 8  | 3                    |
| Pennsylvania .....             | 235                           | 221   | 41   | 12                                     | 18                                 | 15    | 5  | 7                    |
| Rhode Island .....             | 12                            | 11    | 36   | -                                      | -                                  | -     | 27   | -                    |
| Vermont .....                  | 16                            | 14    | 43   | 29                                     | -                                  | -     | -  | -                    |
| <b>Midwest</b>                 | 1,340                         | 1,417 | 44   | 12                                     | 20                                 | 11    | 9  | 4                    |
| Illinois .....                 | 216                           | 208   | 34   | 17                                     | 19                                 | 14    | 11   | 4                    |
| Indiana .....                  | 155                           | 171   | 46   | 15                                     | 16                                 | 12    | 7  | 3                    |
| Iowa .....                     | 68                            | 80    | 52   | -                                      | 26                                 | 4     | 10   | 8                    |
| Kansas .....                   | 98                            | 81    | 49   | 5                                      | 23                                 | 12    | 6  | -                    |
| Michigan .....                 | 179                           | 182   | 34   | 15                                     | 18                                 | 13    | 10   | 10                   |
| Minnesota .....                | 88                            | 72    | 65   | 7                                      | 17                                 | 7     | 4  | -                    |
| Missouri .....                 | 145                           | 164   | 48   | 11                                     | 19                                 | 10    | 10   | 3                    |
| Nebraska .....                 | 56                            | 65    | 51   | 9                                      | 26                                 | 6     | -  | 5                    |
| North Dakota .....             | 24                            | 22    | 36   | -                                      | 41                                 | -     | -  | -                    |
| Ohio .....                     | 186                           | 222   | 43   | 12                                     | 20                                 | 15    | 9  | 2                    |
| South Dakota .....             | 28                            | 45    | 58   | 7                                      | 16                                 | -     | 13   | -                    |
| Wisconsin .....                | 97                            | 105   | 45   | 11                                     | 22                                 | 10    | 10   | 3                    |
| <b>South</b>                   | 2,619                         | 2,565 | 44   | 15                                     | 16                                 | 11    | 10   | 3                    |
| Alabama .....                  | 135                           | 123   | 38   | 10                                     | 22                                 | 11    | 10   | 8                    |
| Arkansas .....                 | 86                            | 76    | 49   | 8                                      | 12                                 | 5     | 17   | 8                    |
| Delaware .....                 | 11                            | 14    | 36   | 29                                     | -                                  | -     | -  | -                    |
| District of Columbia .....     | 13                            | 14    | 21   | 21                                     | -                                  | 36    | -  | -                    |
| Florida .....                  | 384                           | 345   | 39   | 17                                     | 15                                 | 16    | 10   | 2                    |
| Georgia .....                  | 202                           | 229   | 44   | 17                                     | 16                                 | 10    | 9  | 3                    |
| Kentucky .....                 | 117                           | 120   | 49   | 14                                     | 18                                 | 8     | 7  | 3                    |
| Louisiana .....                | 159                           | 141   | 39   | 9                                      | 26                                 | 8     | 16   | 4                    |
| Maryland .....                 | 78                            | 82    | 40   | 29                                     | 12                                 | 11    | 6  | -                    |
| Mississippi .....              | 113                           | 128   | 52   | 6                                      | 20                                 | 14    | 6  | -                    |
| North Carolina .....           | 228                           | 222   | 43   | 19                                     | 14                                 | 11    | 10   | 2                    |
| Oklahoma .....                 | 75                            | 99    | 44   | 14                                     | 13                                 | 11    | 12   | 5                    |
| South Carolina .....           | 111                           | 139   | 53   | 16                                     | 9                                  | 9     | 8  | 6                    |
| Tennessee .....                | 150                           | 154   | 49   | 12                                     | 18                                 | 8     | 8  | 4                    |
| Texas .....                    | 523                           | 468   | 44   | 15                                     | 15                                 | 12    | 12   | 3                    |
| Virginia .....                 | 177                           | 154   | 42   | 17                                     | 12                                 | 12    | 13   | 3                    |
| West Virginia .....            | 57                            | 57    | 35   | 12                                     | 33                                 | 9     | 9  | -                    |
| <b>West</b>                    | 1,334                         | 1,264 | 46   | 16                                     | 17                                 | 11    | 6  | 2                    |
| Alaska .....                   | 43                            | 42    | 74   | 7                                      | 12                                 | -     | -  | -                    |
| Arizona .....                  | 74                            | 70    | 39   | 23                                     | 24                                 | 4     | 9  | -                    |
| California .....               | 626                           | 591   | 44   | 19                                     | 14                                 | 12    | 7  | 3                    |
| Colorado .....                 | 77                            | 98    | 47   | 18                                     | 15                                 | 10    | 5  | 4                    |
| Hawaii .....                   | 12                            | 32    | 28   | 56                                     | -                                  | -     | -  | -                    |
| Idaho .....                    | 51                            | 43    | 44   | 9                                      | 23                                 | 12    | 7  | -                    |
| Montana .....                  | 58                            | 49    | 45   | 10                                     | 29                                 | 6     | -  | 6                    |
| Nevada .....                   | 60                            | 57    | 37   | 18                                     | 19                                 | 18    | 7  | -                    |
| New Mexico .....               | 48                            | 39    | 54   | 13                                     | 10                                 | 13    | -  | -                    |
| Oregon .....                   | 72                            | 69    | 52   | 7                                      | 26                                 | 7     | 7  | -                    |
| Utah .....                     | 67                            | 54    | 56   | 6                                      | 24                                 | 11    | -  | -                    |
| Washington .....               | 113                           | 88    | 49   | 9                                      | 19                                 | 15    | 7  | -                    |
| Wyoming .....                  | 33                            | 32    | 56   | -                                      | 28                                 | 9     | -  | -                    |

<sup>1</sup> Includes other events and exposures such as bodily reaction, in addition to those shown separately.

<sup>2</sup> Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

<sup>3</sup> Includes highway, nonhighway, air, water, and rail fatalities and fatalities to workers struck by vehicles.

<sup>4</sup> Includes homicides, self-inflicted injuries, and animal attacks.

<sup>5</sup> Includes 21 fatalities that occurred outside the territorial boundaries of the United States in 1999.

NOTE: Percentages may not add to 100 because of rounding. Dashes indicate less than 0.5 percent or data that are not available or that do not meet publication criteria.

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor, in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1998-99.

**Table 6. CFOI participating state agencies and telephone numbers**

| <b>State</b>         | <b>Agency</b>                                 | <b>Telephone number</b> |
|----------------------|---|-------------------------|
| Alabama              | Department of Labor                           | (334) 242-3460          |
| Alaska               | Department of Labor and Workforce Development | (907) 465-4539          |
| Arizona              | Industrial Commission of Arizona              | (602) 542-3739          |
| Arkansas             | Department of Labor                           | (501) 682-4542          |
| California           | Department of Industrial Relations            | (415) 703-4757          |
| Colorado             | Department of Public Health                   | (303) 692-2173          |
| Connecticut          | Labor Department                              | (860) 566-4380          |
| Delaware             | Department of Labor                           | (302) 761-8223          |
| District of Columbia | Center for Health Statistics                  | (202) 442-5922          |
| Florida              | Department of Labor and Employment Security   | (850) 922-8953          |
| Georgia              | Department of Labor                           | (404) 656-2966          |
| Hawaii               | Department of Labor and Industrial Relations  | (808) 586-9001          |
| Idaho                | Industrial Commission                         | (208) 334-6090          |
| Illinois             | Department of Public Health                   | (217) 785-1873          |
| Indiana              | Department of Labor                           | (317) 232-2668          |
| Iowa                 | Department of Labor Services                  | (515) 281-5151          |
| Kansas               | Department of Health and Environment          | (785) 296-1058          |
| Kentucky             | Labor Cabinet                                 | (502) 564-3070          |
| Louisiana            | Department of Labor                           | (225) 342-3126          |
| Maine                | Bureau of Labor Standards                     | (207) 624-6440          |
| Maryland             | Division of Labor and Industry                | (410) 767-2356          |
| Massachusetts        | Department of Public Health                   | (617) 624-5628          |
| Michigan             | Department of Consumer and Industry Services  | (517) 322-5258          |
| Minnesota            | Department of Labor and Industry              | (651) 296-3885          |
| Mississippi          | Department of Health                          | (601) 576-7400          |
| Missouri             | Department of Health                          | (573) 571-6155          |
| Montana              | Department of Labor and Industry              | (406) 444-3297          |
| Nebraska             | Workers' Compensation Court                   | (402) 471-3547          |
| Nevada               | Division of Industrial Relations              | (775) 687-3298          |
| New Hampshire        | Department of Public Health                   | (603) 271-4647          |
| New Jersey           | Department of Health and Senior Services      | (609) 984-1863          |
| New Mexico           | Occupational Health and Safety Bureau         | (505) 827-4230          |
| New York State       | Department of Health                          | (518) 402-7900          |
| New York City        | Department of Health                          | (212) 788-4585          |
| North Carolina       | Department of Labor                           | (919) 733-0337          |
| North Dakota         | Bureau of Labor Statistics                    | (312) 353-7200          |
| Ohio                 | Department of Health                          | (614) 466-4183          |
| Oklahoma             | Department of Labor                           | (405) 528-1500          |
| Oregon               | Department of Consumer and Business Services  | (503) 378-8254          |
| Pennsylvania         | Department of Health                          | (717) 783-2548          |
| Rhode Island         | Department of Health                          | (401) 277-2812          |
| South Carolina       | Department of Labor                           | (803) 734-4298          |
| South Dakota         | Bureau of Labor Statistics                    | (312) 353-7200          |
| Tennessee            | Department of Labor and Workforce Development | (615) 741-1749          |
| Texas                | Workers' Compensation Commission              | (512) 804-4651          |
| Utah                 | Labor Commission                              | (801) 530-6823          |
| Vermont              | Department of Labor and Industry              | (802) 828-2195          |
| Virginia             | Department of Labor and Industry              | (804) 786-6427          |
| Washington           | Department of Labor and Industries            | (360) 902-5510          |
| West Virginia        | Department of Labor                           | (304) 558-7890          |
| Wisconsin            | Department of Workforce Development           | (608) 266-7850          |
| Wyoming              | Bureau of Labor Statistics                    | (816) 426-2483          |

## TECHNICAL NOTES

### Definitions

For a fatality to be included in the census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job. These criteria are generally broader than those used by federal and state agencies administering specific laws and regulations. (Fatalities that occur during a person's commute to or from work are excluded from the census counts.)

Data presented in this release include deaths occurring in 1999 that resulted from traumatic occupational injuries. An injury is defined as any intentional or unintentional wound or damage to the body resulting from acute exposure to energy, such as heat, electricity, or kinetic energy from a crash or from the absence of such essentials as heat or oxygen caused by a specific event, incident, or series of events within a single workday or shift. Included are open wounds, intracranial and internal injuries, heatstroke, hypothermia, asphyxiations, acute poisonings resulting from short-term exposures limited to the worker's shift, suicides and homicides, and work injuries listed as underlying or contributory causes of death.

Information on work-related fatal illnesses are not reported in the BLS census and are excluded from the attached tables because the latency period of many occupational illnesses and the difficulty of linking illnesses to work make identification of a universe problematic. Partial information on fatal occupational illnesses, compiled separately, is available in BLS Report 934.

### Measurement techniques and limitations

Data for the Census of Fatal Occupational Injuries are compiled from various federal, state, and local administrative sources--including death certificates, workers' compensation reports and claims, reports to various regulatory agencies, medical examiner reports, and police reports--as well as news reports. Diverse sources are used because studies have shown that no single source captures all job-related fatalities. Source documents are matched so that each fatality is counted only once. To ensure that a fatality occurred while the decedent was at work, information is verified from two or more independent source documents or from a source document and a follow-up questionnaire. Approximately 30 data elements are collected, coded, and tabulated, including information about the worker, the fatal incident, and the machinery or equipment involved.

#### *Identification and verification of work-related fatalities.*

Because some state laws and regulations prohibit enumerators from contacting the next-of-kin, it was not possible to independently verify work relationship (whether a fatality is job related) for 102 fatal work injuries in 1999; however, the information on the initiating source document for these cases was sufficient to determine that the incident was likely to be job-related. Data for these fatalities, which primarily affected self-employed workers, are included

in the Census of Fatal Occupational Injuries counts. An additional 19 fatalities submitted by states were not included because the initiating source document had insufficient information to determine work relationship, which could not be verified by either an independent source document or a follow-up questionnaire.

States may identify additional fatal work injuries after data collection closeout for a reference year. In addition, other fatalities excluded from the published count because of insufficient information to determine work relationship may subsequently be verified as work related. States have up to one year to update their initial published state counts. This procedure ensures that fatality data are disseminated as quickly as possible and that no legitimate case is excluded from the counts. Thus, each year's report should be considered preliminary until the next year's data are issued. Increases in the published counts based on additional information have averaged less than 100 fatalities per year or less than 1.5 percent of the total.

#### *Federal/state agency coverage*

The Census of Fatal Occupational Injuries includes data for all fatal work injuries, whether they are covered by the Occupational Safety and Health Administration (OSHA) or other federal or state agencies or are outside the scope of regulatory coverage. Thus, any comparison between the BLS fatality census counts and those released by other agencies should take into account the different coverage requirements and definitions being used.

Several federal and state agencies have jurisdiction over workplace safety and health. OSHA and affiliated agencies in states with approved safety programs cover the largest portion of America's workers. However, injuries and illnesses occurring in certain industries or activities such as coal, metal, and nonmetal mining and highway, water, rail, and air transportation, are excluded from OSHA coverage because they are covered by other federal agencies, such as the Mine Safety and Health Administration and various agencies within the Department of Transportation. Fatalities occurring in activities regulated by federal agencies other than OSHA accounted for about 16 percent of the fatal work injuries in 1999.

Fatalities occurring among several other groups of workers are generally not covered by any federal or state agencies. These groups include self-employed and unpaid family workers, which accounted for about 19 percent of the fatalities; laborers on small farms, accounting for about 2 percent of the fatalities; and state and local government employees in states without OSHA-approved safety programs, which accounted for about 3 percent. (Approximately one-half of the states have approved OSHA safety programs, which cover state and local government employees.)

**ACKNOWLEDGMENTS:** BLS thanks the participating states for their efforts in collecting accurate, comprehensive, and useful data on fatal work injuries. BLS also appreciates the efforts of all federal, state, local, and private sector agencies that submitted source documents used to identify fatal work injuries. Among these agencies are the Occupational Safety and Health Administration; the National Transportation Safety Board; the U.S. Coast Guard; the Mine Safety and Health Administration; the Employment Standards Administration (Federal Employees' Compensation and Longshore and Harbor Workers' divisions); the Department of Energy; the National Association of Chiefs of Police; United Steelworkers of America; state vital statistics registrars, coroners, and medical examiners; state departments of health, labor, and industries and workers' compensation agencies; state and local police departments; and state farm bureaus.